प्रगति प्रतिवेदन
PROGRESS REPORT
2023-24

फसल सुधार
CROP IMPROVEMENT

अखिल भारतीय समन्वित गेहूँ एवं जौ अनुसंधान परियोजना

AICRP on Wheat and Barley

भा.कृ.अनु.प.–भारतीय गेहूँ एवं जौ अनुसंधान संस्थान, करनाल (हरियाणा)

ICAR-Indian Institute of Wheat & Barley Research, Karnal (Haryana)

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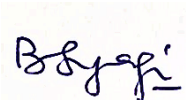
In the end, it is stated that although utmost care has been taken to avoid any error in presentation of the results in this report, any error/omission is unintended and may please be brought to the notice of the undersigned.

Dated: 01 September, 2024



(BS Tyagi)
PI- Coordination

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Crop Improvement - Principal Investigator's Report

Research Highlights 2023-24

The crop season 2023-24 has been once again a record-breaking year as far as wheat production of India is concerned. This year the country has witnessed a record production of 112.92 million tonnes (3rd AE, 2024) of wheat grains over an area of 31.23 mha in the country which is 2.9% higher than the 2022-23 crop season. During the reported year, entire work related to coding, constitution and dispatch of all the trials (NIVTs, IVTs, AVTs, National and International Nurseries etc.) was done at ICAR-IIWBR, Karnal and also at Zonal coordinator level for AVTs. A summary of significant achievements made by the Crop Improvement division under All-India Coordinated Research Project on Wheat & Barley is presented in the subsequent pages.

Development and Release of New Wheat Varieties

Central Released Varieties: During the year 2023-24, the Central Sub-Committee on Crops Standards, Notification and Release of Varieties for Agricultural Crops in its 91st meeting recommended the release and notification of 10 bread wheat varieties (HD3388 (Pusa Yashodhara), HD3386 (Pusa wheat 3386), NWS 2194 (Badshah), DBW377 (Karan Bold), DBW359 (Karan Shivangi), Gujarat wheat 547 (GW547), NIAW4028 (Phule Anurag), MP (JW) 1378, CG1040 (Mavanti), WH1402) and one durum wheat variety (UAS478 (Krishidhara Surya). The Sub-Committee also recommended the extension of areas of adoption of DBW 327 (Karan Shivani) to irrigated, early sown condition of central zone.

Wheat varieties released by CVRC during 2023-24

SN	Variety name	Developed by	Zone/ state	Prod. Cond.	Grain yield (q/ha)		Special features
					Pot.	Average	
Bread wheat							
1.	HD3388 (Pusa Yashodhara)	ICAR-IARI, N. Delhi	NEPZ	IR, TS	68.80	52.00	Highly resistance to stripe and leaf rust, tolerant to heat stress (HSI=0.89)
2.	HD3386 (Pusa wheat 3386)	ICAR-IARI, N. Delhi	NWPZ	IR, TS	76.90	62.50	Resistant to leaf rust
3.	NWS2194 (Badshah)	Nuziveedu Seeds Ltd, Telangana	CZ	IR, TS	74.50	58.30	Resistant to brown rust, black rust, and wheat blast like disease, Higher sedimentation value
4.	DBW377 (Karan Bold)	ICAR-IIWBR, Karnal	CZ	IR, ES	86.40	63.90	Resistant to brown rust, black rust, and wheat blast like disease, bold grains with high biscuit spread factor
5.	DBW359 (Karan Shivangi)	ICAR-IIWBR, Karnal	CZ&PZ	RI, TS	65.30 (CZ) 48.00 (PZ)	41.7(CZ), 34.54(PZ)	Resistant to brown rust, black rust, and wheat blast like diseases, low amount of phenol content (2.6)
6.	Gujarat wheat547 (GW547)	SDAU Wheat Research Station, Vijapur	CZ	IR, TS	74.00	58.20	Resistant to leaf and stem rust, heat and drought tolerance (HSI :0.88, DSI:0.9)
7.	NIAW4028 (Phule Anurag)	MPKV ARS, Niphad	PZ	RI, TS	46.80	33.45	Resistant to brown rust, black rust, and wheat blast like disease
8.	MP (JW)1378	JNKVV ZS, Powarkheda	PZ	IR, TS	66.49	54.43	Resistant to brown and black rust

9.	CG1040 (Mavanti)	IGKV RS, Bilaspur	CZ	RI, TS	60.80	42.70	Moderate level of resistance against brown and black rust, good chapati quality score (8.05), tolerance to heat (HSI=0.89) and drought (DSI=0.87)
10.	WH1402	CCS HAU, Hisar	NWPZ	RI, TS	63.90	50.14	Highly resistance to yellow and brown rust, higher sedimentation value (57 ml)
11.	DBW327 (Karan Shivani) (Area extension)	ICAR-IIWBR, Karnal	CZ	IR, ES	100.6	69.6	Highly resistance to brown and black rust
	Durum wheat						
12	UAS478 (Krishidhara Surya)	UAS, Dharwad	PZ	RI, TS	45.70	32.67	Resistance to leaf rust, hard grains, high yellow pigment content (7.7)

State release Varieties

The Central Sub-Committee on Crops Standards, Notification and Release of Varieties for Agricultural Crops recommended the notification of two state released wheat varieties namely HD 3410 (Pusa Jawahar Gehun 3410) and HD 3390

Wheat varieties released by SVRC during 2023-24

SN	Variety name	Developed by	Zone / state	Prod. condition	Grain yield (q/ha)		Special features
					Pot.	Average	
1.	HD 3410 (Pusa Jawahar Gehun 3410)	ICAR-IARI, N. Delhi	NCR and MP	IR, ES under Conventional tillage as well as Conservation Agriculture Environments	94.50(NCR), 82.46(MP)	73.60(NCR), 65.91(MP)	High level of resistance against all the three rusts, good amount of protein (12.6%) in central zone
2.	HD3390	ICAR-IARI, N. Delhi	NCR	IR, TS under Conventional tillage as well as Conservation Agriculture Environments	71.40	62.36	Highly resistance to yellow and brown rust

New genetic stocks of wheat registered

During the year 2023-24, a total of 21 genetic stocks of wheat were registered for traits like disease resistance to rusts, heat and drought tolerance, higher 1000 grains weight, higher protein content and high grain zinc content. The genetic resources unit of the IIWBR, Karnal multiplies the seeds of these registered genetic stocks and supplies to breeder across the country for use in wheat improvement.

Genetic stocks registered during 2023-24

SN	Name of genotype	Registration number	Developing centre	Traits
1	GW 2018-936	INGR23078	SDAU Wheat Research Station, Vijapur	High grain zinc content (47.1ppm), high grain protein content (13.9%).
2	TAW186	INGR23079	BARC, Mumbai	Drought and heat tolerance with drought sensitivity index (DSI) of 0.682 and heat sensitivity index of (0.69).
3	TAW185	INGR23080		High thousand kernel weight (49g).
4	TAW41	INGR23081		Resistance to spot blotch disease and terminal heat tolerance.
5	HW 3654	INGR23082	ICAR-IARI Regional Station, Wellington	Resistance to the prevailing stem rust, leaf rust and powdery mildew pathotypes of India, major gene each for stem rust (*Sr36*), leaf rust (*Lr45*) and powdery mildew (*Pm6*) resistance. Adult plant rust resistance genes (*Sr2/Lr27/Sr30*).
6	HW 3655	INGR23083		Resistance to the prevailing stem rust, leaf rust and powdery mildew pathotypes of India, major gene each for stem rust (*Sr36*), leaf rust (*Lr45*) and powdery mildew (*Pm6*) resistance. Adult plant rust resistance genes (*Sr2/Lr27/Sr30*).
7	DBW-EMS268	INGR24004	ICAR-IIWBR, Karnal Haryana	Drought and heat stress tolerance DSI=0.81 with lower yield reduction (25.5%) under drought stress condition and HSI=0.77 with lower yield reduction (20.1%) under heat stress condition.
8	DBW-EMS339	INGR24005		Drought tolerance (DSI=0.66) with lower yield reduction (20.8%) under drought
9	DTS 116	INGR24006		Drought stress tolerance (DSI=0.40)
10	DBW424	INGR24007		Drought and heat stress tolerance (HSI= 0.78; DSI =0.89). Resistant to yellow rust of wheat (ACI=1.2)
11	PBS 2022-1	INGR24008		High heat stress tolerance (HSI: 0.76) with lower grain yield reduction (20.0%) under heat stress
12	IC029040 (Tested as CPIIWBR266)(d.)	INGR24009		Leaf Rust resistance (HS= 0; ACI=0)
13	B2011\CIMCOG\21	INGR24010		Yellow (Stripe) rust resistance (ACI= 4.3; HS= 10MS)
14	WAP2206	INGR24011		Resistant to stem rust (HS=-10MR and ACI 0.7). Resistant to leaf rust (HS= 10R and ACI 0.3)
15	WAP2207	INGR24012		Resistant to yellow (stripe) rust (HS= 5S; ACI 0.6). Resistant to leaf rust (HS= 5MR and ACI 0.3)
16	DBW398	INGR24015		Low phenol colour score of 3.9 and 4.1 in NWPZ and NEPZ respectively.
17	IC535133; RRH-5072	INGR24013	ICAR-NBPGR New Delhi	Resistant to leaf rust (Resistance score= ; to ;N for multiple pathotypes)
18	IC138898; VDV-5/88; NIC-1376(dic.)	INGR24014		Resistant to leaf rust (Resistance score; to ;N)
19	EC182958	INGR24016		High grain protein content (17.16%).
20	IC634028; AD-19/101; Kathod Genhu (Sph.)	INGR24017		High grain protein content (15.72%)
21	IC539313; TADIA GENEPOOL	INGR24018		High thousand grain weight (55.03g). More grain length (7.15 mm)

d.:durum; dic.:dicoccum; Sph.:Sphaerococcum

Registration of varieties with PPV&FRA

Registration application of two wheat varieties namely DBW359 and DBW377 has been submitted to PPV&FRA, New Delhi for registration under extant category.

Significant results from coordinated yield trials

Conduction of coordinated trials: The wheat coordinated varietal evaluation programme entails a huge multilocation testing programme which is undertaken at 64 centers with the cooperation of 27 funded and 37 voluntary centres spread across five wheat growing zones in the country.

Zone-wise funded and voluntary centers of coordinated trials

Zone	Funded	Voluntary + ICAR centres	Total
NHZ	4	5	09
NWPZ	5	10	15
NEPZ	8	5	13
CZ	8	10	18
PZ	3	9	12
Total	**28**	**39**	**67**

During the crop season 2023-24, a total of 17 trial series (AVTs (4), NIVTs (9), IVTs (2) and SPLs (2) were laid out in the different zones under six major production conditions viz. Early-sown irrigated, timely-sown irrigated, late-sown irrigated, timely-sown restricted irrigation and timely-sown rainfed. This year altogether 391 test entries NIVT, AVT and IVT were evaluated with 118 check varieties in different trials. In all, 338 trial sets were supplied to 64 centers and 337 trials were conducted (99.7%)

Breakup of yield trials during 2023-24

Zone	Proposed	Conducted	Reported	Reason for Not Reported
NHZ	25	25	20	LSM (4), LS & LSM (1)
NWPZ	94	94	85	RMT (1), LSM & HCV (1), LSM (7)
NEPZ	67	67	58	RMT (3), LSM & LS (1), LSM (5)
CZ	90	90	75	RMT (6), LSM (9)
PZ	62	61	49	RMT (4), LSM (8)
Total	**338**	**337**	**287**	**Total: 50**

During the crop season, one trial was not conducted and the data of 287 trials (85.16%) has been reported based on set norms for disease resistance and yield performance. Rejection by Monitoring Team (14) and low site mean (36) were the primary reasons for less reporting of trials.

Percent success in trial conduction and reporting during 2023-24

Zone	Conduction (%)	Reporting (%)
NHZ	100	80.00
NWPZ	100	90.43
NEPZ	100	86.57
CZ	100	83.33
PZ	98.39	80.33
Total	**99.70**	**85.16**

Varieties in the final year evaluation in AVTs

During crop season 2023-24, a total of 19 genotypes were in the final year of yield evaluation in Advance Varietal Trials and SPL trial of different zones. Two genotypes DBW 386 (NWPZ & NEPZ) and HI 1674 (CZ & PZ) were tested in two zones showing wider adaptability. The

proposals of these genotypes will be received for consideration by Varietal Identification Committee.

Varieties in final year of evaluation in AVTs and SPL trials during 2023-24

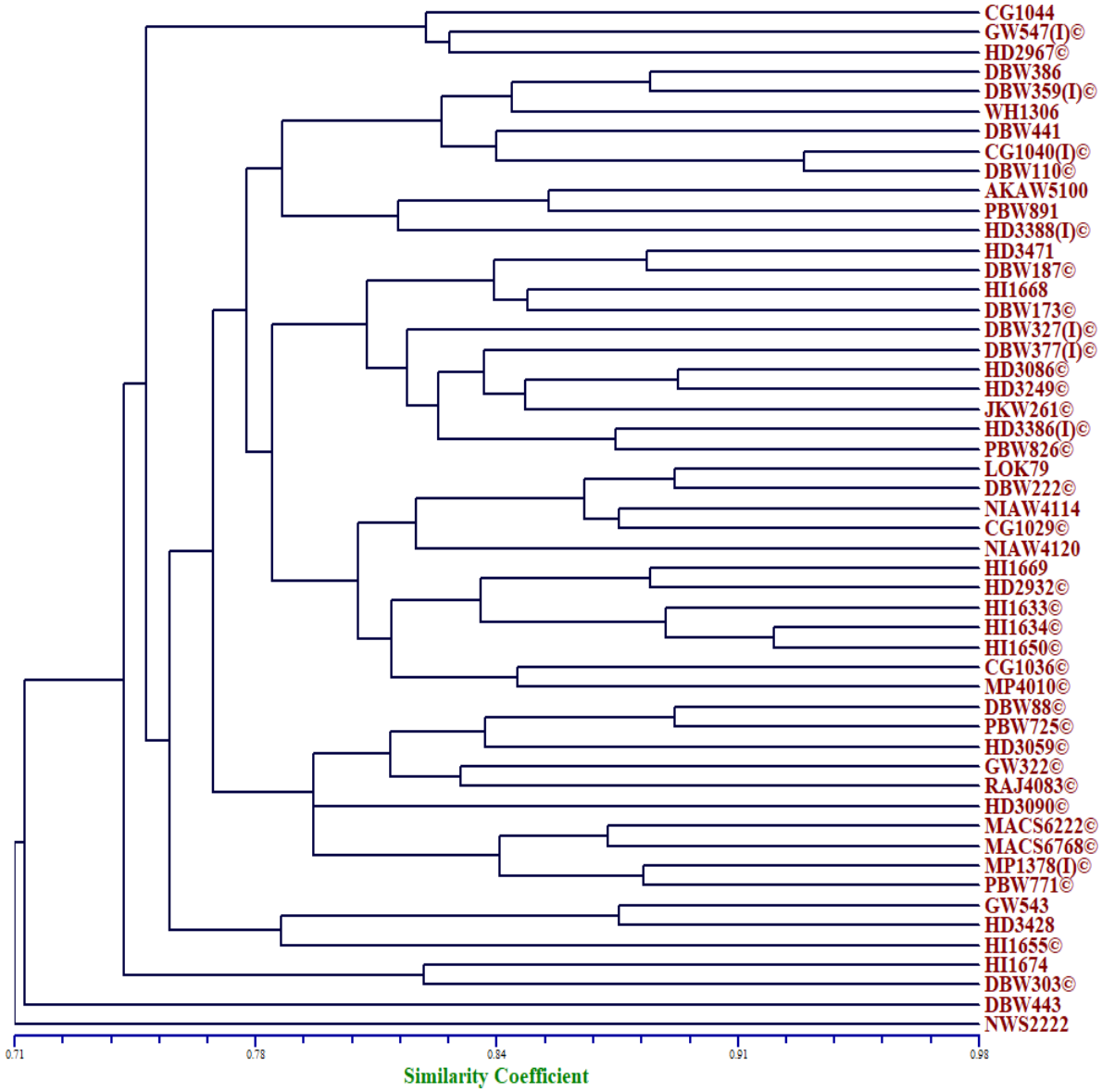
Zone/ Trial	Final year entries
North Western Plains Zone	
AVT-IR-TS-TAS	DBW386, HD3471^{M}, HI1668
AVT-IR-LS-TAS	HD3428
North Eastern Plains Zone	
AVT-IR-TS-TAS	DBW386
Central Zone	
AVT-IR-TS-TAD	HI1669
AVT-IR-LS-TAS	HI1674
AVT-RI-TS-TAS	DBW441^{M}
Peninsular Zone	
AVT-IR-TS-TAD	PBW891, DBW443^{B}, AKAW5100, WH1306, NWS2222*
AVT-IR-LS-TAS	HI1674, NIAW4114, NIAW4120, LOK79
SPL-HYPT	
SPL-HYPT-IR-ES-CZ	GW543, CG1044

Marker assisted gene prospecting in AVT entries of wheat

Marker-Assisted Gene Prospecting is a crucial strategy in the varietal development aimed at improving adaptability, diversity and resistance to various biotic and abiotic stresses. Considering this, a total of 17 AVT final year (2023-24) genotypes and 35 checks were analyzed using a set of 39 simple sequence repeats (SSR) and 11 allele-specific polymerase chain reaction (AS-PCR) markers linked to key genes. These included genes related to waxiness (*WxB1*), abiotic stress tolerance (*DREB*), pre-harvest sprouting resistance (vivipary, *Vp1B3*), leaf rust resistance (*Lr*), photoperiod response (*Ppd1*), and vernalization (*Vrn*). These markers were chosen to develop comprehensive molecular profiles for the genotypes, ensuring a broad representation of the genetic diversity present. The genetic relationships among the genotypes were visualized using a dendrogram constructed from the data. A total of 95 alleles were scored for PCR-based amplification profiles for screened genotypes. The dendrogram revealed distinct genetic groupings and relationships among the wheat entries. For instance, the entries LOK79 and DBW222 were found to be closely related, followed by pairs such as AKAW5100 and PBW891, DBW441 and DBW110, GW543 and HD3428, HD3471 and DBW187, NIAW4114 and CG1029, HI1669 and HD2932, and DBW386 and DBW359. In contrast, entries like NWS2222, DBW443, HI1674, and CG1044 appeared to be genetically distinct from the other entries. These genotypes grouped within a genetic similarity (GS) coefficient range of approximately 0.71 to 0.98, indicating sufficient genetic variability at the molecular level. The dendrogram also illustrated that the AVT entries occupied separate nodes, distinguishing them from the check lines. This differentiation highlights the potential of these entries to possess unique and desirable traits, which can be further exploited in wheat breeding programs to develop superior cultivars with enhanced performance and resilience.

Profile of AVT final year entries and checks generated using STS / AS-PCR markers

	WxB1		*DREB*	*Vp1B3*		*Lr10*	*Lr34*		*Ppd-D1*		*VrnA1A*	*VrnA1b R2*	*DuPW004*		*Almt*		
Entries	**425**	**690**	**700**	**569**	**652**	**300**	**150**	**230**	**228**	**414**	**965**	**1068**	**250**	**350**	**426**	**706**	**836**
AKAW5100	+	+	+		+				+		+		+				
CG1029(c)	+	+	+	+		+		+	+		+		+	+			
CG1036(c)	+	+	+	+		+		+	+		+		+	+			
CG1040(l)(c)	+	+	+	+		+		+	+		+		+	+			
CG1044	+		+		+	+	+	+			+		+	+	+		
DBW110(c)	+	+	+	+				+	+		+		+	+			
DBW173(c)	+	+	+	+		+		+	+		+		+				
DBW187(c)	+		+	+		+		+	+		+		+				
DBW222(c)	+	+	+	+					+		+		+	+	+		
DBW303(c)	+	+	+	+					+				+				
DBW327(l)(c)	+	+	+	+		+		+	+				+	+	+		
DBW359(l)(c)	+	+	+	+				+	+				+	+	+		
DBW377(l)(c)	+	+	+	+				+	+		+	+	+	+			
DBW386	+	+	+	+		+		+					+	+	+		
DBW441	+		+	+		+		+					+	+	+		
DBW443	+	+	+	+		+		+	+				+	+	+	+	
DBW88(c)	+	+	+	+				+	+		+		+		+		
GW322(c)	+	+	+	+				+	+		+		+	+	+		
GW543	+			+		+		+	+		+		+	+	+		
GW547(l)(c)	+	+			+	+		+					+			+	
HD2932(c)	+		+	+				+	+		+		+	+			
HD2967(c)	+		+		+								+	+			
HD3059(c)	+	+	+	+		+		+	+				+	+			
HD3086(c)	+	+	+	+		+		+	+		+		+	+	+		
HD3090(c)	+	+	+	+				+	+		+		+				
HD3249(c)	+	+		+		+		+	+		+		+		+		
HD3386(l)(c)	+	+	+	+		+		+	+		+		+	+		+	
HD3388(l)(c)	+		+	+	+	+		+	+				+	+			
HD3428	+			+				+	+		+		+		+		
HD3471	+	+		+				+	+		+		+		+		
HI1633(c)	+	+	+	+		+	+		+				+	+			
HI1634(c)	+	+	+	+		+		+	+		+		+	+			
HI1650(c)	+	+	+	+		+		+	+		+		+	+	+		+
HI1655(c)	+	+	+	+				+	+		+	+	+	+	+		
HI1668	+	+	+	+				+	+		+		+				
HI1669	+	+	+	+		+		+	+		+		+	+	+		
HI1674	+	+		+				+	+				+	+	+		
JKW261(c)	+	+	+	+		+		+	+		+		+	+	+		
LOK79	+	+	+	+				+	+		+		+	+	+		
MACS6222(c)			+	+				+	+				+	+	+		
MACS6768(c)	+	+		+				+	+				+	+	+		
MP1378(l)(c)	+	+	+	+				+	+				+				
MP4010(c)	+		+	+				+					+	+			
NIAW4114	+	+	+	+				+	+		+	+	+	+	+		
NIAW4120	+	+			+	+		+	+		+		+	+			
NWS2222							+	+	+				+				
PBW725(c)	+	+	+		+				+		+		+		+		
PBW771(c)	+	+	+	+		+			+		+		+	+			
PBW826(c)	+	+	+	+		+		+	+		+	+	+	+	+		
PBW891	+	+						+	+				+	+			
RAJ4083(c)	+	+	+	+		+	+		+				+	+	+		
WH1306	+	+	+	+				+	+		+		+	+		+	



Dendrogram showing diversity among AVT final year entries and checks

Promising varieties in Advanced Varietal Trials

In Advance Varietal Trials including Special trials a total of 131 genotypes were evaluated in different zones and production conditions out of which only nine genotypes have been found superior on the basis of their yield performance and response to the diseases particularly rusts. Two genotypes GW 556 and DBW 425 were identified superior over best check in CZ under late sown conditions while seven genotypes were found promising under timely sown irrigated conditions.

Most promising varieties in AVTs

Zone	Timely sown irrigated	Late sown irrigated	Restricted Irrigated timely sown
NHZ	-	-	-
NWPZ	-	-	-
NEPZ	PBW915	-	-
CZ	GW555, MACS6837, MACS4135(d), HI8850(d)	GW556, DBW425	-
PZ	MACS4135(d), HI8849(d)	-	-

Promising varieties in initial trials: A total of 260 new genotypes were evaluated for yield performance in different NIVTs / IVTs and 51 genotypes were found promising. A total of 27 genotypes under irrigated timely sown, 05 genotypes under late sown irrigated and 15 genotypes under restricted irrigated timely sown conditions were found promising. This year 15 genotypes of durum wheat were also identified as promising.

Most promising entries in NIVTs and IVTs

Zone	Timely sown irrigated	Late sown irrigated	Restricted Irrigated timely sown
NHZ	-	-	-
NWPZ	DBW448, NW8089, DDW67(d), NIDW1542(d), AKDW5520(d), HI8854(d), PDW367(d), HI8855(d), HI8853(d), MPO1403(d), DDW65(d)	-	DBW467, BRW3959, DBW465, DBW466, HD3486, KRL2203
NEPZ	PBW944, BCW32	HD3482	PBW953
CZ	HI8855(d), MACS4146(d), HI8858(d), MACS5064(dic), MACS5065(dic), DDK1067(dic)	MACS6854	HI1700, PBN2115, UAS3034, CG1052, HI8857(d)
PZ	WHD969(d), HI8858(d), GW1370(d), HI8855(d), HI8854(d), HI8853(d), NIDW1557(d), UAS485(d), MACS4147(d), GW1369(d), PDW368(d), MACS4146(d), DDW67(d)	MP3598, HI1697, MACS6854	HI1700, AKAW5441, PBN2115

Zonal monitoring of coordinated trials and nurseries: Multidisciplinary teams constituted to monitor trials in the five zones visited centres during February to April, 2024 for assessing the conduction of trials and performance of test genotypes in each of the five wheat growing zones.

Summary of zonal monitoring (2023-24)

ZONE	Period	Team(s)	Centres visited
NHZ	14-17 April, 2024	Drs. Jogendra Singh, Prem Lal Kashyap Dharam Pal	Malan, Bajaura and Shimla
	15-17 April, 2024	Dr. Charan Singh, Dr. Pramod Prasad, Dr. Navin Chander Gahtyari	Majhera, Almora, Gaja (Ranichauri)
NWPZ	15-17 March, 2024	Dr. V. S. Sohu, Dr Hanif Khan, Dr R.S. Beniwal, Dr Bhagat Singh,	SKAUST-J, Jammu PAU Station, Gurdaspur BISA, Ladhowal, PAU, Ludhiana
	20-22 March, 2024	Drs. Vikas Gupta, PL Kashyap, and Anil Khippal	Modipuram, Nagina, Pantnagar, Bulandshahr and Karnal
NEPZ	9-13 March, 2024	Dr AK Sharma, Dr. RS Chhokar, Dr. Ravindra Kumar and Dr. Harikrishna	Varanasi, Prayagraj, Ayodhya and Kanpur
	4-8 March, 2024	Dr. Tapamay Dhar, Dr. Raghunath Mandal and Dr. Satish Kumar	Kalyani, Burdwan, Manikchak, Coochbehar and Shillongani
CZ	13-16 Feb.2024	Drs. Vikas Gupta, AG Pansuriya, Ravindra Kumar and Neeraj Kumar	SK Nagar, Vijapur, Anand, Dhandhuka, Sanosara, Junagadh
	14-17 Feb.2024	Dr Hanif Khan, Dr Anil K. Khippal, Dr T. L. Prakasha, Dr A.P. Agrawal	IGKV-Raipur, IGKV-Bilaspur, JNKVV-Jabalpur, BISA-Jabalpur, JNKVV-Sagar, JNKVV-Powarkheda and IARI-Indore
PZ	5-8 Feb. 2024	Dr. C N Mishra, Dr. Uday G Reddy, Dr. K K Mishra, Dr. A S Kharub,	Bagalkot, Kalloli, Ugar khurd, Nippani, Karad, UAS Dharwad
	13-16 Feb.2024	Dr. Charan Singh, Dr. Yashavantha KJ, Dr. KD Lamani, Dr. Prem Lal Kashyap	Pune, Nashik, Niphad, Dhule, Akola, Parbhani

Out of total 64 trial conducting centres, monitoring of 50 centres (78.1%) was conducted during this crop season. The collective decisions of the monitoring team members on acceptance/rejection of a trial were considered during preparation of the monitoring reports and 15 trials were rejected by the zonal monitoring teams.

Trials rejected by zonal monitoring teams

ZONE	Centre	Trials
NWPZ	SKAUST- Jammu	NIVT-3A
NEPZ	Ayodhya	AVT-RI-TS-TAS
	Kanpur	NIVT-5A
	Shillongani	NIVT-5A
CZ	Bilaspur	NIVT-2 & NIVT-5B
	JNKVV, Jabalpur	HYPT-CZ & NIVT-6
	Sagar	AVT-RI-TS-TAD
	Indore	NIVT-6
PZ	Bagalkot	AVT-RI-TS
	Karad	AVT-IR-TS
	Parbhani	NIVT-2, AVT-IR-TS-TAD

The comments of the zonal teams about genetic purity of test genotypes were compiled for promotion/ dropping of a particular test entry. Based on reports from different monitoring teams, following 8 test entries have been dropped from further testing.

Entries dropped from further testing

Trial	Entries dropped
NIVT-3A	N416(HP1983), N433(HUW860)
NIVT-4	N628(GW1371), N632(PBN1841)
NIVT-5A	N704(HD3485)
NIVT-5B	N825(NIDW1561(d)), N822(NIAW4533)
NIVT-6	N910(HD3489)

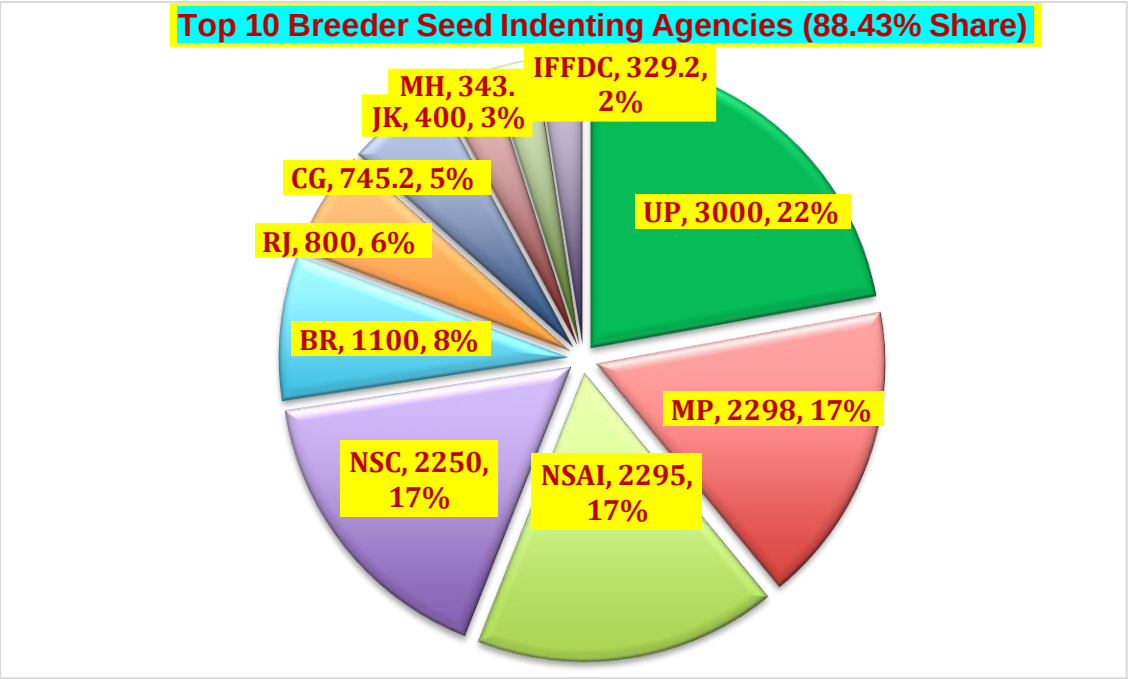
Breeder and Nucleus Seed Production:

During 2023-24, a consolidated indent of 15334.25q breeder seed of 198 wheat varieties ((including duplications) was received from DA&FW, New Delhi for a total of 24 indenting agencies. Among all 15 states, UP placed the maximum breeder seed indent of 3000.0q (22% Share) followed by MP (2298.0q), NSAI (2295q) for private seed companies, and Bihar (1100.00q). A total of 10078q (68.60%) breeder seed indent was for67 latest varieties notified during 2019 and 2023 viz., DBW 187, DBW 303, DBW 222, DBW 327 HD 3626, etc.

Breeder Seed Allocation & Production

Total allocation of 14698.87q of breeder seed of 132 varieties was made to 34 BSP centres for the production during 2023-24 against 15334.25q total indent in 15 states. The indent of 331.38q breeder seed of 44 varieties viz., PBW 343, PBW 373, HUW 234 etc. was not allocated due to >15 years old varieties, <5.0q of indent, and insufficient nucleus seed availability.

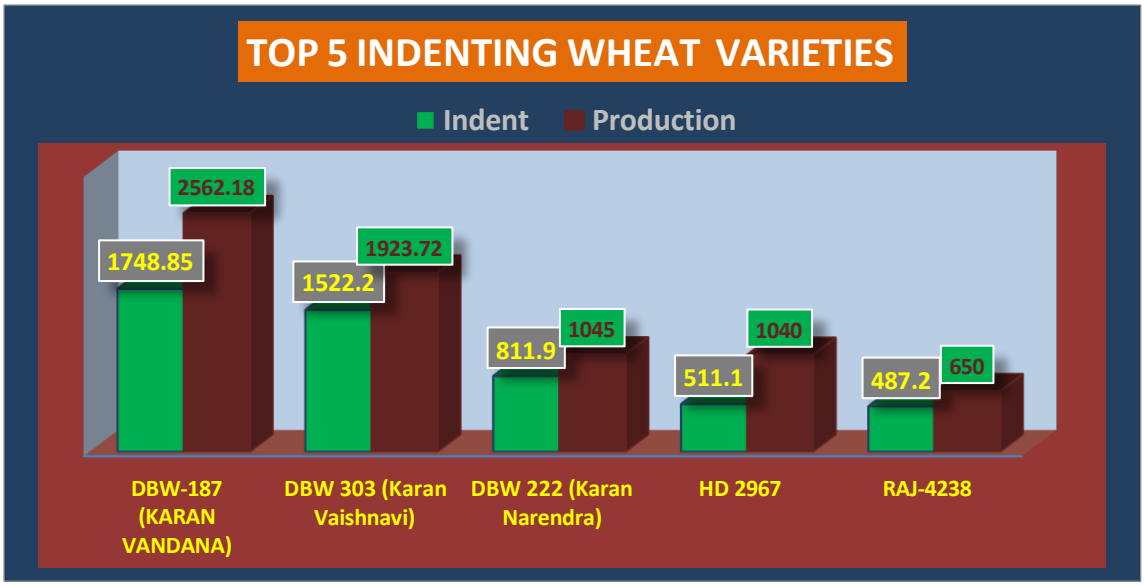
The total breeder seed production was 21935.55q during 2023-24 with surplus production of 7236.68q. Among all 34 BSP centres, ICAR-IIWBR, Karnal, produced maximum quantity i.e., 3296.0q of breeder seed against 3140.40q indent followed by IARI-RS, Indore (2631.30q) and RARI Durgapura (2205.00q). The highest quantity of breeder seed was produced for DBW 187 (2562.18q) followed by DBW 303 (1923.72q), DBW 222 (1045q) and HD2967 (1040.0q) against DA&FW indent.



Breeder seed indent by different indenting agencies

Nucleus Seed Allocation & Production

Against an allocation of 379.50q, nucleus seed of 132 wheat varieties was alloted to the 28 BSP Centres (producing BS of mainly IIWBR Varieties except SVPUA&T Meerut, BAUT Banda, RVSKVV Gwalior, IISS Mau, RLBCAU Jhansi and SKAUST Jammu. A total of 1059.55q of nucleus seed was produced with a surplus of 680.05q by 28 centres. The highest quantity (164.60) of nucleus seed was produced by IARI-RS, Indore followed by PAU, Ludhiana (138.75q), SDAU Vijapur (116.28 q) and IIWBR, Karnal (103.0q).



Breeder seed indent and production of top five indented wheat varieties

Top Ten BSP Centres in Breeder/Nucleus Seed production (q)

SN	BSP Centre	Allocation	Production	Surplus/Deficit ±	BNS-1	BNS-IV	Surplus/ Deficit±
1	ICAR-IIWBR, Karnal	3140.40	3296.00	155.60	75.00	103.00	28.00
2	IARI-RS, Indore	1200.74	2631.30	1430.56	32.50	164.60	132.10
3	RARI, Durgapura	1005.40	2205.00	1199.60	24.50	83.00	58.50
4	IARI, New Delhi	960.80	1514.00	553.20	23.50	35.49	11.99
5	PAU, Ludhiana	949.20	1459.80	510.60	23.00	138.75	115.75
6	IARI RS, Karnal	974.60	1174.00	199.40	23.50	33.69	10.19
7	SDAU, Vijapur	819.10	960.02	140.92	20.00	116.28	96.28
8	BISA Ludhiana	709.80	935.00	225.20	17.00	19.12	2.12
9	JNKVV Jabalpur	727.10	836.29	109.19	19.50	102.00	82.50
10	BISA, Jabalpur	386.00	752.00	366.00	11.00	18.14	7.14
	Total	**10873**	**15763**	**4890**	**270**	**814**	**545**
	Per Cent Share	**73.97**	**71.86**	**67.58**	**71.01**	**76.83**	**80.08**

Test Stock Multiplication and Grow Out Test Report

National Seed Corporation was given target for test stock multiplication of 13 varieties identified for release during 2023-24. NSC has reported a total of 565.50q seed of 5 newly identified wheat varieties during 2023-24 on NSC farms.

ICAR-IIWBR, Karnal conducted grow out test of 61 wheat varieties received from 7 BSP Centres *viz*., CSAUT Kanpur, ARI Pune, IARI-RS Samastipur, IGKV Raipur, RVSKV Gwalior, JNKVV, Jabalpur and RPCAU Pusa. Dholi did not send the samples for grow out test.

Evaluation of National and International Nurseries/Trials

International Germplasm: A total of 158 sets of eight trials and eight nurseries comprising 1414 lines (1207 bread wheat and 207 lines of durum wheat) were received from CIMMYT, Mexico; 8 sets of two trials comprising of 351 bread wheat lines were received from ICARDA, Morocco and 145 lines of facultative winter wheat from International Winter Wheat Yield Programme (IWWYP), Turkey and evaluated at various wheat breeding centres during 2023-24. In addition to yield this year, three important nurseries FHBSN, HLBSN and ARSN for diseases were also planted and evaluated for three diseases. A number of genotypes showing resistance were identified and will be used in crossing program.

Promising lines identified for resistance against various diseases and pests

Trials	Zone/Centre	Promising lines	Disease reaction
25th FHBSN	Delhi and Karnal	6433, 6435, 6436, 6437 (Check-Sumai #3)	FHB (2)
	Karnal	6434, 6435, 6436, 6443, 6448	FHB (2)
15th HLBSN	Karnal	2, 4, 6, 7, 29, 45 (Check- DBW 187)	HLB (<35)
	Kalyani	15, 41, 43	HLB (≤35)
	Ayodhya	6, 7, 13, 26	LB (<12)
1st ARSN	Karnal & Ludhiana	1, 2, 4, 20, 30, 35, 51, 56	Aphid population (<75)

One set of each CIMMYT/ICARDA trials were planted at ICAR-IIWBR, Karnal for comprehensive evaluation that also facilitated *in-situ* selection by large number of wheat breeders/pathologists, who made selections at IIWBR Karnal during Field Day (19th, March 2024). The indented seed in limited quantity was supplied as per their requirement.

Promising lines identified for higher grain yield and disease resistance in different international trials

Trial name	Promising line vis a vis check and check yield
Bread wheat	
1st SAWYT-EM	617, 641
11th WYCYT	17
13th SATYNDRGT	9403, 9410, 9416
31st HRWYT	221, 225, 231, 243
31st SAWYT-NM	307, 326, 330, 342
44th ESWYT	101, 103, 131, 140
22nd HTWYT	8, 9, 10, 16, 28, 45
24th ESBWYT*	NWPZ: 8, 28, 36
	PZ: 7, 18, 22, 26, 27, 28, 35, 37, 48
25th IWWYT**	3, 8, 20, 28, 29
Durum wheat	
55th IDYN	710, 718, 730, 741

National Nurseries: During 2023-24, national genetic stock nursery and segregating stock nursery (SSN) were constituted by the institute and supplied to different co-operators across locations. The Salinity/ Alkalinity Tolerance Screening Nursery (SATSN) was constituted by the CSSRI and evaluated at 5 locations.

National Genetic Stock Nursery (NGSN): The NGSN comprising 111 genotypes including *T. aestivum* (98) and *T. durum* (13) was provided to 35 centres as "suggested crossing block". Pooled analysis of data was done for the identification of promising lines. The utilization report indicated that 23 centres out of 35 utilized NGSN genotypes. The overall utilization was 15.08%. Bread wheat genotypes were utilized by 20 centres whereas 10 centres utilized durum genotypes. It was also found that 16.95% of genotypes in the NGSN were utilized for hybridization as parents.

Segregating Stock Nursery: 27th Segregating Stock Nursery (SSN) comprising of 247 segregating populations (F2/F3) was supplied to 25 wheat breeding centres to select superior plants/ material as per their breeding objectives. The utilization report indicated that all 247 crosses were utilized by one or the other centre for various traits (yield components, disease resistance, physiological traits) and a total of 10143 plants were selected across the centres. The utilization report indicated that the nursery could achieve an overall utilization of 33.29% across centres.

Promising genotypes for yield component traits in NGSN during 2023-24

Traits	Range	Mean	Criteria	Promising genotypes
Days to heading (days)	68-92	80	<75	LBP 2017-2 (73), HD 3407 (73), HPW 484 (73), WCF 12-19 (73), PBW 803 (73), VL 3035 (70), HS 545 (70), DTW 119 (70), HPW 487 (70), GW 2019-957 (68), Unnnat PBW 550 (68), PHSN 10 (68), BSNR 6 (68)
Plant height (cm)	76-132	84	<85	CG 136 (83), Unnat PBW 550 (82), HI 8886 (81), HD 3368 (80), HI 8847 (79), IC 78841 (76)
Tillers/m	50-117	88	>105	CG 1036 (117), LBP 2017-2 (101), DBW 372 (102), HI 1665 (101), BNSR 6 (101), HD 3411 (101), DBW 370 (101), VL Gehun 2041 (100), WCF 12-61 (100), RWP 2018-32 (100)
Grains/spike	44-82	63	>57	MP 1323 (61), DBW 370 (61), DBW 377 (60), PBW 824 (60), DBW 371 (60), RWP 2017-21 (58), Karan Poshan 2 (58), DBW 302 (59), HI 1650 (58), HI 1653 (58), HI 8826 (d) (58), MACS 6795 (58), CG 1040 (58), LBP 2023-24 (58), PBS-NGSN-23-02 (58)

1000- grain weight (g)	27-60	44	>46	PHSL 10 (51), HI 1653 (49), CG 1029 (49), VL 3035 (49), PBW 869 (48), HS 681 (48), WAP 2320 (48), HPW 487 (48), UASQ 332 (D) (48)
Spike length (cm)	6.2-15.6	10.9	>11.5	CG 1040 (15.6), IC 212176 (12.5), PBW 766 (12.5), VL Gehun 2041 (12.1), PHSL 10 (11.8), WAP 2320 (11.8), Karan Poshan (11.7), WAP 2321 (11.6), MACS 6795 (11.6)
Yield/ plot (g)	188-804	553	>692	PBS-NGSN-23-01 (804), MP 1323 (740), HPW 493 (717), WH 1403 (696), PBW 824 (693), HI 1653 (692), DBW 371 (691)

Salinity/Alkalinity Tolerance Screening Nursery: The Salinity/Alkalinity Tolerance Screening Nursery was constituted with the aim to identify wheat lines that can perform better under salt affected soils. During the season 2023-24 the nursery wase conducted at 9 centers. The data of Karnal, Hisar, Bathinda, Muktsar, Kanpur, Pali and Bharuch were pooled to obtain the mean values. The nursery consisted of 29 genotypes including five checks (KRL 210, Kharchia 65, DBW 187, KRL 19 and GW 322). Out of 24 test entries, 4 entries KRL 2301, KRL 2215, WAP 2327, LBP-2023-23 were found to be promising on the basis of mean yield along with resistance to all the three rusts (stem leaf and yellow rust) as evident from IPPSN 2023-24. However, only one entry, KRL 2301 was significantly superior to the best check KRL 210.

Quality Component and Wheat Biofortification Nursery (QCWBN)

The Quality Component and Wheat Biofortification Nursery (QCBWN) for the crop season 2023-24 comprising of 36 genotypes including five check varieties viz., DBW187, DBW327, GW322, HI8777(d) and DDW55(d) was conducted across all zones except NHZ. The yield data from all cooperators was pooled zone wise along with quality traits viz., Protein content at 12% Moisture, Zn content (ppm) and Fe content (ppm) of all entries and checks. Entries HDHG2022-52(d) in NWPZ, RWP219 in CZ and GW1029 in PZ showing better yield than zonal checks, having resistance against rust disease of respective zones and high nutritional traits (protein>13.0%; Fe and Zn >40.0 ppm; at least two) were identified.

Screening against wheat blast

A set of 378 wheat lines (test entries, pipeline materials, and new checks) were screened against wheat blast in Bangladesh during 2023-24 through CIMMYT. Among these 378 total lines, 246 were new AICRP test entries while the remaining 132 were pipeline materials contributed by different breeding programs. Based on the disease score (score <10) across two dates of sowings, 22 resistant genotypes were shortlisted.

Wheat Blast resistant genotypes identified in 2023-24

Wheat Blast reaction	AICRP /IIWBR	Genotypes	Total
0, 0 (Free)	AICRP	DBW447, DBW448, DBW449, PBW942, PBW943	5
Upto 10 (Resistant)	AICRP	BRW3964, DBW446, DBW454, DBW455, DBW456, HD3478, HD3491, HUW859, JKW317, K2301, MACS6862, NIAW4621, RAUW107, Supreme-1122, SVPWL22-04, UP3141, WH1330	17
Total			22

It is important to note here that this season only 05 entries were found highly resistant (0, 0 score), and 17 entries were found resistant (average score less than 10), indicating that anticipatory resistance breeding work is effective and will be useful at national level. However, no genotype from pipeline materials showed resistance (score of < 10).

Physiological studies on heat and drought stress tolerance

Heat and Drought Tolerance Screening Trial (HDTST) was conducted to identify the temperature and drought stress tolerant lines among AVT final year genotypes. A total of 25

genotypes including checks were evaluated under timely sown (TS), late sown (LS) and drought stress (DR) conditions.

Magnitude of heat and drought stress during the season:

- In NWPZ and NEPZ, the mean minimum and maximum temperature across centres was higher by 1.2^{0}C and 1.1^{0}C respectively, under reproductive stage in LS compared to TS conditions. The RH ranged from 38-62% and the rainfall received was more under TS reproductive stage compared to LS.
- In CZ and PZ, the mean minimum and maximum temperature across centres was higher by 2.3^{0}C and 1.5^{0}C respectively, under reproductive stage in LS compared to TS conditions. The RH ranged from 42-76% and the rainfall received was almost same both in TS and LS reproductive stages.

Under heat stress, the genotypes HI1674 (0.65), HD3428 (0.67) and DBW386 (0.67) showed lowest HSI with minimum yield reduction compared to the best check HI1633 (0.70). Under drought condition, HD3428 (0.79) and GW543 (0.82) showed lower DSI compared to the best check NIDW1149 (0.88) with minimum yield reduction under drought condition. The list of genotypes showing HSI /DSI <1 is listed below.

Wheat genotypes identified as heat/ drought tolerant (HSI/DSI<1.0) in HDTST during 2023-24.

Genotypes	
HSI<1	**DSI<1**
HI1674 (0.65), HD3428 (0.67), DBW386 (0.67), AKAW5100 (0.75), HD3471 (0.79), NWS2222 (0.83), DBW443 (0.85), HI1669 (0.85), LOK79 (0.94)	HD3428 (0.79), GW543 (0.82), HD3471 (0.89), DBW443 (0.89), PBW891 (0.93), AKAW5100 (0.93), LOK79 (0.96), HI1669 (0.99), DBW441 (0.99)

Values in the parenthesis indicate HSI /DSI

Break-up of Co-ordinated Wheat Varietal Trials

Proposed (PR), Conducted (CD) and Reported (RT) - 2023-24

SN	Trial Series	NHZ			NWPZ			NEPZ			CZ			PZ			ALL ZONE		
		PR	CD	RT	PR	CD	RT	PR	CD	RT	PR	CD	RT	PR	CD	RT	PR	CD	RT
1	AVT-IR-TS-TAS				13	13	12	12	12	8							25	25	20
2	AVT-IR-TS-TAD										14	14	14	11	10	7	25	24	21
3	AVT-IR-LS-TAS				12	12	11	11	11	11	12	12	11	12	12	12	47	47	45
4	AVT-RF-TS-TAS	9	9	8													9	9	8
5	AVT-RI-TS-TAS/TAD				13	13	13	12	12	9	14	14	12	11	11	8	50	50	42
6	IVT/AVT-RI-LS-TAS	7	7	5													7	7	5
7	IVT-RF-TS-TAS	9	9	7													9	9	7
8	NIVT-1A-IR-TS				9	9	9	6	6	6							15	15	15
9	NIVT-1B-IR-TS				8	8	8	7	7	7							15	15	15
10	NIVT-2-IR-TS										10	10	8	7	7	4	17	17	12
11	NIVT-3A-IR-LS				9	9	8	10	10	10							19	19	18
12	NIVT-3B-IR-LS										9	9	8	8	8	7	17	17	15
13	NIVT-4-IR-TS				6	6	4				7	7	6	6	6	5	19	19	15
14	NIVT-5A-RI-TS				10	10	8	9	9	7							19	19	15
15	NIVT-5B-RI-TS-TDM										10	10	8	7	7	6	17	17	14
16	NIVT-6A-ES-NWPZ/CZ				7	7	6				7	7	3				14	14	9
17	SPL-HYPT-NWPZ				7	7	6										7	7	6
18	SPL-HYPT-CZ										7	7	5				7	7	5
TOTAL		**25**	**25**	**20**	**94**	**94**	**85**	**67**	**67**	**58**	**90**	**90**	**75**	**62**	**61**	**49**	**338**	**337**	**287**
% of CD Trial/PR Trial		**100.00**			**100.00**			**100.00**			**100.00**			**98.39**			**99.70**		
%of RT Trial/CD Trial		**80.00**			**90.43**			**86.57**			**83.33**			**80.33**			**85.16**		
Trials Rejected by Monitoring Team		**0**			**11**			**4**			**12**			**10**			**37**		

Abbreviations used in the report

Yield	
Rk	Rank
G	Group (First non-significant)
S.E. (M)	Standard error of the means
C.D.	Critical difference
C.V.	Coefficient of variation
Rusts	
Bl	Black or stem rust
Br	Brown or leaf rust
Yl	Yellow or stripe rust
R	Resistant type of pustule
S	Susceptible type of pustule
MS	Moderately susceptible type of pustule
X/MR,MS	Mixed type of reaction, i.e., presence of both resistant and susceptible types of pustules
0	No infection
tS	Trace susceptible response
tR	Trace resistant response
5S	First figure (5) represents the severity and the later (S) for the type of pustule response
MR	Moderately resistant type of pustules=P
tMR	Traces moderately resistant
tMS	Traces moderately susceptible
ACI	Average coefficient of infection
Loose smut (LS)	
F	Free
tS	Susceptible in traces
S	Susceptible
Other diseases (OD)	
KB	Karnal bunt (%)
LB	Leaf blight (severity scoring based on double digit method)
PM	Powdery mildew (scale 0-9)
BP	Black point (%)
Agronomic characters	
Hd.R	Heading range (days)
Hd.M	Heading mean (days)
Mat.R	Maturity range (days)
Mat.M	Maturity mean (days)
Ht.R	Plant height range (cm)
Ht.M	Plant height mean (cm)
Lod.	Lodging percentage (%)
TGW.R	1000-grains weight Range (g)
TGW.M	1000-grains weight Mean (g)

Other symbols	
C	Check variety
(I)	Identified variety
(d or D)	Durum
*	Final year test entry
#	Entry resistant to wheat blast disease
B	Biofortified entry
AVT	Advanced Varietal Trial
NIVT	National Initial Varietal Trial
IVT	Initial Varietal Trial
IR	Irrigated
RF	Rainfed
RI	Restricted irrigation
TS	Timely sown
LS	Late sown
ES	Early sown
Q	Entry good in quality traits
M	Entry derived through Marker Assisted Backcross Breeding
TAS	*Triticum aestivum*
TAD	*Triticum aestivum* + *T. durum*
TDM	*Triticum durum*
MABB	Marker Assisted Backcross Breeding
SPL	Special
AST	Alkalinity/ Salinity Trial
HYPT	High Yield Potential Trial
HS	Highest Score
Avg.	Average
GM	Grand Mean
DoS	Date of sowing
DR	Drought
%R	Percent reduction
Zones	
NHZ	Northern Hills Zone
NWPZ	North Western Plains Zone
NEPZ	North Eastern Plains Zone
CZ	Central Zone
PZ	Peninsular Zone
NAT ZONE	National Zone – Trial conducted in two or more zones
Reasons for not reporting the data	
DNR	Data not reported
HCV	High coefficient of variation
LCV	Low coefficient of variation
LS	Late sowing
LSM	Low site mean
RMT	Rejected by monitoring team
TF	Trial failed

Parentage Details

Parentage of Wheat Genotypes, 2023-24

Contributing Centres

SN	Centre	Symbols
1.	Akola, PDKV	AKAW, AKDW
2.	Kalyani, BCKV	BCW
3.	Sabour, BAU	BRW
4.	Bilaspur, IGKVV	CG
5.	Karnal, IIWBR	DBW, DDW
6.	Vijapur, SDAU	GW
7.	Junagarh, JAU	GW
8.	New Delhi, IARI	HD
9.	Indore, IARI, RS	HI
10.	Pusa, IARI, RS	HP
11.	Shimla, IARI, RS	HS
12.	Wellington, IARI, RS	HW
13.	Varanasi, BHU	HUW
14.	Malan, CSKHPKV	HPW
15.	Jammu, SKUAST	JAUW
16.	Ranchi, BAU	JKW
17.	Sagar, JNKVV	JWS
18.	Kanpur, CSAUA&T	K
19.	Karnal, CSSRI	KRL
20.	Sanosara, Lokbharti	LOK
21.	Pune, ARI	MACS
22.	Powarkheda, JNKVV	MP, MPO
23.	Jabalpur, JNKVV	MP
24.	Ayodhya, NDUA&T	NW
25.	Nuzivedu Seeds	NWS
26.	Niphad, MPKV	NIAW, NIDW
27.	Parbhani, VNMKV	PBN
28.	Ludhiana, PAU	PBW, PDW
29.	Udaipur, MPUAT	PWU
30.	Durgapura, SKRAU	RAJ
31.	Pusa, RPCAU	RAU
32.	Srinagar, SKUAST	SKW
33.	Modipuram, SVPA&T	SVPWL
34.	Dharwad, UAS	UAS, DDK
35.	Coochbehar, UBKV	UBW
36.	Pantnagar, GBPUA&T	UP
37.	Almora, VPKAS	VL
38.	Hisar, CCSHAU	WH, WHD
39.	Bioseed	BW
40.	Supreme Seeds	Supreme

Parentage 2023-24

PDKV, Akola (Maharashtra)

1	AKAW4764	NIVT-2	DL788-2/AKAW3722
2	AKAW5100	PZ-TS	SelfromNATP2002-03DL-9-74-3
3	AKAW5441	NIVT-5B	HI1418/LOK54/AKAW475619
4	WSM138	CZ-LS	RAJ4132/LBPY-04-1
5	WSM141	NIVT-3B	RAJ-41332/LBPY-05-8

Durum

6	AKDW5520	NIVT-4	MACS3125/NIDW295/AKDW4852-3

BCKVV, Kalyani

1	BCW28	NE-TS	PBW780/WB2
2	BCW29	NE-TS	PBW780/DBW39
3	BCW31	NIVT-3A	BORL14/5/MUTUS/DANPHE #1/4/C80.1/3*BATAVIA//2*WBLL1/3/C80.1/3*QT4522//2*PAST R
4	BCW32	NIVT-1B	Pavon76/20´´+7A.7S-Gb5/2*KUTZ
5	BCW35	NIVT-1A	CROC_1/AE.SQUARROSA(205)//BORL95/3/PRL/SARA//TSI/VE E#5/4/FRET2/6/MTRWA92.161/PRINIA/5/SERI*3//RL6010/4*YR/ 3/PASTOR/4/BAV92/7/BORL14

Bihar Agricultural University, Sabour, Bhagalpur (Bihar)

1	BRW3954	NIVT-3A	BORL14//BECARD/QUAIU#1
2	BRW3959	NIVT-5A	BORL14//BECARD/QUAIU#1
3	BRW3964	NIVT-1B	INQALAB 91*2/TUKURU//T.SPELTA PI348599/3/2*INQALAB 91*2/KUKUNA/4/KINGBIRD #1//INQALAB 91*2/TUKURU/5/SHAKTI/6/VILLA JUAREZ F2009/SOLALA//WBLL1*2/BRAMBLING/3/PBW343*2/KUKUNA* 2//FRTL/PIFED
4	BRW3967	NIVT-1B	DANPHE#1*2/3/T.DICOCCONPI94625/AE.SQUARROSA(372)// SHA4/CHIL/4/SHAKTI/5/VALI/8/TRCH/5/REH/HARE//2*BCN/3/C ROC_1/AE.SQUARROSA (213)//PGO/4/HUITES/6/IWA 8600211//2*PBW343*2/KUKUNA/7/PBW343*2/KUKUNA*2//FRT L/PIFED

Bioseed Research (Private)

1	BW20R105	NIVT-1B	MXI18-19\M40ES27SA18H\2

IGKVV, TCB College of Agriculture, Bilaspur (Chhattisgarh)

1	CG1044	HYPT-CZ	HW2045/LBPY4-2
2	CG1045	PZ-TS	SUP152/BAJ#1/4/BAJ#1/3/KIRITATI//ATTILA*2/PASTOR/5/SUP 152/BAJ#1
3	CG1047	PZ-RI	HW2004/PHS725
4	CG1050	NIVT-2	LOK-1/RAJ4270
5	CG1051	NIVT-3B	GW173/HUW626
6	CG1052	NIVT-5B	RAJ4171/HI1531

ICAR- IIWBR, Karnal

1	DBW386	NW/NE-TS	NELOKI//SOKOLL/EXCALIBUR
2	DBW417	NW-TS	NADI*2/6/BECARD #1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/BOW//KAUZ
3	DBW422	NW-LS	ONIX/KBIRD//BORL14/3/ONIX/KBIRD
4	DBW425	PZ-LS	KACHU/SAUAL/4/ATTILA*2/PBW65//PIHA/3/ATTILA/2*PASTOR
5	DBW426	PZ-LS	SNTL/3/KACHU//WBLL1*2/BRAMBLING

6	DBW428	CZ-RI	PBW373/KRL1-4
7	DBW432	CZ-RI	SUP152/BAJ#1/4/BAJ#1/3/KIRITATI//ATTILA*2/PASTOR/5/SUP152 /BAJ#1
8	DBW434	HYPT-CZ	NADI#2*2/6/BECARD#1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/B OW//KAUZ
9	DBW436	HYPT-CZ	PRL/2*PASTOR//PAURAQUE#1/3/2*BORL14
10	DBW438	HYPT-NW	MUCUY*3//RL6077/AOC-YR
11	DBW441	CZ-RI	DBW110*2/SUNLIN
12	DBW443	PZ-TS	NW1014/7th HLBSN21
13	DBW445	HYPT-CZ	CROC_1/AE.SQUARROSA(205)//BORL95/3/PRL/SARA//TSI/VEE#5 /4/FRET2/5/CIRO16/6/BECARD/CHYAK/7/MOKUE#1
14	DBW446	NIVT-1A	NADI/COPIO//NADI#2
15	DBW447	NIVT-1A	COAH90.26.31/4/2*BL2064//SW895124*2/FASAN/3/TILHI/5/UP2 338*2/KKTS*2//YANAC/6/MUTUS/AKURI/7/PBW343*2/KUKUNA *2 //FRTL/PIFED/3/KFA/2*KACHU
16	DBW448	NIVT-1A	BORL14*2/FITIS
17	DBW449	NIVT-1A	KUTZ//KACHU/DANPHE
18	DBW450	NIVT-1A	NADI#2//TRCH/HUIRIVIS #1/3/NADI#1
19	DBW451	NIVT-1B	MUTUS/ROLF07//MUCUY
20	DBW452	NIVT-1B	PBW723/DBW157
21	DBW453	NIVT-1B	MUTUS*2/MUU//2*MUCUY
22	DBW454	NIVT-1B	NADI#1*2/3/MUTUS/AKURI #1//MUTUS
23	DBW455	NIVT-1B	NADI#1*2/3/MUTUS/AKURI #1//MUTUS
24	DBW456	NIVT-2	BORL14*2/FITIS
25	DBW457	NIVT-2	MUTUS*2/MUU//2*MUCUY
26	DBW458	NIVT-3A	ATTILA/3*BCN*2//BAV92/3/HEILO/4/CHIBIA//PRLII/CM65531/3/ MISR 2/5/TRCH/HUIRIVIS #1/6/CHIPAK
27	DBW459	NIVT-3A	BORL14/CHIPAK
28	DBW460	NIVT-3A	MUCUY/BORL14//MUCUY
29	DBW461	NIVT-3A	FITIS*2//KACHU/KIRITATI
30	DBW462	NIVT-3A	HD 2967/PBW 644// WH 1105
31	DBW463	NIVT-3B	NADI#2*2/6/BECARD#1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/B OW//KAUZ
32	DBW464	NIVT-3B	MUTUS*2/MUU/6/ATTILA/3*BCN//BAV92/3/PASTOR/4/TACUPE TO F2001*2/BRAMBLING/5/PAURAQ/7/MUCUY
33	DBW465	NIVT-5A	FRANCOLIN#1//WBLL1*2/BRAMBLING/3/WBLL1*2/BRAMBLIN G /4/2*NADI#1
34	DBW466	NIVT-5A	KACHU/SAUAL/4/ATTILA*2/PBW65//PIHA/3/ATTILA/2*PASTOR /5/KACHU/KIRITATI
35	DBW467	NIVT-5A	BOKOTA//FRNCLN*2/TECUE #1
36	DBW468	NIVT-5A	2ndWAMI110/30thSAWSN3009
37	DBW469	NIVT-5B	WBLL1*2/CHAPIO*2//MURGA/3/MUTUS/AKURI/4/MUTUS//WBL L1*2/BRAMBLING/3/WBLL1*2/BRAMBLING
38	DBW470	NIVT-5B	NADI#1*2/3/MUTUS/AKURI #1//MUTUS
39	DBW471	NIVT-6	MUNAL*2/CHONTE*2/3/SWSR22T.B./2*BLOUK#1//WBLL1*2/KU RUKU
40	DBW472	NIVT-6	SHAKTI/5/2*FRANCOLIN#1/3/PBW343*2/KUKUNA*2//YANAC/4/ KINGBIRD #1//INQALAB 91*2/TUKURU
41	DBW473	NIVT-6	PBW780/HD2967
42	DBW474	NIVT-6	KACHU/DANPHE*2//MUTUS*2/HARIL #1
43	DBW475	NIVT-6	DBW 17 /DBW 16
44	DBW476	NW-TS	DBW88*2/PBW703
45	DBW477	NW-TS	DBW88*2/PBW703

Durum

46	DDW62(d)	PZ-TS	MACS2846/HI8498
47	DDW65(d)	NIVT-4	GDW 1255/ PDW 233
48	DDW66(d)	NIVT-4	DW 1001 /PDW 16
49	DDW67(d)	NIVT-4/5B	MACS 2846/ PDW 314// HI 8498

SDAU, Vijapur (Gujarat)

1	GW543	HYPT-CZ	WBLL1*2/BRAMBLING//WBLL1*2/BRAMBLING/3/2*BORL14
2	GW559	NIVT-2	GW450/UP2672
3	GW560	NIVT-2	GW450/UP2673
4	GW561	NIVT-2	GW496/CMH84-3379
5	GW562	NIVT-3B	GW2006-17/GW455
6	GW563	NIVT-5B	WH1013/RAJ4037//GW2004-17
7	GW564	NIVT-6	GW366/GW496

Durum

8	GW1368(d)	PZ-RI	GW1125/CPAN6083//GW1280
9	GW1369(d)	NIVT-4	GW2002-44/GW1249//HI8498
10	GW1370(d)	NIVT-4	HI8703/GW2007-77
11	GW1372(d)	NIVT-5B	Omtel-2/HD4675//GW1280

JAU, Junagadh (Gujarat)

1	GW554	CZ-TS	NIAW2064/GW366
2	GW555	CZ-TS	HI1600/HD2987
3	GW556	CZ-LS	RAJ4238/GW273
4	GW565	NIVT-2	GW451/J13-14
5	GW566	NIVT-2	RAJ4238/GW11
6	GW567	NIVT-3B	NIAW2064/GW11
7	GW568	NIVT-6	GW451/GW496

Durum

8	GW1371(d)	NIVT-4	GW1139/MACS2971

ICAR-IARI, New Delhi

1	HD3428	NW-LS	CROC1/AE.SQUARROSA(210)//WBLL1*2/BRAMBLING/3/VILLAJUAREZF2009/5/BAV92//IRENA/KAUZ/3/HUITES*2/4/MURGA/6/MUTUS//ND643/2*WBLL1
2	HD3447	NE-TS	HD2967/HD2887//HD2946/HD2733
3	HD3455	NW-LS	HD2967/PBW550//HD2967+Yr10
4	HD3460	NE-RI	TC870344/GUI//TEMPORALERAM87/AGR/3/2*WBLL1/WH1105
5	HD3461	HYPT-CZ	HD2967/HD2887//HD2946/HD2733
6	HD3463	HYPT-CZ	HD2967/HD2887//HD2946/HD2733
7	HD3467	NE-TS	HD3059*3/PBW780
8	HD3468	NE-RI	HD3087/HD3016
9	HD3471	NW-TS	HD3086*2/HI1500
10	HD3474	NIVT-1A	HW4043/HD3159
11	HD3475	NIVT-1A	HD2932+Yr10/CSW16
12	HD3476	NIVT-1A	HD3117/HD2932+Yr10
13	HD3477	NIVT-1A	18HRWYT214/18HRWYT229
14	HD3478	NIVT-1B	HD2967/HD2887//HD2946/HD2733
15	HD3479	NIVT-1B	SAWSN(07-08)-3105//AVT-LS-04(2014-15)
16	HD3480	NIVT-1B	HW4043/HD3159
17	HD3481	NIVT-2	HD3090/HD3156
18	HD3482	NIVT-3A	COAH90.26.31//KIRITATI/WBLL1/3/KIRITATI/2*WBLL1/7/OASIS/SKAUZ//4*BCN/3/2*PASTOR/4/T.SPELTAPI348449/5/BACEU#1/6/WBLL1*2/CHAPIO/8/MOKUE#1
19	HD3483	NIVT-3A	HD2932+Yr10/CSW16

20	HD3484	NIVT-3A	HD2851*3//AvocetS*6/Yr10
21	HD3485	NIVT-5A	CSW69/CSW60
22	HD3486	NIVT-5A	6HPYT412/9HPAN24//34ESWYT24/34ESWYT8
23	HD3487	NIVT-5A	DL3328/HD2967
24	HD3488	NIVT-5A	HD3091/HD3154
25	HD3489	NIVT-6	HD2932+Yr10/CSW16
26	HD3490	NIVT-6	HD3117/HD2932+Yr10
27	HD3491	NIVT-6	HD3070/HD2733
28	HD3492	NIVT-6	HD2932*3/3/HD2687*3//TR380-14*7/3Ag#14
29	HD3493	NHZ-IVT-RF	HD2967/HD2887//HD2946/HD2733
30	HD3494	NW-TS	HD2967*3/3/HD2687*3//Cook*6/C80-1/4/HD2967*3/HD2189(Lr34)/5/HD2967*3/3/HD2851*3//AvocetS*6/Yr10
31	HD3495	NW-LS	HD3059/2*PBW780

IARI Regional Station, Indore (M.P.)

1	HI1668*	NW-TS	NADI/COPIO//NADI
2	HI1669*	CZ-TS	HW4059/HD2932
3	HI1674*	CZ/PZ-LS	RAJ4238/HD2987
4	HI1683	CZ-TS	MACS6222/HI1544//HI1544
5	HI1684	CZ-TS	HI1597/HI1544
6	HI1687	CZ/PZ-LS	RAJ4268/ HD2987
7	HI1694	NIVT-2	LV-627/HI-1544//HI1531
8	HI1695	NIVT-2	HI1605/LBPY2011-10//MP3288
9	HI1696	NIVT-3B	22SAWYT–303/MP3288
10	HI1697	NIVT-3B	HI1563/GW366
11	HI1698	NIVT-3B	HI1563/GW366//HI1616
12	HI1699	NIVT-3B	HI1599/HI1537
13	HI1700	NIVT-5B	HI1590/HI1563//HI1605
14	HI1701	NIVT-5B	HI1531mutant
15	HI1702	NIVT-5B	GW366/HI1601

Durum

16	HI8848(d)	CZ-TS/PZ	HI8691/HI8663
17	HI8849(d)	CZ-TS/PZ	HI8750/HI8713
18	HI8850(d)	CZ-TS/PZ	HI8691/PDW233//HI8663
19	HI8851(d)	CZ-RI/PZ	HI8691/PDW233
20	HI8852(d)	CZ-RI/PZ	HI8738/PDW233
21	HI8853(d)	NIVT-4	HI8713/Aus2
22	HI8854(d)	NIVT-4	HI8691/HI8713//8691
23	HI8855(d)	NIVT-4	HI8713/RD930
24	HI8856(d)	NIVT-5B	WH896/HI8691
25	HI8857(d)	NIVT-5B	IcaJoudy1/Zegrenses1//Icarasha2
26	HI8858(d)	NIVT-4	HI8691/HI8713//HI8691

IARI Regional Station, Shimla (H.P.)

1	HS698	IVT/AVT-IR-LS-NHZ	ZANDER33/HD2687//HS484
2	HS700	IVT-RF-TS-NHZ	ZANDER33/HD2189//HS484
3	HS701	IVT-RF-TS-NHZ	JINGDONG/HS542
4	HS702	IVT-RF-TS-NHZ	FRANCOLIN#1/3/PBW343*2/KUKUNA*2//YANAC/4/KINGBIRD#1//INQALAB 91*2/TUKURU
5	HS703	IVT/AVT-IR-LS-NHZ	FLW13/HS536//WBM2382
6	HS704	IVT/AVT-IR-LS-NHZ	ZANDER33/HD2687//HS484
7	HS705	IVT/AVT-IR-LS-NHZ	HD3055/HS507//HPW349

IARI Regional Station, Pusa (Bihar)

1	HP1978	NE-TS	HD2967/HD2887//HD2946/HD2733
2	HP1981	NIVT-1A	HD2932+Yr10/CSW16
3	HP1982	NIVT-1B	18SAWYT303/18HRWYT214
4	HP1983	NIVT-3A	HD2932+Yr10/CSW16

IARI Regional Station, Wellington (T.N.)

1	HW3298-1	NIVT-2	UP2425*3//KS92WGRC15 (Lr39)
Dicoccum			
2	HW5305(Dic)	NIVT-4	Mutant-HW1098//Local Dicoccum
3	HW5306(Dic)	NIVT-4	HW1098//*Triticum dicoccoides* (1608)

Banaras Hindu University, Varanasi (U.P.)

1	HUW858	NIVT-1A	HUW468(GPC)/PBW800(I)
2	HUW859	NIVT-1B	DANPHE#1*2/3/T.DICOCCONPI94625/AE.SQUARROSA(372)//SHA4/CHIL/4/SHAKTI/5/VALI/8/TRCH/5/REH/HARE//2*BCN/3/CROC_1/AE.SQUARROSA(213)//PGO/4/HUITES/6/IWA8600211//2*PBW343*2/KUKUNA/7/PBW343*2/KUKUNA*2//FRTL/PIFED
3	HUW860	NIVT-3A	MUTUS*2//TAM200/TURACO*2/3/ROLF07*2/SHORTENEDSR26TRANSLOCATION
4	HUW861	NIVT-5A	ATTILA/3/URES/PRL//BAV92/4/WBLL1/5/WBLL4//OAX93.24.35/WBLL1/6/2*MUCUY

CSKHPKV, Malan (H.P.)

1	HPW499	NHZ-IVT-RF	HPW249/VL925
2	HPW500	NHZ-IVT-RF	HPW89/FLW-4
3	HPW501	NHZ-IVT-RF	HPW368/PW1031
4	HPW502	NHZ-IVT-RF	HPW349/HS545
5	HPW503	NHZ-IVT/AVT-LS	HPW386/PW1031
6	HPW504	NHZ-IVT/AVT-LS	VL804/HS240
7	HPW505	NHZ-IVT/AVT-LS	MutantHD2967

SKUAST, Jammu (J & K)

1	JAUW719	NIVT-5A	WH1080/IC28599
2	JAUW723	NIVT-1A	NADI#2//TRCH/HUIRIVIS#1/3/NADI#1

BAU, Ranchi (Jharkhand)

1	JKW304	NE-RI	RAJ3765/HD2967
2	JKW317	NIVT-1B	BABAX/LR42//BABAX*2/3/SHAMA/4/…
3	JKW319	NIVT-3A	BECARD/FRNCLN//BAJ#1/TECUE#1
4	JKW320	NIVT-5A	MAYIL/4/FRET2/TUKURU//FRET2*2/3/T.SPELTA PI348530/5/…

Sagar

1	JWS1528	NIVT-2	GW432/UP2872

CSAUA&T, Kanpur

1	K2301	NIVT-1A	K0402/PBW343
2	K2303	NIVT-1B	NADI#2//TRCH/HURIVIS#1/3/NADI#1
3	K2304	NIVT-1B	NAC/TH.AC//3*PVN/3/MIRLO/BUC/4/2*PASTOR/5/KAUZ//ALTAR 84/AOS/3/MILAN/KAUZ/4/HUITES/6/KAUZ//ALTAR 84/AOS/3/MILAN/KAUZ/4/HUITES/7/HUBARA-3*2/SHUHA-4
4	K2306	NIVT-3A	HD2329/HD2733
5	K2307	NIVT-3A	K9533/K911
6	K2310	NIVT-5A	K9533/PBW373

CSSRI, Karnal

1	KRL2101	NIVT-1B	HUBARA-3*2/SHUHA-4//REEVES
2	KRL2106	NE-TS	KRL213/HD2967
3	KRL2202	NIVT-1A	ATTILA*2/PBW65*2//KACHU/3/COPIO/4/ATTILA*2/PBW65*2//KACHU
4	KRL2203	NIVT-5A	KRL99/NW1014//BH1146

Lokbharti, Sanosara (Gujarat)

1	LOK79*	PZ-LS	PBW570//S.S./C.306/LOK1//HS295//CPAN3060//KALYANSONA"S"/LOK1/J24/CIAN067/CPAN2081/S.S.1063/CPAN1907/C.C.493/CPAN1810/HD2358
2	LOK82	NIVT-2	9thSTEMRSN222/HI1522
3	LOK83	NIVT-3B	LOK54/34thSAWSN3104

Agharkar Research Institute, Pune (Maharashtra)

1	MACS6829	PZ-LS	MACS6222/LOK62//NIAW1415
2	MACS6830	CZ/PZ -LS	MACS6222/LOK62
3	MACS6837	CZ/PZ-TS	BAJ #1/3/KIRITATI//ATTILA*2/PASTOR*2/4/MUTUS*2/TECUE #1
4	MACS6842	PZ-TS	PBW65/2*PASTOR//TACUPETOF2001*2/BRAMBLING/3/TACUPETOF2001*2/BRAMBLING/6/2*SHORTENEDSR26 TRANSLOCATION/4/ATTILA/3*BCN//BAV92/3/PASTOR/5/MUNAL
5	MACS6844	PZ-TS	MUU/FRNCLN/3/KACHU/BECARD//WBLL1*2/BRAMBLING/5/FRNCLN/3/ND64
6	MACS6850	NIVT-5B	MACS6221/LOK62
7	MACS6851	NIVT-5B	MACS6222/JS6-27//LOK62
8	MACS6854	NIVT-3B	HD2781//LOK1/HW2006
9	MACS6858	NIVT-2	LOK62/UAS320//MACS6222
10	MACS6862	NIVT-2	JUP/ZP//COC/3/PVN/4/TNMU/5/TNMU/6/SITE/7/TNMU/8/NAVJ07/9/2*BORL14
11	MACS6864	NIVT-2	SUP152/BAJ #1*2/3/KINGBIRD #1//INQALAB 91*2/TUKURU
12	MACS6868	NIVT-3B	PASTOR//HXL7573/2*BAU/3/WBLL1/4/SOKOLL/3/PASTOR//HXL7573/2*BAU/5/2*BORL14

Durum

11	MACS4125(d)	CZ/PZ -TS	HI8663/UAS415//UAS428
12	MACS4131(d)	CZ/PZ -RI	WHD948*2/HI8708
13	MACS4135(d)	CZ/PZ -TS	WHD948*2/HI8708
14	MACS4146(d)	NIVT-4	WHD948*2/HI8708
15	MACS4147(d)	NIVT-4	WHD948/UAS428

Dicoccum

16	MACS5064(Dic)	NIVT-4	DDK1009/HW1098
17	MACS5065(Dic)	NIVT-4	DDK1009/MACS2971

JNKVV, Powarkheda (M.P.)

1	MP1399	HYPT-CZ	WBLL1*2/BRAMBLING//WBLL1*2/BRAMBLING/3/…
2	MP1400	NIVT-2	MUTUS*2/MUU//2*MUCUY
3	MP1401	NIVT-2	ITP40/AKURI//FRNCLN*2/TECUE#1
4	MP1402	NIVT-3B	MP1202/MP3336
5	MP1405	NIVT-5B	IWP5061/GW1021//GW1115/3/GW1151/MEXI75/4/IWP5061/GW1021*//GW1115
6	MP1406	NIVT-6	WBLL1*2BRAMBLING*2/BAVIS/3/KFA/2*KACHU

Durum

7	MPO1395(d)	CZ/PZ-TS	PHSU-227/GW-09-201
8	MPO1398(d)	CZ/PZ-RI	W1D22241/4/ARMENT/SRN3/NIGRTS/4/3/CANELO_9.1/5/TARRO1/2*YUAN/1/AJALA-13/YAZI/3/SOMAT-4/INTER_8/4/ARMENI//5RN/3/NIGRIS4/3/CANELO9.1
9	MPO1403(d)	NIVT-4	POD20//3/JULA/SCO89/3/SORA/2*PLATA_12//…
10	MPO1404(d)	NIVT-4	WBDTBO//11/MAALI/10/ALTAR84/CMH82A.1062//ALTAR84/3/3YAZI_10/4/SNITAN/9/USDA595/3/D67.3/RABI//CRA/4/ALO/5/HUI/YAV_1/6/ARDENTE/7/HUI/YAV79/8/POD_9/12/SELIN/9/ALTAR84/860137//YAZI_1/4/LIS_8/FILLO_6/3/FUUT//HORA/JOR/8/GEDIZ/FGO//GTA/3/SRN_1/4/TOTUS/5/EN

JNKVV, Jabalpur (M.P.)

1	MP3570	CZ/PZ-TS	MP3537/MP3549
2	MP3583	NIVT-2	MP3597/MP3549
3	MP3584	NIVT-2	PFAU/MILAN/3/SKAUZ/KS94
4	MP3598	NIVT-3B	NELOKI//SOKOLL/EXCALIBUR
5	MP3599	NIVT-3B	HD2402/GW173
6	MP3601	NIVT-5B	SKAUZ/2/FCT

NDUA&T, Ayodhya (U.P.)

1	NW8071	NW-LS	MUTUS*2/MUU//2*MUCUY
2	NW8081	NIVT-3A	WBLL*2/BRMBLING*2//BAVIS*2/3/KACHU#1KIRITATI//KACHU
3	NW8084	NIVT-3A	COPIO*2/MUCUY
4	NW8089	NIVT-1B	BORL14*2//BECARD/QUAIU#1
5	NW8094	NIVT-1A	TOH#1//KFA/2*KACHU
6	NW8095	NIVT-1B	BECARD/FRNCLN//BAJ#1/TECUE#1

MPKV, Niphad (Maharashtra)

1	NIAW4114	PZ-LS	LOK62/NIAW1689
2	NIAW4120	PZ-LS	LOK62/HD2998
3	NIAW4267	CZ/PZ-RI	NIAW1885/NIAW1415
4	NIAW4364	PZ-TS	NIAW1415/MUNAL#1
5	NIAW4432	PZ-LS	WORRAKATTA/2*PASTOR/6/KAUZ/5/PAT10/ALD//PAT72300/3/PVN/4/BOW/7/BAJ#1/3/KIRITATI//ATTILA*2/PASTOR
6	NIAW4516	NIVT-2	NIAW301/RPW2011-15
7	NIAW4533	NIVT-5B	MACS6222/SRRSN6006
8	NIAW4581	NIVT-2	NIAW34/HD2932//NIAW1994NIO343
9	NIAW4621	NIVT-3B	PRL/2*PASTOR*2/5/CROC_1/AE.SQUARROSA(205)//BORL95/3/PRL/SARA//TSI/VEE#5/4/FRET2
10	NIAW4624	NIVT-3B	SAUAL/YANAC//SAUAL/3/2*KFA/2*KACHU

Durum

11	NIDW1542(d)	NIVT-4	NIDW295/HI8750
12	NIDW1557(d)	NIVT-4	CREX/ALLA/3/SORA/2*PLATA_12/4/RASCON_37/GREEN_2/9/USDA595/3/D67.3/RABI//CRA/4/ALO/5/HUI/YAV_1/6/
13	NIDW1561(d)	NIVT-5B	CPAN1783//V86/HI8671/3/IMMER/GRI//RAJ1555

Nuzivedu Seeds (Private)

1	NWS2124	NIVT-1A/1B	SERI.1B*2/3/KAUZ*2/BOW//KAUZ/4/CROC_1/AE.SQUARROSA (205)//KAUZ/3/2*KAUZ*2/YACO//KAUZ
2	NWS2222*	PZ-TS	THELIN/2*WBLL1/5/KAUZ//ALTAR84/AOS/3/KAUZ/4/SW94.15464/6/2*UP2338*2/SHAMA/3/MILAN/KAUZ//CHIL/CHUM18/4/UP2338*2/SHAMA
3	NWS2237	NIVT-2	NADI#2*2/6/BECARD #1/5/KIRITATI/4/2*SERI.1B *2/3/KAUZ*2/BOW//KAUZ

Parbhani, VNMKV

1	PBN 2115	NIVT-5B	VL804/DBW66
2	PBN1841	NIVT-4	HD4502/PDW314//PDW291

PAU, Ludhiana (Punjab)

1	PBW891*	PZ-TS	NADI/COPIO//NADI
2	PBW906	HYPT-CZ	CROC_1/AE.SQUARROSA210)//WBLL1*2/ BRAMBLING /3/VILLA JUAREZF2009/5/BAV92//IRENA/KAUZ/3/ HUITES*2 /4/MURGA*2/6MUTUS//ND643/2*WBLL1
3	PBW908	NE-TS	PBW723//BWL4472/PBW677
4	PBW913	NE-TS	MUNAL*2/CHONTE//BWL3585
5	PBW915	NE-TS	WBLL1*2/CHAPIO*2//MURGA/3/MUTUS/AKURI
6	PBW916	NW-TS	PBW723//BWL5342/PBW746

7	PBW921	NW-LS	BWL4010/BWL3275
8	PBW927	NE-RI	BWL780/BWL4478
9	PBW929	HYPT-CZ	ROLF07//LALBMONO1*4/PVN/3/BORL14
10	PBW931	NIVT-6	PBW729/3*PBW725
11	PBW932	NIVT-6	PUB94.15.1.12/WBLL1/4/MEX94.27.1.20/3/SOKOLL//ATTILA/3*BCN
12	PBW933	NIVT-6	PBW725//BWL5389/PBW768
13	PBW934	NIVT-6	SOKOLL/3/PASTOR//HXL7573/2*BAU/4/SOKOLL/WBLL1*2/5/SWSR22T.B./2*BLOUK#1//WBLL1*2/KURUKU
14	PBW935	NIVT-6	WBLL4//OAX93.24.35/WBLL1
15	PBW936	NIVT-1A	BWL4478/BWL5186//PBW801/BWL5172
16	PBW937	NIVT-1A	PBW725//BWL5389/BWL5249
17	PBW938	NIVT-1A	PBW723//PBW725/HD3086
18	PBW939	NIVT-1A	PRL/2*PASTOR//PAURAQUE #1/3/2*BORL14
19	PBW940	NIVT-1A	SHORTENEDSR26TRANSLOCATION//2*WBLL1*2/KKTS/3/BECARD/4/2*BORL14
20	PBW941	NIVT-1B	WH1204/BWL6053
21	PBW942	NIVT-1B	PBW744/BWL5272//PBW762/PBW782
22	PBW943	NIVT-1B	MUNAL#1/FRANCOLIN#1//COPIO/3/MUNAL#1/FRANCOLIN#1/4/KASUKO
23	PBW944	NIVT-1B	NADI#2/MUCUY
24	PBW945	NIVT-1B	KFA/2*KACHU*2//MISR1
25	PBW946	NIVT-2	BWL4478/BWL5186//PBW801/BWL5172
26	PBW947	NIVT-3A	BWL7443/PBW780
27	PBW948	NIVT-3A	BWL2764/BWL3278
28	PBW949	NIVT-3A	BWL7458/PBW782
29	PBW950	NIVT-3A	BWL6265/PBW723
30	PBW951	NIVT-3A	PBW725/DBW157
31	PBW952	NIVT-3B	BWL5184//BWL4472/BWL3587
32	PBW953	NIVT-5A	YR57/3*GLADIUS//BWL5174/3/BWL5492
33	PBW954	NIVT-5A	DRYSDALE/BWL3547
34	PBW955	NIVT-5A	DH974/BWL3558
35	PBW956	NIVT-5A	DH986/BWL3558
36	PBW957M	NW-TS	BWL7489/3*PBW725
37	PBW958M	NW-TS	BWL3558/3*PBW725

Durum

38	PDW366(d)	NIVT-4	WHD943/3/WH542/PDW291//PDW291
39	PDW367(d)	NIVT-4	GW1310/WGD9966
40	PDW368(d)	NIVT-4	PBW621/PDW291//PDW291

MPUAT, Udaipur (Rajasthan)

1	PWU13	NIVT-2	UP2647/MP3173
2	PWU52	NIVT-2	RAJ4238/GW173
3	PWU8	NIVT-4	Trinakaria/HI8638//HI8627

SKNAU, Durgapura, Jaipur (Rajasthan)

1	RAJ4581	NW/NE-LS	FRANCOLIN#1/3/IWA8600211//2*PBW343*2/KUKUNA/7/…
2	RAJ4584	NIVT-1A	PBW648/MACS6222
3	RAJ4585	NIVT-1A	BL5872/PBW568
4	RAJ4586	NIVT-1A	TAM200/PASTOR//TOBA97/3/HEILO/4/PAURAQ/5/BRBT1*2/..
5	RAJ4587	NIVT-1B	RAJ4395/PBW697
6	RAJ4588	NIVT-3A	DANPHE/3/ROLF07/YANAC//TACUPETOF2001/BRAMBLING/4/…
7	RAJ4589	NIVT-3A	VENDA/3/ATTILA*2/PBW65*2//MURGA/4/KACHU#1/KIRITATI//..
8	RAJ4590	NIVT-2	RAJ4395/PBW697
9	RAJ4591	NIVT-6	RAJ4392/PBW697

RPCAU, Pusa (Bihar)

1	RAUW107	NIVT-1B	HD2967/PBW343
2	RAUW111	NIVT-3A	BABAX/LR39//BABAX/3/VORV/4/SUNCO/2*PASTOR

SKUAST, Srinagar (J & K)

1	SKW367	NHZ-IVT- TS	HSB2949/PBW703

Supreme Breeders Pvt Ltd

1	Supreme-1122	NIVT-1A	HD2967*HD-2733

SVPUA&T, Modipuram

1	SVPWL22-02	NIVT-3A	HD3117/HD2932+Yr10
2	SVPWL22-04	NIVT-1A	HDCSW18/PBW677
3	SVPWL22-10	NIVT-1B	HDCSW18/28SAWSN-3028

UAS, Dharwad (Karnataka)

1	UAS3026	PZ-TS	BAJ#1*2/5/SW89.5277/BORL95//SKAUZ/3/ PRL/2*PASTOR/4/HEILO
2	UAS3027	PZ-LS	RAJ4083//(BAJ#1/5/ATTILA/3*BCN//BAV92/3/TILHI/4/SHA7/VE E#5//ARIV92/6/WBLL1/KUKUNA//TACUPETOF2001/3/BAJ#1)
3	UAS3029	CZ-RI	KACHU*2/6/YAR/AE.SQUARROSA(783)/4/GOV/AZ//MUS/3/ SARA/5/MYNA/VUL//JUN
4	UAS3030	NIVT-2	HS240/UAS358
5	UAS3031	NIVT-2	LOK62/RAJ4248/UAS360
6	UAS3032	NIVT-3B	HD3090/(BABAX/LR42//BABAX/3/ER2000/4/NIGHAR)
7	UAS3033	NIVT-3B	KACHU/BECARD//WBLL1*2/BRAMBLING/3/KACHU//KIRITATI/ 2*TRCH
8	UAS3034	NIVT-5B	MUTUS*2/TECUE #1*2//KFA/2*KACHU

Durum

9	UAS484(d)	CZ/PZ-RI	UAS446//(KOFA/3/ACUATICO_1*2/RASCON_33//ARAM/BOO MER/4/ARMENT//SRN_3/NIGRIS_4/3/CANELO_9.1)
10	UAS485(d)	NIVT-4	HI8739/UAS415
11	UAS486(d)	NIVT-4	Mrb3/Mna1//Ter1/3/ICAMORTA0459/Ammar7/4/Beltagy2/5/Morl F38//Bcrch1/Kund1149/3/Bicrederaa1/Miki/6/Miki3
12	UAS487(d)	NIVT-5B	GERUFTEL-1//GUAYACAN INIA/2*SNITAN

UBKVV, Coochbehar (West Bengal)

1	UBW22	NIVT-1A	HUBARA-3*2/SHUHA-4//HUBARA-3*2/SHUHA-4
2	UBW21	NIVT-3A	NAC/TH.AC//3*PVN/3/MIRLO/BUC/4/2*PASTOR/5/KACHU/6/KACHU

GBPUAT, Pantnagar (Uttarakhand)

1	UP3123	NE-TS	HUW640/KBRL79-2
2	UP3124	NE-TS	PRL/2*PASTOR// PBW343*/KUKUNA/3/ ROLF07/4/BERKUT//…./ PBW737
3	UP3140	NIVT-1A	PBW65/2*PASTOR/RAJ4422
4	UP3141	NIVT-1A	CHIBIA//PRLII/CM65531/3/SKAUZ/BAV92/4/MUNAL#1/UP2785
5	UP3142	NIVT-1A	WH1080/QLD46
6	UP3143	NIVT-1B	HD3117/WH1124/KBRL80-3/KBRL80-3
7	UP3144	NIVT-1B	GS/2020-21/3024
8	UP3145	NIVT-3A	42ESWYTP-130(202122)/SHORTENEDSR26 TRANSLO CATION/ 2*WBLL1*/KKTS3/BECARD/…
9	UP3146	NIVT-3A	42ESWYTP-130(2021-22)/SHORTENEDSR26

			TRANSLOCATION/2*WBLL1*/KKTS3/BECARD/…
10	UP3147	NIVT-5A	PASTOR/3/VORONA/CNO79//KAUZ/4/MILAN/OTUS//ATTILA/3*BCN(22NDSAWYTP26)/PBW644
11	UP3148	NIVT-6	HD3075/HD522
12	UP3149	NHZ-IVT-TS	GRACK/TECUE#1/FRNCLN/DBW189

VPKAS (ICAR), Almora (Uttarakhand)

1	VL2055	NHZ-IVT-TS	HS584/MONARCHA*2/MV17
2	VL2056	NHZ-IVT-TS	VL3004/PBW343*2/KUKUN//ATAY/GALVEZ-87/3/ATAY/GALVEZ-87
3	VL2057	NHZ-IVT-TS	VL1003//PBW621/RSP561
4	VL2058	NHZ-IVT-TS	DBW50/PBW707
5	VL2059	NHZ-IVT-TS	VL907*3/YR10/5*DATATINE)/(VL907*3/FLW1)
6	VL3031	NHZ-IVT/AVT-LS	VL930/DBW50//RSK/CA8055//CHAM6/4/NWT/3/TAST/SRW//TAW12399.75
7	VL3033	NHZ-IVT/AVT-LS	PHS1103/KO906//HPW349
8	VL3034	NHZ-IVT/AVT-LS	PBW658/VW1473
9	VL3035	NHZ-IVT/AVT-LS	VW1125/PBW635//QLD61
10	VL3036	NHZ-IVT/AVT-LS	(VL892*3/YR10/5*DATATINE)/(VL892*3/FLW1)

CCSHAU, Hisar (Haryana)

1	WH1306*	PZ-TS	CROC-1/AE.SQUARROSA(205)//BORL95/3/PRL/SARA//TSI/VEE#5/4/FRET2/5/CIRO16
2	WH1320	HYPT-CZ	BORL14/CHIPAK
3	WH1323	NE-LS	P12965/P12966
4	WH1324	NW/NE-LS	PBW695/K1203
5	WH1328	NIVT-1A	CHIPAK/3/SWSR22T.B./2*BLOUK #1//WBLL1*2/KURUKU
6	WH1329	NIVT-1A	KACHU/SAUAL*2/3/KINGBIRD #1//INQALAB 91*2/TUKURU
7	WH1330	NIVT-1B	NADI#1*2/3/MUTUS/AKURI #1//MUTUS
8	WH1331	NIVT-1B	WH1127/WH1142//WH1127
9	WH1332	NIVT-2	P13582/WH1142
10	WH1333	NIVT-6	UP2338*2/SHAMA/3/MILAN/KAUZ//CHIL/CHUM18/4/UP2338*2/SHAMA*2/5/PBW343*2/KUKUNA*2//FRTL/PIFED
11	WH1334	NIVT-6	FRANCOLIN#1//WBLL1*2/BRAMBLING/3/WBLL1*2/BRAMBLING/4/2*NADI#1
12	WH1335	NIVT-3A	PBW343/P13382
13	WH1336	NIVT-3A	PBW343/P12757
14	WH1337	NIVT-3A	NADI#2*2/6/BECARD #1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/BOW//KAUZ
15	WH1338	NIVT-3B	P12996/WH1130
16	WH1339	NIVT-5A	WH1142/WH1080
17	WH1340	NIVT-5A	RAJ3765/WH1080//WH1142

Durum

18	WHD969	NIVT-4	ALTAR84/STINT//SILVER_45/3/GUANAY/4/GREEN_14//YAV_10/AUK/5/GUAYACANINIA/YEBAS_8/3/TOPDY_18/FOCHA_1//ALTAR84/9/CBC509CHILE/6/ECO/CMH76A.722//BIT/3/ALTAR84/4/AJAIA_2/5/KJOVE_1/7/AJAIA_12/F3LOCAL(SEL.ETHIO.135.85)//PLATA_13/8/SOOTY_9/RASCON_37//WO

Checks

SN	Checks	Pedigree
1	CG1029	HW2004/PHS725
2	CG1036	HW2004/PHS832
3	CG1040	GW391/J04-32
4	DBW107	TUKURU/INQLAB91
5	DBW110	KIRITATI/4/2*SERI1B*2/3/KAUZ*2/BOW//KAUZ
6	DBW173	KAUZ/AA//KAUZ//PBW602
7	DBW187	NAC/TH.AC//3*PVN/3/MIRLO/BUC/4/2*PASTOR/5/KACHU/6/KACHU
8	DBW222	KACHU/SAUAL/8/ATTILA*2/PBW65/6/PVN//CAR422/ANA/5/BOW/CROW//BUC/PVN/3/YR/4/TRAP#1/7/ATTILA/2*PASTOR
9	DBW252	PFAU/MILAN/5/CHEN/AE.SQ(TAUS)//BCN/3/VEE#7/BOW/4/PASTOR
10	DBW296	SOKOLL/3/PASTOR//HXL7573/2*BAU/4/MASSIV/PPR47.89C(23SAWYT321)
11	DBW303	WBLL1*2/BRAMBLING/4/BABAX/LR42//BABAX*2/3/SHAMA*2/5/PBW343*2/KUKUNA*2//FRTL/PIFED
12	DBW327	NELOKI//SOKOLL/EXCALIBUR
13	DBW359	CROC-1/AE.SQUARROSA(205)//BORL95/3/PRL/SARA//TSI/VEE#5/4/FRET2/5/TRCH/SRTU//KACHU
14	DBW371	BORL14/CHIPAK
15	DBW372	FD08114/BECARD#1//BOKOTA
16	DBW377	NADI#2*2/6/BECARD#1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/BOW//KAUZ
17	DBW88	KAUZ//ALTAR84/AOS/3/MILAN/KAUZ/4/HUITES
18	GW322	PBW173/GW196
19	GW547	GW11/KLD19
20	HD2864	DL509-2/DL377-8
21	HD2932	KAUZ/STAR//HD2643
22	HD2967	ALD/CUC//URES/HD2160M/HD2278
23	HD3059	KAUZ//ALTAR84/AOS/3/MILAN/KAUZ/4/HUITES
24	HD3086	DBW14/HD2733//HUW468
25	HD3090	SFW/VAISHALI//UP2425
26	HD3118	ATTILA*2/PBW65//WBLL1*2/TUKURU
27	HD3171	PBW343/HD2879
28	HD3249	PBW343*2/KUKUNA//SRTU/3/PBW343*2/KHVAKI
29	HD3293	HD2967/DBW46
30	HD3369	HD3070/HD3078
31	HD3386	NELOKI//SOKOLL/EXCALIBUR
32	HD3388	HD2967HD2887//HD2946/HD2733
33	HI1563	MACS2496*2/MC10
34	HI1605	BOW/VEE/5/ND/VG9144//KAL//BB/3/YACO/4/CHIL/6/CASKOR/3/CROC-1/A.SQUARROSA(224)//OPATA/7/ PASTOR//MILAN/KAUZ/3/BAV92
35	HI1612	KAUZ//ALTAR84/AOS/3/MILAN/KAUZ/4/HUITES
36	HI1621	W15.92/4/PASTOR//HXL7573/2*BAU/3/WBLL1
37	HI1633	GW322/PBW498
38	HI1634	GW322/PBW498
39	HI1650	Giant3/HI1395
40	HI1653	NADI/COPIO//NADI
41	HI1655	MACS2496/HI1531
42	HI1665	HI1531/HI1544

43	HPW349	NAC/TH.AC//3*MIRLO/BUC/4/2*PASTOR
44	HS490	HS364/HPW114//HS240//HS346
45	HS507	KAUZ/MYNA/VUL//BUC/FLK/4/MILAN
46	HS562	OASIS/SKUAZ//4*BCN/3/2*PASTOR
47	JKW261	ISENGRAIN/KBIRD//MUNAL#1
48	K1317	K0307/K9162
49	MACS6222	HD2189*2/MACS2496
50	MACS6768	MACS6221*2/Raj4037
51	MP1378	18HRWYT218/DBW17
52	MP4010	ANGOSTURA88
53	NIAW3170	SKOLL/ROLF07
54	PBW644	PBW175/HD2643
55	PBW725	PBW621//GLUPRO/3*PBW568/3/PBW621
56	PBW771	PBW550//YR15/6*AVOCET/3/2*PBW550
57	PBW826	WBLL1*2/KKTS//PASTOR/KUKUNA/3/KINGBIRD#1//INQALAB91*2/TUKURU/5/KAUZ//ALTAR84/AOS/3/MILAN/KAUZ/4/SAUAL
58	PBW833	BWL0762/PBW621//HD3086
59	PBW872	MUTUS*2/MUU//2*MUCUY
60	RAJ4083	PBW343/UP2442//WR258/UP2425
61	VL2041	NESSER/SAULSKU32/MACS6240//HS507
62	VL892	WH542/PBW226
63	VL907	DYBR1982-83842ABVD50/VW9365//PBW343
64	WH1402	SHORTENEDSR26TRANSLOCATION//2*WBLL1*2/KKTS/3/BECARD
Durum		
65	HI8627	HD4672/PDW233
66	HI8713	HD4672/PDW233
67	HI8737	HI8177/HI8158//HI8498
68	HI8823	HI8709/HD4676
69	MACS3949	STOT//ALTAR84/ALD/3/THB/CEP7780//2*MUSK_4
70	NIDW1149	NIDW295/NIDW15
71	PDW314	AJAJA12/F3LOCAL(SEL.ETHIO135.85)//PLATA13/3/SOMAI#3/4/SOOTY9/RASCON37
72	UAS446	DWR185/DWR2006//UAS419
73	UAS478	AMRUTH/(MINIMUS/COMBUCK-2//CHAM-3/3/CANELO-9/9/USDA595/3/D67.3/RABI//CRA/4/ALO/5/HUI/YAV-1/6/ARDENTE/7/HUI/YAV79/8/POD-9/10/TARRO-1/2*YUAN-1//AJAIA-13/YAZI/3/
Dicoccum		
74	DDK1029	DDK1012/HW1093//276-15

Entries with Common pedigrees 2023-24

SN	Genotypes	Pedigree
1 2	UP3145 UP3146	42ESWYTP-130(2021-22)/ SHORTENEDSR26TRANSLOCATION/ 2*WBLL1*/KKTS3/BECARD/…
3 4	JKW319 NW8095	BECARD/FRNCLN//BAJ#1/TECUE#1
5 6	DBW448 DBW456	BORL14*2/FITIS
7 8	BRW3959 BRW3954	BORL14//BECARD/QUAIU #1
9 10 11	DBW459 WH1320 DBW371	BORL14/CHIPAK
12 13	PBW936 PBW946	BWL4478/BWL5186//PBW801/BWL5172
14 15	PBW906 HD3428	CROC_1/AE.SQUARROSA210)//WBLL1*2/BRAMBLING/3/VILLA JUARE ZF2009/5/BAV92//IRENA/KAUZ/3/HUITES*2/4/MURGA*2/6MUTUS//ND643/2*WBLL1
16 17	BRW3967 HUW859	DANPHE#1*2/3/T.DICOCCONPI94625/AE.SQUARROSA(372)//SHA4/CHIL/4/SHAKTI/5/VALI/8/TRCH/5/REH/HARE//2*BCN/3/CROC_1/AE.SQUARROSA (213)//PGO/4/HUITES/6/IWA 8600211//2*PBW343*2/ KUKUNA/7/ bPBW343*2/KUKUNA*2//FRTL/PIFED
18 19	DBW476 DBW477	DBW88*2/PBW703
20 21	DBW465 WH1334	FRANCOLIN #1//WBLL1*2/BRAMBLING/3/WBLL1*2/ BRAMBLING/ 4/2*NADI#1
22 23	HI1633 HI1634	GW322/PBW498
24 25 26 27 28	HD3475 HD3483 HD3489 HP1981 HP1983	HD2932+Yr10/CSW16
29 30 31 32 33 34 35	HD3447 HD3461 HD3463 HD3478 HD3493 HP1978 HD3388	HD2967/HD2887//HD2946/HD2733
36 37 38	HD3476 HD3490 SVPWL22-02	HD3117/HD2932+Yr10
39 40	HI8627(d) HI8713(d)	HD4672/PDW233
41 42	HI8854(d) HI8858(d)	HI8691/HI8713//HI8691
43 44	CG1047 CG1029	HW2004/PHS725
45 46	HD3474 HD3480	HW4043/HD3159
47 48 49	DBW88 HD3059 HI1612	KAUZ//ALTAR84/AOS/3/MILAN/KAUZ/4/HUITES
50 51 52 53 54	DBW453 DBW457 MP1400 NW8071 PBW872	MUTUS*2/MUU//2*MUCUY

55 56	UBW21 DBW187	NAC/TH.AC//3*PVN/3/MIRLO/BUC/4/2*PASTOR/5/KACHU/6/KACHU
57 58 59 60	DBW454 DBW455 DBW470 WH1330	NADI#1*2/3/MUTUS/AKURI #1//MUTUS
61 62 63 64 65	NWS2237 WH1337 DBW434 DBW463 DBW377	NADI#2*2/6/BECARD#1/5/KIRITATI/4/2*SERI.1B*2/3/KAUZ*2/BOW//KAUZ
66 67 68	DBW450 JAUW723 K2303	NADI#2//TRCH/HUIRIVIS #1/3/NADI#1
69 70 71	HI1668 PBW891 HI1653	NADI/COPIO//NADI
72 73 74 75	DBW386 DBW327 HD3386 MP3598	NELOKI//SOKOLL/EXCALIBUR
76 77	PBW939 DBW436	PRL/2*PASTOR//PAURAQUE#1/3/2*BORL14
78 79	RAJ4587 RAJ4590	RAJ4395/PBW697
80 81	DBW432 CG1045	SUP152/BAJ #1/4/BAJ#1/3/KIRITATI//ATTILA*2/PASTOR/5/SUP152/BAJ#1
82 83	MP1399 GW543	WBLL1*2/BRAMBLING//WBLL1*2/BRAMBLING/3/2*BORL14
84 85 86	MACS4131(d) MACS4135(d) MACS4146(d)	WHD948*2/HI8708
87 88	HS698 HS704	ZANDER33/HD2687//HS484

National Initial Varietal Trials

2301-NIVT-1A-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ													
			Delhi			Punjab						Haryana				
			Delhi			Ludhiana			Gurdaspur			Hisar			Karnal		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW450	N101	74.5	29	0	73.0	6	1	69.2	6	1	67.6	1	1	55.0	22	1
2	UP3141	N102	77.3	23	1	64.5	22	0	46.4	32	0	55.9	23	0	62.7	10	1
3	KRL2202	N103	76.3	25	1	70.0	12	1	56.0	21	0	59.4	14	0	68.6	1	1
4	HD3474	N104	74.3	30	0	68.7	16	1	54.9	24	0	52.8	32	0	49.1	29	0
5	NW8094	N106	76.8	24	1	67.4	17	0	53.2	28	0	56.9	21	0	60.8	14	1
6	HP1981	N107	76.0	27	0	72.3	9	1	66.2	9	0	61.1	8	0	53.8	26	0
7	Supreme-1122	N108	80.1	14	1	53.6	35	0	36.4	36	0	54.5	28	0	55.0	20	1
8	WH1328	N109	86.1	4	1	58.0	32	0	62.7	15	0	55.6	24	0	57.3	18	1
9	PBW940	N110	82.3	11	1	74.9	2	1	70.0	4	1	59.0	16	0	66.0	3	1
10	PBW938	N111	75.7	28	0	72.4	8	1	68.6	7	1	62.8	3	0	65.2	5	1
11	PBW936	N112	61.6	33	0	55.4	34	0	48.1	31	0	64.6	2	1	64.0	9	1
12	K2301	N113	58.2	35	0	63.7	24	0	52.9	29	0	60.0	13	0	45.0	32	0
13	HD3477	N114	78.5	22	1	64.1	23	0	57.3	19	0	55.5	25	0	48.9	30	0
14	RAJ4585	N115	57.2	36	0	61.2	27	0	53.7	27	0	56.1	22	0	40.4	34	0
15	DBW447	N116	78.8	19	1	61.0	28	0	69.7	5	1	60.3	10	0	58.4	17	1
16	DBW449	N117	83.0	8	1	69.0	14	1	65.9	11	0	57.0	20	0	55.0	21	1
17	UP3140	N118	84.6	7	1	73.2	4	1	63.1	13	0	57.8	18	0	54.1	25	0
18	UBW 22	N119	86.7	1	1	65.7	20	0	63.3	12	0	60.1	11	0	57.1	19	1
19	DBW448	N120	78.7	21	1	73.1	5	1	67.7	8	1	60.3	9	0	65.2	6	1
20	RAJ4586	N121	82.5	9	1	68.9	15	1	55.4	22	0	54.9	26	0	62.4	11	1
21	JAUW723	N122	67.3	31	0	58.8	31	0	44.1	33	0	52.7	33	0	40.4	35	0
22	PBW937	N123	66.0	32	0	65.4	21	0	43.6	34	0	49.0	35	0	62.0	13	1
23	BCW35	N125	84.7	6	1	69.0	13	1	58.1	17	0	54.5	28	0	46.1	31	0
24	UP3142	N126	79.1	18	1	56.0	33	0	55.2	23	0	62.4	5	0	44.4	33	0
25	PBW939	N127	80.0	15	1	76.3	1	1	70.0	3	1	60.1	11	0	64.1	8	1
26	NWS2124	N128	79.3	17	1	67.3	18	0	63.0	14	0	47.6	36	0	59.0	16	1
27	HUW858	N129	59.1	34	0	51.4	36	0	43.0	35	0	53.8	30	0	33.1	36	0
28	DBW446	N130	78.7	20	1	73.9	3	1	70.2	2	1	57.4	19	0	59.5	15	1
29	RAJ4584	N131	76.3	26	1	67.2	19	0	58.0	18	0	54.7	27	0	65.0	7	1
30	SVPWL22-04	N132	85.6	5	1	71.6	10	1	49.3	30	0	61.5	7	0	62.1	12	1
31	HD3475	N133	79.5	16	1	63.5	25	0	56.3	20	0	50.3	34	0	54.3	24	0
32	WH1329	N134	86.5	3	1	60.3	29	0	74.8	1	1	59.0	16	0	65.8	4	1
33	HD3476	N136	86.5	2	1	59.6	30	0	54.7	25	0	53.1	31	0	52.1	28	0
34	HD3086 (C)	N105	80.7	12	1	62.6	26	0	66.1	10	0	62.7	4	0	54.6	23	0
35	DBW222 (C)	N124	82.4	10	1	71.5	11	1	62.7	16	0	62.4	6	0	53.1	27	0
36	DBW187 (C)	N135	80.7	13	1	73.0	7	1	53.8	26	0	59.4	14	0	67.4	2	1
G.M.			77.3			66.0			58.4			57.6			56.3		
S.E.(M)			4.454			3.346			3.374			1.630			5.644		
C.D. (10%)			10.6			8.1			8.1			3.9			13.6		
C.V.			8.2			7.2			8.2			4.0			14.2		
D.O.S.(dd.mm.yy)			01.11.23			02.11.23			05.11.23			10.11.23			05.11.23		

No. of Trials : Proposed = 15 Conducted = 15
Trial not conducted (00) = Nil
Trials not reported (00) = Nil

2301-NIVT-1A-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ												NEPZ		
			UTK			U.P.			Rajasthan						U.P.		
			Pantnagar			Modipuram			Sriganganagar			Durgapura			Kanpur		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW450	N101	52.9	30	0	67.0	12	0	86.2	3	1	77.6	11	0	49.7	27	0
2	UP3141	N102	49.0	34	0	67.6	10	0	74.4	23	0	72.5	19	0	56.0	14	1
3	KRL2202	N103	55.6	26	0	65.2	18	0	83.6	7	1	83.1	3	1	58.7	6	1
4	HD3474	N104	73.0	1	1	62.7	24	0	82.2	10	1	67.8	24	0	56.1	12	1
5	NW8094	N106	53.6	28	0	56.8	31	0	75.1	22	0	66.4	25	0	52.5	19	0
6	HP1981	N107	61.8	16	0	63.0	21	0	82.0	11	1	78.8	8	0	48.9	29	0
7	Supreme-1122	N108	68.6	5	1	54.5	34	0	83.3	8	1	66.0	26	0	41.3	36	0
8	WH1328	N109	51.3	32	0	62.0	26	0	76.3	19	0	61.6	32	0	49.9	26	0
9	PBW940	N110	56.4	23	0	58.5	30	0	73.1	26	0	75.1	15	0	51.8	24	0
10	PBW938	N111	65.0	9	0	63.6	20	0	85.6	5	1	76.9	13	0	49.5	28	0
11	PBW936	N112	59.3	20	0	61.5	28	0	73.1	27	0	54.7	35	0	55.6	15	1
12	K2301	N113	49.9	33	0	62.3	25	0	75.4	20	0	72.1	21	0	52.1	20	0
13	HD3477	N114	69.2	3	1	65.7	15	0	65.7	32	0	60.6	33	0	51.0	25	0
14	RAJ4585	N115	40.3	36	0	46.6	36	0	64.8	33	0	45.4	36	0	43.0	35	0
15	DBW447	N116	55.3	27	0	54.0	35	0	83.8	6	1	76.3	14	0	58.5	7	1
16	DBW449	N117	60.2	19	0	66.8	14	0	85.8	4	1	72.2	20	0	54.1	17	0
17	UP3140	N118	57.0	22	0	70.8	6	0	71.9	28	0	74.9	18	0	58.2	8	1
18	UBW 22	N119	69.0	4	1	64.3	19	0	87.7	1	1	81.5	6	1	46.2	33	0
19	DBW448	N120	67.6	6	0	66.9	13	0	87.3	2	1	84.6	2	1	56.4	11	1
20	RAJ4586	N121	45.9	35	0	69.7	7	0	80.3	15	0	70.8	22	0	47.6	30	0
21	JAUW723	N122	63.2	14	0	56.4	32	0	61.0	35	0	56.3	34	0	62.1	2	1
22	PBW937	N123	66.0	8	0	68.0	8	0	68.3	30	0	64.0	28	0	51.8	23	0
23	BCW35	N125	70.5	2	1	68.0	9	0	81.3	13	1	75.1	17	0	56.0	13	1
24	UP3142	N126	64.1	10	0	67.3	11	0	82.7	9	1	81.5	5	1	60.2	3	1
25	PBW939	N127	62.4	15	0	72.6	4	1	81.6	12	1	75.1	15	0	57.5	9	1
26	NWS2124	N128	61.5	18	0	56.0	33	0	74.4	24	0	65.4	27	0	51.8	22	0
27	HUW858	N129	55.9	25	0	62.8	23	0	71.8	29	0	62.6	31	0	52.1	21	0
28	DBW446	N130	61.7	17	0	65.3	17	0	80.4	14	0	77.2	12	0	63.6	1	1
29	RAJ4584	N131	52.2	31	0	65.6	16	0	57.8	36	0	63.6	29	0	46.9	32	0
30	SVPWL22-04	N132	63.6	13	0	75.4	1	1	73.6	25	0	78.1	10	0	59.2	5	1
31	HD3475	N133	63.7	12	0	71.8	5	0	77.8	18	0	68.4	23	0	43.2	34	0
32	WH1329	N134	63.8	11	0	62.9	22	0	79.5	16	0	85.3	1	1	57.4	10	1
33	HD3476	N136	67.6	7	0	73.7	3	1	75.3	21	0	78.5	9	0	55.1	16	0
34	HD3086 (C)	N105	58.4	21	0	61.5	27	0	61.5	34	0	62.8	30	0	47.0	31	0
35	DBW222 (C)	N124	53.6	29	0	60.8	29	0	66.8	31	0	82.6	4	1	53.8	18	0
36	DBW187 (C)	N135	56.4	24	0	74.1	2	1	78.5	17	0	79.8	7	0	60.0	4	1
G.M.			59.6			64.2			76.4			71.5			53.2		
S.E.(M)			2.105			1.227			2.777			1.862			3.438		
C.D. (10%)			5.0			2.9			6.7			4.4			8.3		
C.V.			5.0			2.7			5.1			3.7			9.1		
D.O.S.(dd.mm.yy)			10.11.23			12.11.23			07.11.23			06.11.23			11.11.23		

2301-NIVT-1A-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NEPZ											
			U.P.				Bihar			Jharkhand			W.Bengal		
			Ayodhya			Varanasi			Sabour			Ranchi			Manikchak		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW450	N101	59.9	10	0	68.3	5	0	55.8	5	0	66.0	2	1	65.9	15	0
2	UP3141	N102	64.9	2	1	53.3	24	0	48.8	16	0	59.7	13	0	72.7	6	1
3	KRL2202	N103	62.2	5	1	65.8	9	0	58.8	3	1	68.8	1	1	67.5	12	0
4	HD3474	N104	44.1	33	0	60.8	15	0	39.1	28	0	63.2	6	1	64.6	18	0
5	NW8094	N106	47.9	29	0	37.5	33	0	43.7	20	0	51.4	27	0	55.4	27	0
6	HP1981	N107	56.3	17	0	59.3	17	0	56.5	4	0	63.9	5	1	72.2	7	1
7	Supreme-1122	N108	55.6	18	0	77.9	1	1	55.0	8	0	61.1	9	0	71.1	9	1
8	WH1328	N109	48.6	25	0	33.7	34	0	51.4	13	0	58.3	15	0	49.3	35	0
9	PBW940	N110	61.5	7	1	55.3	21	0	42.8	21	0	54.2	23	0	54.2	30	0
10	PBW938	N111	66.3	1	1	70.4	2	0	55.3	6	0	60.4	11	0	58.1	23	0
11	PBW936	N112	48.6	25	0	67.5	6	0	39.3	27	0	54.2	22	0	48.5	36	0
12	K2301	N113	59.2	11	0	55.5	20	0	42.2	23	0	50.0	29	0	60.3	21	0
13	HD3477	N114	47.2	30	0	48.1	29	0	40.2	25	0	56.3	18	0	54.0	31	0
14	RAJ4585	N115	43.4	34	0	23.9	35	0	24.2	35	0	38.9	36	0	53.8	32	0
15	DBW447	N116	56.9	16	0	68.6	4	0	52.4	12	0	61.8	8	0	71.8	8	1
16	DBW449	N117	58.3	15	0	54.0	23	0	49.6	15	0	66.0	2	1	71.0	10	1
17	UP3140	N118	58.7	12	0	59.5	16	0	54.1	9	0	54.9	21	0	55.8	26	0
18	UBW 22	N119	48.3	28	0	63.5	11	0	52.5	11	0	56.3	18	0	69.8	11	0
19	DBW448	N120	63.0	4	1	43.1	30	0	31.8	34	0	53.5	24	0	63.3	19	0
20	RAJ4586	N121	64.9	2	1	48.3	28	0	37.1	32	0	47.9	30	0	66.6	14	0
21	JAUW723	N122	42.7	35	0	42.7	31	0	22.7	36	0	45.8	33	0	54.9	29	0
22	PBW937	N123	60.2	9	1	49.9	25	0	37.7	31	0	52.8	26	0	67.2	13	0
23	BCW35	N125	49.0	24	0	49.1	27	0	38.3	29	0	53.5	24	0	63.2	20	0
24	UP3142	N126	48.6	25	0	57.3	18	0	44.2	18	0	60.4	11	0	78.2	2	1
25	PBW939	N127	58.7	12	0	41.1	32	0	48.2	17	0	47.2	32	0	65.0	16	0
26	NWS2124	N128	46.9	31	0	56.0	19	0	55.1	7	0	40.3	35	0	57.3	25	0
27	HUW858	N129	41.7	36	0	49.4	26	0	53.8	10	0	47.9	30	0	55.1	28	0
28	DBW446	N130	53.1	21	0	63.6	10	0	62.7	1	1	59.0	14	0	64.7	17	0
29	RAJ4584	N131	55.6	18	0	22.6	36	0	33.8	33	0	43.1	34	0	52.2	33	0
30	SVPWL22-04	N132	55.6	18	0	61.4	14	0	40.7	24	0	57.6	16	0	72.9	5	1
31	HD3475	N133	62.2	6	1	62.6	13	0	39.8	26	0	54.9	20	0	58.1	24	0
32	WH1329	N134	45.1	32	0	65.9	8	0	50.0	14	0	51.4	27	0	74.9	4	1
33	HD3476	N136	61.5	8	1	54.7	22	0	43.9	19	0	61.1	9	0	51.9	34	0
34	HD3086 (C)	N105	49.3	23	0	69.0	3	0	38.1	30	0	57.6	16	0	58.7	22	0
35	DBW222 (C)	N124	58.7	12	0	63.1	12	0	42.3	22	0	63.2	6	1	79.9	1	1
36	DBW187 (C)	N135	51.7	22	0	66.8	7	0	62.0	2	1	65.3	4	1	76.2	3	1
G.M.			54.3			55.3			45.7			55.8			63.2		
S.E.(M)			2.657			2.113			1.721			2.676			3.937		
C.D. (10%)			6.3			5.1			4.1			6.4			9.4		
C.V.			6.9			5.4			5.3			6.8			8.8		
D.O.S.(dd.mm.yy)			13.11.23			16.11.23			07.11.23			10.11.23			03.11.23		

2301-NIVT-1A-IR-TS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			NEPZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW450	N101	69.2	8	0	60.9	5	0	65.9	5	1
2	UP3141	N102	63.4	26	0	59.2	10	0	61.7	19	0
3	KRL2202	N103	68.7	10	0	63.6	2	1	66.6	2	1
4	HD3474	N104	65.0	22	0	54.7	18	0	60.9	22	0
5	NW8094	N106	63.0	27	0	48.1	33	0	57.0	32	0
6	HP1981	N107	68.3	12	0	59.5	9	0	64.8	7	0
7	Supreme-1122	N108	61.3	31	0	60.3	6	0	60.9	21	0
8	WH1328	N109	63.4	25	0	48.5	32	0	57.5	28	0
9	PBW940	N110	68.4	11	0	53.3	22	0	62.3	17	0
10	PBW938	N111	70.7	4	1	60.0	8	0	66.4	3	1
11	PBW936	N112	60.2	32	0	52.3	25	0	57.1	31	0
12	K2301	N113	59.9	33	0	53.2	23	0	57.3	30	0
13	HD3477	N114	62.8	28	0	49.5	31	0	57.5	29	0
14	RAJ4585	N115	51.7	36	0	37.9	36	0	46.2	36	0
15	DBW447	N116	66.4	17	0	61.7	3	1	64.5	11	0
16	DBW449	N117	68.3	13	0	58.8	11	0	64.5	10	0
17	UP3140	N118	67.5	14	0	56.8	15	0	63.2	15	0
18	UBW 22	N119	70.6	5	1	56.1	16	0	64.8	8	0
19	DBW448	N120	72.4	1	1	51.9	27	0	64.2	12	0
20	RAJ4586	N121	65.6	20	0	52.1	26	0	60.2	24	0
21	JAUW723	N122	55.6	34	0	45.2	34	0	51.4	35	0
22	PBW937	N123	61.4	30	0	53.3	21	0	58.1	27	0
23	BCW35	N125	67.5	15	0	51.5	28	0	61.1	20	0
24	UP3142	N126	65.9	19	0	58.1	12	0	62.8	16	0
25	PBW939	N127	71.4	2	1	52.9	24	0	64.0	13	0
26	NWS2124	N128	63.7	23	0	51.2	29	0	58.7	26	0
27	HUW858	N129	54.8	35	0	50.0	30	0	52.9	34	0
28	DBW446	N130	69.4	6	0	61.1	4	1	66.1	4	1
29	RAJ4584	N131	62.3	29	0	42.4	35	0	54.3	33	0
30	SVPWL22-04	N132	69.0	9	0	57.9	13	0	64.5	9	0
31	HD3475	N133	65.1	21	0	53.5	19	0	60.4	23	0
32	WH1329	N134	70.9	3	1	57.4	14	0	65.5	6	1
33	HD3476	N136	66.8	16	0	54.7	17	0	62.0	18	0
34	HD3086 (C)	N105	63.4	24	0	53.3	20	0	59.4	25	0
35	DBW222 (C)	N124	66.2	18	0	60.2	7	0	63.8	14	0
36	DBW187 (C)	N135	69.2	7	0	63.7	1	1	67.0	1	1
G.M.			65.3			54.6			61.0		
S.E.(M)			1.077			1.166			0.797		
C.D. (10%)			2.5			2.7			1.9		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: NIVT-1A-IR-TS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics							Agronomic Characteristics	
			Yl	ACl	Br	ACl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	DBW450	N101	5S	1.7	10S	3.8	77-108	99	129-156	146	92-115	105	30	38-54	45
2	UP3141	N102	20S	6.4	5S	1.3	75-109	99	132-152	146	92-112	104	0	33-49	43
3	KRL2202	N103	40S	7.8	5S	2.5	76-108	99	130-156	147	98-118	109	10	38-51	45
4	HD3474	N104	60S	23.8	10S	5.0	81-107	100	136-155	148	96-114	108	10	30-52	42
5	NW8094	N106	20S	7.8	0	0.0	80-109	101	132-157	148	83-107	97	5	31-45	39
6	HP1981	N107	10S	4.0	20S	6.3	74-107	98	137-153	147	97-115	107	30	35-51	43
7	Supreme-1122	N108	60S	34.3	5S	1.3	76-107	97	137-154	147	89-109	98	10	30-48	40
8	WH1328	N109	10S	2.7	20S	8.8	79-109	100	139-155	148	87-102	96	5	32-47	41
9	PBW940	N110	10S	3.7	10S	5.0	81-103	98	139-151	147	95-112	103	5	40-60	49
10	PBW938	N111	10S	6.4	0	0	78-114	103	140-155	150	93-106	102	5	39-49	45
11	PBW936	N112	10MR	1.2	0	0	84-119	107	145-157	153	96-110	104	5	28-42	37
12	K2301	N113	40S	26.3	5S	1.3	85-118	106	140-155	150	100-122	106	10	27-43	37
13	HD3477	N114	5S	1.3	10MS	3.3	80-111	101	136-154	147	95-121	110	15	34-47	43
14	RAJ4585	N115	5MR	0.9	0	0.0	76-109	92	131-155	144	74-107	96	0	38-53	46
15	DBW447	N116	40S	15.0	20S	7.5	84-109	101	136-154	148	90-116	106	5	39-56	45
16	DBW449	N117	tMS	0.4	5S	1.5	82-108	101	138-152	148	99-117	106	10	33-57	45
17	UP3140	N118	20S	8.8	10S	5.0	77-107	99	136-152	147	92-115	104	5	36-54	46
18	UBW 22	N119	30MS	10.0	10S	2.5	72-102	96	132-152	146	93-112	104	10	34-47	42
19	DBW448	N120	5S	3.5	20S	6.3	79-107	98	136-152	145	102-122	112	10	37-48	43
20	RAJ4586	N121	20MS	6.7	40S	15.0	74-103	92	133-151	144	88-107	98	15	39-49	45
21	JAUW723	N122	20S	12.0	10S	2.5	75-114	103	134-155	148	98-119	107	10	29-48	40
22	PBW937	N123	tMR	0.1	10S	2.5	81-118	103	142-155	150	100-112	108	30	36-46	40
23	BCW35	N125	40S	35.0	0	0.0	84-109	103	140-153	149	101-119	110	5	33-55	44
24	UP3142	N126	10S	2.9	10S	2.5	77-110	101	136-157	148	97-111	104	30	32-49	40
25	PBW939	N127	5S	2.5	5S	2.5	79-108	100	139-152	147	94-109	103	10	36-51	41
26	NWS2124	N128	10S	2.7	20S	7.5	72-107	98	128-150	144	86-114	100	5	33-45	41
27	HUW858	N129	20S	9.0	5S	1.25	76-109	102	133-155	149	102-119	112	25	38-54	47
28	DBW446	N130	10S	2.9	20S	5.0	75-106	96	132-153	146	96-124	111	30	38-59	50
29	RAJ4584	N131	20MS	5.5	20S	5.0	74-113	94	131-152	145	80-108	98	0	44-50	46
30	SVPWL22-04	N132	20S	7.8	5S	1.5	80-107	100	133-155	147	99-117	110	10	40-51	46
31	HD3475	N133	5S	1.7	5S	2.5	76-103	94	138-152	146	91-112	104	5	31-53	41
32	WH1329	N134	10S	6.3	40S	15.0	77-103	97	138-153	147	94-115	104	5	42-57	46
33	HD3476	N136	20S	6.5	10S	3.8	81-110	102	139-157	149	107-127	115	15	24-44	37
34	HD3086 (C)	N105	10MS	2.3	40S	15.3	78-104	96	131-152	145	87-112	100	5	29-43	39
35	DBW222 (C)	N124	20MS	9.5	5S	1.3	76-108	100	135-154	148	101-117	108	10	34-48	42
36	DBW187 (C)	N135	10MS	4.3	10S	5.0	79-108	100	136-155	147	94-114	105	25	37-53	43

1. Ancillary data from Ludhiana, Delhi, Durgapura, Gurdaspur, Hisar, Karnal, Sriganganagar and Pantnagar centres.
2. Yellow rust data from Karnal, Gurdaspur, Ludhiana and Pantnagar centres; Brown rust data from Hisar, Karnal, Ludhiana and Pantnagar centres.
3. Lodging data from Delhi, Karnal, Ludhiana and Hisar centres.

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Individual Station Rust Data

SN	Variety	Code	Yellow Rust					Brown Rust			
			Ludhiana	Gurdaspur	Karnal	Pantnagar		Ludhiana	Hisar	Karnal	Pantnagar
1	DBW450	N101	tMS	tS	5S	0		0	0	10S	5S
2	UP3141	N102	tMR	5S	20S	0		0	5S	0	0
3	KRL2202	N103	15MS	15S	40S	0		0	0	5S	5S
4	HD3474	N104	15S	15S	60S	5S		0	0	10S	10S
5	NW8094	N106	10S	tS	20S	0		0	0	0	0
6	HP1981	N107	tS	5S	10S	0		0	5S	0	20S
7	Supreme-1122	N108	40MS	40S	60S	5S		0	0	0	5S
8	WH1328	N109	tMS	0	10S	0		0	5S	10S	20S
9	PBW940	N110	5MS	tMS	10S	0		0	5S	10S	5S
10	PBW938	N111	tMR	10S	10S	5S		0	0	0	0
11	PBW936	N112	tMS	10MR	0	0		0	0	0	0
12	K2301	N113	20S	40S	40S	5S		0	5S	0	0
13	HD3477	N114	0	0	5S	0		0	0	5S	10MS
14	RAJ4585	N115	tMR	tS	5MR	0		0	0	0	0
15	DBW447	N116	15MS	10MS	40S	0		0	0	10S	20S
16	DBW449	N117	tMS	tMS	0	0		0	0	5S	tMS
17	UP3140	N118	10S	5S	20S	0		0	0	10S	10S
18	UBW 22	N119	20MS	30MS	0	0		0	0	10S	0
19	DBW448	N120	5MS	5S	5S	0		0	0	5S	20S
20	RAJ4586	N121	tMS	20MS	10S	0		0	0	20S	40S
21	JAUW723	N122	10MS	20S	20S	0		0	0	0	10S
22	PBW937	N123	tMR	0	0	0		0	0	0	10S
23	BCW35	N125	40S	40S	60S	0		0	0	0	0
24	UP3142	N126	tMS	tS	10S	0		0	0	10S	0
25	PBW939	N127	5MS	tS	5S	0		0	0	5S	5S
26	NWS2124	N128	0	tMS	10S	0		0	0	10S	20S
27	HUW858	N129	10MS	20MS	20S	0		0	0	0	5S
28	DBW446	N130	tMS	tMS	10S	0		0	0	0	20S
29	RAJ4584	N131	tMS	20MS	5S	0		0	0	20S	0
30	SVPWL22-04	N132	5MS	20S	5MR	5S		0	0	5S	tMS
31	HD3475	N133	tMS	tMS	5S	tS		0	0	5S	5S
32	WH1329	N134	5S	10S	10S	0		0	0	40S	20S
33	HD3476	N136	tS	5S	20S	0		0	0	10S	5S
34	HD3086 (C)	N105	tS	10MS	0	0		tS	10S	40S	10S
35	DBW222 (C)	N124	10MS	20MS	10MR	10S		0	5S	0	0
36	DBW187 (C)	N135	5MS	10MS	0	5S		0	5S	5S	10S

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial: NIVT-1A-IR-TS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics						Agronomic Characteristics	
			LB (HS, Av.)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	DBW450	N101	35(24)	71-97	85	120-145	129	95-108	104	40-56	46
2	UP3141	N102	78(35)	77-93	86	120-145	128	88-103	100	31-54	43
3	KRL2202	N103	35(24)	73-94	85	122-139	129	93-108	106	35-46	42
4	HD3474	N104	68(46)	79-100	89	120-147	130	97-107	106	34-49	42
5	NW8094	N106	57(24)	79-91	87	123-144	131	85-100	96	32-44	38
6	HP1981	N107	68(35)	74-94	86	121-145	129	82-114	104	36-51	44
7	Supreme-1122	N108	57(35)	73-95	86	119-146	130	81-98	95	34-47	41
8	WH1328	N109	57(35)	85-95	89	124-144	132	80-98	94	28-44	36
9	PBW940	N110	57(35)	77-93	86	124-146	131	91-109	101	35-52	44
10	PBW938	N111	25(13)	86-103	92	125-153	135	71-98	97	39-47	44
11	PBW936	N112	46(24)	88-117	98	130-157	141	84-103	101	35-43	39
12	K2301	N113	46(24)	91-106	95	131-153	138	90-102	103	33-44	40
13	HD3477	N114	46(24)	73-96	86	121-145	130	99-112	108	32-47	41
14	RAJ4585	N115	46(24)	60-86	74	109-132	123	65-99	92	37-47	42
15	DBW447	N116	35(24)	78-96	88	126-146	132	99-105	104	37-51	44
16	DBW449	N117	78(35)	79-95	88	121-146	131	91-102	103	38-49	43
17	UP3140	N118	68(24)	84-99	89	119-145	130	87-102	101	33-43	40
18	UBW 22	N119	46(35)	70-90	84	113-141	128	95-108	102	34-45	41
19	DBW448	N120	57(35)	72-91	85	120-140	128	94-109	108	33-46	41
20	RAJ4586	N121	57(35)	68-97	82	116-137	125	81-100	95	35-47	42
21	JAUW723	N122	46(35)	86-101	91	126-146	134	83-111	104	29-49	38
22	PBW937	N123	57(35)	92-106	96	129-154	138	95-111	106	33-48	42
23	BCW35	N125	46(24)	86-98	90	127-148	134	95-102	106	36-51	44
24	UP3142	N126	35(24)	79-97	89	125-145	133	88-105	101	35-48	42
25	PBW939	N127	46(24)	85-97	91	128-146	134	86-100	100	33-43	41
26	NWS2124	N128	47(35)	71-92	85	119-145	128	87-99	98	35-46	41
27	HUW858	N129	57(35)	83-98	90	125-145	132	100-114	110	29-53	44
28	DBW446	N130	46(24)	68-93	84	116-147	127	73-112	107	39-54	47
29	RAJ4584	N131	57(35)	59-81	73	108-130	121	75-101	94	35-53	43
30	SVPWL22-04	N132	46(24)	79-93	88	122-145	130	95-106	107	40-47	43
31	HD3475	N133	79(35)	63-89	81	113-143	128	90-101	101	36-46	41
32	WH1329	N134	35(24)	82-95	89	124-146	133	83-101	100	39-48	43
33	HD3476	N136	57(24)	86-98	91	127-151	136	108-116	114	28-44	38
34	HD3086 (C)	N105	57(46)	69-90	82	120-143	128	76-101	96	30-44	39
35	DBW222 (C)	N124	57(24)	79-93	87	123-143	131	90-105	104	34-44	41
36	DBW187 (C)	N135	36(24)	76-91	85	122-141	128	79-106	102	36-53	45

1. Ancillary data from Ayodhya, Kanpur,Manikachak, Ranchi, Sabour and Varanasi centers.
2. Leaf blight data from Ayodhya, Manikchak, Sabour and Varanasi centers.

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North Eastern Plains Zone

Individual Station Disease Data

SN	Variety	Code	Leaf Blight			
			Ayodhaya	Manikchak	Sabour	Varanasi
1	DBW450	N101	35	01	24	35
2	UP3141	N102	57	12	24	78
3	KRL2202	N103	35	12	35	35
4	HD3474	N104	46	24	24	68
5	NW8094	N106	35	01	24	57
6	HP1981	N107	46	12	34	68
7	Supreme-1122	N108	46	01	35	57
8	WH1328	N109	57	01	35	57
9	PBW940	N110	57	13	35	46
10	PBW938	N111	25	01	23	24
11	PBW936	N112	46	24	24	12
12	K2301	N113	46	12	24	24
13	HD3477	N114	46	01	23	35
14	RAJ4585	N115	46	01	35	46
15	DBW447	N116	35	13	24	35
16	DBW449	N117	46	24	24	78
17	UP3140	N118	35	01	22	68
18	UBW 22	N119	35	24	24	46
19	DBW448	N120	35	12	46	57
20	RAJ4586	N121	46	13	35	57
21	JAUW723	N122	46	35	35	35
22	PBW937	N123	47	24	23	57
23	BCW35	N125	46	01	22	35
24	UP3142	N126	35	12	34	35
25	PBW939	N127	46	01	34	46
26	NWS2124	N128	46	01	47	35
27	HUW858	N129	57	12	24	57
28	DBW446	N130	35	12	24	46
29	RAJ4584	N131	46	13	46	57
30	SVPWL22-04	N132	46	01	34	46
31	HD3475	N133	35	02	47	79
32	WH1329	N134	35	13	23	35
33	HD3476	N136	57	01	22	46
34	HD3086 (C)	N105	57	12	46	57
35	DBW222 (C)	N124	57	12	23	35
36	DBW187 (C)	N135	35	12	35	36

2302-NIVT-1B-IR-TS-TAS-NAT-ZONE, 2023-24

LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ											
			Delhi			Punjab						Haryana					
			Delhi			Ludhiana			Gurdaspur			Hisar			Karnal		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HUW859	N202	84.5	19	1	63.6	26	0	47.3	34	0	62.7	6	0	53.1	22	0
2	JKW317	N203	90.1	6	1	62.6	27	0	62.6	10	0	54.0	28	0	63.0	9	0
3	K2304	N204	84.0	20	0	67.4	16	0	62.7	9	0	51.9	31	0	52.3	23	0
4	RAJ4587	N205	73.1	33	0	47.1	36	0	41.6	36	0	56.1	22	0	39.0	36	0
5	SVPWL22-10	N206	80.5	27	0	67.9	13	1	53.9	25	0	56.6	20	0	58.7	15	0
6	HP1982	N207	91.8	1	1	65.0	22	0	67.8	2	1	55.1	26	0	39.6	35	0
7	K2303	N208	90.1	6	1	68.1	12	1	63.6	7	1	61.7	8	0	58.4	16	0
8	UP3144	N209	90.0	8	1	64.4	23	0	52.6	28	0	54.3	27	0	44.7	33	0
9	PBW945	N210	86.7	16	1	71.5	7	1	59.9	16	0	58.2	15	0	57.2	19	0
10	NW8089	N211	91.5	3	1	72.6	5	1	60.1	15	0	65.8	3	1	78.0	1	1
11	DBW455	N212	82.5	21	0	67.2	17	0	65.1	6	1	62.8	5	0	76.2	2	1
12	BRW3967	N213	86.7	15	1	55.4	32	0	43.8	35	0	66.0	2	1	69.5	6	0
13	RAUW107	N214	88.3	12	1	50.5	35	0	54.5	23	0	48.3	35	0	68.4	7	0
14	WH1331	N215	64.9	36	0	67.7	15	0	58.3	19	0	57.5	17	0	56.7	20	0
15	HD3479	N216	89.3	11	1	65.6	20	0	53.1	27	0	49.0	34	0	57.3	17	0
16	BRW3964	N217	81.3	25	0	55.4	31	0	49.8	30	0	49.2	33	0	44.7	34	0
17	BCW32	N218	87.7	13	1	59.5	28	0	56.7	21	0	55.8	24	0	47.0	28	0
18	PBW943	N219	85.8	17	1	72.6	6	1	66.1	5	1	60.2	12	0	58.9	14	0
19	PBW944	N220	72.1	35	0	75.1	2	1	61.7	13	0	57.1	19	0	48.0	25	0
20	NW8095	N221	81.7	24	0	51.6	34	0	47.8	32	0	56.1	21	0	61.9	10	0
21	DBW454	N222	82.4	22	0	70.1	10	1	57.9	20	0	60.4	11	0	61.1	11	0
22	DBW452	N223	78.3	29	0	56.0	29	0	47.6	33	0	58.5	14	0	57.2	18	0
23	BW20R105	N224	91.6	2	1	73.7	4	1	68.1	1	1	55.5	25	0	58.9	13	0
24	PBW941	N225	75.8	31	0	65.1	21	0	60.5	14	0	57.3	18	0	47.2	27	0
25	DBW451	N226	86.8	14	1	71.2	8	1	59.5	17	0	64.4	4	1	55.3	21	0
26	PBW942	N228	80.1	28	0	64.0	25	0	67.0	3	1	61.8	7	0	70.2	5	0
27	HD3480	N229	89.4	10	1	64.1	24	0	56.7	22	0	47.2	36	0	47.5	26	0
28	UP3143	N230	72.5	34	0	55.4	30	0	62.3	12	0	49.8	32	0	49.0	24	0
29	HD3478	N231	91.3	4	1	66.3	18	0	62.5	11	0	66.6	1	1	45.7	32	0
30	WH1330	N233	81.1	26	0	67.9	13	1	53.5	26	0	57.6	16	0	73.0	3	1
31	DBW453	N234	81.7	23	0	75.0	3	1	67.0	4	1	55.9	23	0	66.7	8	0
32	KRL2101	N235	74.1	32	0	68.4	11	1	47.9	31	0	61.0	9	0	46.5	30	0
33	NWS2124	N236	89.5	9	1	55.1	33	0	58.9	18	0	52.9	29	0	60.5	12	0
34	DBW187(C)	N201	77.0	30	0	71.2	9	1	52.5	29	0	52.4	30	0	46.8	29	0
35	DBW222(C)	N227	90.8	5	1	75.2	1	1	54.0	24	0	60.8	10	0	45.7	31	0
36	HD3086(C)	N232	84.9	18	1	65.8	19	0	62.8	8	0	59.7	13	0	72.2	4	1
G.M.			83.6			64.9			57.4			57.2			56.6		
S.E.(M)			3.057			3.096			1.949			1.533			2.812		
C.D.(10%)			7.3			7.4			4.7			3.7			6.8		
C.V.			5.2			6.7			4.8			3.8			7.0		
D.O.S.(dd.mm.yy)			04.11.23			02.11.23			05.11.23			11.11.23			05.11.23		

No. of Trials : Proposed = 15 Conducted=15

Trial not conducted (00)=Nil

Trials not reported (00)=Nil

2302-NIVT-1B-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ									NEPZ					
			Rajasthan			Rajasthan			U.P.			U.P.					
			Sriganganagar			Durgapura			Bulandshahr			Kanpur			Ayodhya		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HUW859	N202	83.5	18	0	67.9	11	0	64.4	18	1	56.3	11	0	49.0	14	0
2	JKW317	N203	90.1	11	1	72.2	5	0	66.4	13	1	53.2	19	0	45.5	21	0
3	K2304	N204	77.8	24	0	69.3	7	0	58.2	31	0	59.5	4	1	36.6	36	0
4	RAJ4587	N205	71.7	32	0	65.0	19	0	62.6	23	1	49.1	27	0	55.9	6	0
5	SVPWL22-10	N206	96.8	1	1	55.8	33	0	57.4	33	0	41.5	35	0	51.7	13	0
6	HP1982	N207	81.7	19	0	68.2	10	0	71.6	2	1	50.6	24	0	66.3	2	1
7	K2303	N208	75.3	28	0	63.0	25	0	71.4	3	1	61.1	3	1	54.2	7	0
8	UP3144	N209	69.8	34	0	58.7	28	0	59.1	28	0	52.3	22	0	53.8	9	0
9	PBW945	N210	87.3	13	0	65.4	15	0	63.4	19	1	47.4	30	0	38.5	35	0
10	NW8089	N211	93.5	5	1	66.7	13	0	58.4	30	0	48.7	29	0	43.1	27	0
11	DBW455	N212	78.7	23	0	65.2	18	0	67.3	10	1	53.1	20	0	52.4	12	0
12	BRW3967	N213	70.2	33	0	65.3	17	0	52.0	36	0	59.2	5	1	44.8	25	0
13	RAUW107	N214	96.1	2	1	77.7	2	0	70.1	5	1	57.2	7	0	49.0	14	0
14	WH1331	N215	76.3	27	0	69.2	8	0	57.4	32	0	46.8	31	0	41.8	30	0
15	HD3479	N216	84.8	17	0	57.7	29	0	66.7	12	1	44.2	33	0	41.3	32	0
16	BRW3964	N217	59.2	36	0	57.3	31	0	53.6	35	0	56.4	10	0	45.5	21	0
17	BCW32	N218	91.1	9	1	63.9	23	0	64.6	17	1	39.8	36	0	53.5	10	0
18	PBW943	N219	86.4	15	0	65.4	16	0	72.1	1	1	48.8	28	0	60.1	4	0
19	PBW944	N220	71.7	31	0	66.3	14	0	61.7	25	1	58.6	6	1	67.4	1	1
20	NW8095	N221	80.6	21	0	84.5	1	1	60.3	27	0	53.1	21	0	40.6	33	0
21	DBW454	N222	94.6	3	1	67.3	12	0	63.2	21	1	57.0	8	0	41.5	31	0
22	DBW452	N223	81.1	20	0	63.5	24	0	54.4	34	0	50.4	25	0	44.1	26	0
23	BW20R105	N224	93.4	6	1	74.1	3	0	63.3	20	1	51.6	23	0	40.3	34	0
24	PBW941	N225	74.5	29	0	73.1	4	0	66.9	11	1	56.1	12	0	53.1	11	0
25	DBW451	N226	85.0	16	0	62.0	26	0	65.4	14	1	54.7	16	0	45.1	23	0
26	PBW942	N228	77.5	25	0	68.7	9	0	67.5	9	1	55.4	15	0	62.5	3	1
27	HD3480	N229	91.6	8	1	64.3	21	0	68.5	7	1	56.7	9	0	54.2	7	0
28	UP3143	N230	92.2	7	1	55.5	35	0	63.1	22	1	53.6	17	0	47.2	18	0
29	HD3478	N231	93.9	4	1	61.8	27	0	65.1	16	1	64.4	1	1	59.4	5	0
30	WH1330	N233	90.8	10	1	63.9	22	0	67.9	8	1	55.5	14	0	47.6	17	0
31	DBW453	N234	79.7	22	0	55.0	36	0	58.5	29	0	50.1	26	0	49.0	14	0
32	KRL2101	N235	68.1	35	0	55.9	32	0	68.6	6	1	53.5	18	0	46.2	19	0
33	NWS2124	N236	73.1	30	0	55.5	34	0	65.2	15	1	55.8	13	0	42.7	29	0
34	DBW187(C)	N201	76.8	26	0	64.8	20	0	62.5	24	1	43.9	34	0	45.1	23	0
35	DBW222(C)	N227	86.9	14	0	71.5	6	0	60.6	26	1	45.0	32	0	45.8	20	0
36	HD3086(C)	N232	88.7	12	1	57.5	30	0	70.1	4	1	61.4	2	1	43.1	27	0
G.M.			82.5			65.0			63.6			52.8			48.8		
S.E.(M)			3.421			1.374			4.837			2.421			2.783		
C.D.(10%)			8.3			3.3			11.7			5.8			6.7		
C.V.			5.9			3.0			10.8			6.5			8.1		
D.O.S.(dd.mm.yy)			07.11.23			06.11.23			10.11.23			11.11.23			14.11.23		

2302-NIVT-1B-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NEPZ														
			U.P.						Bihar			Jharkhand			W.Bengal		
			Varanasi			Prayagraj			Sabour			Ranchi			Kalyani		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HUW859	N202	51.4	27	0	47.2	13	0	28.4	36	0	57.7	14	0	43.0	18	0
2	JKW317	N203	49.9	30	0	62.8	2	1	36.5	29	0	44.9	33	0	41.8	24	0
3	K2304	N204	76.4	1	1	50.8	7	0	57.5	6	1	50.4	25	0	47.4	7	0
4	RAJ4587	N205	48.6	32	0	34.3	35	0	39.4	26	0	45.9	31	0	47.8	5	0
5	SVPWL22-10	N206	58.3	15	0	44.0	19	0	40.7	25	0	63.3	5	1	34.3	36	0
6	HP1982	N207	63.9	9	0	55.8	4	0	38.6	27	0	55.7	18	0	37.6	33	0
7	K2303	N208	63.9	8	0	43.8	20	0	50.3	11	0	51.6	22	0	44.5	13	0
8	UP3144	N209	48.6	31	0	49.7	8	0	42.4	21	0	47.8	26	0	36.3	35	0
9	PBW945	N210	55.5	22	0	30.0	36	0	31.5	35	0	37.1	36	0	42.8	20	0
10	NW8089	N211	54.2	25	0	43.6	21	0	42.3	22	0	66.2	2	1	41.9	23	0
11	DBW455	N212	62.5	10	0	42.5	23	0	43.2	19	0	46.5	28	0	40.7	27	0
12	BRW3967	N213	55.5	21	0	46.8	14	0	44.4	17	0	59.6	9	0	44.6	12	0
13	RAUW107	N214	40.3	36	0	46.5	15	0	45.7	16	0	53.4	20	0	41.5	25	0
14	WH1331	N215	70.8	3	0	40.6	29	0	56.7	7	0	57.2	15	0	38.7	31	0
15	HD3479	N216	48.6	33	0	45.7	16	0	35.9	31	0	61.0	7	1	40.7	28	0
16	BRW3964	N217	45.8	35	0	41.6	25	0	47.3	15	0	46.9	27	0	36.6	34	0
17	BCW32	N218	69.4	6	0	59.6	3	1	57.8	5	1	58.7	11	0	49.3	4	0
18	PBW943	N219	51.4	28	0	42.6	22	0	42.8	20	0	50.7	24	0	42.5	21	0
19	PBW944	N220	55.5	22	0	49.4	9	0	54.0	9	0	52.8	21	0	53.4	1	1
20	NW8095	N221	55.5	22	0	45.1	17	0	36.0	30	0	59.1	10	0	47.2	8	0
21	DBW454	N222	63.9	7	0	47.2	12	0	40.8	24	0	61.9	6	1	47.6	6	0
22	DBW452	N223	58.4	14	0	54.7	5	0	58.7	3	1	68.5	1	1	46.8	9	0
23	BW20R105	N224	72.2	2	1	63.7	1	1	51.1	10	0	46.0	30	0	43.4	17	0
24	PBW941	N225	62.5	11	0	47.3	11	0	48.3	13	0	46.0	29	0	45.1	10	0
25	DBW451	N226	51.4	26	0	45.1	18	0	31.9	34	0	63.7	4	1	39.0	30	0
26	PBW942	N228	69.4	5	0	40.4	31	0	60.7	1	1	43.6	35	0	52.1	2	1
27	HD3480	N229	56.9	17	0	47.7	10	0	47.8	14	0	58.3	12	0	44.4	15	0
28	UP3143	N230	50.0	29	0	40.5	30	0	33.3	32	0	44.8	34	0	40.5	29	0
29	HD3478	N231	59.7	13	0	41.3	28	0	44.4	18	0	57.0	16	0	44.5	14	0
30	WH1330	N233	61.1	12	0	40.1	32	0	37.4	28	0	51.1	23	0	44.6	11	0
31	DBW453	N234	55.5	20	0	38.8	33	0	41.0	23	0	60.1	8	0	51.6	3	1
32	KRL2101	N235	47.2	34	0	37.3	34	0	32.6	33	0	58.1	13	0	41.3	26	0
33	NWS2124	N236	57.0	16	0	41.9	24	0	58.5	4	1	45.0	32	0	43.0	19	0
34	DBW187(C)	N201	56.9	19	0	41.4	26	0	56.5	8	0	53.8	19	0	38.1	32	0
35	DBW222(C)	N227	56.9	18	0	54.6	6	0	60.3	2	1	56.0	17	0	44.0	16	0
36	HD3086(C)	N232	69.4	4	0	41.4	27	0	49.2	12	0	63.9	3	1	42.1	22	0
G.M.			57.6			45.7			45.1			54.0			43.3		
S.E.(M)			1.827			2.049			1.474			3.317			1.394		
C.D.(10%)			4.4			4.9			3.6			8.0			3.4		
C.V.			4.5			6.3			4.6			8.7			4.5		
D.O.S.(dd.mm.yy)			16.11.23			03.11.23			07.11.23			10.11.23			13.11.23		

2302-NIVT-1B-IR-TS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			NEPZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HUW859	N202	65.9	20	0	47.5	28	0	57.3	27	0
2	JKW317	N203	70.1	6	0	47.8	25	0	59.7	15	0
3	K2304	N204	65.4	23	0	54.1	5	1	60.1	14	0
4	RAJ4587	N205	57.0	35	0	45.9	31	0	51.8	35	0
5	SVPWL22-10	N206	65.9	19	0	47.7	26	0	57.4	24	0
6	HP1982	N207	67.6	16	0	52.6	9	0	60.6	9	0
7	K2303	N208	68.9	12	0	52.8	8	0	61.4	6	0
8	UP3144	N209	61.7	33	0	47.3	30	0	55.0	32	0
9	PBW945	N210	68.7	14	0	40.4	36	0	55.5	31	0
10	NW8089	N211	73.3	1	1	48.6	20	0	61.8	4	1
11	DBW455	N212	70.6	4	0	48.7	19	0	60.4	12	0
12	BRW3967	N213	63.6	28	0	50.7	15	0	57.6	23	0
13	RAUW107	N214	69.2	10	0	47.6	27	0	59.2	18	0
14	WH1331	N215	63.5	29	0	50.4	16	0	57.4	26	0
15	HD3479	N216	65.4	24	0	45.4	33	0	56.1	29	0
16	BRW3964	N217	56.3	36	0	45.7	32	0	51.4	36	0
17	BCW32	N218	65.8	21	0	55.4	2	1	61.0	8	0
18	PBW943	N219	70.9	3	1	48.4	21	0	60.4	11	0
19	PBW944	N220	64.2	26	0	55.8	1	1	60.3	13	0
20	NW8095	N221	65.6	22	0	48.1	23	0	57.4	25	0
21	DBW454	N222	69.6	7	0	51.4	13	0	61.1	7	0
22	DBW452	N223	62.1	32	0	54.5	4	1	58.5	22	0
23	BW20R105	N224	72.3	2	1	52.6	10	0	63.1	1	1
24	PBW941	N225	65.1	25	0	51.2	14	0	58.6	21	0
25	DBW451	N226	68.7	13	0	47.3	29	0	58.7	20	0
26	PBW942	N228	69.6	8	0	54.9	3	1	62.7	2	1
27	HD3480	N229	66.2	18	0	52.3	11	0	59.7	16	0
28	UP3143	N230	62.5	31	0	44.3	35	0	54.0	33	0
29	HD3478	N231	69.1	11	0	52.9	6	0	61.6	5	1
30	WH1330	N233	69.5	9	0	48.2	22	0	59.5	17	0
31	DBW453	N234	67.4	17	0	49.5	17	0	59.1	19	0
32	KRL2101	N235	61.3	34	0	45.2	34	0	53.8	34	0
33	NWS2124	N236	63.8	27	0	49.1	18	0	57.0	28	0
34	DBW187(C)	N201	63.0	30	0	48.0	24	0	56.0	30	0
35	DBW222(C)	N227	68.2	15	0	51.8	12	0	60.6	10	0
36	HD3086(C)	N232	70.2	5	0	52.9	7	0	62.2	3	1
G.M.			66.3			49.6			58.6		
S.E.(M)			1.046			0.860			0.687		
C.D.(10%)			2.4			2.0			1.6		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial:NIVT-1B-IR-TS-TAS,2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics							Grain Characteristics	
			Yl	ACl	Br	ACl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	HUW859	N202	10S	4.5	40S	10.0	86-118	104	134-158	151	99-117	107	15	28-42	35
2	JKW317	N203	20S	9.0	0	0.0	79-107	97	132-154	148	94-111	103	15	26-42	35
3	K2304	N204	5S	2.5	20S	5.0	76-109	100	129-155	147	99-120	110	25	38-54	46
4	RAJ4587	N205	10MS	3.0	0	1.3	65-114	92	135-153	147	80-109	94	15	32-53	45
5	SVPWL22-10	N206	10S	3.8	10S	2.5	82-115	102	133-156	149	96-126	112	30	36-48	44
6	HP1982	N207	5S	2.5	0	0.0	81-109	99	136-152	148	101-124	113	20	36-47	40
7	K2303	N208	10MS	4.0	20S	5.0	85-106	100	135-153	148	98-117	107	25	39-49	43
8	UP3144	N209	10S	3.0	20S	5.0	74-104	97	134-153	147	93-112	100	25	32-42	36
9	PBW945	N210	5MS	1.3	0	0.0	72-105	95	131-154	147	80-109	99	10	42-50	44
10	NW8089	N211	60S	19.0	0	0.0	76-102	94	133-154	147	95-109	100	10	40-50	43
11	DBW455	N212	10S	3.3	40S	10.0	75-104	99	131-161	150	100-113	106	20	35-54	44
12	BRW3967	N213	20S	8.0	0	0.0	81-106	97	133-154	148	91-113	104	30	32-48	41
13	RAUW107	N214	10MR	1.5	10S	2.5	69-108	96	130-153	146	97-115	104	30	36-46	42
14	WH1331	N215	10MS	2.3	0	0.3	72-107	97	131-153	146	96-116	108	25	38-47	43
15	HD3479	N216	15S	4.0	5S	1.3	64-104	91	136-153	147	94-111	104	25	33-48	38
16	BRW3964	N217	30MS	11.0	0	0.0	81-114	102	134-153	147	95-112	103	20	35-44	40
17	BCW32	N218	10MS	2.7	5S	1.3	82-110	102	134-156	149	93-113	105	25	32-43	38
18	PBW943	N219	0	0.0	10S	2.5	78-107	99	134-155	147	99-116	108	15	33-45	39
19	PBW944	N220	5MS	1.3	5S	1.3	72-108	98	130-154	147	94-114	106	20	37-49	42
20	NW8095	N221	20S	10.0	0	0.0	78-106	97	133-153	147	91-113	104	20	39-50	44
21	DBW454	N222	10S	3.8	20S	5.0	80-108	100	137-156	149	101-116	109	25	30-46	41
22	DBW452	N223	5S	2.5	10S	2.5	80-107	101	135-155	149	96-117	109	20	35-51	44
23	BW20R105	N224	40S	11.3	10MS	2.0	85-105	99	136-154	148	96-114	105	25	40-50	45
24	PBW941	N225	10S	3.0	0	0.0	88-112	104	136-159	151	103-127	112	25	30-45	38
25	DBW451	N226	10S	3.8	20S	5.0	83-109	102	134-156	150	89-110	100	25	24-41	34
26	PBW942	N228	10MR	1.0	5S	2.3	70-107	95	129-155	147	90-121	104	20	42-46	43
27	HD3480	N229	40S	11.5	0	0.0	76-108	100	131-153	147	92-112	105	25	25-42	36
28	UP3143	N230	20S	8.3	10S	2.5	81-111	103	138-156	149	90-112	97	25	31-41	37
29	HD3478	N231	10S	5.0	20S	5.0	81-107	100	134-156	148	97-125	110	20	29-43	36
30	WH1330	N233	20S	5.8	20S	5.0	68-103	96	130-155	147	93-113	104	20	38-47	43
31	DBW453	N234	20S	11.0	10S	2.5	88-112	103	139-155	150	102-111	106	10	31-45	38
32	KRL2101	N235	20MS	7.0	0	0.0	87-116	104	132-155	148	89-113	105	5	29-41	34
33	NWS2124	N236	5MS	1.3	20S	6.3	76-108	100	131-152	146	88-120	105	25	36-41	39
34	DBW187(C)	N201	10S	3.5	5S	1.3	66-107	96	132-152	147	95-117	105	20	36-47	43
35	DBW222(C)	N227	20S	9.0	0	0.0	78-107	99	135-158	148	97-118	110	30	35-44	40
36	HD3086(C)	N232	20S	10.0	20S	7.8	79-107	97	132-153	147	93-112	103	25	38-44	39

1. Ancillary data from Delhi, Ludhiana, Durgapura, Gurdaspur, Hisar, Karnal, Bulandshar and Sriganganagar.
2. Yellow rust data from Ludhiana, Gurdaspur,Hisar and Karnal;Brown rust data from Karnal, Gurdaspur, Hisar and Ludhiana.
3. Lodging data from Ludhiana, Hisar, Delhi and Karnal centres.

Individual Station Rust Data

North Western Plains Zone **Trial: NIVT-1B-IR-TS-TAS,2023-24**

SN	Variety	Code	Yellow Rust					Brown Rust			
			Ludhiana	Karnal	Gurdaspur	Hisar		Karnal	Gurdaspur	Ludhiana	Hisar
1	HUW859	N202	0	10S	10MS	0		40S	0	0	0
2	JKW317	N203	10MS	20S	10MS	0		0	0	0	0
3	K2304	N204	5MS	5S	tS	0		20S	0	0	0
4	RAJ4587	N205	5MS	10MS	0	0		0	0	0	5S
5	SVPWL22-10	N206	tS	10S	5MS	0		10S	0	0	0
6	HP1982	N207	5MS	5S	tMS	0		0	0	0	0
7	K2303	N208	10MS	0	10MS	0		20S	0	0	0
8	UP3144	N209	tS	10S	tS	0		20S	0	0	0
9	PBW945	N210	5MS	0	tS	0		0	0	0	0
10	NW8089	N211	tMS	60S	15S	0		0	0	0	0
11	DBW455	N212	5MR	10S	tS	0		40S	0	0	0
12	BRW3967	N213	10MS	20S	5MS	0		0	0	0	0
13	RAUW107	N214	tS	10MR	tS	0		10S	0	0	0
14	WH1331	N215	tS	0	10MS	0		0	0	tS	0
15	HD3479	N216	tS	0	15S	0		5S	0	0	0
16	BRW3964	N217	30MS	20S	0	0		0	0	0	0
17	BCW32	N218	tMS	5MR	10MS	0		5S	0	0	0
18	PBW943	N219	0	0	0	0		10S	0	0	0
19	PBW944	N220	tS	0	5MS	0		5S	0	0	0
20	NW8095	N221	15MS	20S	10MS	0		0	0	0	0
21	DBW454	N222	tS	10S	5MS	0		20S	0	0	0
22	DBW452	N223	tS	5S	5MS	0		10S	0	0	0
23	BW20R105	N224	tS	40S	5MS	0		0	10MS	0	0
24	PBW941	N225	tMS	10S	tS	0		0	0	0	0
25	DBW451	N226	tS	10S	5MS	0		20S	0	0	0
26	PBW942	N228	0	10MR	0	0		5S	0	5MS	0
27	HD3480	N229	tMS	40S	5S	0		0	0	0	0
28	UP3143	N230	10MS	20S	5S	0		10S	0	0	0
29	HD3478	N231	10MR	5S	tS	10S		20S	0	0	0
30	WH1330	N233	5MS	20S	tS	0		20S	0	0	0
31	DBW453	N234	10MR	20S	20S	0		10S	0	0	0
32	KRL2101	N235	5MS	10MS	20MS	0		0	0	0	0
33	NWS2124	N236	5MS	0	tS	0		20S	0	tS	5S
34	DBW187(C)	N201	5MS	10S	0	0		5S	0	0	0
35	DBW222(C)	N227	tS	10S	20S	5S		0	0	0	0
36	HD3086(C)	N232	5S	20S	5S	10S		20S	0	tS	10S

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial:NIVT-1B-IR-TS-TAS,2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics						Grain Characteristics	
			LB(HS, Av)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	HUW859	N202	35 (35)	78-100	89	120-143	131	83-106	95	34-46	37
2	JKW317	N203	57 (47)	74-89	82	115-135	125	86-106	93	38-52	35
3	K2304	N204	46 (36)	76-93	85	117-136	127	86-105	102	32-46	43
4	RAJ4587	N205	47 (47)	68-84	76	110-131	124	78-103	88	27-49	45
5	SVPWL22-10	N206	47 (46)	77-95	87	117-141	129	75-112	103	34-57	42
6	HP1982	N207	46 (36)	76-95	86	115-146	129	80-105	98	28-51	40
7	K2303	N208	57(46)	77-93	85	117-135	126	89-111	100	35-51	42
8	UP3144	N209	57 (47)	75-94	85	115-141	128	90-112	92	33-45	34
9	PBW945	N210	57 (57)	74-89	81	112-138	124	93-105	94	33-51	43
10	NW8089	N211	57 (46)	69-92	79	112-140	124	87-100	94	35-53	39
11	DBW455	N212	47(36)	74-96	84	113-143	126	82-94	95	33-51	41
12	BRW3967	N213	57 (46)	75-89	83	114-141	127	81-100	94	29-44	39
13	RAUW107	N214	36 (35)	76-95	85	115-146	128	88-99	94	33-46	38
14	WH1331	N215	47 (46)	74-96	82	116-140	125	79-100	99	32-52	40
15	HD3479	N216	68(46)	64-80	74	107-132	121	90-106	97	38-49	38
16	BRW3964	N217	57 (46)	76-93	85	116-138	127	82-90	97	33-48	39
17	BCW32	N218	35 (24)	77-92	86	118-136	128	84-107	95	34-46	36
18	PBW943	N219	57 (46)	75-95	85	116-132	126	88-106	99	40-58	39
19	PBW944	N220	47(36)	74-95	84	113-140	127	86-105	94	40-59	40
20	NW8095	N221	47 (36)	75-91	83	115-135	127	83-106	93	29-47	41
21	DBW454	N222	57 (36)	73-95	84	112-135	127	86-108	96	37-46	40
22	DBW452	N223	46 (35)	79-95	87	120-141	130	85-107	99	38-48	41
23	BW20R105	N224	57 (36)	75-92	83	115-140	126	86-93	94	28-43	42
24	PBW941	N225	35 (25)	83-98	89	125-143	132	82-107	103	32-45	38
25	DBW451	N226	57 (46)	76-96	86	116-141	129	85-104	92	38-52	36
26	PBW942	N228	58 (46)	72-94	82	113-138	126	80-93	97	33-47	42
27	HD3480	N229	57 (47)	77-92	84	118-135	126	89-100	94	32-47	36
28	UP3143	N230	68 (46)	78-96	88	119-139	130	81-105	85	36-47	36
29	HD3478	N231	47 (36)	80-96	87	120-145	131	71-99	107	34-48	38
30	WH1330	N233	46 (35)	73-90	81	114-136	125	86-104	97	33-49	39
31	DBW453	N234	57 (35)	81-95	88	122-141	131	89-110	95	28-47	41
32	KRL2101	N235	57 (46)	81-93	88	122-141	130	83-109	97	36-49	34
33	NWS2124	N236	57 (46)	75-91	83	116-134	125	79-103	95	35-45	41
34	DBW187(C)	N201	57 (46)	76-92	84	116-134	127	84-95	99	34-50	42
35	DBW222(C)	N227	46 (46)	79-95	84	120-141	128	89-103	96	35-51	40
36	HD3086(C)	N232	47 (46)	72-90	80	112-132	123	95-116	92	39-54	40

1. Ancillary data from Kanpur, Ayodhya, Varanasi, Kalyani, Ranchi, Sabour and Prayagraj centres.
2. Leaf blight data from Ayodhya, Kalyani, Sabour and Varanasi.

Individual Station Leaf Blight data

North Eastern Plains Zone **Trial:NIVT-1B-IR-TS-TAS,2023-24**

SN	Variety	Code	Leaf Blight			
			Ayodhya	Kalyani	Sabour	Varanasi
1	HUW859	N202	35	25	24	35
2	JKW317	N203	35	47	57	57
3	K2304	N204	46	35	24	35
4	RAJ4587	N205	46	47	47	47
5	SVPWL22-10	N206	46	47	34	35
6	HP1982	N207	46	36	35	35
7	K2303	N208	46	57	24	46
8	UP3144	N209	35	47	57	57
9	PBW945	N210	57	35	57	57
10	NW8089	N211	57	57	34	35
11	DBW455	N212	46	47	24	35
12	BRW3967	N213	57	37	34	46
13	RAUW107	N214	35	36	34	35
14	WH1331	N215	35	47	35	47
15	HD3479	N216	46	25	46	68
16	BRW3964	N217	47	57	24	36
17	BCW32	N218	35	13	24	35
18	PBW943	N219	35	57	46	35
19	PBW944	N220	35	36	24	47
20	NW8095	N221	46	47	24	35
21	DBW454	N222	57	37	24	35
22	DBW452	N223	46	24	24	46
23	BW20R105	N224	57	26	24	46
24	PBW941	N225	25	24	24	35
25	DBW451	N226	46	35	35	57
26	PBW942	N228	58	36	34	35
27	HD3480	N229	57	48	46	35
28	UP3143	N230	47	25	35	68
29	HD3478	N231	47	36	24	46
30	WH1330	N233	35	35	46	35
31	DBW453	N234	35	24	34	57
32	KRL2101	N235	57	35	45	46
33	NWS2124	N236	57	35	46	35
34	DBW187(C)	N201	35	57	35	35
35	DBW222(C)	N227	46	36	35	46
36	HD3086(C)	N232	35	46	46	47

2303-NIVT-2-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ														
			M.P.												Gujarat		
			Indore			Powarkheda			Jabalpur			Sagar			Junagadh		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS6862	N301	73.7	5	1	56.6	13	0	56.0	22	0	57.5	33	0	60.0	5	1
2	MACS6858	N302	68.3	15	0	60.3	5	1	49.8	34	0	65.0	18	0	47.5	24	0
3	PWU13	N303	54.9	32	0	44.0	30	0	49.6	35	0	62.8	20	0	38.8	35	0
4	MP1401	N304	77.2	2	1	44.4	29	0	57.6	20	0	72.9	5	0	55.8	13	0
5	GW561	N305	56.8	30	0	55.8	14	0	63.1	6	0	71.9	7	0	60.8	4	1
6	MACS6864	N307	67.6	17	0	59.6	7	1	60.2	13	0	69.7	10	0	53.9	17	0
7	RAJ4590	N308	57.9	29	0	46.8	24	0	59.1	18	0	65.3	16	0	41.9	34	0
8	GW565	N309	65.9	21	0	50.5	16	0	55.1	24	0	55.6	34	0	46.7	25	0
9	PBW946	N310	50.5	36	0	43.3	31	0	53.5	26	0	68.6	12	0	42.7	31	0
10	CG1050	N311	70.2	8	0	47.5	22	0	58.2	19	0	52.7	35	0	64.0	1	1
11	GW566	N312	58.3	28	0	36.0	36	0	62.2	8	0	61.7	22	0	56.7	11	0
12	UAS3030	N313	66.1	20	0	40.3	34	0	65.0	5	0	60.2	26	0	58.6	8	1
13	GW560	N314	54.6	34	0	45.1	27	0	59.9	16	0	74.1	2	1	45.4	27	0
14	MP3583	N315	70.5	7	0	64.0	1	1	69.4	2	1	60.3	24	0	56.5	12	0
15	LOK82	N316	56.2	31	0	39.4	35	0	65.4	3	1	67.0	14	0	46.3	26	0
16	AKAW4764	N317	64.6	22	0	59.7	6	1	60.2	14	0	81.0	1	1	57.6	10	0
17	DBW457	N318	72.3	6	0	47.9	19	0	52.4	30	0	65.2	17	0	59.8	6	1
18	GW559	N319	62.1	25	0	47.9	21	0	50.4	32	0	67.1	13	0	62.4	2	1
19	JWS1528	N320	70.0	10	0	44.5	28	0	63.0	7	0	63.1	19	0	48.1	23	0
20	MP1400	N321	74.9	4	1	63.1	3	1	52.7	28	0	60.4	23	0	51.9	19	0
21	WH1332	N322	60.9	26	0	58.0	11	1	70.4	1	1	58.5	31	0	44.7	29	0
22	NIAW4516	N323	54.9	33	0	55.5	15	0	50.0	33	0	51.2	36	0	43.4	30	0
23	HI1694	N324	75.2	3	1	49.8	17	0	65.1	4	1	59.6	27	0	42.1	33	0
24	PWU52	N325	52.7	35	0	41.8	33	0	52.9	27	0	71.6	8	0	36.5	36	0
25	MP3584	N327	66.9	18	0	45.3	26	0	60.7	11	0	69.4	11	0	49.7	21	0
26	UAS3031	N328	69.0	12	0	60.8	4	1	61.1	9	0	72.6	6	0	61.7	3	1
27	NWS2237	N329	69.1	11	0	59.4	8	1	59.3	17	0	57.7	32	0	54.0	16	0
28	HI1695	N330	68.7	13	0	47.1	23	0	60.6	12	0	65.8	15	0	48.9	22	0
29	NIAW4581	N333	66.8	19	0	47.9	20	0	51.8	31	0	74.1	3	1	57.7	9	0
30	HW3298-1	N334	60.8	27	0	42.2	32	0	60.7	10	0	58.8	29	0	44.8	28	0
31	DBW456	N335	67.7	16	0	63.1	2	1	52.4	29	0	60.2	25	0	54.5	14	0
32	HD3481	N336	62.6	24	0	57.0	12	1	54.4	25	0	62.3	21	0	42.2	32	0
33	MACS6222(C)	N306	63.8	23	0	48.6	18	0	56.5	21	0	71.3	9	0	50.1	20	0
34	DBW187(C)	N326	70.1	9	0	45.6	25	0	60.0	15	0	59.6	28	0	54.1	15	0
35	HI1650(C)	N331	68.4	14	0	58.2	10	1	47.7	36	0	58.7	30	0	52.8	18	0
36	GW322(C)	N332	78.4	1	1	59.4	9	1	55.9	23	0	73.6	4	1	59.0	7	1
G.M.			65.2			51.0			57.8			64.6			51.4		
S.E.(M)			2.082			2.902			2.255			3.315			2.550		
C.D.(10%)			5.0			7.0			5.4			7.9			6.1		
C.V.			4.5			8.0			5.5			7.3			7.0		
D.O.S.(dd.mm.yy)			11.11.23			14.11.23			12.11.23			13.11.23			10.11.23		

No. of Trials : Proposed =17 Conducted=17
Trial not conducted (00) = Nil
Trials not reported (05) = CZ: Bilaspur (RMT), Gwalior (LSM)
PZ: Parbhani (RMT), Dhule (LSM), Dharwad (LSM)

2303-NIVT-2-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ									PZ					
			Gujarat						Rajasthan			Maharashtra					
			Vijapur			SKNagar			Udaipur			Niphad			Pune		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS6862	N301	59.7	8	0	47.4	25	0	64.2	15	1	51.8	4	1	71.7	1	1
2	MACS6858	N302	60.5	7	1	50.5	17	1	69.2	4	1	41.9	20	0	61.3	10	0
3	PWU13	N303	50.6	22	0	49.6	22	1	70.6	3	1	33.5	34	0	46.1	33	0
4	MP1401	N304	64.9	3	1	51.5	14	1	61.8	22	0	42.4	18	0	60.3	12	0
5	GW561	N305	52.3	19	0	56.6	5	1	69.0	5	1	29.0	36	0	59.0	14	0
6	MACS6864	N307	48.3	26	0	47.6	24	0	67.5	10	1	51.0	5	1	62.0	8	0
7	RAJ4590	N308	44.6	33	0	50.4	19	1	51.6	34	0	34.5	32	0	45.7	34	0
8	GW565	N309	55.6	16	0	50.6	16	1	64.2	16	1	38.2	26	0	48.3	30	0
9	PBW946	N310	39.1	36	0	41.9	33	0	55.3	33	0	33.9	33	0	57.8	16	0
10	CG1050	N311	51.4	21	0	43.3	31	0	51.5	35	0	43.5	15	0	61.9	9	0
11	GW566	N312	48.8	25	0	41.1	34	0	63.6	17	1	37.9	27	0	51.4	23	0
12	UAS3030	N313	56.0	15	0	57.6	3	1	60.0	26	0	54.2	2	1	61.1	11	0
13	GW560	N314	59.7	8	0	59.2	1	1	71.7	1	1	41.5	21	0	50.7	24	0
14	MP3583	N315	62.5	6	1	55.6	7	1	71.4	2	1	44.6	14	0	62.1	6	0
15	LOK82	N316	42.2	35	0	42.6	32	0	64.8	13	1	42.3	19	0	46.3	32	0
16	AKAW4764	N317	56.5	12	0	46.5	27	0	63.6	18	1	50.5	7	0	62.1	7	0
17	DBW457	N318	63.2	4	1	53.4	11	1	64.5	14	1	47.2	9	0	69.3	2	1
18	GW559	N319	63.2	5	1	44.9	29	0	58.2	30	0	36.0	31	0	48.9	28	0
19	JWS1528	N320	52.2	20	0	44.4	30	0	59.1	28	0	42.7	17	0	50.3	25	0
20	MP1400	N321	56.1	14	0	53.1	12	1	62.9	20	0	50.9	6	0	57.2	18	0
21	WH1332	N322	42.5	34	0	49.9	20	1	61.9	21	0	33.4	35	0	49.9	27	0
22	NIAW4516	N323	47.2	30	0	49.4	23	1	61.6	23	0	37.0	28	0	50.3	26	0
23	HI1694	N324	48.2	27	0	50.4	18	1	68.6	6	1	40.3	24	0	52.3	22	0
24	PWU52	N325	48.0	28	0	45.6	28	0	66.5	11	1	40.7	23	0	41.8	35	0
25	MP3584	N327	57.7	11	0	52.5	13	1	68.2	7	1	55.9	1	1	55.7	21	0
26	UAS3031	N328	53.0	18	0	51.2	15	1	60.6	25	0	41.1	22	0	62.3	5	0
27	NWS2237	N329	56.3	13	0	58.3	2	1	65.8	12	1	48.5	8	0	65.2	3	0
28	HI1695	N330	64.9	2	1	54.4	9	1	59.6	27	0	47.2	11	0	56.8	20	0
29	NIAW4581	N333	47.5	29	0	46.7	26	0	58.9	29	0	45.1	13	0	63.1	4	0
30	HW3298-1	N334	49.3	23	0	49.7	21	1	56.2	32	0	36.4	29	0	41.5	36	0
31	DBW456	N335	59.0	10	0	54.3	10	1	49.7	36	0	36.0	30	0	57.9	15	0
32	HD3481	N336	46.8	31	0	37.3	36	0	60.8	24	0	45.3	12	0	48.4	29	0
33	MACS6222(C)	N306	53.9	17	0	57.4	4	1	68.0	8	1	43.1	16	0	47.2	31	0
34	DBW187(C)	N326	66.9	1	1	56.5	6	1	63.2	19	0	47.2	10	0	56.9	19	0
35	HI1650(C)	N331	49.0	24	0	55.2	8	1	68.0	9	1	38.8	25	0	57.5	17	0
36	GW322(C)	N332	46.1	32	0	39.8	35	0	57.0	31	0	53.5	3	1	60.1	13	0
G.M.			53.4			49.9			62.8			42.7			55.6		
S.E.(M)			3.021			4.424			3.377			2.086			1.788		
C.D.(10%)			7.2			10.7			8.2			5.0			4.3		
C.V.			8.0			12.5			7.6			6.9			4.6		
D.O.S.(dd.mm.yy)			20.11.23			10.11.23			07.11.23			10.11.23			05.11.23		

2303-NIVT-2-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	PZ					
			Maharashtra			Karnataka		
			Akola			Nippani		
			Yield	RK	G	Yield	RK	G
1	MACS6862	N301	46.8	10	1	56.9	10	0
2	MACS6858	N302	44.4	15	0	47.0	26	0
3	PWU13	N303	42.8	23	0	36.1	32	0
4	MP1401	N304	51.6	2	1	48.7	20	0
5	GW561	N305	44.3	16	0	47.8	24	0
6	MACS6864	N307	43.5	20	0	52.1	16	0
7	RAJ4590	N308	36.4	34	0	45.1	28	0
8	GW565	N309	33.7	36	0	48.3	22	0
9	PBW946	N310	39.9	30	0	35.8	33	0
10	CG1050	N311	46.1	12	1	66.3	4	1
11	GW566	N312	43.9	18	0	47.1	25	0
12	UAS3030	N313	41.3	27	0	63.1	5	1
13	GW560	N314	42.6	24	0	47.9	23	0
14	MP3583	N315	48.4	8	1	68.3	2	1
15	LOK82	N316	46.2	11	1	44.9	29	0
16	AKAW4764	N317	40.8	29	0	62.9	6	1
17	DBW457	N318	51.8	1	1	46.7	27	0
18	GW559	N319	39.7	31	0	56.4	11	0
19	JWS1528	N320	50.0	4	1	51.7	17	0
20	MP1400	N321	45.5	13	1	59.7	8	1
21	WH1332	N322	43.0	22	0	30.4	35	0
22	NIAW4516	N323	48.3	9	1	48.4	21	0
23	HI1694	N324	43.7	19	0	50.5	18	0
24	PWU52	N325	38.1	33	0	34.2	34	0
25	MP3584	N327	49.9	7	1	61.0	7	1
26	UAS3031	N328	44.7	14	1	26.1	36	0
27	NWS2237	N329	42.6	25	0	41.2	30	0
28	HI1695	N330	50.0	5	1	54.9	14	0
29	NIAW4581	N333	49.9	6	1	69.0	1	1
30	HW3298-1	N334	39.1	32	0	55.1	13	0
31	DBW456	N335	42.2	26	0	55.2	12	0
32	HD3481	N336	40.9	28	0	39.8	31	0
33	MACS6222(C)	N306	35.5	35	0	49.9	19	0
34	DBW187(C)	N326	50.3	3	1	57.4	9	0
35	HI1650(C)	N331	43.0	21	0	54.2	15	0
36	GW322(C)	N332	44.0	17	0	66.7	3	1
G.M.			44.0			50.7		
S.E.(M)			2.971			4.211		
C.D.(10%)			7.1			10.2		
C.V.			9.5			11.7		
D.O.S.(dd.mm.yy)			13.11.23			15.11.23		

2303-NIVT-2-IR-TS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	CZ			PZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS6862	N301	59.4	10	0	56.8	1	1	58.5	3	0
2	MACS6858	N302	58.9	12	0	48.6	17	0	55.5	16	0
3	PWU13	N303	52.6	32	0	39.6	34	0	48.3	34	0
4	MP1401	N304	60.8	5	0	50.7	14	0	57.4	7	0
5	GW561	N305	60.8	4	0	45.0	25	0	55.5	15	0
6	MACS6864	N307	59.3	11	0	52.2	13	0	56.9	11	0
7	RAJ4590	N308	52.2	33	0	40.4	33	0	48.3	33	0
8	GW565	N309	55.5	26	0	42.1	31	0	51.1	26	0
9	PBW946	N310	49.4	36	0	41.9	32	0	46.9	36	0
10	CG1050	N311	54.8	27	0	54.5	7	1	54.7	18	0
11	GW566	N312	53.5	28	0	45.1	24	0	50.7	27	0
12	UAS3030	N313	58.0	18	0	54.9	6	1	57.0	10	0
13	GW560	N314	58.7	15	0	45.7	22	0	54.4	19	0
14	MP3583	N315	63.8	1	1	55.8	4	1	61.1	1	1
15	LOK82	N316	53.0	29	0	44.9	26	0	50.3	28	0
16	AKAW4764	N317	61.2	3	0	54.0	8	1	58.8	2	0
17	DBW457	N318	59.8	7	0	53.7	9	1	57.8	4	0
18	GW559	N319	57.0	22	0	45.2	23	0	53.1	25	0
19	JWS1528	N320	55.6	25	0	48.7	16	0	53.3	24	0
20	MP1400	N321	59.4	9	0	53.3	10	0	57.4	8	0
21	WH1332	N322	55.9	24	0	39.2	35	0	50.3	29	0
22	NIAW4516	N323	51.7	35	0	46.0	21	0	49.8	31	0
23	HI1694	N324	57.4	20	0	46.7	20	0	53.8	22	0
24	PWU52	N325	52.0	34	0	38.7	36	0	47.5	35	0
25	MP3584	N327	58.8	13	0	55.6	5	1	57.7	6	0
26	UAS3031	N328	61.3	2	1	43.6	29	0	55.4	17	0
27	NWS2237	N329	60.0	6	0	49.4	15	0	56.5	14	0
28	HI1695	N330	58.8	14	0	52.2	12	0	56.6	12	0
29	NIAW4581	N333	56.4	23	0	56.8	2	1	56.5	13	0
30	HW3298-1	N334	52.8	31	0	43.0	30	0	49.6	32	0
31	DBW456	N335	57.6	19	0	47.8	19	0	54.4	20	0
32	HD3481	N336	52.9	30	0	43.6	28	0	49.8	30	0
33	MACS6222(C)	N306	58.7	16	0	43.9	27	0	53.8	23	0
34	DBW187(C)	N326	59.5	8	0	53.0	11	0	57.3	9	0
35	HI1650(C)	N331	57.3	21	0	48.4	18	0	54.3	21	0
36	GW322(C)	N332	58.7	17	0	56.1	3	1	57.8	5	0
G.M.			57.0			48.3			54.1		
S.E.(M)			1.086			1.460			0.872		
C.D.(10%)			3			3.4			2.0		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: NIVT-2-IR-TS-TAS,2023-24**

SN	Variety	Code	Disease Reaction		Agronomic Characteristics							Grain Characteristics	
			Br	Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	MACS6862	N301	5S	10S	60–87	71	112–130	123	87–107	99	10	36–57	45
2	MACS6858	N302	0	0	50–86	68	104–134	124	88–109	100	5	40–56	48
3	PWU13	N303	10MS	5MS	46–81	64	104–131	123	73–106	97	5	41–52	47
4	MP1401	N304	0	0	62–91	76	112–134	126	85–104	98	15	39–57	45
5	GW561	N305	tMR	tMR	51–85	68	104–134	122	79–100	91	10	40–57	46
6	MACS6864	N307	5S	5S	58–84	72	110–134	124	84–102	95	5	36–54	43
7	Raj4590	N308	tMS	10MS	48–87	66	98–135	121	68–100	87	15	38–49	44
8	GW565	N309	tMR	tMS	48–82	65	101–132	122	71–103	91	10	41–68	50
9	PBW946	N310	tMS	10S	75–90	82	117–140	130	84–100	96	0	34–61	43
10	CG1050	N311	tR	tMS	63–90	75	112–136	125	74–105	94	5	41–51	45
11	GW566	N312	tR	tMS	56–85	68	110–135	124	77–100	94	5	39–62	45
12	UAS3030	N313	0	0	71–91	79	112–131	125	88–106	100	12	27–60	40
13	GW560	N314	0	0	51–91	69	105–134	124	78–106	98	5	40–58	48
14	MP3583	N315	20MS	5S	53–89	69	110–132	123	86–101	96	10	42–52	46
15	LOK82	N316	tMS	tR	46–82	64	106–131	122	66–101	88	5	41–62	47
16	AKAW4764	N317	5MS	5S	58–87	71	113–135	125	81–111	98	15	35–61	45
17	DBW457	N318	tR	tR	67–88	78	112–138	126	86–101	96	0	40–53	46
18	GW559	N319	0	0	60–88	74	109–133	124	74–102	91	5	37–58	44
19	JWS1528	N320	10MS	20MS	69–88	78	111–132	125	90–112	101	8	32–58	40
20	MP1400	N321	tMS	5MS	66–85	77	112–135	126	82–101	95	0	40–47	44
21	WH1332	N322	10MS	10S	59–87	72	107–134	124	77–102	93	5	40–51	43
22	NIAW4516	N323	5MS	10MS	55–85	69	111–132	125	87–111	100	10	39–53	46
23	HI1694	N324	tMR	tMS	48–84	65	98–131	121	67–107	94	15	38–58	44
24	PWU52	N325	0	tMR	45–85	65	98–132	120	61–97	84	5	43–50	48
25	MP3584	N327	tMR	5MS	56–84	71	111–133	124	85–100	94	10	38–53	43
26	UAS3031	N328	10MS	10S	60–88	73	113–132	125	89–108	99	0	40–52	45
27	NWS2237	N329	tMS	5S	59–85	71	110–131	124	88–110	100	5	43–54	46
28	HI1695	N330	tMR	tMS	48–83	65	103–128	121	80–103	95	15	39–54	45
29	NIAW4581	N333	0	tR	67–89	77	114–135	126	96–113	104	0	32–46	42
30	HW3298-1	N334	0	0	49–91	66	106–133	123	70–101	89	10	43–61	49
31	DBW456	N335	tMR	10S	65–91	74	112–135	126	83–104	97	5	32–46	40
32	HD3481	N336	10MS	5S	46–82	65	104–131	120	70–106	93	10	40–59	45
33	MACS6222(C)	N306	tMS	10MS	54–89	71	105–134	124	79–99	94	15	39–50	46
34	DBW187 (C)	N326	5MS	5S	58–84	70	110–130	122	77–108	100	10	41–52	45
35	HI1650 (C)	N331	0	tR	49–81	66	103–130	121	78–98	92	5	37–54	47
36	GW322(C)	N332	10MS	5S	59–82	71	109–128	122	84–98	92	10	33–50	41

1. Ancillary data from Gwalior, Indore, Jabalpur, Junagadh, Powarkheda, Sagar, SKNagar, Udaipur, Vijapur
2. Rust data from Vijapur. 3. Lodging data from Jabalpur and Vijapur

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial: NIVT-2-IR-TS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction			Agronomic Characteristics						Grain Characteristics	
			Br	Bl	LB (HS)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	MACS6862	N301	0	5S	24	54−103	68	97−124	110	70−99	85	38−46	41
2	MACS6858	N302	0	5MR	12	53−101	64	97−118	108	79−96	92	41−53	47
3	PWU13	N303	0	10MR	24	49−94	60	94−115	105	83−92	87	42−50	46
4	MP1401	N304	0	40S	12	56−109	72	97−124	113	73−94	86	38−45	42
5	GW561	N305	0	5MS	34	54−99	63	99−115	106	71−86	78	36−47	42
6	MACS6864	N307	0	40S	12	56−104	69	98−119	110	76−94	86	36−46	41
7	Raj4590	N308	0	20S	34	52−94	60	94−113	105	73−87	78	35−44	39
8	GW565	N309	0	5MS	24	52−99	62	98−118	109	78−84	81	43−52	48
9	PBW946	N310	0	40S	12	52−105	75	100−129	117	74−96	86	24−50	36
10	CG1050	N311	0	5S	12	57−106	71	98−124	111	77−96	85	42−55	47
11	GW566	N312	0	5MR	24	55−100	65	98−122	109	78−91	82	39−52	47
12	UAS3030	N313	0	5MR	12	50−113	75	96−119	112	78−98	91	34−41	37
13	GW560	N314	0	5MS	34	54−98	63	97−117	107	78−87	81	42−50	46
14	MP3583	N315	0	40S	12	55−104	68	97−119	109	77−92	86	37−51	43
15	LOK82	N316	0	5MS	12	51−97	61	97−115	107	67−88	75	37−51	47
16	AKAW4764	N317	5MS	40S	12	56−104	67	96−122	110	82−95	88	33−45	39
17	DBW457	N318	0	10S	12	58−111	74	99−127	115	83−92	88	40−49	44
18	GW559	N319	10MS	5MS	12	58−104	68	99−122	111	74−90	81	39−46	43
19	JWS1528	N320	10MS	20MS	12	59−110	74	97−121	112	69−94	86	26−42	33
20	MP1400	N321	0	5MS	12	55−108	71	99−124	114	74−95	84	38−47	42
21	WH1332	N322	10MS	80S	24	55−106	67	97−121	110	76−88	81	25−45	35
22	NIAW4516	N323	5S	80S	24	56−101	65	97−123	110	83−94	87	25−46	35
23	HI1694	N324	0	5MS	34	53−101	61	98−115	106	72−83	78	37−51	44
24	PWU52	N325	0	10MS	24	50−90	58	90−114	104	68−82	72	37−46	43
25	MP3584	N327	0	10S	12	55−100	63	97−120	108	79−90	84	36−48	41
26	UAS3031	N328	10MS	80S	24	55−111	70	97−124	113	80−95	88	25−44	36
27	NWS2237	N329	0	40S	24	53−102	66	98−123	111	77−91	85	39−46	43
28	HI1695	N330	0	5MS	24	54−98	62	98−115	106	79−89	84	32−45	41
29	NIAW4581	N333	0	5MS	01	58−109	70	98−117	110	86−99	93	37−47	42
30	HW3298-1	N334	0	5MS	24	53−98	63	97−115	106	72−86	78	39−48	44
31	DBW456	N335	0	5MS	12	58−104	70	99−123	110	81−96	88	31−44	36
32	HD3481	N336	0	5MS	24	51−94	60	94−116	105	66−88	79	37−49	43
33	MACS6222(C)	N306	5MS	5MS	24	56−102	65	99−118	109	75−89	80	38−50	44
34	DBW187 (C)	N326	0	5MS	24	53−105	65	98−121	110	73−97	89	40−49	45
35	HI1650 (C)	N331	5MR	10MS	24	53−98	63	98−114	106	77−89	82	40−51	45
36	GW322(C)	N332	0	10S	24	56−105	67	98−125	110	77−94	86	33−53	42

1. Ancillary data from Dhule,Akola,Niphad,Nippani,Parbhani,Pune and Dharwad
2. Leaf rust data from Dharwad; Black rust data from Nippani and Dharwad
3. Leaf blight data from Nippani and Dharwad

Individual Station Disease data

Peninsular Zone **Trial: NIVT-2-IR-TS-TAS, 2023-24**

SN	Variety	Code	Dharwad	Nippani	Dharwad	Nippani	Dharwad
			Br	Bl	Bl	LB	LB
1	MACS6862	N301	0	5S	5S	24	01
2	MACS6858	N302	0	0	5MR	12	00
3	PWU13	N303	0	5MS	10MR	24	00
4	MP1401	N304	0	5S	40S	12	00
5	GW561	N305	0	5MS	5MS	34	00
6	MACS6864	N307	0	10S	40S	12	00
7	Raj4590	N308	0	5MS	20S	34	00
8	GW565	N309	0	0	5MS	24	00
9	PBW946	N310	0	10MS	40S	12	00
10	CG1050	N311	0	5S	5MS	12	00
11	GW566	N312	0	5MR	0	24	00
12	UAS3030	N313	0	5MR	0	12	00
13	GW560	N314	0	0	5MS	34	01
14	MP3583	N315	0	20S	40S	12	00
15	LOK82	N316	0	5MR	5MS	12	00
16	AKAW4764	N317	5MS	10S	40S	12	00
17	DBW457	N318	0	5MR	10S	12	00
18	GW559	N319	10MS	0	5MS	12	00
19	JWS1528	N320	10MS	5MR	20MS	12	00
20	MP1400	N321	0	5MR	5MS	12	00
21	WH1332	N322	10MS	80S	80S	24	12
22	NIAW4516	N323	5S	80S	80S	24	12
23	HI1694	N324	0	5MS	5MR	34	12
24	PWU52	N325	0	5S	10MS	24	00
25	MP3584	N327	0	5MS	10S	12	00
26	UAS3031	N328	10MS	80S	80S	24	12
27	NWS2237	N329	0	10S	40S	24	00
28	HI1695	N330	0	0	5MS	24	00
29	NIAW4581	N333	0	5MS	5MR	01	00
30	HW3298-1	N334	0	0	5MS	24	00
31	DBW456	N335	0	5MS	5MS	12	00
32	HD3481	N336	0	5MS	0	24	01
33	MACS6222(C)	N306	5MS	5MR	5MS	24	00
34	DBW187 (C)	N326	0	0	5MS	24	00
35	HI1650 (C)	N331	5MR	5MS	10MS	24	12
36	GW322(C)	N332	0	5MS	10S	24	00

2304-NIVT-3A-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ											
			Delhi			Punjab						Haryana		
			Delhi			Ludhiana			Gurdaspur			Hisar		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW458	N401	83.7	10	1	53.5	9	1	46.7	17	0	60.8	6	1
2	PBW947	N402	75.8	28	0	50.4	14	0	43.3	21	0	61.7	2	1
3	WH1337	N403	83.8	9	1	52.1	12	0	53.5	4	1	61.0	5	1
4	DBW459	N404	86.1	5	1	44.4	22	0	57.3	1	1	59.7	7	1
5	NW8084	N405	78.6	22	0	43.8	23	0	42.4	24	0	49.9	25	0
6	HD3484	N406	78.6	21	0	38.2	32	0	50.9	8	0	50.8	24	0
7	PBW949	N407	79.1	19	0	49.8	18	0	46.7	16	0	51.8	22	0
8	WH1336	N408	83.4	12	1	50.0	17	0	46.4	18	0	55.9	11	0
9	DBW461	N409	81.7	16	1	43.6	26	0	39.6	31	0	49.5	27	0
10	WH1335	N410	83.6	11	1	43.7	24	0	47.5	15	0	49.1	29	0
11	DBW462	N411	77.9	24	0	50.1	16	0	50.4	10	0	61.6	3	1
12	UBW21	N412	85.8	6	1	53.7	8	1	44.4	20	0	52.1	20	0
13	PBW948	N413	68.8	32	0	40.5	31	0	38.7	33	0	51.9	21	0
14	HP1983	N416	86.5	3	1	50.2	15	0	49.0	14	0	52.6	16	0
15	HD3483	N417	85.6	7	1	50.8	13	0	42.7	23	0	50.9	23	0
16	UP3145	N418	83.3	13	1	43.6	25	0	50.2	11	0	46.1	34	0
17	SVPWL22-02	N419	82.8	15	1	58.8	1	1	49.2	13	0	63.8	1	1
18	K2306	N420	34.9	36	0	34.6	36	0	31.4	35	0	46.8	33	0
19	RAUW111	N421	61.4	33	0	41.0	30	0	38.8	32	0	49.9	26	0
20	JKW319	N422	78.7	20	0	48.8	19	0	42.3	26	0	53.8	14	0
21	K2307	N423	71.8	31	0	37.8	33	0	40.2	30	0	47.8	31	0
22	DBW460	N424	85.0	8	1	54.6	7	1	52.1	5	1	61.1	4	1
23	PBW950	N425	75.6	29	0	58.7	3	1	51.3	6	0	48.8	30	0
24	BRW3954	N426	77.4	27	0	43.2	27	0	41.9	27	0	57.2	9	0
25	BCW31	N427	78.5	23	0	41.9	29	0	42.9	22	0	52.3	19	0
26	NW8081	N428	74.5	30	0	45.9	20	0	41.5	28	0	52.5	18	0
27	HD3482	N429	88.8	2	1	55.5	6	1	55.2	2	1	55.5	12	0
28	RAJ4588	N430	79.4	18	0	42.0	28	0	50.6	9	0	52.5	17	0
29	PBW951	N431	86.1	4	1	58.8	2	1	53.9	3	1	54.4	13	0
30	HUW860	N433	59.5	34	0	35.5	35	0	38.6	34	0	40.7	36	0
31	UP3146	N435	77.5	26	0	44.5	21	0	49.2	12	0	49.2	28	0
32	RAJ4589	N436	80.7	17	0	56.3	5	1	44.7	19	0	56.6	10	0
33	HI1621(C)	N414	89.1	1	1	52.9	10	1	41.4	29	0	43.9	35	0
34	DBW173(C)	N415	82.8	14	1	52.5	11	1	42.3	25	0	52.8	15	0
35	PBW771(C)	N432	77.6	25	0	57.3	4	1	51.0	7	0	59.1	8	1
36	HI1563(C)	N434	52.0	35	0	36.2	34	0	31.2	36	0	47.4	32	0
G.M.			77.7			47.7			45.5			53.1		
S.E.(M)			3.466			2.783			2.184			2.600		
C.D.(10%)			8.3			6.6			5.3			6.3		
C.V.			6.3			8.3			6.8			6.9		
D.O.S.(dd.mm.yy)			07.12.23			05.12.23			06.12.23			08.12.23		

Haryana			
Karnal			
Yield	RK	G	
70.2	2	1	
57.4	24	0	
63.5	13	1	
63.1	14	1	
57.6	23	0	
52.2	30	0	
59.5	18	0	
57.7	22	0	
67.1	5	1	
64.3	11	1	
64.7	8	1	
68.2	4	1	
49.1	34	0	
61.2	17	0	
56.0	26	0	
53.8	28	0	
58.2	21	0	
19.2	36	0	
52.9	29	0	
61.4	16	0	
52.1	31	0	
71.1	1	1	
51.6	32	0	
64.5	10	1	
68.6	3	1	
58.6	20	0	
58.9	19	0	
55.1	27	0	
63.9	12	1	
50.7	33	0	
65.1	7	1	
66.5	6	1	
57.3	25	0	
61.8	15	0	
64.7	9	1	
38.5	35	0	
58.5			
3.846			
9.3			
9.3			
12.12.23			

No. of Trials : Proposed = 19 Conducted=19
Trial not conducted (00) = Nil
Trials not reported (01) = NWPZ: Jammu (RMT)

2304-NIVT-3A-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ									NEPZ					
			UTK			Rajasthan			U.P.								
			Pantnagar			Durgapura			Modipuram			Kanpur			Ayodhya		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW458	N401	52.3	11	0	40.2	33	0	43.6	29	0	57.5	3	0	71.4	1	1
2	PBW947	N402	47.6	22	0	45.2	18	0	48.1	18	0	37.4	34	0	56.3	17	0
3	WH1337	N403	50.7	15	0	49.7	13	0	47.1	20	0	43.2	31	0	60.2	12	0
4	DBW459	N404	49.4	19	0	56.2	5	1	55.4	3	1	47.8	28	0	51.3	25	0
5	NW8084	N405	46.8	25	0	41.8	27	0	42.9	31	0	47.8	28	0	47.5	31	0
6	HD3484	N406	43.9	30	0	49.1	15	0	46.2	24	0	54.0	14	0	59.4	14	0
7	PBW949	N407	49.8	18	0	41.3	29	0	37.1	36	0	52.9	21	0	53.6	19	0
8	WH1336	N408	39.8	34	0	49.3	14	0	47.3	19	0	55.2	11	0	56.7	16	0
9	DBW461	N409	46.9	24	0	45.8	17	0	52.5	9	0	55.6	7	0	59.8	13	0
10	WH1335	N410	56.0	3	1	42.5	25	0	44.1	27	0	45.1	30	0	52.7	20	0
11	DBW462	N411	47.3	23	0	43.7	21	0	46.3	23	0	54.0	14	0	71.4	1	1
12	UBW21	N412	55.6	5	1	54.0	9	0	56.7	2	1	69.4	1	1	52.1	21	0
13	PBW948	N413	44.7	29	0	40.4	32	0	39.2	35	0	40.1	33	0	45.9	34	0
14	HP1983	N416	41.1	32	0	42.0	26	0	57.4	1	1	55.6	8	0	55.9	18	0
15	HD3483	N417	55.8	4	1	35.1	36	0	49.5	15	0	53.6	18	0	62.5	7	0
16	UP3145	N418	51.4	14	0	43.0	24	0	53.0	7	0	54.2	13	0	61.3	10	0
17	SVPWL22-02	N419	58.6	1	1	38.5	34	0	54.5	5	1	53.0	20	0	62.5	7	0
18	K2306	N420	39.0	35	0	36.5	35	0	39.9	34	0	32.4	36	0	61.7	9	0
19	RAUW111	N421	51.9	12	0	43.6	22	0	42.1	32	0	37.2	35	0	51.7	22	0
20	JKW319	N422	56.2	2	1	54.3	6	1	51.5	10	0	55.4	9	0	49.0	28	0
21	K2307	N423	45.5	26	0	53.9	10	0	46.5	22	0	48.0	27	0	51.7	22	0
22	DBW460	N424	42.5	31	0	44.0	20	0	52.6	8	0	52.7	23	0	66.0	4	1
23	PBW950	N425	48.9	21	0	41.8	28	0	44.8	26	0	53.2	19	0	47.1	32	0
24	BRW3954	N426	50.2	17	0	58.4	2	1	55.3	4	1	57.5	4	0	49.0	28	0
25	BCW31	N427	40.6	33	0	41.0	30	0	43.8	28	0	49.4	26	0	44.8	35	0
26	NW8081	N428	44.7	28	0	57.3	3	1	50.3	14	0	52.9	21	0	46.7	33	0
27	HD3482	N429	38.2	36	0	59.3	1	1	53.3	6	0	57.7	2	0	62.9	6	0
28	RAJ4588	N430	53.1	10	0	43.0	23	0	50.4	13	0	57.1	5	0	49.4	27	0
29	PBW951	N431	50.2	16	0	54.3	7	1	51.0	12	0	52.3	25	0	66.7	3	1
30	HUW860	N433	45.5	27	0	40.9	31	0	46.8	21	0	42.1	32	0	48.2	30	0
31	UP3146	N435	53.4	9	1	54.1	8	0	43.3	30	0	53.8	17	0	44.8	36	0
32	RAJ4589	N436	51.6	13	0	45.2	19	0	48.5	16	0	52.5	24	0	51.7	24	0
33	HI1621(C)	N414	54.1	6	1	56.7	4	1	48.5	17	0	54.0	14	0	60.8	11	0
34	DBW173(C)	N415	54.1	7	1	46.6	16	0	51.3	11	0	56.7	6	0	59.4	14	0
35	PBW771(C)	N432	53.7	8	1	52.3	11	0	45.1	25	0	55.3	10	0	50.9	26	0
36	HI1563(C)	N434	49.0	20	0	52.3	12	0	41.7	33	0	54.4	12	0	64.8	5	1
G.M.			48.9			47.0			48.0			51.4			55.8		
S.E.(M)			2.259			2.148			1.575			2.491			3.540		
C.D.(10%)			5.4			5.2			3.8			6.0			8.5		
C.V.			6.5			6.5			4.6			6.9			9.0		
D.O.S.(dd.mm.yy)			15.12.23			14.12.23			14.12.23			12.12.23			13.12.23		

2304-NIVT-3A-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NEPZ														
			U.P.			Bihar						Jharkhand			W.Bengal		
			Varanasi			Sabour			RPCAU-Pusa			Ranchi			Kalyani		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW458	N401	58.6	21	0	41.2	18	0	43.4	8	1	46.7	14	0	37.0	31	0
2	PBW947	N402	66.4	9	0	38.7	22	0	45.4	3	1	51.8	6	1	43.3	15	0
3	WH1337	N403	55.6	23	0	43.5	12	0	42.1	10	0	46.0	17	0	42.1	18	0
4	DBW459	N404	74.1	2	1	34.3	29	0	31.5	33	0	47.7	10	1	52.6	2	1
5	NW8084	N405	29.3	36	0	53.0	2	1	29.9	35	0	34.3	32	0	32.4	35	0
6	HD3484	N406	49.4	28	0	30.6	34	0	43.5	7	1	45.9	18	0	42.1	19	0
7	PBW949	N407	66.4	9	0	38.6	23	0	46.9	1	1	38.8	25	0	35.1	34	0
8	WH1336	N408	61.7	19	0	37.3	28	0	36.6	23	0	49.6	8	1	37.7	28	0
9	DBW461	N409	57.1	22	0	42.6	15	0	44.4	6	1	43.1	20	0	45.1	11	0
10	WH1335	N410	72.5	4	0	42.1	16	0	31.7	31	0	42.6	21	0	38.0	26	0
11	DBW462	N411	63.3	16	0	45.9	11	0	45.8	2	1	47.4	11	0	47.1	7	0
12	UBW21	N412	61.7	19	0	47.7	7	0	34.9	25	0	52.6	3	1	44.9	12	0
13	PBW948	N413	41.7	32	0	37.7	27	0	45.4	3	1	33.3	33	0	37.5	29	0
14	HP1983	N416	78.7	1	1	47.6	8	0	42.3	9	0	53.5	1	1	51.2	3	1
15	HD3483	N417	64.8	11	0	42.7	14	0	40.4	15	0	41.5	23	0	47.0	8	0
16	UP3145	N418	64.8	11	0	51.2	4	1	38.2	20	0	47.0	13	0	39.9	23	0
17	SVPWL22-02	N419	64.8	11	0	47.9	5	0	39.5	16	0	48.3	9	1	42.8	16	0
18	K2306	N420	40.1	34	0	28.6	35	0	34.3	28	0	34.4	31	0	36.9	32	0
19	RAUW111	N421	71.0	5	0	39.5	20	0	41.0	14	0	37.4	27	0	46.5	9	0
20	JKW319	N422	49.4	29	0	38.8	21	0	30.1	34	0	51.9	5	1	40.6	22	0
21	K2307	N423	47.8	31	0	31.3	32	0	39.0	18	0	15.3	36	0	35.6	33	0
22	DBW460	N424	54.0	25	0	38.0	26	0	41.6	13	0	46.5	15	0	47.9	5	0
23	PBW950	N425	69.4	7	0	54.6	1	1	37.7	22	0	40.5	24	0	44.8	13	0
24	BRW3954	N426	49.4	29	0	46.3	9	0	39.1	17	0	35.6	29	0	55.6	1	1
25	BCW31	N427	41.7	32	0	31.7	31	0	31.6	32	0	33.3	34	0	38.8	25	0
26	NW8081	N428	37.0	35	0	28.1	36	0	33.7	30	0	38.6	26	0	38.0	27	0
27	HD3482	N429	64.8	11	0	51.4	3	1	45.1	5	1	52.8	2	1	49.4	4	0
28	RAJ4588	N430	50.9	26	0	43.2	13	0	34.3	27	0	47.1	12	0	39.6	24	0
29	PBW951	N431	64.8	11	0	38.2	25	0	38.1	21	0	35.9	28	0	47.5	6	0
30	HUW860	N433	50.9	26	0	30.8	33	0	28.2	36	0	20.4	35	0	32.4	35	0
31	UP3146	N435	71.0	5	0	32.8	30	0	36.1	24	0	42.6	22	0	42.1	17	0
32	RAJ4589	N436	55.6	23	0	47.9	6	0	33.8	29	0	44.8	19	0	41.7	20	0
33	HI1621(C)	N414	63.3	17	0	39.9	19	0	38.8	19	0	46.3	16	0	37.5	29	0
34	DBW173(C)	N415	63.3	17	0	41.9	17	0	34.4	26	0	35.3	30	0	41.6	21	0
35	PBW771(C)	N432	74.1	2	1	46.0	10	0	41.8	12	0	52.3	4	1	45.1	10	0
36	HI1563(C)	N434	67.9	8	0	38.3	24	0	42.1	11	0	50.5	7	1	43.4	14	0
G.M.			58.8			40.8			38.4			42.5			42.2		
S.E.(M)			2.556			1.904			1.715			2.459			2.192		
C.D.(10%)			6.1			4.6			4.1			5.9			5.2		
C.V.			6.1			6.6			6.3			8.2			7.3		
D.O.S.(dd.mm.yy)			15.12.23			15.12.23			15.12.23			13.12.23			13.12.23		

2304-NIVT-3A-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NEPZ								
			W.Bengal						Assam		
			Manikchak			Burdwan			Shillongani		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW458	N401	60.0	10	0	33.4	14	0	46.4	10	0
2	PBW947	N402	47.5	28	0	29.1	25	0	48.9	7	1
3	WH1337	N403	58.9	11	0	29.1	24	0	43.9	14	0
4	DBW459	N404	57.5	14	0	25.6	31	0	50.8	3	1
5	NW8084	N405	40.4	33	0	31.0	20	0	41.3	21	0
6	HD3484	N406	51.8	22	0	32.5	15	0	41.6	20	0
7	PBW949	N407	50.5	26	0	25.6	32	0	41.8	19	0
8	WH1336	N408	53.0	19	0	33.8	12	0	50.8	2	1
9	DBW461	N409	65.8	2	1	33.8	13	0	42.7	17	0
10	WH1335	N410	60.2	9	0	29.7	22	0	49.1	6	1
11	DBW462	N411	55.4	17	0	25.8	30	0	39.7	27	0
12	UBW21	N412	61.1	8	1	31.7	17	0	47.1	9	0
13	PBW948	N413	40.2	35	0	28.7	26	0	40.1	25	0
14	HP1983	N416	62.5	5	1	38.6	7	1	47.2	8	0
15	HD3483	N417	61.4	7	1	39.3	5	1	36.9	30	0
16	UP3145	N418	64.8	3	1	35.6	9	0	50.6	4	1
17	SVPWL22-02	N419	58.8	12	0	38.8	6	1	51.3	1	1
18	K2306	N420	32.9	36	0	17.5	36	0	42.2	18	0
19	RAUW111	N421	56.3	15	0	34.9	11	0	44.9	11	0
20	JKW319	N422	51.1	24	0	37.9	8	0	34.1	35	0
21	K2307	N423	44.8	30	0	18.4	34	0	43.4	16	0
22	DBW460	N424	62.3	6	1	26.7	28	0	43.8	15	0
23	PBW950	N425	48.5	27	0	41.7	2	1	40.7	24	0
24	BRW3954	N426	58.5	13	0	31.5	18	0	39.8	26	0
25	BCW31	N427	41.9	32	0	31.4	19	0	36.5	32	0
26	NW8081	N428	42.2	31	0	29.1	23	0	33.5	36	0
27	HD3482	N429	68.8	1	1	42.3	1	1	41.2	22	0
28	RAJ4588	N430	45.6	29	0	35.0	10	0	39.5	29	0
29	PBW951	N431	51.9	21	0	26.5	29	0	44.6	12	0
30	HUW860	N433	40.2	34	0	20.8	33	0	35.1	34	0
31	UP3146	N435	62.7	4	1	27.6	27	0	41.1	23	0
32	RAJ4589	N436	52.2	20	0	30.2	21	0	44.2	13	0
33	HI1621(C)	N414	55.4	16	0	41.2	3	1	36.2	33	0
34	DBW173(C)	N415	50.6	25	0	18.4	35	0	36.6	31	0
35	PBW771(C)	N432	53.5	18	0	31.9	16	0	50.2	5	1
36	HI1563(C)	N434	51.5	23	0	40.7	4	1	39.5	28	0
G.M.			53.4			31.3			42.7		
S.E.(M)			3.266			1.678			1.078		
C.D.(10%)			7.9			4.1			2.6		
C.V.			8.7			7.6			3.6		
D.O.S.(dd.mm.yy)			13.12.23			15.12.23			05.12.23		

2304-NIVT-3A-IR-LS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			NEPZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW458	N401	56.4	9	0	49.6	8	0	52.6	6	0
2	PBW947	N402	53.7	20	0	46.5	18	0	49.7	21	0
3	WH1337	N403	57.7	7	1	46.5	19	0	51.4	12	0
4	DBW459	N404	58.9	2	1	47.3	15	0	52.5	7	0
5	NW8084	N405	50.5	30	0	38.7	31	0	43.9	31	0
6	HD3484	N406	51.2	28	0	45.1	25	0	47.8	27	0
7	PBW949	N407	51.9	27	0	45.0	26	0	48.1	26	0
8	WH1336	N408	53.7	19	0	47.2	16	0	50.1	18	0
9	DBW461	N409	53.3	21	0	49.0	11	0	50.9	14	0
10	WH1335	N410	53.9	18	0	46.4	20	0	49.7	20	0
11	DBW462	N411	55.2	15	0	49.6	7	0	52.1	10	0
12	UBW21	N412	58.8	3	1	50.3	5	0	54.1	2	0
13	PBW948	N413	46.7	33	0	39.1	30	0	42.4	34	0
14	HP1983	N416	55.0	16	0	53.3	2	1	54.1	3	0
15	HD3483	N417	53.3	22	0	49.0	10	0	50.9	15	0
16	UP3145	N418	53.1	25	0	50.8	4	0	51.8	11	0
17	SVPWL22-02	N419	58.1	5	1	50.8	3	0	54.0	4	0
18	K2306	N420	35.3	36	0	36.1	35	0	35.7	36	0
19	RAUW111	N421	47.7	32	0	46.0	22	0	46.8	28	0
20	JKW319	N422	55.9	12	0	43.8	28	0	49.2	23	0
21	K2307	N423	49.5	31	0	37.5	34	0	42.8	33	0
22	DBW460	N424	57.9	6	1	47.9	12	0	52.4	8	0
23	PBW950	N425	52.7	26	0	47.8	13	0	50.0	19	0
24	BRW3954	N426	56.0	11	0	46.2	21	0	50.6	16	0
25	BCW31	N427	51.2	29	0	38.1	32	0	43.9	32	0
26	NW8081	N428	53.2	24	0	38.0	33	0	44.7	30	0
27	HD3482	N429	58.1	4	1	53.6	1	1	55.6	1	1
28	RAJ4588	N430	53.3	23	0	44.2	27	0	48.2	25	0
29	PBW951	N431	59.1	1	1	46.7	17	0	52.2	9	0
30	HUW860	N433	44.8	34	0	34.9	36	0	39.3	35	0
31	UP3146	N435	54.5	17	0	45.5	23	0	49.5	22	0
32	RAJ4589	N436	56.3	10	0	45.4	24	0	50.3	17	0
33	HI1621(C)	N414	55.5	14	0	47.3	14	0	51.0	13	0
34	DBW173(C)	N415	55.5	13	0	43.8	29	0	49.0	24	0
35	PBW771(C)	N432	57.6	8	1	50.1	6	0	53.4	5	0
36	HI1563(C)	N434	43.5	35	0	49.3	9	0	46.7	29	0
G.M.			53.3			45.7			49.1		
S.E.(M)			0.954			0.757			0.597		
C.D.(10%)			2.2			1.8			1.4		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial:NIVT-3A-IR-LS-TAS,2023-24**

SN	Variety	Code	Disease Reaction					Agronomic Characteristics							Grain Characteristics	
			YI	ACI	Br	ACI	PM	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	DBW458	N401	5S	0.8	10S	5.0	3	73-99	87	114-145	130	87-110	99	5	37-48	42
2	PBW947	N402	0	0.0	60S	21.7	3	79-102	90	118-147	132	79-103	94	0	30-43	38
3	WH1337	N403	5S	0.9	20S	6.7	3	75-100	89	118-147	131	85-110	100	0	31-45	40
4	DBW459	N404	10MR	0.7	20S	7.0	3	72-98	88	111-145	130	80-105	97	5	41-52	45
5	NW8084	N405	20S	3.7	40S	26.7	0	74-102	89	116-147	132	83-108	100	0	33-48	40
6	HD3484	N406	tS	0.1	0	0.0	0	66-97	85	113-144	129	71-86	80	0	32-41	37
7	PBW949	N407	tS	0.2	0	0.0	5	80-105	93	117-144	133	74-109	94	0	32-43	39
8	WH1336	N408	tS	0.2	40S	13.3	0	75-103	90	113-143	131	89-105	97	0	33-48	43
9	DBW461	N409	5MS	2.7	40S	13.7	3	68-94	83	109-142	128	84-101	96	0	35-50	43
10	WH1335	N410	tS	0.2	20S	7.0	0	74-101	88	112-142	130	71-106	95	0	30-45	41
11	DBW462	N411	10S	2.7	tR	0.4	3	78-98	89	117-142	131	86-109	99	0	33-49	42
12	UBW21	N412	10MS	2.0	60S	20.3	4	72-101	89	113-147	131	95-110	101	0	32-46	42
13	PBW948	N413	0	0.0	0	0.0	3	73-101	89	112-147	132	76-95	84	0	33-43	39
14	HP1983	N416	20S	5.8	20S	6.7	0	69-98	87	113-145	130	91-111	101	0	32-45	40
15	HD3483	N417	5S	0.8	20S	6.7	0	73-101	88	111-146	131	86-108	98	5	32-50	42
16	UP3145	N418	5S	0.8	0	0.0	0	73-103	90	112-148	131	75-108	97	0	35-59	44
17	SVPWL22-02	N419	5S	0.7	0	0.0	3	72-105	90	113-148	131	88-115	105	10	27-42	38
18	K2306	N420	60S	32.8	5S	1.7	3	76-101	91	116-148	132	79-107	94	0	31-42	37
19	RAUW111	N421	10S	3.4	0	0.0	0	77-103	90	115-147	132	86-107	96	0	30-37	34
20	JKW319	N422	20S	8.1	20S	6.7	0	71-95	84	112-142	129	81-96	90	0	38-48	43
21	K2307	N423	10MS	1.3	20S	6.7	0	74-100	90	115-147	132	70-106	96	0	34-45	38
22	DBW460	N424	tMS	0.5	5S	1.7	1	74-98	88	113-145	130	77-100	94	0	31-47	43
23	PBW950	N425	tMS	0.1	10S	3.3	0	71-101	88	113-148	131	76-96	85	0	29-46	34
24	BRW3954	N426	10S	3.1	tR	0.1	0	71-98	85	112-146	130	75-102	95	5	35-49	42
25	BCW31	N427	tMS	0.1	20S	6.7	0	71-100	87	110-147	129	85-106	94	5	36-49	44
26	NW8081	N428	5S	0.8	10S	3.3	0	74-100	87	117-145	131	88-104	97	0	33-47	42
27	HD3482	N429	10S	2.7	60S	20.3	0	69-94	83	114-143	130	80-106	96	5	36-48	44
28	RAJ4588	N430	5MS	1.8	0	0.0	3	75-98	88	114-145	131	85-105	96	0	34-46	43
29	PBW951	N431	tMS	0.1	20S	6.7	0	74-100	89	111-147	131	89-105	97	0	30-50	41
30	HUW860	N433	20S	8.6	20S	6.7	3	76-107	93	117-147	133	85-104	94	0	30-45	38
31	UP3146	N435	5S	0.8	0	0.0	3	71-100	87	115-146	130	88-107	95	5	29-46	39
32	RAJ4589	N436	20MS	3.8	5S	1.7	5	75-98	87	112-145	130	86-112	99	5	31-43	38
33	HI1621(C)	N414	5S	1.1	20S	10.0	0	71-94	83	113-145	128	73-105	92	0	35-44	39
34	DBW173(C)	N415	10S	1.7	40S	13.7	0	73-102	89	114-146	131	87-109	98	0	31-49	40
35	PBW771(C)	N432	10S	3.4	0	0.0	3	73-98	86	111-145	130	77-95	88	0	31-44	40
36	HI1563(C)	N434	60S	37.7	20S	6.7	0	67-99	84	111-142	129	84-103	94	0	28-43	36

1. Ancillary data from Delhi, Durgapura, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana and Pantnagar centres.
2. Yellow rust data from Delhi, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana,and Pantnagar; Brown rust data from Delhi,Pantnagar and Karnal.
3. Lodging data from Hisar, Delhi and Ludhiana centres.4. Powdery mildew data from Pantnagar centre.

NIVT-3A-IR-LS-TAS,2023-24

Individual Station Rust Data

SN	Variety	Code	Yellow rust							Brown rust		
			Delhi	Gurdaspur	Hisar	Jammu	Karnal	Ludhiana	Pantnagar	Delhi	Karnal	Pantnagar
1.	DBW458	N401	0	0	0	0	0	tMR	5S	0	10S	5S
2.	PBW947	N402	0	0	0	0	0	0	0	0	60S	5S
3.	WH1337	N403	0	tMR	0	MS	0	tMR	5S	0	20S	0
4.	DBW459	N404	0	tMR	0	0	0	tMR	10MR	0	20S	tS
5.	NW8084	N405	0	20S	0	tS	0	5MS	tS	0	40S	40S
6.	HD3484	N406	0	tS	0	0	0	0	0	0	0	0
7.	PBW949	N407	0	tS	0	0	0	tMS	0	0	0	0
8.	WH1336	N408	0	tMR	0	0	0	tS	0	0	40S	0
9.	DBW461	N409	0	5MS	10S	tMS	0	5MS	0	0	40S	tS
10.	WH1335	N410	0	tS	0	0	0	tMS	0	0	20S	tS
11.	DBW462	N411	0	5MS	0	0	0	5S	10S	tR	0	tS
12.	UBW21	N412	0	10MS	0	0	0	tMS	5S	0	60S	tS
13.	PBW948	N413	0	0	0	0	0	0	0	0	0	0
14.	HP1983	N416	0	20S	0	tS	0	10S	10S	0	20S	0
15.	HD3483	N417	0	tMS	0	0	0	0	5S	0	20S	0
16.	UP3145	N418	0	5S	0	tMS	0	0	0	0	0	0
17.	SVPWL22-02	N419	0	0	0	0	0	0	5S	0	0	0
18.	K2306	N420	10S	40S	60S	0	40S	40S	40S	0	0	5S
19.	RAUW111	N421	0	10MS	tS	tS	0	5MS	10S	0	0	0
20.	JKW319	N422	0	20S	5S	tS	10S	20S	tS	0	20S	0
21.	K2307	N423	0	10MS	0	0	0	tS	0	0	20S	0
22.	DBW460	N424	0	tMS	tS	tMS	0	tMS	0	0	5S	0
23.	PBW950	N425	0	tMS	0	0	0	0	0	0	10S	0
24.	BRW3954	N426	0	10MS	0	0	0	5MS	10S	tR	0	0
25.	BCW31	N427	0	0	0	0	0	tMS	0	0	20S	0
26.	NW8081	N428	0	5S	0	0	0	tMR	0	0	10S	0
27.	HD3482	N429	0	10MS	0	0	0	tMS	10S	0	60S	tS
28.	RAJ4588	N430	0	tMS	0	tS	0	5MS	5MS	0	0	0
29.	PBW951	N431	0	tMS	0	0	0	0	0	0	20S	0
30.	HUW860	N433	10S	20S	0	0	0	10S	20S	0	20S	0
31.	UP3146	N435	0	tMS	0	0	0	0	5S	0	0	0
32.	RAJj4589	N436	0	20MS	0	5S	0	tMR	5S	0	5S	0
33.	HI1621(C)	N414	0	tS	0	tMS	0	tMS	5S	0	20S	10S
34.	DBW173(C)	N415	0	tMS	0	tS	0	tMR	10S	tR	40S	0
35.	PBW771(C)	N432	0	10MS	0	0	10S	tS	5S	0	0	0
36.	HI1563(C)	N434	0	60S	60S	5MS	60S	40S	40S	0	20S	0

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial:NIVT3A-IR-LS-TAS,2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics						Grain Characteristics	
			LB,HS(Avg.)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	DBW458	N401	68(35)	66-81	73	95-116	108	80-102	93	27-41	36
2	PBW947	N402	57(24)	72-87	79	97-117	111	81-100	90	24-44	37
3	WH1337	N403	57(35)	66-82	74	98-115	110	90-106	97	26-46	37
4	DBW459	N404	68(34)	69-83	74	94-116	109	80-103	93	34-46	40
5	NW8084	N405	89(45)	64-83	72	97-117	108	87-114	97	22-43	34
6	HD3484	N406	99(46)	58-81	68	95-114	106	64-95	79	27-44	36
7	PBW949	N407	36(24)	71-87	79	99-120	113	82-95	89	26-45	37
8	WH1336	N408	57(35)	70-83	75	97-118	111	81-102	93	30-43	39
9	DBW461	N409	68(45)	65-81	72	94-116	107	87-105	98	31-50	41
10	WH1335	N410	46(34)	73-85	76	97-115	111	71-107	94	27-47	37
11	DBW462	N411	58(35)	68-84	75	96-117	111	87-110	96	30-48	40
12	UBW21	N412	47(35)	66-81	73	95-115	108	80-108	96	32-47	40
13	PBW948	N413	68(46)	68-83	75	96-117	110	73-88	80	21-40	32
14	HP1983	N416	68(36)	62-78	70	94-115	108	87-107	96	33-46	40
15	HD3483	N417	46(34)	66-82	73	96-114	108	84-110	97	31-42	38
16	UP3145	N418	46(35)	65-82	73	94-117	109	80-100	93	26-44	37
17	SVPWL22-02	N419	57(35)	62-81	73	94-116	109	75-115	100	24-42	35
18	K2306	N420	57(35)	73-86	78	97-120	113	80-108	95	35-44	40
19	RAUW111	N421	35(24)	70-84	76	95-119	111	83-106	93	28-44	35
20	JKW319	N422	68(35)	65-79	72	95-115	108	84-98	90	29-50	39
21	K2307	N423	47(35)	71-84	76	98-117	113	80-103	92	27-45	36
22	DBW460	N424	68(35)	67-84	73	96-119	108	74-98	90	29-46	40
23	PBW950	N425	57(34)	63-79	71	90-113	105	72-94	83	28-43	35
24	BRW3954	N426	89(46)	63-79	71	92-112	106	80-101	93	28-47	40
25	BCW31	N427	57(46)	65-80	72	95-118	109	84-98	91	25-43	36
26	NW8081	N428	57(35)	68-82	74	94-119	109	82-102	94	22-47	36
27	HD3482	N429	68(35)	63-80	69	94-113	107	88-105	95	31-47	39
28	RAJ4588	N430	79(36)	65-83	74	97-117	110	85-102	95	29-50	37
29	PBW951	N431	46(24)	69-84	75	95-116	110	83-99	92	30-47	37
30	HUW860	N433	36(24)	69-84	76	99-120	113	85-114	96	28-43	35
31	UP3146	N435	68(45)	69-83	74	93-117	110	78-100	93	27-43	35
32	RAJ4589	N436	46(35)	67-84	75	96-116	109	90-111	98	24-43	34
33	HI1621(C)	N414	89(45)	64-79	70	89-111	104	78-99	89	26-45	35
34	DBW173(C)	N415	46(35)	71-83	75	99-117	111	78-103	93	27-52	38
35	PBW771(C)	N432	46(35)	70-83	76	94-118	110	74-92	85	28-44	37
36	HI1563(C)	N434	89(45)	58-77	68	91-116	106	77-100	91	29-44	37

1. Ancillary data from Ranchi, RPCAU-Pusa, Sabour, Shillongoni, Varanasi, Ayodhya,Burdwan, Kalyani, Kanpur and Manichak centres.
2. Leaf blight data from RPCAU-Pusa, Sabour, Shillongoni, Varanasi, Ayodhya, Kalyani and Manikchak centres.

NIVT-3A-IR-LS,2023-24
North Eastern Plains Zone

Individual Station Leaf Blight Data

SN	Variety	Code	Leaf Blight Score						
			RPCAU-Pusa	Sabour	Shillongani	Varanasi	Ayodhya	Kalyani	Manikchek
1.	DBW458	N401	34	35	35	57	68	35	12
2.	PBW947	N402	23	24	57	12	36	35	12
3.	WH1337	N403	34	46	35	57	25	23	12
4.	DBW459	N404	23	24	68	24	35	25	12
5.	NW8084	N405	34	35	35	89	35	35	24
6.	HD3484	N406	45	24	57	99	79	36	13
7.	PBW949	N407	23	35	35	24	25	36	12
8.	WH1336	N408	34	35	57	46	46	25	12
9.	DBW461	N409	45	23	68	68	47	24	23
10.	WH1335	N410	34	24	46	35	36	23	12
11.	DBW462	N411	34	24	35	57	58	25	24
12.	UBW21	N412	45	23	35	47	36	35	24
13.	PBW948	N413	34	35	57	68	57	37	24
14.	HP1983	N416	36	35	68	47	46	25	24
15.	HD3483	N417	34	24	24	46	35	35	23
16.	UP3145	N418	45	46	46	35	46	23	24
17.	SVPWL22-02	N419	23	24	57	35	24	35	24
18.	K2306	N420	23	34	57	24	46	36	12
19.	RAUW111	N421	23	35	24	12	25	35	24
20.	JKW319	N422	34	35	46	68	47	35	12
21.	K2307	N423	23	35	24	46	47	24	24
22.	DBW460	N424	23	23	35	68	35	26	12
23.	PBW950	N425	34	24	57	35	35	24	12
24.	BRW3954	N426	34	24	57	89	57	35	24
25.	BCW31	N427	34	35	57	57	57	36	24
26.	NW8081	N428	34	46	35	46	57	36	12
27.	HD3482	N429	45	24	35	68	25	35	23
28.	RAJ4588	N430	34	24	46	47	79	25	24
29.	PBW951	N431	23	35	46	24	25	36	12
30.	HUW860	N433	23	35	35	24	36	35	12
31.	UP3146	N435	34	24	57	58	68	35	12
32.	RAJ4589	N436	34	46	46	35	35	35	12
33.	HI1621(C)	N414	45	24	24	89	57	36	12
34.	DBW173(C)	N415	34	24	46	35	36	35	24
35.	PBW771(C)	N432	23	35	46	35	46	36	24
36.	HI1563(C)	N434	34	23	35	89	46	24	35

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LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ													
			M.P.										Chhattisgarh			
			Indore			Powarkheda			Jabalpur (JNKVV)			Gwalior			Bilaspur		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW464	N502	60.9	18	0	49.3	9	0	47.6	18	0	39.1	2	1	40.8	15	0
2	HI1697	N504	72.1	2	1	51.7	5	0	49.3	15	0	32.7	21	0	30.0	25	0
3	WH1338	N505	68.4	7	1	47.1	11	0	63.6	1	1	31.3	25	0	43.7	8	0
4	GW567	N506	60.7	19	0	44.0	19	0	47.7	17	0	36.1	5	0	45.4	4	1
5	WSM141	N507	64.6	11	1	44.0	19	0	57.9	5	0	35.1	10	0	35.8	20	0
6	DBW463	N508	72.5	1	1	51.0	6	0	49.8	13	0	33.5	16	0	34.3	24	0
7	MACS6868	N509	68.8	6	1	57.8	3	1	51.9	10	0	36.1	6	0	36.3	19	0
8	GW562	N510	61.1	17	0	39.4	21	0	49.4	14	0	34.2	13	0	40.1	17	0
9	MP3599	N511	57.3	24	0	37.8	23	0	56.8	7	0	33.7	15	0	39.1	18	0
10	NIAW4621	N512	66.2	9	1	49.4	8	0	48.7	16	0	36.8	4	0	44.7	5	1
11	CG1061	N513	54.3	25	0	44.8	17	0	56.8	8	0	32.8	19	0	42.8	13	0
12	NIAW4624	N514	61.6	15	0	55.6	4	1	42.4	23	0	32.2	24	0	44.5	6	1
13	LOK83	N515	57.6	22	0	35.5	25	0	40.3	24	0	34.9	12	0	43.7	9	0
14	HI1698	N516	58.5	21	0	46.2	14	0	62.7	2	1	35.0	11	0	34.5	22	0
15	HI1696	N517	70.2	4	1	46.4	13	0	50.4	11	0	35.3	9	0	40.2	16	0
16	MP3598	N518	63.5	13	0	59.4	2	1	52.4	9	0	35.9	7	0	35.2	21	0
17	HI1699	N519	70.5	3	1	48.6	10	0	43.2	22	0	33.2	18	0	47.9	3	1
18	UAS3033	N521	67.5	8	1	47.1	12	0	61.5	3	1	32.8	20	0	43.5	11	0
19	UAS3032	N522	63.3	14	0	38.5	22	0	50.3	12	0	35.7	8	0	43.2	12	0
20	MACS6854	N523	69.9	5	1	61.5	1	1	60.4	4	1	32.3	23	0	43.6	10	0
21	PBW952	N524	64.9	10	1	44.7	18	0	45.0	21	0	36.9	3	0	44.2	7	0
22	MP1402	N525	59.6	20	0	36.9	24	0	38.2	25	0	32.6	22	0	34.4	23	0
23	HD2864 (C)	N501	61.4	16	0	45.6	15	0	47.5	19	0	33.2	17	0	49.6	1	1
24	HD2932 (C)	N503	63.8	12	0	44.8	16	0	47.5	20	0	41.9	1	1	48.1	2	1
25	HI1633 (C)	N520	57.5	23	0	50.2	7	0	57.6	6	0	33.9	14	0	41.6	14	0
G.M.			63.9			47.1			51.2			34.7			41.1		
S.E.(M)			3.249			3.378			2.338			1.298			2.092		
C.D. (10%)			8.0			8.3			5.7			3.2			5.2		
C.V.			7.2			10.1			6.5			5.3			7.2		
D.O.S.(dd.mm.yy)			10.12.23			14.12.23			10.12.23			15.12.23			14.12.23		

No. of Trials : Proposed = 17 Conducted = 17
Trial not conducted (00) = Nil
Trials not reported (02) = CZ : SK Nagar (LSM)
PZ : Dharwad (LSM)

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LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ									PZ					
			Gujarat									Maharashtra					
			Junagadh			Vijapur			Lok-Bharti			Niphad			Akola		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW464	N502	36.6	20	0	34.6	17	0	39.8	14	0	28.1	23	0	32.1	23	0
2	HI1697	N504	40.8	8	0	33.4	20	0	43.2	10	0	37.1	14	0	48.7	2	1
3	WH1338	N505	40.5	11	0	52.9	3	1	36.0	20	0	41.2	3	0	36.9	17	0
4	GW567	N506	50.6	1	1	41.1	11	0	42.9	11	0	39.8	8	0	34.4	20	0
5	WSM141	N507	31.6	24	0	48.9	5	0	37.6	16	0	39.7	10	0	41.0	13	1
6	DBW463	N508	45.0	4	0	33.7	19	0	50.0	1	1	34.7	18	0	44.2	6	1
7	MACS6868	N509	41.7	7	0	39.2	13	0	49.5	2	1	38.0	12	0	45.1	5	1
8	GW562	N510	38.7	16	0	40.1	12	0	41.0	12	0	36.6	15	0	37.8	16	0
9	MP3599	N511	39.7	13	0	25.7	25	0	36.8	17	0	33.7	19	0	31.8	25	0
10	NIAW4621	N512	36.7	19	0	49.7	4	0	49.4	3	1	40.3	6	0	34.1	21	0
11	CG1061	N513	40.4	12	0	30.9	22	0	43.3	9	0	30.0	22	0	39.1	15	1
12	NIAW4624	N514	35.6	23	0	38.5	15	0	36.6	18	0	43.0	2	1	47.1	3	1
13	LOK83	N515	28.7	25	0	29.3	23	0	32.6	21	0	20.0	25	0	36.4	19	0
14	HI1698	N516	35.7	22	0	41.4	10	0	32.1	22	0	35.1	17	0	42.8	10	1
15	HI1696	N517	37.6	17	0	44.5	6	0	44.7	8	1	40.6	5	0	36.6	18	0
16	MP3598	N518	43.1	5	0	54.2	2	1	47.4	4	1	36.2	16	0	43.0	9	1
17	HI1699	N519	40.6	10	0	35.3	16	0	46.1	6	1	39.8	9	0	43.1	8	1
18	UAS3033	N521	36.6	21	0	42.3	8	0	27.0	25	0	39.5	11	0	45.7	4	1
19	UAS3032	N522	38.7	15	0	43.8	7	0	40.3	13	0	21.6	24	0	42.8	11	1
20	MACS6854	N523	42.2	6	0	57.3	1	1	45.8	7	1	47.6	1	1	43.4	7	1
21	PBW952	N524	37.1	18	0	33.0	21	0	32.0	23	0	41.0	4	0	40.1	14	1
22	MP1402	N525	39.5	14	0	34.3	18	0	30.9	24	0	32.8	20	0	31.9	24	0
23	HD2864 (C)	N501	46.7	2	1	38.9	14	0	38.2	15	0	37.7	13	0	41.7	12	1
24	HD2932 (C)	N503	45.2	3	0	41.6	9	0	46.6	5	1	30.5	21	0	52.0	1	1
25	HI1633 (C)	N520	40.6	9	0	27.4	24	0	36.1	19	0	39.9	7	0	33.8	22	0
G.M.			39.6			39.7			40.2			36.2			40.2		
S.E.(M)			1.972			2.648			2.201			2.111			4.867		
C.D. (10%)			4.9			6.4			5.4			5.2			11.8		
C.V.			7.0			9.4			7.7			8.3			17.1		
D.O.S.(dd.mm.yy)			12.12.23			06.12.23			09.12.23			13.12.23			13.12.23		

2305-NIVT-3B-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	PZ													
			Maharashtra									Karnataka				
			Pune			Dhule			Parbhani			Bagalkot			Nippani		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW464	N502	26.3	25	0	35.2	25	0	55.5	16	0	32.3	20	0	47.2	13	0
2	HI1697	N504	50.9	1	1	44.9	15	0	86.1	1	1	28.5	24	0	53.7	9	0
3	WH1338	N505	32.5	20	0	36.1	24	0	55.6	15	0	39.4	16	0	48.0	12	0
4	GW567	N506	49.8	2	1	46.5	11	0	66.2	5	0	47.9	7	0	34.5	22	0
5	WSM141	N507	30.4	24	0	39.3	22	0	55.9	13	0	30.1	23	0	41.8	18	0
6	DBW463	N508	34.4	19	0	44.3	16	0	47.9	25	0	36.4	18	0	39.2	20	0
7	MACS6868	N509	42.3	12	0	39.5	21	0	57.0	11	0	49.6	5	0	67.0	1	1
8	GW562	N510	44.2	9	1	44.1	17	0	62.4	7	0	30.4	22	0	51.5	11	0
9	MP3599	N511	36.3	17	0	43.3	18	0	54.1	22	0	24.2	25	0	33.4	23	0
10	NIAW4621	N512	41.1	13	0	47.6	8	0	77.3	2	1	41.6	11	0	45.2	15	0
11	CG1061	N513	32.4	21	0	43.0	19	0	55.6	14	0	40.6	13	0	42.5	16	0
12	NIAW4624	N514	44.2	8	1	48.0	7	0	55.4	17	0	55.6	3	0	42.5	16	0
13	LOK83	N515	32.0	22	0	48.4	6	0	59.0	9	0	41.3	12	0	45.6	14	0
14	HI1698	N516	48.5	5	1	48.7	5	0	56.1	12	0	49.2	6	0	36.8	21	0
15	HI1696	N517	43.7	10	0	46.4	12	0	67.6	4	0	44.2	10	0	57.8	5	1
16	MP3598	N518	48.8	3	1	61.5	1	1	72.3	3	0	54.1	4	0	58.5	4	1
17	HI1699	N519	45.7	7	1	49.1	4	0	54.5	21	0	45.2	9	0	59.5	3	1
18	UAS3033	N521	48.0	6	1	49.4	2	0	55.3	18	0	39.4	15	0	56.9	6	0
19	UAS3032	N522	30.9	23	0	45.5	13	0	59.4	8	0	35.1	19	0	40.5	19	0
20	MACS6854	N523	48.6	4	1	45.1	14	0	50.1	23	0	58.6	2	1	55.0	7	0
21	PBW952	N524	38.1	16	0	36.4	23	0	58.4	10	0	40.1	14	0	33.1	24	0
22	MP1402	N525	41.1	14	0	46.5	9	0	54.9	19	0	64.3	1	1	28.8	25	0
23	HD2864 (C)	N501	40.6	15	0	49.3	3	0	54.8	20	0	45.2	8	0	54.9	8	0
24	HD2932 (C)	N503	43.2	11	0	46.5	10	0	63.7	6	0	30.9	21	0	53.4	10	0
25	HI1633 (C)	N520	35.8	18	0	41.2	20	0	50.1	24	0	36.5	17	0	61.9	2	1
G.M.			40.4			45.0			59.4			41.6			47.6		
S.E.(M)			2.899			3.836			4.470			3.040			4.074		
C.D. (10%)			7.2			9.5			10.8			7.5			10.1		
C.V.			10.1			12.0			10.6			10.3			12.1		
D.O.S.(dd.mm.yy)			15.12.23			13.12.23			07.12.23			05.12.23			15.12.23		

2305-NIVT-3B-IR-LS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	CZ			PZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	DBW464	N502	43.6	16	0	36.6	25	0	40.4	23	0
2	HI1697	N504	44.2	15	0	50.0	2	0	46.9	6	0
3	WH1338	N505	47.9	3	0	41.4	17	0	44.9	13	0
4	GW567	N506	46.1	9	0	45.6	12	0	45.9	10	0
5	WSM141	N507	44.4	13	0	39.7	22	0	42.2	18	0
6	DBW463	N508	46.2	7	0	40.2	21	0	43.4	16	0
7	MACS6868	N509	47.7	5	0	48.3	4	0	48.0	3	0
8	GW562	N510	43.0	21	0	43.9	14	0	43.4	15	0
9	MP3599	N511	40.9	23	0	36.7	24	0	38.9	25	0
10	NIAW4621	N512	47.7	4	0	46.8	9	0	47.3	4	0
11	CG1061	N513	43.3	18	0	40.5	19	0	42.0	20	0
12	NIAW4624	N514	43.4	17	0	48.0	7	0	45.5	12	0
13	LOK83	N515	37.8	25	0	40.4	20	0	39.0	24	0
14	HI1698	N516	43.3	19	0	45.3	13	0	44.2	14	0
15	HI1696	N517	46.2	8	0	48.1	6	0	47.1	5	0
16	MP3598	N518	48.9	2	0	53.5	1	1	51.0	1	1
17	HI1699	N519	45.7	10	0	48.1	5	0	46.8	7	0
18	UAS3033	N521	44.8	12	0	47.7	8	0	46.2	9	0
19	UAS3032	N522	44.2	14	0	39.4	23	0	42.0	19	0
20	MACS6854	N523	51.6	1	1	49.8	3	0	50.8	2	1
21	PBW952	N524	42.2	22	0	41.0	18	0	41.7	21	0
22	MP1402	N525	38.3	24	0	42.9	15	0	40.5	22	0
23	HD2864 (C)	N501	45.1	11	0	46.3	10	0	45.7	11	0
24	HD2932 (C)	N503	47.4	6	0	45.7	11	0	46.6	8	0
25	HI1633 (C)	N520	43.1	20	0	42.7	16	0	42.9	17	0
G.M.			44.7			44.3			44.5		
S.E.(M)			0.877			1.408			0.806		
C.D. (10%)			2.1			3.3			1.9		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: NIVT-3B-IR-LS-TAS, 2023-24**

SN	Variety	Code	Rust Reactions			Agronomic Characteristics						Grain Characteristics	
			Br	Bl		Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
				Junagarh	Vijapur								
1.	DBW464	N-502	0	0	tMR	61-78	67	103-114	110	70-83	76	33-45	38
2.	HI1697	N-504	0	0	tR	50-73	58	96-116	107	72-96	80	36-49	41
3.	WH1338	N-505	tS	5S	20S	57-72	64	98-112	107	73-96	85	38-47	42
4.	GW567	N-506	0	0	tR	50-70	57	94-114	105	60-84	71	37-47	41
5.	WSM141	N-507	0	0	tR	58-71	64	104-116	110	72-105	89	30-39	35
6.	DBW463	N-508	tR	tMR	20MR	56-73	61	95-114	106	82-97	88	36-48	41
7.	MACS6868	N-509	tMS	0	20S	53-71	62	96-116	106	75-95	83	30-49	40
8.	GW562	N-510	0	0	tR	52-71	57	94-118	107	72-92	84	38-54	45
9.	MP3599	N-511	tR	0	20MS	48-72	55	92-112	104	54-75	69	36-44	39
10.	NIAW4621	N-512	tR	0	5S	57-75	64	99-116	109	70-95	81	33-43	37
11.	CG1061	N-513	0	0	tR	50-70	57	95-114	105	73-98	85	36-48	41
12.	NIAW4624	N-514	0	0	tR	58-72	64	98-116	109	76-92	84	35-45	40
13.	LOK83	N-515	tR	0	tMR	55-69	59	94-112	105	75-102	88	38-51	42
14.	HI1698	N-516	0	0	0	50-73	56	95-114	105	75-97	86	36-56	45
15.	HI1696	N-517	0	0	tR	52-72	58	94-113	106	73-93	84	31-43	37
16.	MP3598	N-518	tR	0	5MS	58-73	63	97-119	108	77-96	84	34-45	40
17.	HI1699	N-519	0	0	0	51-67	58	95-111	106	70-92	81	35-50	40
18.	UAS3033	N-521	5S	40S	30S	59-74	64	96-114	107	76-92	84	30-48	39
19.	UAS3032	N-522	tMS	tMR	10S	59-77	65	97-116	109	77-92	84	29-48	37
20.	MACS6854	N-523	0	0	tR	53-70	59	99-112	106	85-111	98	34-47	42
21.	PBW952	N-524	10S	20S	20S	60-77	65	100-115	109	69-80	75	35-41	38
22.	MP1402	N-525	tR	0	20MR	54-75	61	99-116	108	66-88	79	31-46	37
23.	HD2864 (C)	N-501	tR	0	tMR	50-69	56	95-112	106	69-90	78	36-44	39
24.	HD2932 (C)	N-503	tR	0	20S	54-72	61	95-114	106	70-96	83	34-46	40
25.	HI1633 (C)	N-520	0	0	tR	54-69	58	95-112	105	66-91	79	32-48	38

1. Ancillary data from Indore, Powarkheda, Bilaspur, Jabalpur, Gwalior, Junagadh, Lok Bharti, SK Nagar and Vijapur.
2. Black Rust data from Junagadh and Vijapur centers; Brown rust data from Vijapur.

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial: NIVT-3B-IR-LS-TAS, 2023-24**

SN	Variety	Code	Disease Reactions		Agronomic Characteristics						Grain Characteristics	
			Br	Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1.	DBW464	N-502	0	40S	48-72	60	95-116	106	68-84	76	23-42	31
2.	HI1697	N-504	0	10S	48-54	51	88-113	99	76-90	85	39-46	42
3.	WH1338	N-505	0	20S	53-65	59	95-112	103	66-91	80	32-50	38
4.	GW567	N-506	0	20S	43-55	49	82-110	97	65-71	68	35-45	39
5.	WSM141	N-507	0	10S	48-62	55	90-114	100	64-93	85	29-51	36
6.	DBW463	N-508	5MS	40S	51-62	56	92-117	103	78-92	86	27-48	36
7.	MACS6868	N-509	0	30S	51-59	56	95-113	102	70-91	85	37-47	41
8.	GW562	N-510	0	20S	44-58	51	82-108	97	73-89	82	40-52	45
9.	MP3599	N-511	0	40S	43-55	49	83-116	96	57-77	65	30-45	36
10.	NIAW4621	N-512	0	10S	53-65	58	95-111	104	72-85	77	32-54	38
11.	CG1061	N-513	0	40S	45-56	51	83-118	98	65-93	83	33-41	37
12.	NIAW4624	N-514	0	10S	51-62	56	92-113	103	64-86	81	36-46	41
13.	LOK83	N-515	0	30S	45-60	51	88-117	101	75-91	84	27-54	38
14.	HI1698	N-516	0	20S	43-53	49	83-118	97	79-94	85	45-50	48
15.	HI1696	N-517	tMR	5S	45-57	51	85-117	98	76-92	84	32-48	37
16.	MP3598	N-518	5MS	60S	52-62	56	93-119	103	75-91	84	25-44	36
17.	HI1699	N-519	0	10S	43-58	51	84-116	98	68-85	80	30-47	39
18.	UAS3033	N-521	0	30S	53-63	57	95-115	103	70-89	82	34-47	41
19.	UAS3032	N-522	10MS	60S	52-65	56	93-113	102	75-90	84	21-49	31
20.	MACS6854	N-523	5MR	20S	50-58	54	90-117	103	81-101	90	38-53	43
21.	PBW952	N-524	0	30S	50-65	58	95-118	104	70-81	77	31-45	37
22.	MP1402	N-525	20S	80S	49-58	54	88-112	99	68-82	76	24-46	35
23.	HD2864 (C)	N-501	0	20S	43-55	49	82-110	97	68-82	75	34-42	38
24.	HD2932 (C)	N-503	5MR	60S	48-56	52	88-117	99	76-95	83	25-41	34
25.	HI1633 (C)	N-520	0	30S	46-59	52	85-114	98	71-89	81	37-47	40

1. Ancillary data from Akola, Niphad, Nippani, Pune, Bagalkot, Dharwad, Dhule and Prabhani
2. Black Rust data from Dharwad and Brown rust data from Nippani

2306-NIVT-4-IR-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ												CZ		
			Delhi			Punjab			UTK			Rajasthan			M.P.		
			Delhi			Ludhiana			Pantnagar			Sriganganagar			Powarkheda		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS4146	N601	96.8	1	1	57.8	14	0	51.0	24	0	59.7	17	0	56.3	10	0
2	HI8854	N602	84.3	15	0	60.6	6	1	63.4	5	1	67.2	14	0	58.3	4	0
3	NIDW1557	N603	80.8	17	0	42.4	29	0	61.5	7	0	76.4	6	0	49.3	22	0
4	DDK1067(Dic)	N604	50.0	34	0	40.1	35	0	42.7	28	0	27.2	33	0	47.2	27	0
5	UAS485	N605	88.9	6	1	54.2	17	0	54.3	19	0	44.8	27	0	57.6	5	0
6	PDW368	N606	90.4	4	1	63.4	3	1	39.3	34	0	63.3	16	0	56.9	7	0
7	MACS5064(Dic)	N607	61.9	30	0	42.5	28	0	47.0	26	0	23.0	35	0	55.6	13	0
8	HI8855	N608	87.8	8	1	59.7	8	0	53.9	20	0	72.2	10	0	61.8	3	0
9	GW1369	N610	67.3	28	0	40.1	36	0	40.6	31	0	47.0	25	0	56.3	10	0
10	AKDW5520	N611	86.2	11	0	59.7	8	0	61.4	8	0	68.2	13	0	57.6	5	0
11	GW1370	N612	73.9	25	0	58.3	13	0	53.8	21	0	72.5	9	0	47.9	25	0
12	PDW366	N613	68.3	27	0	63.5	2	1	47.4	25	0	27.6	32	0	43.8	31	0
13	MACS5065(Dic)	N615	65.0	29	0	40.3	32	0	54.9	17	0	24.2	34	0	72.2	1	1
14	PDW367	N616	90.2	5	1	51.9	19	0	51.3	23	0	81.6	3	1	46.5	30	0
15	MPO1403	N617	80.7	18	0	59.0	12	0	62.3	6	1	70.3	12	0	48.6	24	0
16	MPO1404	N618	73.0	26	0	48.6	23	0	40.5	32	0	47.3	24	0	33.3	36	0
17	WHD969	N619	78.5	21	0	51.4	20	0	64.1	4	1	63.7	15	0	46.5	29	0
18	NIDW1542	N620	75.0	24	0	61.8	4	1	60.8	11	0	82.0	2	1	63.9	2	1
19	DDW66	N621	85.3	12	0	59.7	10	0	60.8	10	0	57.3	18	0	47.2	27	0
20	HI8853	N622	84.5	14	0	51.2	22	0	60.5	12	0	76.4	7	0	47.9	25	0
21	HW5306 (Dic)	N623	49.8	35	0	40.4	31	0	42.7	29	0	81.2	4	1	56.9	7	0
22	UAS486	N625	87.5	9	1	42.7	27	0	55.8	16	0	38.9	29	0	37.5	35	0
23	GW1371	N628	88.2	7	1	43.8	26	0	38.6	36	0	51.5	22	0	41.7	32	0
24	HI8858	N629	87.3	10	1	54.5	16	0	64.4	3	1	47.6	23	0	54.9	14	0
25	DDK1066(Dic)	N630	59.0	31	0	41.0	30	0	51.5	22	0	38.4	30	0	56.9	7	0
26	HW5305 (Dic)	N631	54.2	33	0	47.6	25	0	40.5	33	0	52.8	19	0	41.0	34	0
27	PBN1841	N632	59.0	32	0	40.3	32	0	39.1	35	0	51.8	20	0	50.0	20	0
28	MACS4147	N633	79.6	20	0	51.4	20	0	57.7	13	0	34.4	31	0	49.3	22	0
29	DDW67	N634	92.3	3	1	59.4	11	0	65.5	2	1	79.7	5	1	51.4	18	0
30	PWU8	N635	77.0	22	0	53.8	18	0	61.0	9	0	42.7	28	0	56.3	10	0
31	DDW65	N636	80.5	19	0	48.6	24	0	54.7	18	0	84.2	1	1	41.7	32	0
32	MACS3949 (C)	N609	92.8	2	1	59.9	7	0	57.2	15	0	75.2	8	0	54.2	15	0
33	PDW314 (C)	N614	83.4	16	0	61.8	4	1	57.7	14	0	51.7	21	0	50.0	20	0
34	HI8737 (C)	N624	84.8	13	0	56.9	15	0	40.6	30	0	46.0	26	0	53.5	17	0
35	HI8713 (C)	N627	76.2	23	0	65.6	1	1	66.8	1	1	71.8	11	0	51.4	18	0
36	DDK1029(Dic.C)	N626	49.3	36	0	40.2	34	0	43.5	27	0	22.2	36	0	54.2	15	0
G.M.			76.9			52.1			53.0			56.2			51.5		
S.E.(M)			3.986			2.185			2.138			2.520			3.758		
C.D. (10%)			9.6			5.2			5.1			6.1			9.0		
C.V.			7.3			5.9			5.7			6.3			10.3		
D.O.S.(dd.mm.yy)			16.11.23			07.11.23			11.11.23			07.11.23			14.11.23		

No. of Trials : Proposed = 19 Conducted = 19
Trial not conducted (00) = Nil
Trials not reported (04) = NWPZ : Hisar (LSM), Karnal (LSM)
CZ : Gwalior (LSM)
PZ : Niphad (LSM)

2306-NIVT-4-IR-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ														
			M.P.			Gujarat								Rajasthan		
			Indore			Junagadh			Anand			Vijapur			Udaipur		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS4146	N601	74.9	3	1	54.1	3	0	55.1	7	0	57.6	12	1	74.0	2	1
2	HI8854	N602	71.9	6	1	56.5	2	0	41.6	25	0	59.3	9	1	68.1	8	0
3	NIDW1557	N603	60.7	28	0	48.9	12	0	48.9	12	0	49.9	24	0	63.0	16	0
4	DDK1067(Dic)	N604	61.9	26	0	45.0	23	0	41.3	26	0	59.4	8	1	48.6	31	0
5	UAS485	N605	67.7	18	0	50.8	8	0	55.7	4	0	52.4	22	0	65.8	11	0
6	PDW368	N606	74.3	5	1	45.3	22	0	43.1	20	0	48.4	26	0	61.0	19	0
7	MACS5064(Dic)	N607	60.4	29	0	47.8	15	0	39.1	30	0	62.3	4	1	49.2	30	0
8	HI8855	N608	71.5	8	1	62.0	1	1	55.2	6	0	62.8	3	1	68.8	6	1
9	GW1369	N610	70.5	12	1	53.7	4	0	43.9	19	0	59.3	9	1	70.0	4	1
10	AKDW5520	N611	66.1	20	0	40.8	30	0	57.2	3	0	56.4	15	0	69.3	5	1
11	GW1370	N612	58.9	31	0	47.9	14	0	57.4	2	0	55.0	17	0	58.6	22	0
12	PDW366	N613	56.4	34	0	41.9	27	0	45.7	16	0	47.6	28	0	51.5	27	0
13	MACS5065(Dic)	N615	67.8	17	0	40.8	31	0	37.4	33	0	57.9	11	1	46.6	33	0
14	PDW367	N616	57.2	33	0	46.6	20	0	41.2	27	0	55.5	16	0	62.4	18	0
15	MPO1403	N617	68.9	15	0	41.8	28	0	53.2	8	0	41.7	36	0	67.5	9	0
16	MPO1404	N618	70.1	13	1	38.7	32	0	45.9	15	0	42.4	34	0	56.7	25	0
17	WHD969	N619	74.7	4	1	52.7	6	0	47.9	13	0	56.9	13	1	65.3	12	0
18	NIDW1542	N620	70.8	10	1	46.1	21	0	42.8	22	0	42.0	35	0	57.9	23	0
19	DDW66	N621	70.8	11	1	47.3	18	0	47.1	14	0	52.8	21	0	63.8	14	0
20	HI8853	N622	64.3	23	0	49.2	11	0	49.6	10	0	68.8	1	1	66.7	10	0
21	HW5306 (Dic)	N623	50.4	35	0	33.3	36	0	38.0	31	0	53.1	20	0	42.6	34	0
22	UAS486	N625	64.7	22	0	41.1	29	0	42.2	23	0	44.7	32	0	62.6	17	0
23	GW1371	N628	68.7	16	0	53.4	5	0	45.5	17	0	47.5	29	0	61.0	20	0
24	HI8858	N629	77.2	1	1	49.3	10	0	68.7	1	1	64.3	2	1	50.1	28	0
25	DDK1066(Dic)	N630	44.2	36	0	36.7	34	0	36.8	34	0	60.3	6	1	47.2	32	0
26	HW5305 (Dic)	N631	59.5	30	0	38.3	33	0	39.4	29	0	56.8	14	1	37.8	36	0
27	PBN1841	N632	66.2	19	0	48.0	13	0	39.9	28	0	45.5	30	0	49.8	29	0
28	MACS4147	N633	61.8	27	0	50.0	9	0	36.8	35	0	47.9	27	0	71.3	3	1
29	DDW67	N634	63.9	24	0	47.7	16	0	44.0	18	0	59.5	7	1	64.7	13	0
30	PWU8	N635	65.6	21	0	44.8	24	0	48.9	11	0	54.7	18	0	63.3	15	0
31	DDW65	N636	63.0	25	0	44.4	25	0	52.2	9	0	50.9	23	0	68.5	7	1
32	MACS3949 (C)	N609	70.0	14	1	47.6	17	0	42.8	21	0	49.2	25	0	60.8	21	0
33	PDW314 (C)	N614	71.8	7	1	51.2	7	0	55.6	5	0	45.2	31	0	57.9	24	0
34	HI8737 (C)	N624	75.3	2	1	46.9	19	0	35.0	36	0	43.3	33	0	54.0	26	0
35	HI8713 (C)	N627	70.9	9	1	43.2	26	0	41.6	24	0	60.9	5	1	75.2	1	1
36	DDK1029(Dic.C)	N626	58.1	32	0	35.5	35	0	37.6	32	0	53.6	19	0	40.4	35	0
G.M.			65.9			46.4			46.0			53.5			59.5		
S.E.(M)			3.455			2.290			2.122			5.118			2.952		
C.D. (10%)			8.3			5.5			5.1			12.2			7.1		
C.V.			7.4			7.0			6.5			13.5			7.0		
D.O.S.(dd.mm.yy)			11.11.23			08.11.23			10.11.23			20.11.23			07.11.23		

2306-NIVT-4-IR-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	PZ													
			Maharashtra						Karnataka							
			Pune			Akola			Dharwad			Bagalkot			Nippani	
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS4146	N601	72.4	2	1	38.0	27	0	42.2	19	0	47.7	17	0	42.9	32	0
2	HI8854	N602	66.0	3	0	39.7	21	0	49.9	4	0	44.6	23	0	55.6	12	0
3	NIDW1557	N603	55.5	19	0	48.9	3	1	43.5	17	0	47.1	19	0	59.2	9	1
4	DDK1067(Dic)	N604	58.9	9	0	44.5	10	0	29.1	34	0	43.8	24	0	56.9	11	0
5	UAS485	N605	54.0	22	0	42.0	13	0	42.0	20	0	45.1	21	0	67.5	1	1
6	PDW368	N606	60.3	6	0	40.9	14	0	47.7	9	0	34.0	34	0	64.4	2	1
7	MACS5064(Dic)	N607	57.7	12	0	42.8	11	0	41.9	21	0	53.5	10	0	64.3	3	1
8	HI8855	N608	60.5	5	0	51.8	1	1	45.7	13	0	51.3	12	0	51.1	26	0
9	GW1369	N610	54.9	21	0	46.1	7	1	46.7	12	0	48.9	15	0	51.4	23	0
10	AKDW5520	N611	55.0	20	0	38.3	26	0	34.4	28	0	45.3	20	0	44.2	31	0
11	GW1370	N612	56.6	15	0	47.0	5	1	56.3	1	1	54.4	9	0	53.3	19	0
12	PDW366	N613	46.2	31	0	39.7	20	0	34.5	27	0	30.9	35	0	51.1	24	0
13	MACS5065(Dic)	N615	61.8	4	0	40.2	16	0	36.3	25	0	63.4	1	1	53.8	18	0
14	PDW367	N616	58.2	11	0	32.1	35	0	37.5	24	0	51.5	11	0	49.7	27	0
15	MPO1403	N617	57.7	13	0	35.7	31	0	32.6	32	0	42.6	26	0	54.0	17	0
16	MPO1404	N618	42.8	33	0	39.3	23	0	33.0	30	0	42.8	25	0	40.3	33	0
17	WHD969	N619	59.6	7	0	49.6	2	1	52.0	3	1	47.8	16	0	62.8	4	1
18	NIDW1542	N620	56.0	16	0	40.5	15	0	40.6	23	0	34.3	32	0	44.7	30	0
19	DDW66	N621	49.5	30	0	35.9	30	0	32.9	31	0	57.8	3	1	52.4	22	0
20	HI8853	N622	50.7	28	0	42.4	12	0	45.3	14	0	55.1	6	0	61.4	5	1
21	HW5306 (Dic)	N623	55.7	17	0	34.2	33	0	30.1	33	0	47.2	18	0	51.1	24	0
22	UAS486	N625	28.9	36	0	29.6	36	0	49.1	7	0	50.2	13	0	35.0	35	0
23	GW1371	N628	42.3	34	0	39.9	19	0	43.5	16	0	36.5	29	0	49.0	28	0
24	HI8858	N629	72.6	1	1	37.1	29	0	53.8	2	1	50.1	14	0	54.7	15	0
25	DDK1066(Dic)	N630	51.5	26	0	45.9	8	1	33.5	29	0	61.5	2	1	55.3	13	0
26	HW5305 (Dic)	N631	45.8	32	0	39.5	22	0	35.7	26	0	56.5	5	1	52.6	21	0
27	PBN1841	N632	55.7	18	0	39.9	18	0	49.2	6	0	34.4	31	0	46.9	29	0
28	MACS4147	N633	59.5	8	0	35.4	32	0	47.0	11	0	54.8	7	0	53.1	20	0
29	DDW67	N634	52.1	25	0	47.1	4	1	41.9	22	0	36.7	28	0	54.6	16	0
30	PWU8	N635	56.8	14	0	32.4	34	0	10.8	36	0	54.5	8	0	37.5	34	0
31	DDW65	N636	52.1	24	0	39.9	17	0	49.7	5	0	39.4	27	0	55.1	14	0
32	MACS3949 (C)	N609	32.5	35	0	45.2	9	1	42.7	18	0	34.8	30	0	60.7	6	1
33	PDW314 (C)	N614	49.9	29	0	46.4	6	1	11.1	35	0	20.3	36	0	18.6	36	0
34	HI8737 (C)	N624	52.7	23	0	38.3	25	0	44.2	15	0	34.2	33	0	59.2	8	1
35	HI8713 (C)	N627	58.7	10	0	37.5	28	0	47.5	10	0	44.7	22	0	59.4	7	1
36	DDK1029(Dic.C)	N626	50.7	27	0	38.5	24	0	48.8	8	0	57.6	4	1	58.2	10	1
G.M.			54.2			40.6			40.6			46.0			52.3		
S.E.(M)			1.811			2.978			2.156			3.008			4.321		
C.D. (10%)			4.3			7.2			5.2			7.2			10.3		
C.V.			4.7			10.4			7.5			9.3			11.7		
D.O.S.(dd.mm.yy)			05.11.23			15.11.23			10.11.23			15.11.23			15.11.23		

2306-NIVT-4-IR-TS-TDM-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			CZ			PZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS4146	N601	66.3	12	0	62.0	2	1	48.6	17	0	58.7	4	0
2	HI8854	N602	68.9	6	0	59.3	4	0	51.1	6	0	59.1	2	0
3	NIDW1557	N603	65.3	14	0	53.4	21	0	50.8	9	0	55.7	12	0
4	DDK1067(Dic)	N604	40.0	35	0	50.6	28	0	46.7	19	0	46.5	33	0
5	UAS485	N605	60.5	20	0	58.3	6	0	50.1	11	0	56.2	10	0
6	PDW368	N606	64.1	17	0	54.8	15	0	49.5	16	0	55.5	13	0
7	MACS5064(Dic)	N607	43.6	34	0	52.4	25	0	52.0	5	1	49.9	26	0
8	HI8855	N608	68.4	8	0	63.7	1	1	52.1	4	1	61.1	1	1
9	GW1369	N610	48.7	30	0	59.0	5	0	49.6	13	0	53.1	20	0
10	AKDW5520	N611	68.9	5	0	57.9	7	0	43.4	28	0	56.0	11	0
11	GW1370	N612	64.6	15	0	54.3	16	0	53.5	3	1	56.8	9	0
12	PDW366	N613	51.7	28	0	47.8	32	0	40.5	32	0	46.4	34	0
13	MACS5065(Dic)	N615	46.1	33	0	53.8	19	0	51.1	7	0	50.8	23	0
14	PDW367	N616	68.7	7	0	51.6	26	0	45.8	22	0	54.2	19	0
15	MPO1403	N617	68.1	10	0	53.6	20	0	44.5	26	0	54.4	18	0
16	MPO1404	N618	52.4	27	0	47.8	31	0	39.7	33	0	46.3	35	0
17	WHD969	N619	64.4	16	0	57.3	9	0	54.3	1	1	58.2	6	0
18	NIDW1542	N620	69.9	4	0	53.9	18	0	43.2	29	0	54.6	17	0
19	DDW66	N621	65.8	13	0	54.8	14	0	45.7	24	0	54.7	16	0
20	HI8853	N622	68.1	9	0	57.8	8	0	51.0	8	0	58.3	5	0
21	HW5306 (Dic)	N623	53.5	26	0	45.7	35	0	43.7	27	0	47.1	31	0
22	UAS486	N625	56.2	23	0	48.8	30	0	38.6	34	0	47.4	30	0
23	GW1371	N628	55.5	25	0	53.0	23	0	42.2	31	0	50.1	25	0
24	HI8858	N629	63.5	19	0	60.7	3	1	53.7	2	1	59.1	3	0
25	DDK1066(Dic)	N630	47.5	32	0	47.0	33	0	49.5	15	0	48.0	28	0
26	HW5305 (Dic)	N631	48.8	29	0	45.5	36	0	46.0	21	0	46.5	32	0
27	PBN1841	N632	47.5	31	0	49.9	29	0	45.2	25	0	47.7	29	0
28	MACS4147	N633	55.8	24	0	52.8	24	0	50.0	12	0	52.7	21	0
29	DDW67	N634	74.2	1	1	55.2	13	0	46.5	20	0	57.4	8	0
30	PWU8	N635	58.6	21	0	55.6	11	0	38.4	35	0	50.7	24	0
31	DDW65	N636	67.0	11	0	53.4	22	0	47.3	18	0	55.0	15	0
32	MACS3949 (C)	N609	71.3	2	1	54.1	17	0	43.2	30	0	55.0	14	0
33	PDW314 (C)	N614	63.7	18	0	55.3	12	0	29.3	36	0	48.8	27	0
34	HI8737 (C)	N624	57.1	22	0	51.3	27	0	45.7	23	0	51.0	22	0
35	HI8713 (C)	N627	70.1	3	0	57.2	10	0	49.6	14	0	58.1	7	0
36	DDK1029(Dic.C)	N626	38.8	36	0	46.5	34	0	50.8	10	0	45.9	36	0
G.M.			59.5			53.8			46.7			53.0		
S.E.(M)			1.405			1.402			1.334			0.808		
C.D. (10%)			3.3			3.3			3.1			1.9		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: NIVT-4-IR-TS-TDM, 2023-24**

SN	Variety	Code	Disease reaction					Agronomic Characteristics							Grain Characteristics	
			Yl	ACl	Br	LB	PM	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	MACS4146	N601	40S	14.0	0	67	0	89-103	96	142-154	149	82-99	92	15	37-53	45
2	HI8854	N602	60S	19.2	0	0	3	94-105	100	142-156	150	93-105	97	0	47-55	50
3	NIDW1557	N603	10S	2.2	0	0	0	95-108	103	144-156	150	84-96	90	5	41-48	44
4	DDK1067(Dic)	N604	80S	31.2	0	57	0	100-110	106	141-157	151	79-97	87	10	27-76	50
5	UAS485	N605	5S	1.8	0	0	0	95-108	102	143-155	151	84-101	92	15	34-42	38
6	PDW368	N606	20S	7.0	0	0	0	96-107	102	142-155	150	90-102	96	20	49-59	54
7	MACS5064(Dic)	N607	80S	26.2	0	67	0	98-109	104	140-156	149	76-95	86	20	34-71	50
8	HI8855	N608	40S	12.2	0	0	0	85-107	97	141-156	149	88-100	92	15	39-55	47
9	GW1369	N610	10S	5.0	0	35	0	81-110	93	138-158	148	76-98	84	15	50-75	59
10	AKDW5520	N611	10S	2.2	0	0	4	94-104	100	141-154	150	89-103	95	5	41-52	47
11	GW1370	N612	60S	19.2	0	0	0	93-109	103	141-154	149	90-105	96	5	35-51	45
12	PDW366	N613	10S	2.4	0	0	0	102-117	110	145-158	154	99-107	103	5	47-54	50
13	MACS5065(Dic)	N615	60S	20.8	0	0	0	102-108	106	137-155	149	80-95	86	5	36-84	55
14	PDW367	N616	20S	6.1	0	0	0	91-105	99	144-152	149	87-98	92	0	42-58	52
15	MPO1403	N617	tS	0.2	0	0	0	100-111	106	146-154	149	89-103	97	0	31-45	36
16	MPO1404	N618	20S	7.0	0	0	0	95-117	107	145-155	151	84-102	96	0	42-51	48
17	WHD969	N619	20S	7.2	0	35	7	94-108	103	145-153	150	87-100	94	0	44-57	50
18	NIDW1542	N620	10S	4.8	0	0	0	97-111	106	144-158	151	87-101	94	10	38-50	43
19	DDW66	N621	10S	3.0	0	0	0	96-109	104	147-155	150	91-99	94	0	33-46	39
20	HI8853	N622	60S	19.6	0	57	7	83-96	90	141-153	147	80-93	85	0	44-54	49
21	HW5306 (Dic)	N623	60S	28.8	0	0	0	102-115	109	137-158	149	87-98	92	10	36-79	51
22	UAS486	N625	20S	7.0	0	0	4	82-101	92	138-151	146	82-102	91	0	45-61	51
23	GW1371	N628	15S	8.6	40S	0	3	78-101	91	141-155	148	88-124	110	15	45-53	48
24	HI8858	N629	30MS	11.6	0	35	5	97-106	101	147-155	151	90-105	97	10	46-56	51
25	DDK1066(Dic)	N630	60S	25.6	0	57	0	102-111	108	138-158	149	81-98	93	15	33-87	58
26	HW5305 (Dic)	N631	60S	27.2	10S	58	0	102-111	108	136-157	149	87-95	92	35	36-85	55
27	PBN1841	N632	60S	18.2	0	0	0	81-100	92	140-156	147	108-125	114	50	38-53	45
28	MACS4147	N633	10MR	0.8	0	12	0	89-103	98	141-155	149	84-103	91	0	33-56	48
29	DDW67	N634	20S	9.0	0	0	0	93-106	100	143-152	149	84-96	90	15	41-55	49
30	PWU8	N635	40S	12.0	0	0	3	95-109	102	142-155	150	97-126	109	20	42-52	46
31	DDW65	N636	40MS	7.3	0	35	3	89-105	96	145-155	150	88-96	92	5	44-54	48
32	MACS3949 (C)	N609	20S	4.1	0	0	5	93-104	99	142-156	150	83-96	89	0	40-59	50
33	PDW314 (C)	N614	40S	10.2	0	0	0	96-113	106	145-158	151	84-92	88	0	37-54	44
34	HI8737 (C)	N624	10S	3.7	0	0	0	87-102	95	142-158	151	81-94	87	5	44-57	50
35	HI8713 (C)	N627	40S	12.8	0	0	5	96-110	103	144-154	150	88-104	94	15	37-48	42
36	DDK1029(Dic. C)	N626	80S	30.4	0	57	0	84-110	103	142-159	151	88-96	93	45	34-78	49

1. Ancillary data from Delhi, Hisar, Karnal, Ludhiana, Pantnagar, and Sriganganagar centres
2. Yellow rust data from Delhi, Hisar, Karnal, Ludhiana and Pantnagar centres;Brown rust data from Hisar and Pantnagar centres;
3. Leaf blight data from Ludhiana and Pantnagar centres; Powdery mildew data from Pantnagar centre
4. Lodging data from Delhi, Hisar, Karnal, and Pantnagar centres

Individual Centre Disease Data

North Western Plains Zone **Trial : NIVT-4-IR-TS-TDM, 2023-24**

SN	Variety	Code	Yl					Br		LB	
			Delhi	Hisar	Karnal	Ludhiana	Pantnagar	Hisar	Pantnagar	Ludhiana	Pantnagar
1	MACS4146	N601	20S	0	40S	0	10S	0	0	67	0
2	HI8854	N602	10S	0	60S	20MS	10S	0	0	0	0
3	NIDW1557	N603	10S	tS	0	0	0	0	0	0	0
4	DDK1067(Dic)	N604	0	20S	80S	20MS	40S	0	0	57	0
5	UAS485	N605	0	5S	5MS	0	0	0	0	0	0
6	PDW368	N606	10S	0	20S	5S	0	0	0	0	0
7	MACS5064(Dic)	N607	20S	5S	80S	20MS	10S	0	0	67	0
8	HI8855	N608	20S	0	40S	tMS	0	0	0	0	0
9	GW1369	N610	10S	tS	10S	0	5MS	0	0	35	0
10	AKDW5520	N611	0	0	10S	tS	0	0	0	0	0
11	GW1370	N612	20S	0	60S	20MS	0	0	0	0	0
12	PDW366	N613	10S	0	5MR	0	0	0	0	0	0
13	MACS5065(Dic)	N615	20S	0	60S	20MS	10MS	0	0	0	0
14	PDW367	N616	10S	0	20S	tMR	0	0	0	0	0
15	MPO1403	N617	0	tS	0	0	0	0	0	0	0
16	MPO1404	N618	10S	0	20S	5S	0	0	0	0	0
17	WHD969	N619	10S	5S	20S	tS	0	0	0	35	0
18	NIDW1542	N620	10S	0	10S	0	5MS	0	0	0	0
19	DDW66	N621	10S	0	10MR	tMS	0	0	0	0	0
20	HI8853	N622	20S	0	60S	10MS	10S	0	0	57	0
21	HW5306 (Dic)	N623	20S	0	60S	30MS	40S	0	0	0	0
22	UAS486	N625	20S	5S	10S	0	0	0	0	0	0
23	GW1371	N628	10S	5S	20MR	15S	5S	0	40S	0	0
24	HI8858	N629	0	5S	60MR	30MS	5S	0	0	35	0
25	DDK1066(Dic)	N630	0	20S	60S	40MS	20MS	0	0	57	0
26	HW5305 (Dic)	N631	40S	10S	60S	20MS	10S	10S	0	57	58
27	PBN1841	N632	20S	10S	60S	tMS	0	0	0	0	0
28	MACS4147	N633	0	0	10MR	0	0	0	0	12	0
29	DDW67	N634	0	20S	20S	5S	0	0	0	0	0
30	PWU8	N635	10S	0	40S	0	10S	0	0	0	0
31	DDW65	N636	0	0	40MS	tMR	5MS	0	0	35	0
32	MACS3949 (C)	N609	20S	0	0	tMR	0	0	0	0	0
33	PDW314 (C)	N614	10S	tS	40S	0	0	0	0	0	0
34	HI8737 (C)	N624	10S	0	20MR	tMR	0	0	0	0	0
35	HI8713 (C)	N627	20S	0	40S	5MS	0	0	0	0	0
36	DDK1029(Dic. C)	N626	0	20S	80S	40MS	20S	0	0	57	0

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: NIVT-4-IR-TS-TDM, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics							Grain Characteristic	
			Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	MACS4146	N601	0	66-82	71	110-131	119	75-96	90	0	40-52	46
2	HI8854	N602	0	61-88	72	110-132	121	72-104	93	0	39-60	47
3	NIDW1557	N603	tR	71-88	77	110-133	120	61-91	83	0	35-46	41
4	DDK1067(Dic)	N604	0	78-88	82	110-131	122	70-104	89	5	31-44	39
5	UAS485	N605	0	68-85	76	111-133	119	76-100	92	0	27-43	38
6	PDW368	N606	tR	66-89	74	110-134	121	75-102	93	0	48-58	50
7	MACS5064(Dic)	N607	tR	79-90	84	111-130	122	76-100	90	0	34-43	38
8	HI8855	N608	0	61-87	70	110-131	119	72-98	90	15	43-57	49
9	GW1369	N610	0	53-89	65	109-129	118	66-102	86	0	42-59	47
10	AKDW5520	N611	tR	71-83	77	111-131	121	78-104	94	0	37-51	45
11	GW1370	N612	0	58-84	70	107-131	119	71-102	92	0	43-56	49
12	PDW366	N613	0	79-89	84	110-138	125	81-106	98	25	35-49	43
13	MACS5065(Dic)	N615	tR	75-89	83	111-132	123	78-102	89	0	26-45	38
14	PDW367	N616	tR	60-86	69	108-131	119	71-96	86	0	43-51	47
15	MPO1403	N617	tR	71-87	79	111-133	122	75-100	91	0	27-43	36
16	MPO1404	N618	0	79-92	87	111-140	125	79-107	94	0	33-53	45
17	WHD969	N619	0	64-86	73	111-135	122	75-98	90	0	47-59	51
18	NIDW1542	N620	tR	77-86	81	110-133	122	75-99	89	0	32-49	42
19	DDW66	N621	0	75-88	80	109-136	122	73-96	89	0	34-46	40
20	HI8853	N622	0	56-85	67	107-129	117	69-94	83	0	46-53	49
21	HW5306 (Dic)	N623	tR	83-93	88	109-135	124	67-103	89	0	27-46	37
22	UAS486	N625	0	51-84	64	107-129	118	73-95	87	0	38-55	49
23	GW1371	N628	tR	55-87	68	108-131	120	62-95	84	25	36-60	53
24	HI8858	N629	tR	70-89	77	110-134	121	78-103	95	20	34-57	47
25	DDK1066(Dic)	N630	0	76-88	82	112-132	123	72-101	90	0	29-50	40
26	HW5305 (Dic)	N631	tR	82-90	86	110-131	122	74-99	88	5	25-44	35
27	PBN1841	N632	0	59-77	65	110-129	119	88-125	113	20	41-59	50
28	MACS4147	N633	0	56-85	68	109-133	119	64-99	87	0	35-56	50
29	DDW67	N634	0	67-87	73	112-131	120	72-93	85	0	37-53	47
30	PWU8	N635	tR	69-88	75	111-136	121	85-120	105	0	46-60	50
31	DDW65	N636	0	57-88	68	107-135	119	72-97	88	0	42-53	49
32	MACS3949 (C)	N609	0	70-86	75	109-132	119	73-96	88	0	40-53	48
33	PDW314 (C)	N614	0	68-85	76	110-135	121	72-95	87	0	37-51	43
34	HI8737 (C)	N624	0	59-84	69	110-131	119	66-95	85	0	44-58	51
35	HI8713 (C)	N627	0	72-89	80	111-138	123	64-110	93	10	33-50	43
36	DDK1029(Dic. C)	N626	0	77-89	83	109-134	123	79-103	94	0	22-49	38

1. Ancillary data from Anand, Gwalior, Indore, Junagadh, Powarkheda, Udaipur, and Vijapur centres
2. Black rust data reported from Vijapur centre
3. Lodging data reported from Anand, Gwalior, and Junagadh centres

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial: NIVT-4-IR-TS-TDM, 2023-24**

SN	Variety	Code	Disease reaction				Agronomic Characteristics							Grain Characteristi	
			Br	Bl		LB(HS)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
				Dharwad	Nippani										
1	MACS4146	N601	0	5MS	10MR	12	67-76	71	115-124	120	85-95	91	0	34-55	42
2	HI8854	N602	0	10MS	5MR	12	57-64	61	106-124	114	85-92	90	0	42-57	49
3	NIDW1557	N603	0	10MS	10MS	12	63-73	68	112-120	116	49-82	74	0	32-50	40
4	DDK1067(Dic)	N604	0	0	5MR	34	69-79	75	119-126	122	80-83	81	0	32-46	38
5	UAS485	N605	0	40S	0	24	62-74	65	108-119	114	81-89	86	30	30-48	38
6	PDW368	N606	0	10S	0	12	59-74	64	105-121	114	87-92	89	20	36-64	46
7	MACS5064(Dic)	N607	0	0	0	24	64-79	73	118-124	121	87-93	90	20	34-48	39
8	HI8855	N608	5MS	20S	0	24	57-66	63	109-119	114	82-90	85	20	41-59	47
9	GW1369	N610	10MS	40S	0	24	46-66	54	95-115	107	77-91	82	0	40-54	47
10	AKDW5520	N611	5MS	10S	10MS	12	54-80	71	120-127	123	88-99	95	0	34-50	41
11	GW1370	N612	5MR	30S	10MS	24	53-66	58	102-122	112	82-93	87	40	40-54	47
12	PDW366	N613	0	10MS	10MS	01	70-83	75	120-129	123	92-103	96	0	32-48	40
13	MACS5065(Dic)	N615	0	0	0	34	70-79	75	121-126	123	82-92	86	40	25-48	36
14	PDW367	N616	5MS	30S	10MS	12	54-65	60	107-123	113	75-82	79	0	36-54	43
15	MPO1403	N617	0	10MR	5MR	12	68-78	72	120-122	121	78-88	82	0	28-46	38
16	MPO1404	N618	0	5MR	0	24	75-97	82	120-133	128	83-98	90	20	37-52	42
17	WHD969	N619	0	10MR	5MR	24	58-69	64	110-122	117	82-89	87	0	44-60	49
18	NIDW1542	N620	0	5MS	10MS	12	70-82	73	117-122	119	85-90	87	0	34-44	38
19	DDW66	N621	5MS	10MS	10MR	00	70-80	75	120-125	123	82-86	84	0	30-46	37
20	HI8853	N622	5MS	40S	5MS	24	50-62	56	100-118	108	62-79	75	0	40-53	46
21	HW5306 (Dic)	N623	0	0	5MR	34	72-81	77	120-126	123	78-87	81	0	31-49	38
22	UAS486	N625	5MR	20MS	5MS	24	45-61	53	93-125	106	82-86	84	0	40-55	47
23	GW1371	N628	5MS	20S	5MR	24	52-65	58	104-123	111	79-84	82	0	40-58	49
24	HI8858	N629	0	0	5MR	12	62-73	68	112-122	117	92-103	98	0	40-59	49
25	DDK1066(Dic)	N630	0	0	5MS	34	71-81	75	120-127	123	84-96	91	40	33-50	39
26	HW5305 (Dic)	N631	0	0	5MS	24	72-81	76	115-127	122	83-90	86	0	29-41	36
27	PBN1841	N632	0	10MS	40S	12	52-62	57	103-118	111	105-111	108	40	43-60	51
28	MACS4147	N633	10MS	30S	0	12	55-62	59	108-118	112	81-86	83	0	45-57	50
29	DDW67	N634	0	10MR	5MR	24	60-74	65	113-121	116	79-83	81	0	36-54	42
30	PWU8	N635	5MS	80S	60S	24	59-76	67	115-121	118	91-106	103	0	30-57	41
31	DDW65	N636	5MS	20S	0	12	50-66	57	102-118	109	78-94	88	0	39-52	46
32	MACS3949 (C)	N609	10MS	20MS	5MS	12	65-75	69	115-123	118	80-91	84	0	31-56	40
33	PDW314 (C)	N614	0	80S	80S	24	63-75	68	113-120	117	85-91	87	20	34-50	41
34	HI8737 (C)	N624	0	10MS	5MR	24	56-66	61	108-119	112	75-85	79	0	43-59	50
35	HI8713 (C)	N627	0	5MS	5MR	12	66-78	70	117-124	120	82-93	89	40	38-53	44
36	DDK1029(Dic. C)	N626	0	0	0	24	71-79	75	119-124	122	84-100	91	0	29-42	37

1. Ancillary data from Akola, Niphad, Bagalkot, Dharwad, Nippani and Pune centres
2. Brown rust data from Dharwad centre; Black rust data from Dharwad and Nippani centres
3. Leaf blight data reported from Bagalkot, Dharwad and Nippani centres
4. Lodging data reported from Pune centre

Individual station Disease Data
Peninsular Zone
Trial : NIVT-4-IR-TS-TDM, 2023-24

SN	Variety	Code	BI		LB		
			Dharwad	Nippani	Bagalkot	Dharwad	Nippani
1	MACS4146	N601	5MS	10MR	01	00	12
2	HI8854	N602	10MS	5MR	0	00	12
3	NIDW1557	N603	10MS	10MS	0	00	12
4	DDK1067(Dic)	N604	0	5MR	0	34	24
5	UAS485	N605	40S	0	0	00	24
6	PDW368	N606	10S	0	0	00	12
7	MACS5064(Dic)	N607	0	0	12	12	24
8	HI8855	N608	20S	0	1	01	24
9	GW1369	N610	40S	0	0	01	24
10	AKDW5520	N611	10S	10MS	0	00	12
11	GW1370	N612	30S	10MS	0	00	24
12	PDW366	N613	10MS	10MS	0	00	01
13	MACS5065(Dic)	N615	0	0	01	34	24
14	PDW367	N616	30S	10MS	0	00	12
15	MPO1403	N617	10MR	5MR	01	00	12
16	MPO1404	N618	5MR	0	0	24	12
17	WHD969	N619	10MR	5MR	01	00	24
18	NIDW1542	N620	5MS	10MS	01	00	12
19	DDW66	N621	10MS	10MR	0	01	00
20	HI8853	N622	40S	5MS	0	01	24
21	HW5306 (Dic)	N623	0	5MR	0	34	24
22	UAS486	N625	20MS	5MS	0	00	24
23	GW1371	N628	20S	5MR	0	12	24
24	HI8858	N629	0	5MR	0	00	12
25	DDK1066(Dic)	N630	0	5MS	0	34	12
26	HW5305 (Dic)	N631	0	5MS	0	24	24
27	PBN1841	N632	10MS	40S	01	00	12
28	MACS4147	N633	30S	0	0	00	12
29	DDW67	N634	10MR	5MR	0	00	24
30	PWU8	N635	80S	60S	12	00	24
31	DDW65	N636	20S	0	0	01	12
32	MACS3949 (C)	N609	20MS	5MS	0	12	12
33	PDW314 (C)	N614	80S	80S	0	00	24
34	HI8737 (C)	N624	10MS	5MR	0	00	24
35	HI8713 (C)	N627	5MS	5MR	0	00	12
36	DDK1029(Dic.C)	N626	0	0	0	12	24

2307-NIVT-5A-RI-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ											
			Delhi			J&K			Punjab				Haryana		
			Delhi			Jammu			Gurdaspur			Ludhiana	Hisar		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield RK G	Yield	RK	G
1	PBW956	N702	53.9	19	0	54.4	20	0	42.9	19	0	53.0 7 1	49.3	11	0
2	BRW3959	N703	63.9	4	1	57.1	9	0	56.8	5	0	47.9 12 0	51.4	7	0
3	HD3485	N704	65.3	2	1	52.2	21	0	44.8	17	0	42.0 23 0	45.8	18	0
4	WH1340	N706	60.9	8	0	62.0	6	0	52.9	9	0	47.9 15 0	54.1	4	1
5	DBW468	N707	54.6	16	0	54.5	19	0	47.6	13	0	44.4 19 0	46.9	16	0
6	JAUW719	N708	53.7	20	0	57.4	8	0	47.1	14	0	51.0 10 1	48.6	12	0
7	HD3487	N709	56.4	15	0	47.7	23	0	45.3	16	0	55.9 2 1	48.3	14	0
8	UP3147	N710	50.8	22	0	54.9	18	0	53.6	8	0	42.4 21 0	39.9	23	0
9	PBW953	N711	62.0	6	1	57.1	10	0	62.7	1	1	52.1 8 1	42.4	21	0
10	DBW465	N713	61.3	7	0	56.5	13	0	57.1	3	0	54.2 3 1	50.0	10	0
11	PBW954	N714	59.0	10	0	59.3	7	0	50.3	12	0	42.7 20 0	37.5	24	0
12	PBW955	N715	54.1	18	0	56.9	11	0	50.6	11	0	47.2 17 0	48.3	14	0
13	WH1339	N717	57.5	14	0	56.6	12	0	41.7	20	0	47.9 15 0	54.9	1	1
14	HUW861	N718	41.3	25	0	47.6	24	0	37.6	23	0	41.3 24 0	31.9	25	0
15	DBW467	N719	57.8	13	0	62.8	5	0	59.2	2	1	49.7 11 0	54.5	2	1
16	HD3488	N720	59.2	9	0	65.3	4	1	57.0	4	0	47.2 17 0	44.1	20	0
17	KRL2203	N721	64.3	3	1	66.1	3	1	52.1	10	0	53.8 5 1	48.6	12	0
18	JKW320	N722	63.7	5	1	55.1	15	0	53.8	7	0	42.4 22 0	44.8	19	0
19	K2310	N723	49.9	24	0	49.7	22	0	36.1	24	0	40.3 25 0	42.4	21	0
20	DBW466	N724	54.5	17	0	70.6	2	1	46.5	15	0	57.3 1 1	50.3	9	0
21	HD3486	N725	69.3	1	1	75.2	1	1	33.7	25	0	53.5 6 1	51.7	6	0
22	NIAW3170(C)	N701	59.0	11	0	55.1	17	0	43.1	18	0	52.1 8 1	46.2	17	0
23	HI1612 (C)	N705	57.9	12	0	43.5	25	0	39.7	21	0	47.9 12 0	54.2	3	1
24	K1317 (C)	N712	51.5	21	0	55.1	15	0	55.5	6	0	54.2 3 1	50.7	8	0
25	PBW644 (C)	N716	50.7	23	0	55.6	14	0	38.4	22	0	47.9 12 0	54.1	4	1
G.M.			57.3			57.1			48.3			48.6	47.6		
S.E.(M)			3.126			4.135			1.558			3.122	1.750		
C.D. (10%)			7.7			10.0			3.8			7.6	4.2		
C.V.			7.7			10.2			4.6			9.1	5.2		
D.O.S.(dd.mm.yy)			03.11.23			30.10.23			26.10.23			31.10.23	02.11.23		

No. of Trials : Proposed = 19 Conducted = 19

Trial not conducted (00) = Nil

Trials not reported (04) = NWPZ: Bulandshahr (LSM, HCV), Durgapura (LSM)
NEPZ: Kanpur (RMT), Shillongani (RMT)

2307-NIVT-5A-RI-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ									NEPZ					
			Haryana			U.P.			Rajasthan			U.P.			Bihar		
			Karnal			Modipuram			Sriganganagar			Varanasi			RPCAU-Pusa		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	PBW956	N702	31.8	24	0	43.6	19	0	46.5	10	0	31.9	19	0	33.1	21	0
2	BRW3959	N703	56.9	6	0	48.1	9	0	56.0	2	1	20.8	24	0	39.7	9	0
3	HD3485	N704	45.5	21	0	40.9	23	0	38.8	19	0	27.8	21	0	38.5	13	0
4	WH1340	N706	48.5	17	0	43.5	20	0	53.8	4	1	33.3	18	0	36.7	15	0
5	DBW468	N707	56.5	7	0	46.1	12	0	46.9	9	0	56.9	1	1	45.3	3	1
6	JAUW719	N708	47.1	18	0	42.9	21	0	54.7	3	1	27.8	21	0	36.3	16	0
7	HD3487	N709	41.2	23	0	42.4	22	0	48.7	7	0	34.7	16	0	42.4	8	1
8	UP3147	N710	54.0	11	0	45.7	15	0	37.2	22	0	36.1	14	0	43.8	7	1
9	PBW953	N711	54.5	10	0	47.6	10	0	40.7	18	0	55.6	2	1	37.6	14	0
10	DBW465	N713	59.5	4	0	55.0	1	1	42.5	15	0	55.6	2	1	33.2	20	0
11	PBW954	N714	44.9	22	0	47.0	11	0	38.2	21	0	30.6	20	0	45.7	1	1
12	PBW955	N715	52.2	13	0	49.4	6	1	41.8	16	0	45.8	6	0	39.2	11	0
13	WH1339	N717	67.6	1	1	51.5	4	1	41.2	17	0	43.1	7	0	38.7	12	0
14	HUW861	N718	51.5	14	0	38.2	24	0	35.9	23	0	37.5	12	0	43.9	6	1
15	DBW467	N719	64.4	3	0	48.9	8	0	47.1	8	0	36.1	14	0	44.0	5	1
16	HD3488	N720	57.3	5	0	52.3	3	1	44.6	13	0	41.7	10	0	35.5	17	0
17	KRL2203	N721	46.5	19	0	45.1	16	0	49.9	6	1	23.6	23	0	27.8	24	0
18	JKW320	N722	46.0	20	0	45.8	14	0	46.1	12	0	34.7	16	0	39.7	9	0
19	K2310	N723	21.7	25	0	35.5	25	0	29.5	25	0	15.3	25	0	24.8	25	0
20	DBW466	N724	55.9	9	0	49.1	7	0	51.1	5	1	36.1	13	0	29.6	23	0
21	HD3486	N725	52.8	12	0	44.7	17	0	46.2	11	0	38.9	11	0	33.5	19	0
22	NIAW3170(C)	N701	49.7	16	0	46.1	13	0	56.5	1	1	43.1	7	0	35.1	18	0
23	HI1612 (C)	N705	56.3	8	0	44.5	18	0	43.2	14	0	48.6	4	0	45.6	2	1
24	K1317 (C)	N712	64.4	2	0	53.4	2	1	38.7	20	0	47.9	5	0	32.8	22	0
25	PBW644 (C)	N716	49.9	15	0	50.5	5	1	35.5	24	0	43.1	7	0	44.7	4	1
G.M.			51.1			46.3			44.5			37.9			37.9		
S.E.(M)			0.922			2.447			2.701			1.733			1.679		
C.D. (10%)			2.3			5.9			6.7			4.2			4.1		
C.V.			2.6			7.5			8.6			6.5			6.3		
D.O.S.(dd.mm.yy)			27.10.23			02.11.23			31.10.23			07.11.23			05.11.23		

2307-NIVT-5A-RI-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NEPZ													
			Bihar			Jharkhand			W.Bengal							
			Sabour			Ranchi			Kalyani			Manikchak			Burdwan		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	PBW956	N702	26.6	19	0	58.3	20	0	42.8	8	0	38.4	24	0	20.6	22	0
2	BRW3959	N703	36.5	7	0	66.7	6	0	33.5	24	0	54.4	9	0	21.6	21	0
3	HD3485	N704	37.1	6	0	55.6	21	0	47.4	2	1	43.7	20	0	32.5	7	0
4	WH1340	N706	33.8	8	0	63.9	12	0	36.0	20	0	55.1	8	0	24.1	15	0
5	DBW468	N707	45.8	1	1	61.1	15	0	39.6	16	0	56.4	6	1	27.1	11	0
6	JAUW719	N708	24.0	21	0	70.8	2	1	42.5	10	0	41.8	22	0	25.1	14	0
7	HD3487	N709	27.8	17	0	60.4	18	0	49.8	1	1	51.8	13	0	28.9	10	0
8	UP3147	N710	27.9	16	0	65.3	10	0	44.3	4	1	52.8	12	0	20.4	23	0
9	PBW953	N711	44.8	2	1	62.5	13	0	43.2	6	0	61.3	2	1	45.9	1	1
10	DBW465	N713	40.0	5	0	62.5	13	0	36.8	19	0	60.5	3	1	34.1	5	0
11	PBW954	N714	30.2	11	0	64.6	11	0	44.4	3	1	39.6	23	0	19.4	25	0
12	PBW955	N715	30.1	12	0	61.1	17	0	38.0	17	0	49.0	15	0	38.1	3	0
13	WH1339	N717	29.8	14	0	68.1	4	0	33.7	23	0	54.1	10	0	29.5	9	0
14	HUW861	N718	33.2	9	0	51.4	23	0	42.6	9	0	46.6	18	0	24.1	15	0
15	DBW467	N719	23.9	22	0	60.4	18	0	42.1	12	0	66.1	1	1	39.7	2	0
16	HD3488	N720	30.1	13	0	69.4	3	1	44.1	5	1	57.7	5	1	23.9	17	0
17	KRL2203	N721	23.4	24	0	61.1	15	0	31.2	25	0	49.2	14	0	22.2	18	0
18	JKW320	N722	23.8	23	0	50.7	24	0	42.4	11	0	47.6	16	0	27.0	12	0
19	K2310	N723	19.4	25	0	38.2	25	0	40.9	13	0	28.3	25	0	22.2	18	0
20	DBW466	N724	33.1	10	0	54.9	22	0	36.8	18	0	53.5	11	0	32.5	6	0
21	HD3486	N725	26.8	18	0	67.4	5	0	39.8	15	0	46.1	19	0	29.6	8	0
22	NIAW3170(C)	N701	28.9	15	0	72.9	1	1	34.0	22	0	42.4	21	0	19.8	24	0
23	HI1612 (C)	N705	43.0	3	1	66.0	7	0	40.5	14	0	56.2	7	1	36.2	4	0
24	K1317 (C)	N712	25.0	20	0	66.0	7	0	43.0	7	0	47.5	17	0	25.8	13	0
25	PBW644 (C)	N716	41.3	4	0	66.0	7	0	34.3	21	0	58.9	4	1	21.9	20	0
G.M.			31.5			61.8			40.2			50.4			27.7		
S.E.(M)			1.135			2.689			2.401			4.353			1.515		
C.D. (10%)			2.7			6.5			5.9			10.5			3.7		
C.V.			5.1			6.2			8.5			12.2			7.7		
D.O.S.(dd.mm.yy)			04.11.23			02.11.23			05.11.23			31.10.23			01.11.23		

2307-NIVT-5A-RI-TS-TAS-NAT-ZONE, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			NEPZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	PBW956	N702	46.9	23	0	36.0	23	0	36.0	23	0
2	BRW3959	N703	54.8	2	1	39.0	20	0	39.0	20	0
3	HD3485	N704	46.9	22	0	40.4	14	0	40.4	14	0
4	WH1340	N706	52.9	8	0	40.4	13	0	40.4	13	0
5	DBW468	N707	49.7	16	0	47.5	3	0	47.5	3	0
6	JAUW719	N708	50.3	13	0	38.3	21	0	38.3	21	0
7	HD3487	N709	48.2	18	0	42.3	10	0	42.3	10	0
8	UP3147	N710	47.3	21	0	41.5	11	0	41.5	11	0
9	PBW953	N711	52.4	10	0	50.1	1	1	50.1	1	1
10	DBW465	N713	54.5	3	1	46.1	4	0	46.1	4	0
11	PBW954	N714	47.4	20	0	39.2	19	0	39.2	19	0
12	PBW955	N715	50.1	14	0	43.1	8	0	43.1	8	0
13	WH1339	N717	52.4	11	0	42.4	9	0	42.4	9	0
14	HUW861	N718	40.7	24	0	39.9	16	0	39.9	16	0
15	DBW467	N719	55.5	1	1	44.6	5	0	44.6	5	0
16	HD3488	N720	53.4	5	1	43.2	7	0	43.2	7	0
17	KRL2203	N721	53.3	7	0	34.1	24	0	34.1	24	0
18	JKW320	N722	49.7	15	0	38.0	22	0	38.0	22	0
19	K2310	N723	38.1	25	0	27.0	25	0	27.0	25	0
20	DBW466	N724	54.4	4	1	39.5	17	0	39.5	17	0
21	HD3486	N725	53.4	6	1	40.3	15	0	40.3	15	0
22	NIAW3170(C)	N701	51.0	12	0	39.5	18	0	39.5	18	0
23	HI1612 (C)	N705	48.4	17	0	48.0	2	1	48.0	2	0
24	K1317 (C)	N712	52.9	9	0	41.2	12	0	41.2	12	0
25	PBW644 (C)	N716	47.8	19	0	44.3	6	0	44.3	6	0
G.M.			50.1			41.0			41.0		
S.E.(M)			0.937			0.919			0.812		
C.D. (10%)			2.2			2.1			1.9		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: NIVT-5A-RI-TS-TAS-, 2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics						Grain Characteristics	
			Yl	ACl	Br	ACl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	PBW956	N702	20S	4.0	0	0.0	71-111	94	113-151	139	70-116	93	36-56	44
2	BRW3959	N703	40S	9.8	5S	1.3	68-105	92	128-158	143	80-108	94	40-61	48
3	HD3485	N704	20S	7.7	10S	2.5	62-105	89	128-154	143	67-110	92	41-66	49
4	WH1340	N706	40S	13.2	10S	2.8	65-111	96	129-153	144	73-116	94	39-50	45
5	DBW468	N707	tS	0.2	10S	2.5	67-115	99	130-156	141	77-116	103	35-51	44
6	JAUW719	N708	5S	1.6	5S	1.3	67-110	95	131-159	144	80-120	102	35-47	40
7	HD3487	N709	5S	1.0	tS	0.3	66-113	93	129-156	145	78-119	99	41-58	46
8	UP3147	N710	tS	0.2	5S	1.3	77-123	108	133-166	150	74-116	99	37-56	42
9	PBW953	N711	20S	8.2	0	0.0	69-111	97	131-153	145	72-113	95	40-56	49
10	DBW465	N713	20S	4.4	5S	2.5	67-106	95	127-153	143	73-115	97	37-56	45
11	PBW954	N714	5MS	0.8	10S	2.5	63-102	89	131-166	144	70-106	89	38-56	47
12	PBW955	N715	tMR	0.1	tS	0.3	69-111	100	130-155	145	85-113	100	35-55	43
13	WH1339	N717	10MS	2.0	tS	0.3	66-111	101	129-160	147	81-115	99	37-46	41
14	HUW861	N718	40S	14.4	40S	15.0	72-111	99	133-161	146	85-138	108	37-48	42
15	DBW467	N719	5MS	1.1	5S	1.3	66-109	98	130-155	144	73-117	97	35-53	45
16	HD3488	N720	tS	0.3	10S	2.5	73-111	98	132-162	145	75-125	98	34-44	39
17	KRL2203	N721	20MS	3.6	15MS	5.5	69-118	97	133-160	146	69-107	93	33-47	40
18	JKW320	N722	20S	5.1	5MS	1.0	65-111	93	128-152	141	67-105	93	37-54	45
19	K2310	N723	10S	3.9	tMS	0.2	41-116	78	126-156	140	70-127	91	40-49	43
20	DBW466	N724	20S	7.2	tS	0.3	70-111	97	131-154	143	74-111	93	34-51	44
21	HD3486	N725	10S	5.1	0	0.0	77-115	103	130-155	144	71-121	99	39-54	47
22	NIAW3170 (C)	N701	40S	12.8	tS	0.3	68-110	96	127-151	143	71-120	99	41-55	46
23	HI1612 (C)	N705	60S	16.2	0	0.0	76-120	105	132-162	147	78-121	100	36-50	40
24	K1317 (C)	N712	40S	9.8	0	0.0	75-123	105	129-166	148	79-118	99	39-60	46
25	PBW644 (C)	N716	20S	12.2	20S	5.0	75-116	100	131-160	145	71-125	99	35-48	41

1. Ancillary data from Bulandshahr, Delhi, Durgapura, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana, and Sriganganagar centres.
2. Yellow rust data from Gurdaspur, Hisar, Jammu Ludhiana and Karnal centres.
3. Brown rust data from Gurdaspur, Hisar, Ludhiana and Karnal centres

NIVT 5A-RI-TS-TAS, 2023-24
North Western Plains Zone
Individual Station Rust Data

SN	Variety	Code	Yellow rust					Brown rust			
			Gurdaspur	Hisar	Jammu	Karnal	Ludhiana	Gurdaspur	Hisar	Karnal	Ludhiana
1.	PBW956	N702	0	0	0	20S	0	0	0	0	0
2.	BRW3959	N703	10MS	0	0	40S	tMS	0	5S	0	0
3.	HD3485	N704	10MS	0	20S	10S	tMR	0	0	0	10S
4.	WH1340	N706	20S	0	40S	5S	tS	0	tS	10S	0
5.	DBW468	N707	0	tS	0	0	tR	0	0	0	10S
6.	JAUW719	N708	5S	tS	tS	0	tMS	0	0	5S	0
7.	HD3487	N709	5S	0	0	0	0	0	0	0	tS
8.	UP3147	N710	tS	0	0	0	0	0	0	5S	0
9.	PBW953	N711	20S	0	0	20S	tMS	0	0	0	0
10.	DBW465	N713	tS	0	20S	0	tS	0	0	5S	5S
11.	PBW954	N714	5MS	0	0	0	0	0	0	10S	0
12.	PBW955	N715	0	0	0	0	tMR	0	tS	0	0
13.	WH1339	N717	10MS	0	tS	0	tS	0	0	0	tS
14.	HUW861	N718	20MS	tS	10S	40S	5S	10S	0	40S	10S
15.	DBW467	N719	5MS	0	tS	0	tMR	0	5S	0	0
16.	HD3488	N720	tS	0	0	0	tMR	0	0	0	10S
17.	KRL2203	N721	20MS	0	tMS	0	tS	0	0	10S	15MS
18.	JKW320	N722	5S	0	20S	0	tMR	0	0	0	5MS
19.	K2310	N723	10MS	10S	tS	0	tMR	0	0	0	tMS
20.	DBW466	N724	20S	tS	tMS	10S	5MS	0	0	0	tS
21.	HD3486	N725	10MS	10S	5S	5MR	tMR	0	0	0	0
22.	NIAW3170 (C)	N701	20MS	0	40S	0	10MS	tS	0	0	0
23.	HI1612 (C)	N705	20S	0	60S	0	tMS	0	0	0	0
24.	K1317 (C)	N712	10MS	0	tS	40S	0	0	0	0	0
25.	PBW644 (C)	N716	20S	0	20S	20S	tMS	0	0	0	20S

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial: NIVT 5A-RI-TS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics						Grain character	
			LB, HS(Avg.)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	PBW956	N702	57 (45)	61-86	72	101-136	123	73-98	90	37-49	42
2	BRW3959	N703	57 (34)	61-89	76	110-139	125	80-101	89	35-51	42
3	HD3485	N704	68 (45)	62-83	73	107-137	124	81-97	90	39-52	44
4	WH1340	N706	47 (34)	61-92	82	114-141	129	72-101	91	34-53	42
5	DBW468	N707	45 (34)	66-93	81	112-144	128	91-109	103	39-51	45
6	JAUW719	N708	36 (23)	62-90	75	107-136	126	93-117	104	30-52	41
7	HD3487	N709	67 (34)	57-85	73	107-140	124	85-109	92	33-49	40
8	UP3147	N710	35 (23)	67-98	89	120-151	134	89-107	98	34-48	40
9	PBW953	N711	37 (24)	62-90	79	115-143	128	82-102	93	41-53	47
10	DBW465	N713	45 (35)	70-94	81	117-149	129	83-103	93	33-51	42
11	PBW954	N714	68 (35)	57-85	71	103-136	123	70-91	84	36-52	44
12	PBW955	N715	47 (34)	69-90	82	115-144	129	88-111	100	35-48	42
13	WH1339	N717	36 (24)	72-94	85	118-141	130	81-106	95	35-46	41
14	HUW861	N718	25 (23)	68-90	82	112-138	130	103-119	111	42-50	47
15	DBW467	N719	57 (46)	63-94	84	119-142	131	58-105	89	32-52	42
16	HD3488	N720	57 (45)	66-90	80	112-144	128	80-102	95	27-43	37
17	KRL2203	N721	68 (35)	59-89	75	108-137	126	72-109	92	26-43	35
18	JKW320	N722	68 (35)	61-82	72	105-136	124	78-99	91	33-50	41
19	K2310	N723	68 (45)	50-82	67	95-134	120	60-88	78	32-51	40
20	DBW466	N724	36 (24)	71-90	82	118-148	131	88-102	96	34-52	42
21	HD3486	N725	57 (34)	70-94	85	119-142	132	88-94	91	33-51	41
22	NIAW3170 (C)	N701	57 (34)	62-86	74	108-135	124	79-104	94	38-51	45
23	HI1612 (C)	N705	46 (23)	70-96	87	117-143	132	77-106	91	38-53	42
24	K1317 (C)	N712	57 (35)	71-94	86	120-146	132	90-111	100	37-52	44
25	PBW644 (C)	N716	35 (24)	70-94	84	119-144	131	89-109	99	37-48	42

1. Ancillary data from Burdwan, Kalyani, Kanpur, Manikchak, Ranchi, RPCAU-Pusa, Sabour and Varanasi centres.
2. Leaf blight data from Burdwan, Kalyani, Manikchak, RPCAU-Pusa, Sabour and Varanasi centres

NIVT 5A-RI-TS-TAS, 2023-24
North Eastern Plains Zone
Individual Station Leaf Blight Data

SN	Variety	Code	Leaf Blight Score					
			Burdwan	Kalyani	Manikchak	RPCAU-Pusa	Sabour	Varanasi
1.	PBW956	N702	34	57	12	34	57	57
2.	BRW3959	N703	34	46	01	24	24	57
3.	HD3485	N704	34	48	01	24	67	68
4.	WH1340	N706	34	47	00	24	35	46
5.	DBW468	N707	23	35	00	24	45	35
6.	JAUW719	N708	23	25	00	36	35	12
7.	HD3487	N709	23	46	01	34	67	35
8.	UP3147	N710	23	24	00	34	35	24
9.	PBW953	N711	34	37	00	24	35	24
10.	DBW465	N713	45	36	01	36	35	35
11.	PBW954	N714	24	57	01	34	47	68
12.	PBW955	N715	34	47	01	24	46	24
13.	WH1339	N717	12	36	01	36	35	12
14.	HUW861	N718	23	25	12	24	24	12
15.	DBW467	N719	46	47	12	24	57	57
16.	HD3488	N720	45	57	12	34	57	57
17.	KRL2203	N721	13	37	12	46	35	68
18.	JKW320	N722	45	57	01	24	34	68
19.	K2310	N723	35	57	01	34	46	68
20.	DBW466	N724	23	36	00	24	35	24
21.	HD3486	N725	23	57	01	34	35	24
22.	NIAW3170 (C)	N701	34	57	12	24	46	12
23.	HI1612 (C)	N705	23	46	01	24	24	01
24.	K1317 (C)	N712	24	35	12	24	35	57
25.	PBW644 (C)	N716	13	25	00	24	35	24

2308-NIVT-5B-RI-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ													
			M.P.										Rajasthan			
			Indore			Sagar			Jabalpur (JNKVV)			Powarkheda			Udaipur		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HI8856(d)	N801	60.6	4	1	42.8	21	0	51.0	15	0	44.4	16	0	58.8	4	1
2	HI1700	N803	61.1	3	1	44.6	18	0	57.4	7	0	52.1	5	1	50.1	19	0
3	HI8857(d)	N804	48.5	23	0	42.1	22	0	53.0	10	0	40.3	18	0	54.4	9	0
4	DBW469	N805	53.9	12	0	52.1	5	1	57.9	5	0	47.2	12	0	50.2	18	0
5	MP3601	N806	50.9	17	0	56.3	1	1	63.3	3	1	52.1	5	1	52.7	12	0
6	DBW470	N808	51.9	16	0	43.1	20	0	48.3	22	0	47.9	11	0	57.0	6	0
7	MP1405	N809	50.2	18	0	52.7	2	1	57.4	8	0	45.1	15	0	58.3	5	1
8	MACS6851	N810	58.7	6	1	45.3	16	0	49.8	18	0	56.3	2	1	54.7	8	0
9	GW563	N811	48.1	24	0	49.4	10	1	51.0	14	0	47.2	12	0	44.8	24	0
10	AKAW5441	N812	53.3	14	0	46.2	12	0	37.2	24	0	54.2	4	1	35.3	25	0
11	CG1052	N813	55.3	9	0	44.6	17	0	57.6	6	0	55.9	3	1	51.7	14	0
12	UAS487(d)	N814	53.0	15	0	41.2	23	0	50.2	17	0	41.7	17	0	48.9	21	0
13	MACS6850	N815	58.4	7	1	52.4	4	1	34.8	25	0	50.7	7	0	51.8	13	0
14	DDW68(d)	N816	47.4	25	0	45.5	14	0	49.0	20	0	38.2	21	0	51.1	16	0
15	PBN2115	N817	54.5	10	0	51.7	6	1	53.8	9	0	47.9	10	0	65.0	2	1
16	GW1372(d)	N818	48.8	21	0	44.5	19	0	48.9	21	0	30.6	24	0	47.5	22	0
17	HI1702	N820	58.0	8	0	51.0	7	1	51.2	12	0	39.5	19	0	53.8	10	0
18	NIAW4533	N822	53.5	13	0	45.8	13	0	62.3	4	1	50.7	7	0	51.7	15	0
19	HI1701	N823	59.9	5	1	36.2	25	0	49.4	19	0	38.2	21	0	65.3	1	1
20	UAS3034	N824	62.3	2	1	50.8	9	1	66.1	1	1	56.4	1	1	46.0	23	0
21	NIDW1561(d)	N825	49.1	20	0	52.5	3	1	52.6	11	0	29.3	25	0	50.1	19	0
22	HI1605(C)	N819	49.7	19	0	39.0	24	0	64.8	2	1	47.2	12	0	56.2	7	0
23	DBW110(C)	N821	48.6	22	0	50.9	8	1	51.0	16	0	48.6	9	0	53.6	11	0
24	UAS446(d)(C)	N802	54.3	11	0	47.0	11	0	51.1	13	0	38.9	20	0	50.2	17	0
25	HI8627(d)(C)	N807	63.9	1	1	45.5	15	0	39.4	23	0	32.6	23	0	61.8	3	1
G.M.			54.2			46.9			52.3			45.3			52.8		
S.E.(M)			2.794			3.173			2.053			2.328			4.038		
C.D.(10%)			6.8			7.8			5.0			5.6			9.8		
C.V.			7.3			9.6			5.5			7.3			10.8		
D.O.S.(dd.mm.yy)			01.11.23			02.11.23			03.11.23			03.11.23			03.11.23		

No. of Trials : Proposed = 17 Conducted=17
Trial not conducted (00)= Nil
Trialsnotreported (03) = CZ:Bilaspur (RMT),SKNagar (LSM)
PZ:Dharwad (LSM)

2308-NIVT-5B-RI-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ									PZ			PZ		
			Gujarat									Maharashtra					
			Vijapur			Junagadh			Dhandhuka			Niphad			Pune		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HI8856(d)	N801	41.2	16	0	29.7	18	0	30.6	19	0	36.5	18	0	22.2	24	0
2	HI1700	N803	56.0	1	1	35.5	6	1	50.3	1	1	40.8	9	0	38.2	1	1
3	HI8857(d)	N804	44.4	14	0	30.4	15	0	39.2	3	0	40.8	9	0	26.3	19	0
4	DBW469	N805	48.0	9	0	30.6	14	0	32.3	14	0	35.3	21	0	29.0	14	0
5	MP3601	N806	42.0	15	0	27.5	23	0	36.1	10	0	35.4	20	0	24.5	22	0
6	DBW470	N808	49.0	8	0	35.7	4	1	38.2	7	0	33.0	24	0	30.0	12	0
7	MP1405	N809	37.8	18	0	30.2	16	0	28.8	21	0	39.7	13	0	28.8	15	0
8	MACS6851	N810	49.1	7	0	35.7	5	1	30.2	20	0	36.7	17	0	33.9	5	0
9	GW563	N811	52.9	3	1	32.3	12	0	37.5	8	0	46.8	3	1	32.0	8	0
10	AKAW5441	N812	46.2	11	0	35.2	7	1	25.0	22	0	50.0	2	1	29.2	13	0
11	CG1052	N813	53.0	2	1	40.4	1	1	32.3	15	0	44.7	6	1	31.7	9	0
12	UAS487(d)	N814	24.0	24	0	38.3	2	1	38.5	5	0	39.6	15	0	27.7	17	0
13	MACS6850	N815	46.5	10	0	29.8	17	0	31.9	17	0	35.8	19	0	35.5	2	1
14	DDW68(d)	N816	25.6	23	0	24.6	25	0	24.3	23	0	35.2	22	0	24.2	23	0
15	PBN2115	N817	45.2	12	0	35.7	3	1	47.2	2	1	52.0	1	1	32.6	7	0
16	GW1372(d)	N818	31.1	21	0	28.2	20	0	31.3	18	0	28.6	25	0	28.5	16	0
17	HI1702	N820	49.5	6	0	28.1	21	0	35.4	12	0	39.7	14	0	34.1	4	1
18	NIAW4533	N822	52.0	5	1	34.0	8	0	36.1	10	0	46.0	5	1	33.0	6	0
19	HI1701	N823	33.8	20	0	31.3	13	0	32.3	15	0	41.0	8	0	30.6	10	0
20	UAS3034	N824	52.9	4	1	28.1	22	0	38.5	4	0	40.5	12	0	27.5	18	0
21	NIDW1561(d)	N825	34.7	19	0	27.5	24	0	24.3	23	0	33.7	23	0	25.2	20	0
22	HI1605(C)	N819	44.7	13	0	33.8	9	0	38.5	5	0	42.5	7	0	35.2	3	1
23	DBW110(C)	N821	40.0	17	0	33.1	11	0	37.5	8	0	46.5	4	1	30.2	11	0
24	UAS446(d)(C)	N802	21.8	25	0	28.7	19	0	33.3	13	0	40.6	11	0	25.2	21	0
25	HI8627(d)(C)	N807	30.3	22	0	33.7	10	0	19.4	25	0	37.8	16	0	20.7	25	0
G.M.			42.1			31.9			34.0			40.0			29.4		
S.E.(M)			2.614			2.438			4.782			2.805			1.704		
C.D.(10%)			6.5			6.0			11.6			6.8			4.2		
C.V.			8.8			10.8			19.9			9.9			8.2		
D.O.S.(dd.mm.yy)			03.11.23			02.11.23			03.11.23			03.11.23			29.10.23		

2308-NIVT-5B-RI-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	PZ											
			Maharashtra									Karnataka		
			Dhule			Parbhani			Akola			Nippani		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HI8856(d)	N801	21.3	17	0	38.5	19	0	24.5	21	0	24.5	25	0
2	HI1700	N803	36.1	3	1	58.1	2	0	43.2	2	1	43.0	7	0
3	HI8857(d)	N804	18.1	24	0	45.3	13	0	26.6	18	0	35.2	13	0
4	DBW469	N805	23.4	14	0	48.1	10	0	28.1	15	0	27.8	23	0
5	MP3601	N806	20.7	19	0	35.2	23	0	18.9	25	0	25.0	24	0
6	DBW470	N808	24.6	13	0	39.2	17	0	28.6	14	0	39.5	11	0
7	MP1405	N809	20.0	21	0	49.5	7	0	29.1	13	0	43.7	6	0
8	MACS6851	N810	33.3	5	1	52.0	3	0	32.4	10	0	41.3	9	0
9	GW563	N811	25.9	11	0	49.7	6	0	31.4	11	0	35.3	12	0
10	AKAW5441	N812	35.7	4	1	49.1	8	0	45.2	1	1	34.9	14	0
11	CG1052	N813	26.0	10	0	45.7	12	0	34.5	7	0	34.8	15	0
12	UAS487(d)	N814	18.3	23	0	43.6	14	0	24.7	20	0	48.2	3	0
13	MACS6850	N815	16.5	25	0	36.5	20	0	37.3	3	0	34.2	16	0
14	DDW68(d)	N816	21.9	16	0	38.9	18	0	20.6	24	0	45.3	5	0
15	PBN2115	N817	37.6	1	1	62.7	1	1	28.1	16	0	29.0	21	0
16	GW1372(d)	N818	24.7	12	0	34.0	24	0	22.9	22	0	33.5	17	0
17	HI1702	N820	29.9	6	0	51.1	5	0	33.4	9	0	29.1	20	0
18	NIAW4533	N822	29.0	7	0	51.2	4	0	37.1	4	0	32.3	18	0
19	HI1701	N823	21.0	18	0	36.0	22	0	25.2	19	0	29.5	19	0
20	UAS3034	N824	36.7	2	1	49.0	9	0	36.0	5	0	39.6	10	0
21	NIDW1561(d)	N825	28.8	8	0	46.2	11	0	35.3	6	0	57.0	2	1
22	HI1605(C)	N819	22.3	15	0	42.9	16	0	34.3	8	0	42.6	8	0
23	DBW110(C)	N821	28.8	8	0	43.2	15	0	29.9	12	0	45.6	4	0
24	UAS446(d)(C)	N802	20.6	20	0	33.6	25	0	27.0	17	0	28.7	22	0
25	HI8627(d)(C)	N807	18.8	22	0	36.2	21	0	21.1	23	0	57.9	1	1
G.M.			25.6			44.6			30.2			37.5		
S.E.(M)			2.551			2.432			2.794			3.347		
C.D.(10%)			6.2			5.9			6.9			8.3		
C.V.			14.1			7.7			13.1			12.6		
D.O.S.(dd.mm.yy)			03.11.23			04.11.23			05.11.23			05.11.23		

2308-NIVT-5B-RI-TS-TDM-NAT-ZONE,2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	CZ			PZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	HI8856(d)	N801	44.9	15	0	27.9	24	0	37.6	21	0
2	HI1700	N803	50.9	1	1	43.2	1	1	47.6	1	1
3	HI8857(d)	N804	44.1	17	0	32.1	18	0	38.9	17	0
4	DBW469	N805	46.5	9	0	31.9	19	0	40.3	14	0
5	MP3601	N806	47.6	6	0	26.6	25	0	38.6	18	0
6	DBW470	N808	46.4	10	0	32.5	16	0	40.4	13	0
7	MP1405	N809	45.1	14	0	35.1	13	0	40.8	12	0
8	MACS6851	N810	47.5	7	0	38.3	4	0	43.5	5	0
9	GW563	N811	45.4	13	0	36.8	9	0	41.7	9	0
10	AKAW5441	N812	41.6	20	0	40.7	2	0	41.2	11	0
11	CG1052	N813	48.8	4	1	36.2	11	0	43.4	6	0
12	UAS487(d)	N814	42.0	19	0	33.7	14	0	38.4	19	0
13	MACS6850	N815	44.5	16	0	32.6	15	0	39.4	15	0
14	DDW68(d)	N816	38.2	25	0	31.0	20	0	35.1	24	0
15	PBN2115	N817	50.1	2	1	40.3	3	0	45.9	2	1
16	GW1372(d)	N818	38.9	24	0	28.7	23	0	34.5	25	0
17	HI1702	N820	45.8	11	0	36.2	12	0	41.7	10	0
18	NIAW4533	N822	48.3	5	0	38.1	6	0	43.9	4	0
19	HI1701	N823	43.3	18	0	30.6	21	0	37.8	20	0
20	UAS3034	N824	50.1	3	1	38.2	5	0	45.0	3	0
21	NIDW1561(d)	N825	40.0	23	0	37.7	7	0	39.0	16	0
22	HI1605(C)	N819	46.7	8	0	36.6	10	0	42.4	7	0
23	DBW110(C)	N821	45.4	12	0	37.4	8	0	42.0	8	0
24	UAS446(d)(C)	N802	40.7	22	0	29.3	22	0	35.8	23	0
25	HI8627(d)(C)	N807	40.8	21	0	32.1	17	0	37.1	22	0
G.M.			44.9			34.6			40.5		
S.E.(M)			1.114			0.812			0.788		
C.D.(10%)			2.6			1.9			1.8		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: NIVT-5B-RI-TS-TDM, 2023-24**

SN	Variety	Code	Disease Reaction		Agronomic Characteristics							Grain Characteristics	
			Bl	Br	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	HI8856(d)	N801	tR	0	60-84	70	110-136	122	66-100	82	20	39-55	46
2	HI1700	N803	0	0	55-89	68	104-139	119	72-106	92	0	36-53	42
3	HI8857(d)	N804	0	0	48-85	63	98-134	117	60-88	77	0	48-67	54
4	DBW469	N805	5MS	0	59-95	71	102-138	122	74-101	89	0	38-59	48
5	MP3601	N806	0	0	48-85	64	98-135	117	54-95	78	0	37-46	41
6	DBW470	N808	5MS	0	54-90	68	100-139	118	69-97	88	5	42-51	46
7	MP1405	N809	0	0	70-98	80	117-137	127	70-105	89	5	34-52	43
8	MACS6851	N810	tR	0	53-90	70	105-138	122	72-115	99	5	43-57	48
9	GW563	N811	0	0	52-91	69	99-137	118	68-119	101	20	39-50	46
10	AKAW5441	N812	tMR	tR	61-90	70	112-136	124	83-124	105	30	34-50	43
11	CG1052	N813	10MR	0	56-91	72	100-138	119	72-113	94	10	41-57	47
12	UAS487(d)	N814	0	0	62-82	70	114-129	121	64-115	84	0	38-55	43
13	MACS6850	N815	0	0	46-78	60	96-132	115	10-113	86	0	51-58	55
14	DDW68(d)	N816	0	0	58-83	69	101-134	122	69-91	82	0	32-46	39
15	PBN2115	N817	tR	0	49-84	66	101-138	118	65-101	90	5	36-53	46
16	GW1372(d)	N818	tMR	tR	63-95	73	112-139	121	82-122	106	25	37-63	48
17	HI1702	N820	0	0	44-81	61	98-139	117	56-97	83	0	41-48	44
18	NIAW4533	N822	0	0	44-86	60	104-138	121	77-99	89	0	45-52	49
19	HI1701	N823	0	0	57-90	69	104-136	123	56-95	78	0	33-51	41
20	UAS3034	N824	5MS	tR	51-89	69	99-139	121	61-99	90	0	46-53	48
21	NIDW1561(d)	N825	0	0	62-88	72	113-135	121	64-96	84	0	34-50	42
22	HI1605(C)	N819	0	0	54-88	69	100-132	118	72-106	93	0	37-51	43
23	DBW110(C)	N821	5MS	0	56-93	73	103-135	120	74-101	90	0	40-48	44
24	UAS446(d)(C)	N802	0	0	58-77	67	102-130	118	68-96	82	5	39-49	43
25	HI8627(d)(C)	N807	tR	0	58-91	73	110-136	125	73-103	90	10	38-60	47

1. Ancillary data from Dhandhuka, Indore, Jabalpur, Sagar, SK Nagar, Powerkheda, Junagadh, Vijapur and Udaipur.
2. Brown rust data from Indore and Black rust data from Vijapur.
3. Data on lodging from Jabalpur, Udaipur and SK Nagar.

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial: NIVT-5B-RI-TS-TDM, 2023-24**

SN	Variety	Code	Disease interaction			Agronomic Characteristics						Grain Characteristics	
			Black Rust	Br. Rust	Leaf Blight	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	HI8856(d)	N801	30S	0	01	62-75	68	99-125	113	72-88	78	33-39	35
2	HI1700	N803	0	0	00	52-68	57	92-118	104	88-99	94	32-43	39
3	HI8857(d)	N804	40S	0	00	46-59	51	96-118	105	68-85	76	35-52	43
4	DBW469	N805	5MS	0	01	60-70	65	102-122	110	77-95	88	31-45	38
5	MP3601	N806	10MS	5MR	00	49-59	53	96-114	104	67-82	74	28-45	37
6	DBW470	N808	30S	0	00	48-64	55	94-118	105	80-89	84	29-47	38
7	MP1405	N809	tMS	0	00	62-77	69	103-125	114	77-96	84	26-40	34
8	MACS6851	N810	10MS	5MS	12	50-62	56	96-118	106	85-105	96	32-50	40
9	GW563	N811	10MS	0	12	49-60	54	97-120	105	89-113	99	32-53	43
10	AKAW5441	N812	10MS	0	00	56-75	66	99-128	112	86-115	103	32-44	38
11	CG1052	N813	20S	0	00	56-73	61	96-116	106	80-95	87	30-53	39
12	UAS487(d)	N814	10MS	0	00	60-71	63	103-117	110	72-82	78	27-47	36
13	MACS 6850	N815	10MS	0	00	44-52	49	93-112	101	75-101	88	37-52	47
14	DDW68 (d)	N816	30S	0	01	54-66	59	101-129	113	75-84	79	31-45	37
15	PBN 2115	N817	5MS	0	00	50-59	52	93-115	103	83-96	89	30-54	40
16	GW1372(d)	N818	10MS	0	46	62-78	69	96-120	111	74-113	96	33-43	38
17	HI1702	N820	10MS	0	01	44-54	50	93-115	102	77-89	84	32-48	39
18	NIAW4533	N822	5MS	0	00	45-53	50	93-125	106	83-98	90	34-44	40
19	HI1701	N823	5MS	0	12	52-74	61	101-123	109	64-83	73	28-44	36
20	UAS3034	N824	40S	0	00	48-63	55	94-119	106	75-94	85	27-49	37
21	NIDW1561(d)	N825	10MS	0	00	54-71	63	104-119	110	70-86	79	26-49	37
22	HI1605(C)	N819	40S	0	00	52-63	55	96-127	108	83-95	89	29-47	38
23	DBW110 (C)	N821	20S	0	00	52-69	63	99-123	110	77-86	82	31-43	36
24	UAS446(d)(C)	N802	10S	0	00	55-72	61	99-119	108	74-87	80	30-49	39
25	HI8627(d)(C)	N807	5MR	0	00	66-78	71	99-125	116	73-96	83	34-48	39

1. Ancillary data from Akola, Pune, Niphad, Parbhani, Dharwad, Nippani and Dhule.
2. Black Rust, Leaf blight and Brown rust data from Dharwad.

2309-NIVT-6-ES-IR-NWPZ/CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ											
			Delhi			Punjab						Haryana		
			Delhi			Ludhiana			BISA-Ladhowal			Hisar		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	UP3148	N901	80.6	11	0	78.0	10	1	64.7	19	0	46.3	25	0
2	DBW473	N902	80.8	10	0	71.6	16	0	88.2	8	0	71.7	10	0
3	PBW934	N903	80.5	12	0	81.4	2	1	87.5	9	0	70.1	12	0
4	PBW931	N904	68.9	18	0	69.2	19	0	79.4	15	0	72.6	9	0
5	DBW474	N905	78.4	15	0	66.5	22	0	89.5	7	0	70.6	11	0
6	PBW932	N908	85.5	6	0	81.2	3	1	98.6	2	1	59.7	21	0
7	MP1406	N909	84.3	7	0	74.4	14	1	85.0	10	0	73.8	7	0
8	HD3489	N910	75.1	17	0	78.8	8	1	55.1	22	0	65.7	16	0
9	WH1334	N911	95.1	1	1	67.6	20	0	93.4	6	0	78.5	3	0
10	DBW475	N913	89.3	4	1	81.9	1	1	98.5	3	1	63.1	18	0
11	GW568	N914	46.2	25	0	62.9	25	0	36.8	25	0	65.1	17	0
12	DBW471	N915	59.0	22	0	76.4	11	1	69.0	18	0	66.1	15	0
13	PBW935	N916	89.4	3	1	80.5	6	1	99.9	1	1	80.6	2	1
14	DBW472	N917	64.4	20	0	78.2	9	1	60.5	21	0	76.4	4	0
15	HD3492	N918	58.9	23	0	70.6	17	0	61.3	20	0	62.9	19	0
16	HD3491	N920	77.5	16	0	73.1	15	1	81.1	13	0	66.5	14	0
17	RAJ4591	N921	56.5	24	0	76.0	12	1	50.4	23	0	53.4	24	0
18	WH1333	N922	86.7	5	1	80.9	5	1	93.4	5	0	75.0	5	0
19	PBW933	N923	67.4	19	0	69.5	18	0	74.4	17	0	55.6	23	0
20	HD3490	N924	89.9	2	1	64.1	24	0	82.7	12	0	72.9	8	0
21	GW564	N925	63.2	21	0	65.5	23	0	47.4	24	0	58.9	22	0
22	DBW327 (C)	N906	83.0	8	0	81.1	4	1	96.2	4	1	75.0	5	0
23	DBW187 (C)	N907	79.9	13	0	75.8	13	1	76.7	16	0	82.6	1	1
24	GW322 (C)	N912	78.6	14	0	79.1	7	1	80.0	14	0	62.8	20	0
25	DBW303 (C)	N919	81.2	9	0	67.0	21	0	83.7	11	0	68.9	13	0
G.M.			76.0			74.1			77.3			67.8		
S.E.(M)			4.009			3.699			3.148			1.217		
C.D. (10%)			9.7			9.0			7.6			2.9		
C.V.			7.5			7.1			5.8			2.5		
D.O.S.(dd.mm.yy)			27.10.23			27.10.23			25.10.23			01.11.23		

SN	Variety	Code	NWPZ					
			U.P.					
			Bulandshahr					
			Yield	RK	G			
1	UP3148	N901	69.4	21	0			
2	DBW473	N902	79.6	12	1			
3	PBW934	N903	80.7	11	1			
4	PBW931	N904	83.0	7	1			
5	DBW474	N905	90.6	1	1			
6	PBW932	N908	76.2	14	0			
7	MP1406	N909	73.2	17	0			
8	HD3489	N910	72.2	19	0			
9	WH1334	N911	87.0	3	1			
10	DBW475	N913	87.8	2	1			
11	GW568	N914	69.1	22	0			
12	DBW471	N915	65.3	23	0			
13	PBW935	N916	83.0	8	1			
14	DBW472	N917	84.1	5	1			
15	HD3492	N918	74.3	16	0			
16	HD3491	N920	76.2	15	0			
17	RAJ4591	N921	58.1	25	0			
18	WH1333	N922	76.5	13	0			
19	PBW933	N923	82.5	9	1			
20	HD3490	N924	72.9	18	0			
21	GW564	N925	63.0	24	0			
22	DBW327 (C)	N906	84.5	4	1			
23	DBW187 (C)	N907	80.7	10	1			
24	GW322 (C)	N912	69.6	20	0			
25	DBW303 (C)	N919	83.6	6	1			
G.M.			76.9					
S.E.(M)			5.350					
C.D. (10%)			13.2					
C.V.			9.8					
D.O.S.(dd.mm.yy)			10.11.23					

No. of Trials : Proposed = 14 Conducted = 14
Trial not conducted (00) = Nil
Trials not reported (05) = NWPZ: Karnal (LSM)
CZ : Indore (RMT), Jabalpur-JNKVV (RMT), Powarkheda (LSM), Vijapur (LSM)

2309-NIVT-6-ES-IR-NWPZ/CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ			CZ								
			Rajasthan			Chhattisgarh			Gujarat			M.P.		
			Sriganga-nagar			Bilaspur			Junagadh			BISA-Jabalpur		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	UP3148	N901	67.9	22	0	54.2	16	0	46.3	20	0	60.3	23	0
2	DBW473	N902	73.6	18	0	60.8	9	0	58.7	9	0	81.0	12	0
3	PBW934	N903	86.1	1	1	70.8	3	1	73.0	2	1	83.1	7	1
4	PBW931	N904	73.8	17	0	49.2	22	0	65.6	5	0	67.8	21	0
5	DBW474	N905	83.7	3	1	70.9	2	1	70.7	3	1	82.3	9	1
6	PBW932	N908	76.0	13	0	68.5	5	1	50.4	18	0	51.4	25	0
7	MP1406	N909	78.1	10	0	57.2	13	0	61.4	6	0	81.3	11	1
8	HD3489	N910	72.2	20	0	54.4	15	0	54.2	15	0	68.9	19	0
9	WH1334	N911	75.2	15	0	61.0	8	0	74.8	1	1	79.7	13	0
10	DBW475	N913	73.8	16	0	55.8	14	0	58.0	10	0	83.2	6	1
11	GW568	N914	64.6	24	0	49.8	21	0	53.7	16	0	65.6	22	0
12	DBW471	N915	67.8	23	0	47.1	24	0	46.3	21	0	84.1	4	1
13	PBW935	N916	79.7	7	0	57.6	12	0	60.8	8	0	83.8	5	1
14	DBW472	N917	79.7	6	0	51.2	20	0	44.3	24	0	54.2	24	0
15	HD3492	N918	76.0	12	0	47.0	25	0	56.1	13	0	70.0	18	0
16	HD3491	N920	68.6	21	0	60.6	10	0	45.5	22	0	85.4	3	1
17	RAJ4591	N921	59.9	25	0	51.5	19	0	47.9	19	0	68.8	20	0
18	WH1333	N922	84.8	2	1	51.7	18	0	43.6	25	0	82.9	8	1
19	PBW933	N923	77.0	11	0	69.0	4	1	45.5	23	0	72.0	16	0
20	HD3490	N924	79.3	8	0	59.6	11	0	57.9	11	0	75.7	15	0
21	GW564	N925	73.3	19	0	52.8	17	0	51.0	17	0	71.0	17	0
22	DBW327 (C)	N906	83.4	4	1	71.0	1	1	66.8	4	0	87.3	2	1
23	DBW187 (C)	N907	75.6	14	0	61.0	7	0	57.6	12	0	81.6	10	1
24	GW322 (C)	N912	83.0	5	1	49.2	23	0	61.0	7	0	79.7	14	0
25	DBW303 (C)	N919	79.0	9	0	61.3	6	0	55.8	14	0	90.3	1	1
G.M.			75.7			57.7			56.3			75.7		
S.E.(M)			2.317			3.709			2.799			3.707		
C.D. (10%)			5.7			9.0			6.9			9.2		
C.V.			4.3			9.1			7.0			6.9		
D.O.S.(dd.mm.yy)			31.10.23			09.11.23			02.11.23			03.11.23		

2309-NIVT-6-ES-IR-NWPZ/CZ, 2023-24
ZONAL AND NATIONAL MEANS (q/ha)

SN	Variety	Code	NWPZ			CZ			National		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	UP3148	N901	67.8	20	0	53.6	24	0	63.1	22	0
2	DBW473	N902	77.6	11	0	66.8	7	0	74.0	11	0
3	PBW934	N903	81.0	6	0	75.6	1	1	79.2	3	1
4	PBW931	N904	74.5	15	0	60.9	15	0	70.0	16	0
5	DBW474	N905	79.9	7	0	74.7	3	1	78.1	5	0
6	PBW932	N908	79.5	8	0	56.8	21	0	72.0	13	0
7	MP1406	N909	78.1	10	0	66.6	9	0	74.3	10	0
8	HD3489	N910	69.8	19	0	59.2	17	0	66.3	18	0
9	WH1334	N911	82.8	4	1	71.8	4	1	79.1	4	1
10	DBW475	N913	82.4	5	1	65.7	10	0	76.8	6	0
11	GW568	N914	57.4	25	0	56.4	22	0	57.1	25	0
12	DBW471	N915	67.3	22	0	59.2	18	0	64.6	20	0
13	PBW935	N916	85.5	1	1	67.4	6	0	79.5	2	1
14	DBW472	N917	73.9	16	0	49.9	25	0	65.9	19	0
15	HD3492	N918	67.3	21	0	57.7	20	0	64.1	21	0
16	HD3491	N920	73.8	17	0	63.8	12	0	70.5	15	0
17	RAJ4591	N921	59.1	24	0	56.1	23	0	58.1	24	0
18	WH1333	N922	82.9	3	1	59.4	16	0	75.1	7	0
19	PBW933	N923	71.1	18	0	62.2	14	0	68.1	17	0
20	HD3490	N924	77.0	13	0	64.4	11	0	72.8	12	0
21	GW564	N925	61.9	23	0	58.3	19	0	60.7	23	0
22	DBW327 (C)	N906	83.9	2	1	75.0	2	1	80.9	1	1
23	DBW187 (C)	N907	78.6	9	0	66.8	8	0	74.6	8	0
24	GW322 (C)	N912	75.5	14	0	63.3	13	0	71.5	14	0
25	DBW303 (C)	N919	77.2	12	0	69.1	5	0	74.5	9	0
G.M.			74.6			63.2			70.8		
S.E.(M)			1.445			1.981			1.168		
C.D. (10%)			3.4			4.7			2.7		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: NIVT-6-IR-ES-TAS 2023-24**

SN	Variety	Code	Rust Reaction		Agronomic Characteristics							Grain Characteristics	
			Yl	Br	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	UP3148	N901	0	0	100-128	113	147-169	156	97-113	105	50	37-55	44
2	DBW473	N902	10S	5S	100-110	105	149-165	153	88-107	99	35	40-48	44
3	PBW934	N903	5MR	0	99-110	103	149-164	155	84-117	96	45	39-47	44
4	PBW931	N904	0	0	93-110	102	144-165	152	92-112	100	35	40-56	45
5	DBW474	N905	5MR	5S	97-109	103	141-165	152	87-109	96	35	44-61	50
6	PBW932	N908	10S	5S	95-113	106	146-168	155	86-107	94	25	36-45	40
7	MP1406	N909	20S	0	102-113	108	150-168	156	92-109	101	40	44-61	48
8	HD3489	N910	0	0	80-117	99	145-163	152	92-102	97	5	38-56	43
9	WH1334	N911	10S	0	101-113	106	147-168	154	87-105	93	20	44-58	49
10	DBW475	N913	40S	5S	96-118	104	149-166	154	91-105	99	35	41-46	44
11	GW568	N914	60S	5S	79-104	95	143-164	151	83-103	92	20	37-55	43
12	DBW471	N915	10S	5S	92-107	100	143-162	150	82-97	93	60	42-58	48
13	PBW935	N916	20MS	0	96-109	103	142-163	153	95-111	101	20	39-58	47
14	DBW472	N917	20MS	0	76-105	93	141-168	151	87-106	97	10	39-59	49
15	HD3492	N918	40S	10S	83-108	98	144-168	152	78-96	86	0	37-57	44
16	HD3491	N920	0	0	90-116	107	151-164	155	94-116	105	55	36-47	40
17	Raj4591	N921	0	0	87-109	100	142-168	153	93-108	100	35	39-52	42
18	WH1333	N922	5S	0	92-107	102	149-164	155	92-114	103	40	35-52	46
19	PBW933	N923	10MR	0	101-122	112	150-169	158	96-118	110	50	43-54	48
20	HD3490	N924	5MR	5S	92-111	102	147-163	153	88-111	103	55	33-48	39
21	GW564	N925	60S	10S	95-108	102	147-169	154	96-112	103	45	42-53	45
22	DBW327 (C)	N906	10S	10S	97-106	102	141-163	151	85-106	96	35	45-55	49
23	DBW187 (C)	N907	0	0	97-108	104	145-165	152	84-107	98	35	40-51	45
24	GW322 (C)	N912	20S	5S	92-105	99	143-164	151	90-102	95	40	39-50	42
25	DBW303 (C)	N919	5MR	5S	95-106	101	142-160	150	89-107	102	30	37-45	41

1. Ancillary data from Hisar, BISA-Ladhowal, Bulandshahr, Delhi, Karnal, Ludhiana and Sri Ganganagar centres.
2. Lodging data from BISA-Ladhowal, Delhi, and Karnal centres.
3. Yellow rust and brown rust data from Hisar and Karnal centres.

NIVT-6-IR-ES-TAS, 2023-24
North Western Plains Zone
Individual Station Rust Data

SN	Variety	Code	Yellow rust		Brown rust	
			Hisar	Karnal	Hisar	Karnal
1.	UP3148	N901	0	0	0	0
2.	DBW473	N902	10S	5MR	5S	0
3.	PBW934	N903	0	5MR	0	0
4.	PBW931	N904	0	0	0	0
5.	DBW474	N905	0	5MR	0	5S
6.	PBW932	N908	10S	5S	5S	0
7.	MP1406	N909	0	20S	0	0
8.	HD3489	N910	0	0	0	0
9.	WH1334	N911	5S	10S	0	0
10.	DBW475	N913	0	40S	5S	0
11.	GW568	N914	10S	60S	5S	0
12.	DBW471	N915	10S	5MR	5S	0
13.	PBW935	N916	0	10MS	0	0
14.	DBW472	N917	5S	20MS	0	0
15.	HD3492	N918	30S	40S	10S	0
16.	HD3491	N920	0	0	0	0
17.	Raj4591	N921	0	0	0	0
18.	WH1333	N922	0	5S	0	0
19.	PBW933	N923	0	10MR	0	0
20.	HD3490	N924	0	5MR	5S	0
21.	GW564	N925	30S	60S	10S	0
22.	DBW327 (C)	N906	0	10S	5S	10S
23.	DBW187 (C)	N907	0	0	0	0
24.	GW322 (C)	N912	0	20S	5S	0
25.	DBW303 (C)	N919	0	5MR	5S	0

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: NIVT-6-IR-ES-TAS-, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics							Grain Characteristic	
			Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	UP3148	N901	0	66-96	84	118-146	134	83-102	94	0	30-47	39
2	DBW473	N902	tMS	56-78	68	106-131	122	80-100	89	0	37-50	46
3	PBW934	N903	0	55-78	65	97-131	118	78-89	82	0	38-52	48
4	PBW931	N904	0	53-79	65	99-128	119	78-100	88	0	38-46	44
5	DBW474	N905	tR	56-79	67	98-130	120	80-94	88	5	43-55	51
6	PBW932	N908	0	60-82	71	107-135	123	72-91	83	0	33-54	42
7	MP1406	N909	0	57-87	74	108-133	124	77-95	86	0	37-51	48
8	HD3489	N910	0	52-70	59	97-127	116	67-96	82	0	35-46	43
9	WH1334	N911	tR	56-81	69	100-129	120	74-94	86	0	40-54	50
10	DBW475	N913	0	58-80	69	108-130	121	77-100	90	0	35-52	46
11	GW568	N914	0	53-72	61	96-126	117	62-83	72	0	36-48	44
12	DBW471	N915	0	51-70	61	97-126	115	72-93	83	10	38-54	46
13	PBW935	N916	0	55-81	67	100-126	119	80-95	90	20	40-56	50
14	DBW472	N917	0	50-69	58	97-128	117	69-96	81	0	38-52	49
15	HD3492	N918	0	51-74	60	96-125	116	55-79	71	0	37-51	46
16	HD3491	N920	tMS	57-88	73	114-133	126	86-105	96	15	36-44	39
17	Raj4591	N921	tR	56-78	64	111-133	122	86-101	93	0	37-46	43
18	WH1333	N922	tMS	51-71	61	99-127	118	72-100	88	5	36-55	48
19	PBW933	N923	10S	64-97	79	113-135	127	77-105	97	0	41-56	48
20	HD3490	N924	0	52-77	64	97-129	119	72-99	87	40	37-46	42
21	GW564	N925	0	52-72	61	96-126	118	72-103	89	10	36-50	46
22	DBW327 (C)	N906	0	56-73	66	101-130	120	79-97	88	5	42-53	49
23	DBW187 (C)	N907	0	55-75	65	97-127	117	84-95	89	30	41-56	49
24	GW322 (C)	N912	0	55-76	65	106-125	119	79-96	87	5	32-48	42
25	DBW303 (C)	N919	0	53-78	64	98-132	120	72-98	86	0	38-47	43

1. Ancillary data from Bilaspur, BISA-Jabalpur, JNKVV-Jabalpur, Indore, Junagadh, Powarkheda and Vijapur centres.
2. Lodging data from BISA-Jabalpur and Vijapur centres.
3. Black rust data from Vijapur centre.

Northern Hills Zone

2311-AVT-RF-TS-TAS-NHZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	H.P.									UTK				
			Malan			Shimla			Bajaura			Almora			Majhera		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	VL2059[M]	NHRF103	36.3	5	0	22.6	5	0	32.3	2	0	26.8	4	0	19.9	5	0
2	HS562 (C)	NHRF101	38.9	3	0	33.2	2	0	29.5	5	0	39.2	2	0	22.5	4	1
3	VL907 (C)	NHRF102	45.1	1	1	31.3	3	0	29.6	3	0	22.6	5	0	25.6	1	1
4	VL2041 (C)	NHRF104	36.7	4	0	37.2	1	1	35.5	1	1	42.1	1	1	22.9	3	1
5	HPW349 (C)	NHRF105	39.1	2	0	29.5	4	0	29.5	4	0	29.3	3	0	24.6	2	1
G.M.			39.2			30.8			31.3			32.0			23.1		
S.E.(M)			1.341			0.893			0.320			0.757			1.376		
C.D. (10%)			3.3			2.2			0.8			1.8			3.3		
C.V.			8.4			7.1			2.5			5.8			14.6		
D.O.S.(dd.mm.yy)			25.10.23			17.10.23			19.10.23			17.10.23			30.10.23		

No. of Trials : Proposed = 09 Conducted = 09
Trials not conducted (0) = Nil
Trials not reported (01) = Imphal (LSM)

2311-AVT-RF-TS-TAS-NHZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	UTK			J&K					
			Gaja			Khudwani			Wadura		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	VL2059[M]	NHRF103	27.9	3	0	34.2	4	0	54.6	2	1
2	HS562 (C)	NHRF101	26.9	4	0	38.3	2	0	58.3	1	1
3	VL907 (C)	NHRF102	33.8	1	1	32.6	5	0	54.6	3	1
4	VL2041 (C)	NHRF104	26.1	5	0	35.4	3	0	38.8	5	0
5	HPW349 (C)	NHRF105	30.2	2	0	46.4	1	1	54.2	4	1
G.M.			29.0			37.4			52.1		
S.E.(M)			1.297			1.486			2.164		
C.D. (10%)			3.1			3.6			5.3		
C.V.			11.0			9.7			10.2		
D.O.S.(dd.mm.yy)			26.10.23			20.10.23			15.10.23		

2311-AVT-RF-TS-TAS-NHZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	H.P.			UTK			J&K			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	VL2059[M]	NHRF103	30.4	5	0	24.9	5	0	44.4	3	0	31.8	5	0
2	HS562 (C)	NHRF101	33.9	3	0	29.5	2	1	48.3	2	1	35.8	1	1
3	VL907 (C)	NHRF102	35.3	2	1	27.3	4	0	43.6	4	0	34.4	3	0
4	VL2041 (C)	NHRF104	36.5	1	1	30.4	1	1	37.1	5	0	34.3	4	0
5	HPW349 (C)	NHRF105	32.7	4	0	28.0	3	0	50.3	1	1	35.3	2	1
G.M.			33.8			28.0			44.8			34.4		
S.E.(M)			0.548			0.679			1.313			0.463		
C.D. (10%)			1.3			1.6			3.1			1.1		

Summary of Disease Data and Agronomic Characteristics

Northern Hills Zone **Trial: AVT-RF-TS-TAS-NHZ, 2023-24**

SN	Variety	Code	Disease Reaction			Agronomic Characteristics						Grain Characteristics	
			Yl	Br	PM	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	VL2059[M]	NHRF103	0	0	2	76-192	128	149-236	188	79-118	94	33-48	42
2	HS562 (C)	NHRF101	10S	5S	3	75-196	141	150-238	191	76-107	92	34-55	45
3	VL907 (C)	NHRF102	0	0	2	76-184	135	150-230	190	72-104	90	38-54	47
4	VL2041 (C)	NHRF104	20S	0	3	61-196	141	154-242	193	89-118	102	35-57	49
5	HPW349 (C)	NHRF105	5S	0	3	76-198	137	149-244	191	73-110	90	36-58	44

1. Ancillary data from Almora, Bajaura, Khudwani, Imphal, Majhera, Malan, Ranichauri, Shimla and Wadura.
2. Disease data from Malan Centre only.

2312-IVT-RF-TS-TAS-NHZ, 2023-24

LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	H.P.									UTK					
			Malan			Shimla			Bajaura			Almora			Gaja		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HPW500	NHIVT202	46.3	1	1	34.3	4	1	31.6	4	1	36.1	3	0	31.4	5	1
2	VL2056	NHIVT203	36.9	8	0	34.9	3	1	30.1	6	0	24.6	10	0	30.5	8	0
3	UP3149	NHIVT204	28.9	13	0	25.2	12	0	29.4	9	0	18.0	15	0	20.3	16	0
4	VL2057	NHIVT205	38.4	6	0	35.2	2	1	30.0	7	0	35.6	4	0	36.8	1	1
5	SKW367	NHIVT206	22.2	15	0	26.1	10	0	24.6	16	0	24.0	11	0	32.0	4	1
6	VL2055	NHIVT207	25.0	14	0	13.3	16	0	28.4	12	0	17.1	16	0	26.8	12	0
7	HPW502	NHIVT208	35.9	10	0	26.5	9	0	29.9	8	0	26.7	8	0	23.9	13	0
8	HS701	NHIVT209	35.8	11	0	37.2	1	1	28.3	13	0	30.3	6	0	28.8	11	0
9	HS702	NHIVT210	32.1	12	0	23.1	14	0	28.6	11	0	27.9	7	0	22.0	14	0
10	HS700	NHIVT211	21.4	16	0	26.1	11	0	26.9	15	0	30.8	5	0	29.7	9	0
11	HPW499	NHIVT212	40.5	4	0	23.3	13	0	33.4	1	1	21.2	13	0	21.1	15	0
12	VL2058	NHIVT213	43.0	3	0	31.6	7	0	28.7	10	0	25.0	9	0	34.3	2	1
13	HD3493	NHIVT214	39.9	5	0	28.0	8	0	32.1	3	1	23.3	12	0	30.8	6	0
14	HPW501	NHIVT215	37.5	7	0	22.4	15	0	30.8	5	0	18.9	14	0	30.7	7	0
15	HS507(C)	NHIVT201	43.1	2	1	31.8	6	0	32.2	2	1	38.8	2	0	29.4	10	0
16	HS562(C)	NHIVT216	36.8	9	0	32.9	5	0	27.7	14	0	43.3	1	1	32.8	3	1
G.M.			35.2			28.2			29.5			27.6			28.8		
S.E.(M)			1.382			1.588			0.827			0.916			2.365		
C.D.(10%)			3.3			3.8			2.0			2.2			5.6		
C.V.			7.8			11.2			5.6			6.6			16.4		
D.O.S.(dd.mm.yy)			24.10.23			17.10.23			20.10.23			16.10.23			26.10.23		

No. of Trials : Proposed = 09 Conducted=09
Trial not conducted (00) = Nil
Trials not reported (02) = Imphal (LSM), Majhera (LSM)

2312-IVT-RF-TS-TAS-NHZ, 2023-24

LOCATIONWISE MEAN YIELD(q/ha)

SN	Variety	Code	J&K					
			Khudwani			Wadura		
			Yield	Rk	G	Yield	Rk	G
1	HPW500	NHIVT202	26.3	8	0	48.9	7	1
2	VL2056	NHIVT203	28.8	5	0	50.8	2	1
3	UP3149	NHIVT204	29.6	4	0	42.4	9	0
4	VL2057	NHIVT205	25.6	11	0	50.1	4	1
5	SKW367	NHIVT206	33.6	2	1	34.0	14	0
6	VL2055	NHIVT207	24.6	14	0	43.0	8	0
7	HPW502	NHIVT208	25.5	12	0	34.9	13	0
8	HS701	NHIVT209	23.9	16	0	25.4	16	0
9	HS702	NHIVT210	25.7	10	0	50.2	3	1
10	HS700	NHIVT211	28.5	6	0	36.2	12	0
11	HPW499	NHIVT212	25.1	13	0	49.9	5	1
12	VL2058	NHIVT213	24.3	15	0	49.0	6	1
13	HD3493	NHIVT214	26.3	8	0	38.6	10	0
14	HPW501	NHIVT215	28.3	7	0	26.8	15	0
15	HS507(C)	NHIVT201	35.4	1	1	51.8	1	1
16	HS562(C)	NHIVT216	30.6	3	0	36.9	11	0
G.M.			27.6			41.8		
S.E.(M)			1.638			1.751		
C.D.(10%)			3.9			4.2		
C.V.			11.9			8.4		
D.O.S.(dd.mm.yy)			21.10.23			15.10.23		

2312-IVT-RF-TS-TAS-NHZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	H.P.			UTK			J&K			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HPW500	NHIVT202	37.4	1	1	33.8	4	0	37.6	5	0	36.4	2	1
2	VL2056	NHIVT203	33.9	5	0	27.6	9	0	39.8	2	0	33.8	5	0
3	UP3149	NHIVT204	27.9	13	0	19.1	16	0	36.0	8	0	27.7	15	0
4	VL2057	NHIVT205	34.5	3	0	36.2	2	1	37.9	4	0	36.0	3	0
5	SKW367	NHIVT206	24.3	15	0	28.0	8	0	33.8	9	0	28.1	13	0
6	VL2055	NHIVT207	22.2	16	0	21.9	14	0	33.8	10	0	25.4	16	0
7	HPW502	NHIVT208	30.8	10	0	25.3	11	0	30.2	14	0	29.0	11	0
8	HS701	NHIVT209	33.7	6	0	29.6	7	0	24.7	16	0	30.0	9	0
9	HS702	NHIVT210	27.9	12	0	25.0	12	0	38.0	3	0	29.9	10	0
10	HS700	NHIVT211	24.8	14	0	30.2	5	0	32.3	13	0	28.5	12	0
11	HPW499	NHIVT212	32.4	9	0	21.1	15	0	37.5	6	0	30.6	8	0
12	VL2058	NHIVT213	34.4	4	0	29.7	6	0	36.7	7	0	33.7	6	0
13	HD3493	NHIVT214	33.3	7	0	27.0	10	0	32.4	12	0	31.3	7	0
14	HPW501	NHIVT215	30.2	11	0	24.8	13	0	27.6	15	0	27.9	14	0
15	HS507(C)	NHIVT201	35.7	2	1	34.1	3	0	43.6	1	1	37.5	1	1
16	HS562(C)	NHIVT216	32.5	8	0	38.0	1	1	33.8	11	0	34.4	4	0
G.M.			31.0			28.2			34.7			31.3		
S.E.(M)			0.754			1.268			1.199			0.594		
C.D.(10%)			1.8			3.0			2.8			1.4		

Summary of Disease Data and Agronomic Characteristics

Northern Hills Zone **Trial: IVT-RF-TS-TAS-NHZ, 2023-24**

SN	Variety	Code	Disease Reaction			Agronomic Characteristics						Grain Characteristics	
			Yl	Br	PM	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	HPW500	NHIVT202	5S	0	3	78-186	128	147-240	195	86-108	96	42-61	49
2	VL2056	NHIVT203	0	0	2	77-193	133	148-239	196	83-120	92	41-53	46
3	UP3149	NHIVT204	5S	0	2	74-198	138	146-243	196	106-196	96	41-53	47
4	VL2057	NHIVT205	5S	0	3	78-199	141	146-242	196	99-196	90	35-50	43
5	SKW367	NHIVT206	0	0	2	78-198	132	147-242	198	73-105	86	40-53	46
6	VL2055	NHIVT207	0	0	3	74-200	131	147-243	198	85-112	97	39-59	50
7	HPW502	NHIVT208	0	0	3	74-198	132	146-242	195	84-113	97	46-55	50
8	HS701	NHIVT209	0	0	2	76-196	133	148-243	197	105-197	95	43-53	49
9	HS702	NHIVT210	0	0	2	77-196	132	147-240	195	100-195	91	39-59	46
10	HS700	NHIVT211	0	0	2	77-194	131	146-241	196	79-106	93	45-62	52
11	HPW499	NHIVT212	0	0	2	74-195	127	146-241	196	81-115	93	39-63	49
12	VL2058	NHIVT213	0	0	2	77-195	135	147-239	196	73-106	92	37-51	44
13	HD3493	NHIVT214	0	0	2	75-199	136	147-242	197	104-197	96	39-52	45
14	HPW501	NHIVT215	0	0	3	74-199	127	146-241	196	102-196	91	35-53	44
15	HS507(C)	NHIVT201	0	0	3	74-194	140	148-241	197	75-105	92	37-53	44
16	HS562(C)	NHIVT216	0	10S	3	74-188	137	146-240	197	78-111	92	42-59	48

1. Ancillary data from Almora, Bajaura, Imphal, Khudwani, Majhera, Malan, Ranichauri, Shimla and Wadura.
2. Yellow and Brown rust data from Malan;
3. Powdery mildew data from Malan

2313-IVT/AVT-LS-RI-TAS-NHZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	H.P.									UTK					
			Malan			Shimla			Bajaura			Almora			Majhera		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	VL3031	NHIVT302	23.0	14	0	25.8	2	0	35.5	5	0	30.7	2	0	23.2	2	0
2	HS703	NHIVT303	25.1	11	0	19.7	13	0	30.2	13	0	21.8	11	0	20.8	10	0
3	VL3033	NHIVT304	34.6	3	1	24.3	7	0	33.2	12	0	29.5	3	0	23.1	3	0
4	HPW504	NHIVT305	38.3	2	1	22.9	9	0	35.0	6	0	21.3	12	0	21.6	9	0
5	VL3036^{M}	NHIVT307	25.7	9	0	21.5	12	0	38.7	2	1	17.7	14	0	23.1	4	0
6	HS704	NHIVT308	28.8	6	0	24.9	6	0	33.7	11	0	24.6	5	0	20.1	11	0
7	HPW503	NHIVT309	34.4	4	0	22.5	11	0	35.8	4	0	24.3	7	0	18.6	12	0
8	VL3035	NHIVT310	23.7	12	0	25.7	3	0	34.9	8	0	23.3	8	0	17.9	14	0
9	HS705	NHIVT311	28.8	7	0	22.8	10	0	27.8	14	0	25.4	4	0	22.3	7	0
10	VL3034	NHIVT312	28.1	8	0	24.0	8	0	39.4	1	1	24.6	5	0	32.0	1	1
11	HPW505	NHIVT313	23.0	13	0	17.6	14	0	33.8	9	0	22.8	9	0	21.6	8	0
12	HS698	NHIVT314	25.5	10	0	29.1	1	1	33.8	10	0	19.7	13	0	23.1	5	0
13	HS490(C)	NHIVT301	39.3	1	1	25.4	4	0	35.0	7	0	33.2	1	1	17.9	13	0
14	VL892(C)	NHIVT306	33.2	5	0	25.1	5	0	38.5	3	1	22.6	10	0	22.4	6	0
G.M.			29.4			23.7			34.7			24.4			22.0		
S.E.(M)			1.674			0.868			0.474			0.762			1.540		
C.D.(10%)			4.8			2.5			1.4			2.2			4.4		
C.V.			11.4			7.3			2.7			6.2			14.0		
D.O.S.(dd.mm.yy)			01.12.23			08.12.23			07.12.23			08.12.23			04.12.23		

No. of Trials : Proposed = 07 Conducted=07

Trial not conducted (00) = Nil

Trials not reported (02) = Gaja (LSM), Imphal (LS,LSM)

2313-IVT/AVT-LS-RI-TAS-NHZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	H.P.			UTK			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	VL3031	NHIVT302	28.1	10	0	26.9	2	1	27.6	6	0
2	HS703	NHIVT303	25.0	13	0	21.3	12	0	23.5	14	0
3	VL3033	NHIVT304	30.7	5	0	26.3	3	1	29.0	3	1
4	HPW504	NHIVT305	32.1	3	1	21.4	10	0	27.8	5	0
5	VL3036^{M}	NHIVT307	28.7	9	0	20.4	14	0	25.3	11	0
6	HS704	NHIVT308	29.2	8	0	22.3	7	0	26.4	8	0
7	HPW503	NHIVT309	30.9	4	0	21.5	9	0	27.1	7	0
8	VL3035	NHIVT310	28.1	11	0	20.6	13	0	25.1	12	0
9	HS705	NHIVT311	26.4	12	0	23.9	5	0	25.4	10	0
10	VL3034	NHIVT312	30.5	6	0	28.3	1	1	29.6	2	1
11	HPW505	NHIVT313	24.8	14	0	22.2	8	0	23.8	13	0
12	HS698	NHIVT314	29.5	7	0	21.4	11	0	26.2	9	0
13	HS490(C)	NHIVT301	33.2	1	1	25.5	4	0	30.1	1	1
14	VL892(C)	NHIVT306	32.3	2	1	22.5	6	0	28.4	4	0
G.M.			29.2			23.2			26.8		
S.E.(M)			0.648			0.859			0.519		
C.D.(10%)			1.5			2.0			1.2		

Summary of Disease Data and Agronomic Characteristics

Northern Hills Zone **Trial: IVT/AVT-LS-RI-TAS-NHZ, 2023-24**

SN	Variety	Code	Disease Reaction			Agronomic Characteristics						Grain Characteristics	
			Yl	Br	PM	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	VL3031	NHIVT302	0	tS	1	69-138	114	121-170	152	68-96	81	32-51	44
2	HS703	NHIVT303	0	10MR	5	73-138	117	122-173	155	69-102	81	31-50	40
3	VL3033	NHIVT304	10S	0	1	66-138	110	122-166	149	67-88	79	36-49	42
4	HPW504	NHIVT305	0	0	2	63-133	107	121-166	149	62-88	79	33-48	41
5	VL3036[M]	NHIVT307	0	0	2	63-132	109	122-166	149	67-94	77	29-49	39
6	HS704	NHIVT308	0	0	3	68-128	109	122-168	150	71-100	83	34-50	44
7	HPW503	NHIVT309	5S	5R	1	63-138	109	121-170	150	74-95	87	34-52	45
8	VL3035	NHIVT310	tS	5S	5	63-138	109	121-163	148	63-86	77	42-57	49
9	HS705	NHIVT311	20S	tS	1	66-133	112	122-170	151	65-102	81	40-52	46
10	VL3034	NHIVT312	tS	5S	3	69-139	113	122-167	150	63-109	81	35-45	40
11	HPW505	NHIVT313	5S	5S	4	67-138	110	121-166	150	75-103	86	35-49	41
12	HS698	NHIVT314	0	0	4	67-132	109	122-170	151	66-92	84	33-50	42
13	HS490(C)	NHIVT301	0	tS	1	69-133	113	121-169	151	69-115	88	38-53	45
14	VL892(C)	NHIVT306	0	10MR	2	65-132	108	121-165	149	57-100	81	31-47	38

1. Ancillary data from Almora,Bajaura, Imphal, Majhera, Malan, Ranichauri and Shimla.
2. Yellow rust data from Almora and Malan;
3. Brown rust data from Almora and Imphal.
4 .Powdery mildew data from Almora, Imphal and Malan.

North Western Plains Zone

2321-AVT-IR-TS-TAS-NWPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Delhi			J & K			Punjab						Haryana						Rajasthan					
			Delhi			Jammu			Ludhiana			Gurdaspur			Hisar			Bawal			Sriganganagar			Durgapura		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1668*	NWTS104	76.4	5	1	65.1	1	1	67.5	11	0	68.5	3	0	75.2	1	1	71.8	2	1	78.2	4	0	63.5	7	0
2	DBW386*	NWTS109	75.2	9	0	60.3	8	0	67.5	10	0	70.4	2	1	69.9	3	0	76.5	1	1	79.3	3	0	65.1	5	0
3	DBW477[M]	NWTS102	61.9	17	0	61.0	5	1	66.7	12	0	61.5	10	0	67.2	4	0	58.2	9	0	70.7	9	0	59.7	13	0
4	PBW957[M]	NWTS105	75.8	8	1	60.3	7	0	63.2	16	0	64.8	7	0	57.6	13	0	57.7	10	0	53.5	18	0	61.1	12	0
5	DBW417	NWTS107	75.9	7	1	57.4	14	0	66.7	13	0	56.5	15	0	50.6	16	0	62.4	5	0	64.2	14	0	57.9	15	0
6	HD3471[M]	NWTS108	66.5	14	0	60.2	9	0	74.6	3	1	63.2	8	0	58.9	11	0	67.7	3	0	63.3	15	0	62.9	8	0
7	PBW916	NWTS113	75.2	10	0	55.2	18	0	70.0	7	0	54.9	16	0	59.0	9	0	44.7	18	0	69.9	10	0	54.0	18	0
8	PBW958[M]	NWTS114	67.7	11	0	58.8	12	0	71.9	5	1	65.3	6	0	52.3	15	0	55.6	16	0	68.4	11	0	57.9	16	0
9	DBW476[M]	NWTS117	62.4	16	0	55.9	17	0	69.8	8	0	57.8	13	0	55.5	14	0	55.2	17	0	64.5	13	0	62.0	10	0
10	HD3494[M]	NWTS118	66.2	15	0	57.0	16	0	63.2	17	0	56.5	14	0	48.6	18	0	57.3	11	0	66.1	12	0	61.6	11	0
11	PBW725 (C)	NWTS101	79.4	3	1	59.7	11	0	75.6	2	1	61.3	11	0	58.9	10	0	56.3	13	0	72.6	7	0	66.3	4	0
12	DBW88 (C)	NWTS103	76.0	6	1	57.9	13	0	65.1	15	0	50.4	17	0	58.6	12	0	56.1	14	0	75.3	5	0	59.3	14	0
13	HD2967 (C)	NWTS106	61.0	18	0	62.7	3	1	58.2	18	0	46.4	18	0	49.1	17	0	56.8	12	0	58.9	16	0	67.7	3	0
14	HD3086 (C)	NWTS110	67.7	12	0	60.1	10	0	69.3	9	0	67.2	4	0	60.6	8	0	61.5	6	0	53.5	17	0	54.8	17	0
15	DBW187 (C)	NWTS111	78.9	4	1	57.1	15	0	66.5	14	0	62.6	9	0	63.8	7	0	59.2	8	0	75.1	6	0	62.8	9	0
16	DBW222 (C)	NWTS112	80.1	2	1	60.6	6	1	70.0	6	0	61.3	12	0	66.4	5	0	59.2	7	0	84.0	2	1	68.8	2	0
17	PBW826 (C)	NWTS116	67.0	13	0	61.7	4	1	77.1	1	1	73.5	1	1	66.1	6	0	55.7	15	0	71.8	8	0	64.2	6	0
18	HD3386(I)(C)	NWTS115	83.0	1	1	63.5	2	1	73.9	4	1	67.0	5	0	72.9	2	1	63.9	4	0	85.0	1	1	75.0	1	1
G.M.			72.0			59.7			68.7			61.6			60.6			59.8			69.7			62.5		
S.E.(M)			3.256			1.928			2.787			1.685			1.678			2.457			1.609			2.274		
C.D. (10%)			7.7			4.6			6.6			4.0			4.0			5.8			3.8			5.4		
C.V.			9.0			6.5			8.1			5.5			5.5			8.2			4.6			7.3		
D.O.S.(dd.mm.yy)			01.11.23			07.11.23			02.11.23			05.11.23			10.11.23			15.11.23			01.11.23			06.11.23		

No. of Trials : Proposed = 13
Conducted = 13
Trial not conducted (00) = Nil
Trials not reported (01) = Karnal (LSM)

LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	U.P.									UTK		
			Bulandshahr			Modipuram			Nagina			Pantnagar		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1668*	NWTS104	70.5	6	1	53.6	12	0	66.2	1	1	65.5	2	1
2	DBW386*	NWTS109	73.4	1	1	56.0	2	1	60.5	4	0	66.5	1	1
3	DBW477[M]	NWTS102	65.3	14	0	51.7	16	0	60.0	5	0	59.1	13	0
4	PBW957[M]	NWTS105	70.3	7	1	53.3	13	0	52.1	14	0	62.0	8	0
5	DBW417	NWTS107	64.8	16	0	47.7	18	0	58.8	8	0	62.8	5	0
6	HD3471[M]	NWTS108	68.4	9	1	53.3	14	0	53.0	13	0	62.1	7	0
7	PBW916	NWTS113	70.8	5	1	51.1	17	0	49.8	18	0	64.5	3	1
8	PBW958[M]	NWTS114	71.7	3	1	54.1	11	0	51.8	15	0	56.5	17	0
9	DBW476[M]	NWTS117	62.3	17	0	54.9	8	0	57.7	11	0	61.5	10	0
10	HD3494[M]	NWTS118	56.9	18	0	54.3	10	0	50.5	16	0	57.4	16	0
11	PBW725 (C)	NWTS101	64.8	15	0	52.1	15	0	59.5	6	0	63.2	4	0
12	DBW88 (C)	NWTS103	65.6	13	0	55.6	3	1	62.2	2	0	61.8	9	0
13	HD2967 (C)	NWTS106	65.8	12	1	55.0	6	0	50.2	17	0	52.3	18	0
14	HD3086 (C)	NWTS110	67.9	10	1	56.6	1	1	58.7	9	0	61.4	11	0
15	DBW187 (C)	NWTS111	67.4	11	1	55.0	5	1	61.8	3	0	58.6	14	0
16	DBW222 (C)	NWTS112	71.9	2	1	54.9	7	0	53.3	12	0	62.4	6	0
17	PBW826 (C)	NWTS116	71.4	4	1	55.4	4	1	58.2	10	0	58.4	15	0
18	HD3386(I)(C)	NWTS115	70.1	8	1	54.7	9	0	59.4	7	0	61.1	12	0
G.M.			67.7			53.8			56.9			61.0		
S.E.(M)			3.268			0.713			1.039			1.192		
C.D. (10%)			7.7			1.7			2.5			2.8		
C.V.			9.6			2.6			3.7			3.9		
D.O.S.(dd.mm.yy)			12.11.23			13.11.23			15.11.23			10.11.23		

2321-AVT-IR-TS-TAS-NWPZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Delhi			J & K			Punjab			Haryana			Rajasthan			U.P.			UTK			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1668*	NWTS104	76.4	5	1	65.1	1	1	68.0	8	0	73.5	1	1	70.8	4	0	63.4	1	1	65.5	2	1	68.5	2	1
2	DBW386*	NWTS109	75.2	9	0	60.3	8	0	69.0	3	0	73.2	2	1	72.2	3	0	63.3	2	1	66.5	1	1	68.4	3	1
3	DBW477[M]	NWTS102	61.9	17	0	61.0	5	1	64.1	11	0	62.7	6	0	65.2	9	0	59.0	10	0	59.1	13	0	61.9	10	0
4	PBW957[M]	NWTS105	75.8	8	1	60.3	7	0	64.0	12	0	57.7	10	0	57.3	17	0	58.6	12	0	62.0	8	0	61.0	13	0
5	DBW417	NWTS107	75.9	7	1	57.4	14	0	61.6	15	0	56.5	13	0	61.1	16	0	57.1	16	0	62.8	5	0	60.5	14	0
6	HD3471[M]	NWTS108	66.5	14	0	60.2	9	0	68.9	4	0	63.3	4	0	63.1	14	0	58.2	14	0	62.1	7	0	62.8	8	0
7	PBW916	NWTS113	75.2	10	0	55.2	18	0	62.4	14	0	51.8	18	0	61.9	15	0	57.2	15	0	64.5	3	1	59.9	16	0
8	PBW958[M]	NWTS114	67.7	11	0	58.8	12	0	68.6	5	0	53.9	15	0	63.2	13	0	59.2	9	0	56.5	17	0	61.0	12	0
9	DBW476[M]	NWTS117	62.4	16	0	55.9	17	0	63.8	13	0	55.3	14	0	63.3	11	0	58.3	13	0	61.5	10	0	60.0	15	0
10	HD3494[M]	NWTS118	66.2	15	0	57.0	16	0	59.8	16	0	53.0	16	0	63.9	10	0	53.9	18	0	57.4	16	0	58.0	17	0
11	PBW725 (C)	NWTS101	79.4	3	1	59.7	11	0	68.5	6	0	57.6	11	0	69.4	5	0	58.8	11	0	63.2	4	0	64.1	6	0
12	DBW88 (C)	NWTS103	76.0	6	1	57.9	13	0	57.8	17	0	57.4	12	0	67.3	8	0	61.1	6	1	61.8	9	0	62.0	9	0
13	HD2967 (C)	NWTS106	61.0	18	0	62.7	3	1	52.3	18	0	52.9	17	0	63.3	12	0	57.0	17	0	52.3	18	0	57.0	18	0
14	HD3086 (C)	NWTS110	67.7	12	0	60.1	10	0	68.3	7	0	61.1	8	0	54.2	18	0	61.1	7	1	61.4	11	0	61.6	11	0
15	DBW187 (C)	NWTS111	78.9	4	1	57.1	15	0	64.5	10	0	61.5	7	0	68.9	6	0	61.4	5	1	58.6	14	0	64.1	7	0
16	DBW222 (C)	NWTS112	80.1	2	1	60.6	6	1	65.7	9	0	62.8	5	0	76.4	2	0	60.1	8	0	62.4	6	0	66.1	4	0
17	PBW826 (C)	NWTS116	67.0	13	0	61.7	4	1	75.3	1	1	60.9	9	0	68.0	7	0	61.7	3	1	58.4	15	0	65.1	5	0
18	HD3386(I)(C)	NWTS115	83.0	1	1	63.5	2	1	70.5	2	0	68.4	3	0	80.0	1	1	61.4	4	1	61.1	12	0	69.1	1	1
G.M.			72.0			59.7			65.2			60.2			66.1			59.5			61.0			62.8		
S.E.(M)			3.256			1.928			1.628			1.488			1.393			1.167			1.192			0.619		
C.D. (10%)			7.7			4.6			3.8			3.5			3.3			2.7			2.8			1.4		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: AVT-IR-TS-TAS-NWPZ, 2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics							Grain Characteristics	
			Br	ACI	YI	ACI	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	HI1668*	NW-TS-104	10S	3.0	5S	1.3	66-105	94	129-149	142	97-125	112	40	41-63	51
2	DBW386*	NW-TS-109	20S	6.2	5S	3.2	78-105	96	130-152	143	92-118	103	30	40-64	49
3	DBW477[M]	NW-TS-102	5S	1.2	10S	2.0	76-109	100	134-150	144	90-110	103	40	30-51	40
4	PBW957[M]	NW-TS-105	10S	2.0	tMS	0.3	67-109	96	130-151	143	82-112	101	40	34-50	41
5	DBW417	NW-TS-107	10S	2.2	20S	9.0	79-109	100	129-157	145	94-117	108	40	37-60	47
6	HD3471[M]	NW-TS-108	10S	2.0	5S	1.4	72-107	97	130-152	143	94-118	107	40	33-58	45
7	PBW916	NW-TS-113	5S	1.0	tMR	0.1	79-113	103	132-156	145	92-116	105	25	42-65	48
8	PBW958[M]	NW-TS-114	15S	5.2	tMR	0.1	78-109	100	130-154	144	88-115	105	30	37-57	45
9	DBW476[M]	NW-TS-117	5S	1.0	10MS	2.4	78-109	100	135-158	145	94-114	105	40	32-50	40
10	HD3494[M]	NW-TS-118	5S	1.0	0	0.0	81-112	104	132-163	147	99-119	108	35	34-54	42
11	PBW725 (C)	NW-TS-101	10S	4.0	5MR	0.5	79-110	103	134-154	147	92-113	105	35	33-51	40
12	DBW88 (C)	NW-TS-103	10S	2.2	20S	12.6	79-111	100	135-155	146	88-112	104	35	30-45	39
13	HD2967 (C)	NW-TS-106	20S	5.0	60S	26.0	81-111	103	132-162	146	97-116	104	35	33-51	40
14	HD3086 (C)	NW-TS-110	60S	20.2	15S	3.8	75-105	95	130-153	143	94-112	100	15	34-50	42
15	DBW187 (C)	NW-TS-111	10S	2.0	40S	9.2	69-108	97	129-155	144	90-116	106	45	34-55	46
16	DBW222 (C)	NW-TS-112	0	0.0	20S	5.6	76-107	100	130-153	144	93-117	107	30	34-54	44
17	PBW826 (C)	NW-TS-116	60S	16.0	10S	4.2	78-105	95	128-151	143	91-110	100	10	41-58	48
18	HD3386(I) (C)	NW-TS-115	20S	6.2	20S	4.4	78-107	98	130-153	143	94-118	104	30	42-57	50

1. Ancillary data from Bawal, Bulandshahar, Delhi, Durgapura, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana, Nagina, Pantnagar andSriganganagar.
2. Lodging data from Delhi, Hisar and Karnal.
3. Yellow rust data from Hisar, Jammu, Karnal, Ludhiana and Pantnagar; Brown rust data from Gurdaspur,Hisar, Karnal, Ludhianaand Pantnagar.

AVT-IR-TS-TAS-NWPZ, 2023-24
Individual Station Rust Data

SN	Variety	Code	Yellow rust					Brown rust				
			Hisar	Jammu	Karnal	Ludhiana	Pantnagar	Gurdaspur	Hisar	Karnal	Ludhiana	Pantnagar
1	HI1668*	NW-TS-104	0	tS	0	tMR	5S	0	10S	0	0	5S
2	DBW386*	NW-TS-109	0	5S	5S	tMS	5S	0	tS	20S	0	10S
3	DBW477^{M}	NW-TS-102	0	0	10S	0	0	0	tS	5S	0	0
4	PBW957^{M}	NW-TS-105	0	tMS	0	tMS	0	0	0	0	0	10S
5	DBW417	NW-TS-107	0	5S	20S	15S	5S	0	tS	0	0	10S
6	HD3471^{M}	NW-TS-108	0	tS	0	tMS	5S	0	0	0	0	10S
7	PBW916	NW-TS-113	0	0	0	tMR	0	0	0	0	0	5S
8	PBW958^{M}	NW-TS-114	0	0	0	tMR	0	0	0	10S	tS	15S
9	DBW476^{M}	NW-TS-117	0	10MS	0	5MS	0	0	0	0	0	5S
10	HD3494^{M}	NW-TS-118	0	0	0	0	0	0	0	0	0	5S
11	PBW725 (C)	NW-TS-101	0	0	5MR	tMR	0	0	10S	0	0	10S
12	DBW88 (C)	NW-TS-103	10S	5MS	20S	30MS	5S	0	tS	0	0	10S
13	HD2967 (C)	NW-TS-106	10S	10MS	60S	40MS	20S	0	0	5S	0	20S
14	HD3086 (C)	NW-TS-110	0	15S	0	5MS	0	tS	0	60S	0	40S
15	DBW187 (C)	NW-TS-111	0	5MS	40S	5MR	0	0	0	0	0	10S
16	DBW222 (C)	NW-TS-112	0	5MS	20S	5MS	0	0	0	0	0	0
17	PBW826 (C)	NW-TS-116	0	10S	10S	tMS	0	0	0	20S	0	60S
18	HD3386(I) (C)	NW-TS-115	0	tS	20S	tMS	0	0	tS	20S	0	10S

2322-AVT-IR-LS-TAS-NWPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Delhi			J&K			Punjab						Haryana						Rajasthan			U.P.						UTK		
			Delhi			Jammu			Ludhiana			Gurdaspur			Hisar			Bawal			Karnal			Durgapura			Bulandshahr			Modipuram			Pantnagar		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HD3428*	NWLS202	77.2	4	1	41.8	6	0	54.8	2	1	52.8	3	0	50.2	7	0	44.2	7	0	47.9	7	0	43.8	12	0	70.0	4	1	41.3	7	0	53.0	7	0
2	WH1324	NWLS201	75.6	5	1	40.3	11	0	41.3	12	0	42.8	11	0	51.7	5	0	42.7	10	0	46.6	10	0	53.4	4	0	59.8	12	0	40.9	8	0	46.5	12	0
3	NW8071	NWLS203	68.2	11	0	41.4	8	0	47.4	11	0	49.1	8	0	46.4	12	0	43.2	9	0	50.1	4	1	54.2	3	0	66.2	8	0	39.5	10	0	51.2	9	0
4	HD3455	NWLS204	78.5	2	1	40.8	10	0	53.9	4	1	50.0	7	0	48.6	11	0	37.1	12	0	44.4	11	0	50.2	8	0	68.1	5	0	46.8	1	1	56.8	2	1
5	DBW422	NWLS208	78.5	1	1	42.4	5	1	53.9	3	1	56.9	1	1	49.8	8	0	45.3	4	0	50.8	2	1	53.0	5	0	74.1	1	1	44.2	3	0	47.9	11	0
6	PBW921	NWLS209	75.2	6	1	41.6	7	0	56.8	1	1	51.4	6	0	53.3	4	0	44.9	6	0	52.6	1	1	52.2	6	0	70.2	3	1	38.3	12	0	52.9	8	0
7	RAJ4581	NWLS210	74.9	7	1	42.4	4	1	52.0	8	1	48.3	9	0	48.6	10	0	38.5	11	0	49.9	6	1	58.3	2	1	66.4	7	0	44.6	2	0	56.8	3	1
8	HD3495[M]	NWLS211	72.6	8	1	45.9	1	1	47.8	10	0	52.9	2	0	61.9	1	1	48.9	1	1	47.3	9	0	50.1	9	0	63.3	11	0	39.1	11	0	50.9	10	0
9	HD3059(C)	NWLS205	61.0	12	0	40.0	12	0	53.8	5	1	39.8	12	0	48.7	9	0	45.1	5	0	42.9	12	0	51.6	7	0	64.4	10	0	43.7	5	0	54.7	4	0
10	PBW771(C)	NWLS206	69.1	10	0	41.0	9	0	52.9	7	1	51.6	5	0	51.2	6	0	45.4	3	0	47.4	8	0	60.3	1	1	72.9	2	1	42.6	6	0	54.3	6	0
11	JKW261(C)	NWLS207	77.5	3	1	43.1	3	1	53.2	6	1	52.1	4	0	54.4	3	0	43.4	8	0	50.7	3	1	49.7	10	0	66.7	6	0	39.7	9	0	58.4	1	1
12	DBW173(C)	NWLS212	70.0	9	0	43.4	2	1	50.7	9	0	47.2	10	0	58.5	2	1	45.5	2	0	50.0	5	1	47.5	11	0	64.8	9	0	43.8	4	0	54.7	5	0
G.M.			73.2			42.0			51.5			49.6			51.9			43.7			48.4			52.0			67.2			42.0			53.2		
S.E.(M)			2.520			1.618			2.163			1.464			1.604			1.352			1.676			1.399			1.711			0.872			1.077		
C.D.(10%)			6.0			3.9			5.2			3.5			3.8			3.2			4.0			3.4			4.1			2.1			2.6		
C.V.			6.9			7.7			8.4			5.9			6.2			6.2			6.9			5.4			5.1			4.1			4.1		
D.O.S.(dd.mm.yy)			07.12.23			12.12.23			05.12.23			05.12.23			08.12.23			14.12.23			12.12.23			14.12.23			15.12.23			13.12.23			15.12.23		

No. of Trials: Proposed = 12 Conducted = 12

Trial not conducted (00)=Nil

Trials not reported (01) = Nagina (LSM)

2322-AVT-IR-LS-TAS-NWPZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Delhi			J&K			Punjab			Haryana			Rajasthan			U.P.			UTK			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HD3428*	NWLS202	77.2	4	1	41.8	6	0	53.8	3	1	47.4	7	0	43.8	12	0	55.7	4	0	53.0	7	0	52.5	7	0
2	WH1324	NWLS201	75.6	5	1	40.3	11	0	42.1	12	0	47.0	8	0	53.4	4	0	50.4	12	0	46.5	12	0	49.3	12	0
3	NW8071	NWLS203	68.2	11	0	41.4	8	0	48.3	10	0	46.6	9	0	54.2	3	0	52.9	10	0	51.2	9	0	50.6	10	0
4	HD3455	NWLS204	78.5	2	1	40.8	10	0	51.9	6	0	43.4	12	0	50.2	8	0	57.4	3	1	56.8	2	1	52.3	9	0
5	DBW422	NWLS208	78.5	1	1	42.4	5	1	55.4	1	1	48.6	5	0	53.0	5	0	59.1	1	1	47.9	11	0	54.3	1	1
6	PBW921	NWLS209	75.2	6	1	41.6	7	0	54.1	2	1	50.3	3	0	52.2	6	0	54.3	7	0	52.9	8	0	53.6	2	1
7	RAJ4581	NWLS210	74.9	7	1	42.4	4	1	50.1	8	0	45.7	10	0	58.3	2	1	55.5	5	0	56.8	3	1	52.8	5	0
8	HD3495[M]	NWLS211	72.6	8	1	45.9	1	1	50.4	7	0	52.7	1	1	50.1	9	0	51.2	11	0	50.9	10	0	52.8	6	0
9	HD3059(C)	NWLS205	61.0	12	0	40.0	12	0	46.8	11	0	45.6	11	0	51.6	7	0	54.1	8	0	54.7	4	0	49.6	11	0
10	PBW771(C)	NWLS206	69.1	10	0	41.0	9	0	52.2	5	0	48.0	6	0	60.3	1	1	57.7	2	1	54.3	6	0	53.5	4	1
11	JKW261(C)	NWLS207	77.5	3	1	43.1	3	1	52.6	4	1	49.5	4	0	49.7	10	0	53.2	9	0	58.4	1	1	53.5	3	1
12	DBW173(C)	NWLS212	70.0	9	0	43.4	2	1	49.0	9	0	51.3	2	1	47.5	11	0	54.3	6	0	54.7	5	0	52.4	8	0
G.M.			73.2			42.0			50.6			48.0			52.0			54.6			53.2			52.3		
S.E.(M)			2.520			1.618			1.306			0.895			1.399			0.960			1.077			0.496		
C.D.(10%)			6.0			3.9			3.1			2.1			3.4			2.3			2.6			1.2		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: AVT-IR-LS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics							Grain Characteristics	
			Br	ACI	YI	ACI	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	HD3428*	NW-LS-202	tMR	0.1	10S	3.1	75-100	89	114-152	129	89-105	96	20	30-50	42
2	WH1324	NW-LS-201	0	0.0	5S	1.3	74-101	88	115-152	129	84-109	96	0	40-49	44
3	NW8071	NW-LS-203	0	0.0	20S	5.9	77-96	86	113-144	127	79-101	91	0	36-44	43
4	HD3455	NW-LS-204	tMR	0.1	tS	0.1	73-99	88	113-146	129	85-109	95	10	32-47	38
5	DBW422	NW-LS-208	0	0.0	10S	2.1	72-92	82	107-146	125	89-100	93	0	35-47	41
6	PBW921	NW-LS-209	0	0.0	40S	5.7	74-99	87	114-155	129	78-94	88	0	30-42	37
7	Raj4581	NW-LS-210	0	0.0	5MS	0.8	70-95	83	111-152	127	81-98	92	5	36-48	44
8	HD3495^{M}	NW-LS-211	0	0.0	10S	1.6	77-101	89	118-148	129	83-111	95	0	31-44	39
9	HD3059 (C)	NW-LS-205	5S	1.8	40S	13.9	78-101	89	113-151	129	90-105	95	10	34-45	39
10	PBW771(C)	NW-LS-206	0	0.0	10MS	2.4	76-95	86	113-148	127	80-100	88	0	32-47	40
11	JKW261(C)	NW-LS-207	10S	3.5	10S	5.0	76-101	89	115-150	129	81-107	95	0	29-44	35
12	DBW173(C)	NW-LS-212	0	0.0	10S	2.8	77-101	89	116-148	129	90-105	98	0	34-45	41

1. Ancillary data from Bawal, Bulandshahar, Delhi, Durgapura, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana, Nagina and Pantnagar.
2. Lodging data from Hisar and Karnal.
3. Yellow rust data from Delhi, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana and Pantnagar; Brown rust data from Pantnagar, Hisar and Delhi.

AVT-IR-LS-TAS, 2023-24
Individual Station Rust Data

SN	Variety	Code	Yellow rust							Brown rust		
			Delhi	Gurdaspur	Hisar	Jammu	Karnal	Ludhiana	Pantnagar	Pantnagar	Hisar	Delhi
1	HD3428*	NW-LS-202	0	tMS	0	tS	10S	5S	5S	0	0	tMR
2	WH1324	NW-LS-201	0	tMS	0	0	5MR	tS	5S	0	0	0
3	NW8071	NW-LS-203	10S	20S	0	0	10S	tS	0	0	0	0
4	HD3455	NW-LS-204	0	0	0	0	0	tS	0	0	0	tMR
5	DBW422	NW-LS-208	0	5MS	0	0	10S	tMS	0	0	0	0
6	PBW921	NW-LS-209	0	0	0	0	40S	0	0	0	0	0
7	Raj4581	NW-LS-210	0	tS	0	0	5MS	tMS	0	0	0	0
8	HD3495^{M}	NW-LS-211	0	0	0	0	10S	tMR	0	0	0	0
9	HD3059(C)	NW-LS-205	10S	10MS	30S	tS	40S	10MS	0	5S	0	tMR
10	PBW771(C)	NW-LS-206	0	10MS	5S	0	0	5MS	0	0	0	0
11	JKW261(C)	NW-LS-207	0	10MS	5S	5MS	10S	10MS	0	0	10S	tMR
12	DBW173(C)	NW-LS-212	0	tMS	tS	0	10S	10MS	0	0	0	0

2323-AVT-RI-TS-TAS-NWPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Delhi			J&K			Punjab						Haryana								
			Delhi			Jammu			Ludhiana			Gurdaspur			Hisar			Karnal			Bawal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	PBW927	NWRI304	64.8	4	1	59.8	4	1	48.4	2	1	53.6	1	1	43.4	10	0	57.5	5	0	44.5	8	0
2	JKW304	NWRI307	59.1	8	0	60.9	2	1	46.1	8	0	41.9	8	0	47.1	7	0	52.9	7	0	45.8	5	0
3	HD3468	NWRI309	64.9	3	1	63.6	1	1	41.6	10	0	52.2	2	1	48.8	4	0	57.0	6	0	48.0	3	1
4	WH1326	NWRI310	60.8	7	0	57.2	6	0	47.1	4	0	45.6	6	0	55.6	1	1	64.2	1	1	49.3	1	1
5	HD3369 (C)	NWRI302	68.8	1	1	54.2	7	0	47.6	3	0	43.1	7	0	48.5	5	0	51.4	8	0	43.6	10	0
6	HI1653 (C)	NWRI303	60.9	6	0	53.1	8	0	51.5	1	1	45.7	5	0	51.8	2	1	59.3	4	0	44.7	7	0
7	PBW644 (C)	NWRI305	55.2	10	0	60.6	3	1	43.8	9	0	38.7	9	0	45.4	9	0	49.7	10	0	44.1	9	0
8	NIAW3170(C)	NWRI306	57.3	9	0	51.6	9	0	46.6	5	0	38.3	10	0	45.7	8	0	51.0	9	0	48.1	2	1
9	DBW296 (C)	NWRI308	67.0	2	1	59.4	5	1	46.4	6	0	47.6	4	0	50.9	3	0	60.4	2	0	45.2	6	0
10	WH1402(I)(C)	NWRI301	62.8	5	0	51.0	10	0	46.2	7	0	48.0	3	0	48.4	6	0	59.4	3	0	46.6	4	0
G.M.			62.2			57.1			46.5			45.5			48.6			56.3			46.0		
S.E.(M)			1.698			2.238			1.590			1.346			1.727			1.547			1.143		
C.D. (10%)			4.1			5.4			3.8			3.2			4.2			3.7			2.8		
C.V.			5.5			7.8			6.8			5.9			7.1			5.5			5.0		
D.O.S.(dd.mm.yy)			03.11.23			30.10.23			30.10.23			26.10.23			02.11.23			28.10.23			04.11.23		

No. of Trials: Proposed & Conducted =13; Trial not conducted and reported (00)= Nil

SN	Variety	Code	U.P.									Rajasthan						UTK		
			Modipuram			Nagina			Bulandshahr			Sriganganaga			Durgapura			Pantnagar		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	PBW927	NWRI304	38.6	10	0	51.7	2	0	70.0	7	0	63.0	7	1	45.1	2	1	50.7	4	0
2	JKW304	NWRI307	47.5	4	0	45.2	7	0	76.6	2	1	62.9	8	0	38.6	8	0	49.8	6	0
3	HD3468	NWRI309	51.5	1	1	54.6	1	1	76.6	2	1	66.1	6	1	45.1	1	1	53.3	1	1
4	WH1326	NWRI310	43.1	8	0	45.6	6	0	75.3	4	1	61.9	9	0	38.7	7	0	45.4	10	0
5	HD3369 (C)	NWRI302	47.8	3	0	45.2	8	0	73.6	5	1	66.4	5	1	43.0	5	1	49.9	5	0
6	HI1653 (C)	NWRI303	48.0	2	0	44.4	9	0	78.6	1	1	71.0	1	1	43.6	4	1	48.0	8	0
7	PBW644 (C)	NWRI305	40.3	9	0	37.7	10	0	67.4	8	0	66.6	3	1	36.8	10	0	51.1	3	0
8	NIAW3170(C)	NWRI306	46.5	7	0	47.0	4	0	70.7	6	0	66.8	2	1	43.8	3	1	48.8	7	0
9	DBW296 (C)	NWRI308	47.1	6	0	47.0	3	0	64.2	10	0	59.3	10	0	40.2	6	0	52.2	2	1
10	WH1402(I)(C)	NWRI301	47.5	5	0	46.6	5	0	66.1	9	0	66.6	4	1	37.6	9	0	46.7	9	0
G.M.			45.8			46.5			71.9			65.1			41.2			49.6		
S.E.(M)			0.629			0.987			3.278			3.378			1.228			0.834		
C.D. (10%)			1.5			2.4			7.9			8.1			3.0			2.0		
C.V.			2.7			4.2			9.1			10.4			6.0			3.4		
D.O.S.(dd.mm.yy)			02.11.23			05.11.23			05.11.23			01.11.23			04.11.23			31.10.23		

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STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Delhi			J&K			Punjab			Haryana			U.P.			Rajasthan			UTK			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	PBW927	NWRI304	64.8	4	1	59.8	4	1	51.0	1	1	48.5	7	0	53.4	7	0	54.0	5	1	50.7	4	0	53.2	3	0
2	JKW304	NWRI307	59.1	8	0	60.9	2	1	44.0	8	0	48.6	6	0	56.4	3	0	50.7	8	0	49.8	6	0	51.9	7	0
3	HD3468	NWRI309	64.9	3	1	63.6	1	1	46.9	5	0	51.3	5	0	60.9	1	1	55.6	2	1	53.3	1	1	55.6	1	1
4	WH1326	NWRI310	60.8	7	0	57.2	6	0	46.3	6	0	56.4	1	1	54.7	6	0	50.3	9	0	45.4	10	0	53.1	4	0
5	HD3369 (C)	NWRI302	68.8	1	1	54.2	7	0	45.4	7	0	47.9	9	0	55.5	4	0	54.7	4	1	49.9	5	0	52.6	6	0
6	HI1653 (C)	NWRI303	60.9	6	0	53.1	8	0	48.6	2	1	51.9	3	0	57.0	2	0	57.3	1	1	48.0	8	0	53.9	2	0
7	PBW644 (C)	NWRI305	55.2	10	0	60.6	3	1	41.2	10	0	46.4	10	0	48.5	10	0	51.7	7	0	51.1	3	0	49.0	10	0
8	NIAW3170 (C)	NWRI306	57.3	9	0	51.6	9	0	42.5	9	0	48.3	8	0	54.7	5	0	55.3	3	1	48.8	7	0	50.9	9	0
9	DBW296 (C)	NWRI308	67.0	2	1	59.4	5	1	47.0	4	0	52.2	2	0	52.8	9	0	49.7	10	0	52.2	2	1	52.8	5	0
10	WH1402(I)(C)	NWRI301	62.8	5	0	51.0	10	0	47.1	3	0	51.4	4	0	53.4	8	0	52.1	6	0	46.7	9	0	51.8	8	0
G.M.			62.2			57.1			46.0			50.3			54.7			53.2			49.6			52.5		
S.E.(M)			1.698			2.238			1.042			0.862			1.160			1.797			0.834			0.514		
C.D. (10%)			4.1			5.4			2.5			2.0			2.7			4.2			2.0			1.2		

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: AVT-RI-TS-TAS, 2023-24**

SN	Variety	Code	Disease Reaction				Agronomic Characteristics							Grain Characteristics	
			Br	ACI	YI	ACI	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	PBW927	NW-RI-304	5S	2.2	5S	1.6	70-111	100	128-154	145	77-118	96	0	35-48	43
2	JKW304	NW-RI-307	40S	14.2	10MS	2.0	72-113	103	130-156	143	82-123	104	0	38-46	43
3	HD3468	NW-RI-309	60S	21.0	15S	7.2	67-104	96	132-162	147	70-123	102	0	32-45	40
4	WH1326	NW-RI-310	5S	1.0	5S	1.4	66-108	97	138-162	149	81-121	105	0	31-59	50
5	HD3369 (C)	NW-RI-302	40S	11.2	10S	3.2	71-113	99	127-155	145	77-120	101	5	38-54	46
6	HI1653 (C)	NW-RI-303	40S	9.0	tS	0.6	65-105	92	129-158	145	86-120	104	0	39-61	50
7	PBW644 (C)	NW-RI-305	60S	16.0	20S	8.4	71-113	100	127-156	147	83-123	105	10	39-48	43
8	NIAW3170 (C)	NW-RI-306	5S	2.0	15S	7.2	67-108	94	125-155	143	88-120	105	10	28-57	43
9	DBW296 (C)	NW-RI-308	10S	3.2	15S	3.6	75-113	103	138-160	150	73-113	100	10	28-50	43
10	WH1402(I) (C)	NW-RI-301	10S	3.0	tS	0.4	69-113	102	129-160	147	79-113	97	0	30-51	45

1. Ancillary data from Bawal, Bulandshahr, Delhi, Durgapura, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana, Nagina, Pantnagar and Sriganganagar
2. Lodging data from Pantnagar.
3. Yellow rust data from Hisar, Karnal, Gurdaspur, Jammu and Ludhiana; Brown rust data from Gurdaspur, Hisar, Karnal, Ludhiana and Pantnagar.

Individual Station Rust Data

SN	Variety	Code		Yellow rust				Brown rust				
			Hisar	Karnal	Gurdaspur	Jammu	Ludhiana	Karnal	Gurdaspur	Hisar	Ludhiana	Pantnagar
1	PBW927	NW-RI-304	0	5S	tS	tS	tMS	5S	0	0	tS	5S
2	JKW304	NW-RI-307	0	0	10MS	tS	tMS	20S	0	tS	10S	40S
3	HD3468	NW-RI-309	0	10S	15S	10S	tS	5S	0	0	40S	60S
4	WH1326	NW-RI-310	0	0	tS	5S	tS	0	0	0	0	5S
5	HD3369 (C)	NW-RI-302	0	0	5S	10S	tS	10S	0	tS	5S	40S
6	HI1653 (C)	NW-RI-303	0	0	tS	tS	tS	5S	0	0	0	40S
7	PBW644 (C)	NW-RI-305	tS	20S	10S	10S	tS	0	10S	0	10S	60S
8	NIAW3170 (C)	NW-RI-306	0	10S	10S	15S	tMS	5S	0	0	0	5S
9	DBW296 (C)	NW-RI-308	tS	0	tS	15S	tS	5S	0	0	tS	10S
10	WH1402(I) (C)	NW-RI-301	0	0	0	tS	tMS	5S	0	0	0	10S

North Eastern Plains Zone

2331-AVT-IR-TS-TAS-NEPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	U.P.						Bihar						W.Bengal									Jharkhand		
			Kanpur			Varanasi			Sabour			RPCAU-Pusa			Manikchak			Kalyani			Burdwan			Ranchi		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW386*	NETS112	58.4	9	0	56.0	5	0	47.2	8	0	44.3	10	0	62.7	8	1	39.6	13	0	38.8	13	0	56.6	2	1
2	UP3123	NETS101	47.0	15	0	43.3	14	0	37.5	15	0	41.7	12	0	55.9	15	0	40.3	12	0	36.0	14	0	52.1	5	0
3	HD3447	NETS102	63.6	4	1	33.8	16	0	34.8	16	0	35.5	15	0	57.0	14	0	38.2	15	0	28.6	16	0	48.3	11	0
4	PBW908	NETS103	51.3	12	0	63.0	1	1	40.2	12	0	50.3	3	0	65.4	2	1	47.7	1	1	47.8	3	1	42.4	13	0
5	PBW915	NETS104	62.9	5	0	56.7	4	0	50.9	5	0	53.6	1	1	65.4	3	1	47.0	2	1	44.5	5	0	59.9	1	1
6	HP1978	NETS109	54.1	10	0	55.6	6	0	43.0	9	0	44.3	9	0	63.6	7	1	46.8	3	1	44.2	7	0	55.2	3	1
7	KRL2106	NETS110	61.2	7	0	35.2	15	0	38.2	14	0	31.3	16	0	46.9	16	0	32.3	16	0	33.7	15	0	39.6	14	0
8	PBW913	NETS111	65.3	2	1	53.2	8	0	42.3	10	0	51.9	2	1	61.8	12	1	39.1	14	0	42.0	9	0	39.6	15	0
9	HD3467	NETS114	53.3	11	0	57.6	3	0	48.6	6	0	48.7	4	0	62.5	9	1	42.4	8	0	47.9	2	1	49.1	9	0
10	BCW29	NETS115	40.8	16	0	61.8	2	1	56.5	2	1	43.7	11	0	67.3	1	1	43.2	5	0	40.4	10	0	47.2	12	0
11	UP3124	NETS116	51.1	13	0	51.4	11	0	48.6	7	0	39.3	14	0	59.9	13	0	42.3	9	0	39.5	12	0	35.8	16	0
12	DBW222 (C)	NETS105	48.6	14	0	47.7	13	0	55.1	4	0	44.7	7	0	62.4	10	1	43.1	6	0	45.8	4	0	53.8	4	1
13	PBW826 (C)	NETS106	65.2	3	1	54.9	7	0	40.9	11	0	39.8	13	0	63.9	5	1	41.3	11	0	40.2	11	0	49.3	8	0
14	HD3249 (C)	NETS113	65.9	1	1	52.3	9	0	56.3	3	1	47.1	5	0	65.3	4	1	43.5	4	0	44.3	6	0	50.3	6	0
15	DBW187 (C)	NETS117	61.4	6	0	52.3	9	0	57.8	1	1	45.0	6	0	62.1	11	1	41.5	10	0	49.7	1	1	49.3	7	0
16	HD3388(I)(C)	NETS107	58.5	8	0	50.0	12	0	38.7	13	0	44.6	8	0	63.8	6	1	42.5	7	0	43.2	8	0	49.0	10	0
G.M.			56.8			51.5			46.0			44.1			61.6			41.9			41.7			48.6		
S.E.(M)			1.197			2.172			0.885			0.765			2.325			1.056			1.617			2.681		
C.D. (10%)			2.8			5.2			2.1			1.8			5.5			2.5			3.8			6.4		
C.V.			4.2			8.4			3.8			3.5			7.5			5.0			7.8			11.0		
D.O.S.(dd.mm.yy)			11.11.23			19.11.23			08.11.23			14.11.23			04.11.23			15.11.23			11.11.23			13.11.23		

No. of Trials : Proposed = 12 Conducted = 12

Trial not conducted (00) = Nil

Trials not reported (04) = Prayagraj (LSM), Ayodhya (LSM), Dumka (LSM), Shillongani (LSM)

2331-AVT-IR-TS-TAS-NEPZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	U.P.			Bihar			W.Bengal			Jharkhand			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW386*	NETS112	57.2	5	1	45.7	8	0	47.0	13	0	56.6	2	1	50.5	7	0
2	UP3123	NETS101	45.1	16	0	39.6	14	0	44.0	14	0	52.1	5	0	44.2	14	0
3	HD3447	NETS102	48.7	13	0	35.1	15	0	41.3	15	0	48.3	11	0	42.5	15	0
4	PBW908	NETS103	57.2	6	1	45.2	9	0	53.7	1	1	42.4	13	0	51.0	5	0
5	PBW915	NETS104	59.8	2	1	52.2	1	1	52.3	2	1	59.9	1	1	55.1	1	1
6	HP1978	NETS109	54.8	9	0	43.6	11	0	51.5	3	1	55.2	3	1	50.8	6	0
7	KRL2106	NETS110	48.2	14	0	34.7	16	0	37.6	16	0	39.6	14	0	39.8	16	0
8	PBW913	NETS111	59.3	3	1	47.1	7	0	47.6	11	0	39.6	15	0	49.4	11	0
9	HD3467	NETS114	55.4	8	0	48.7	6	0	50.9	6	0	49.1	9	0	51.3	4	0
10	BCW29	NETS115	51.3	11	0	50.1	4	0	50.3	8	0	47.2	12	0	50.1	9	0
11	UP3124	NETS116	51.3	12	0	43.9	10	0	47.2	12	0	35.8	16	0	46.0	13	0
12	DBW222 (C)	NETS105	48.1	15	0	49.9	5	0	50.5	7	0	53.8	4	1	50.2	8	0
13	PBW826 (C)	NETS106	60.0	1	1	40.4	13	0	48.4	10	0	49.3	8	0	49.4	10	0
14	HD3249 (C)	NETS113	59.1	4	1	51.7	2	1	51.0	5	0	50.3	6	0	53.1	2	0
15	DBW187 (C)	NETS117	56.9	7	0	51.4	3	1	51.1	4	0	49.3	7	0	52.4	3	0
16	HD3388(I)(C)	NETS107	54.3	10	0	41.6	12	0	49.8	9	0	49.0	10	0	48.8	12	0
G.M.			54.2			45.1			48.4			48.6			49.0		
S.E.(M)			1.240			0.585			1.007			2.681			0.610		
C.D. (10%)			2.9			1.4			2.4			6.4			1.4		

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial: AVT-IR-TS-TAS-NEPZ, 2023-24**

SN	Variety	Code	Disease reaction	Agronomic Characteristics						Grain Characteristics	
			LB, HS(Av)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	DBW386*	NETS112	47(35)	60-92	79	84-131	119	89-113	102	28-48	41
2	UP3123	NETS101	46(35)	65-94	81	90-132	121	85-105	96	27-54	41
3	HD3447	NETS102	47(35)	71-100	89	98-144	127	92-109	100	27-49	39
4	PBW908	NETS103	46(35)	63-92	81	86-133	120	86-103	95	35-50	43
5	PBW915	NETS104	57(24)	68-97	86	90-138	123	88-105	97	34-46	40
6	HP1978	NETS109	47(24)	69-98	87	94-141	125	92-107	98	32-48	42
7	KRL2106	NETS110	46(24)	61-115	95	115-147	135	91-113	105	23-43	33
8	PBW913	NETS111	47(35)	62-95	83	90-133	123	82-103	95	26-46	40
9	HD3467	NETS114	35(24)	64-97	85	92-136	124	91-110	101	35-51	42
10	BCW29	NETS115	35(24)	63-99	87	91-145	125	86-107	99	32-45	40
11	UP3124	NETS116	46(35)	61-92	80	87-132	120	87-102	95	34-46	43
12	DBW222 (C)	NETS105	47(35)	63-93	83	93-137	123	85-104	97	35-47	41
13	PBW826 (C)	NETS106	57(35)	60-90	80	88-132	121	81-97	92	35-52	46
14	HD3249 (C)	NETS113	68(35)	62-94	80	88-135	119	86-109	99	35-52	43
15	DBW187 (C)	NETS117	57(35)	63-93	80	89-132	120	89-108	97	30-49	42
16	HD3388(I) (C)	NETS107	58(35)	70-95	85	93-138	124	96-110	102	35-50	43

1. Ancillary data from Ayodhya, Sabour, Burdwan, Kalyani, Kanpur, Prayagraj, Ranchi, Manikchak, RPCAU-Pusa, Shillongani and Varanasi.
2. Leaf blight data reported from Varanasi, Sabour, RPCAU, Pusa, Manikchak, Kalyani, Burdwan and Ayodhya

Trial: AVT-IR-TS-TAS-NEPZ, 2023-24
Individual Station Leaf Blight Data

SN	Variety	Code	Leaf blight						
			Varanasi	Sabour	RPCAU-Pusa	Manikchak	Kalyani	Burdwan	Ayodhya
1	DBW386*	NETS112	46	35	34	02	47	35	35
2	UP3123	NETS101	46	24	34	01	46	24	46
3	HD3447	NETS102	46	24	24	01	47	34	35
4	PBW908	NETS103	35	24	24	02	35	45	46
5	PBW915	NETS104	24	24	24	01	24	13	57
6	HP1978	NETS109	24	24	34	01	13	25	47
7	KRL2106	NETS110	00	12	46	24	13	45	35
8	PBW913	NETS111	35	34	24	01	47	35	46
9	HD3467	NETS114	24	24	24	00	24	35	35
10	BCW29	NETS115	24	24	24	01	24	23	35
11	UP3124	NETS116	35	46	46	01	24	35	46
12	DBW222 (C)	NETS105	35	24	34	12	47	13	46
13	PBW826 (C)	NETS106	57	46	34	01	25	45	46
14	HD3249 (C)	NETS113	57	24	46	01	68	34	46
15	DBW187 (C)	NETS117	57	24	34	12	46	56	25
16	HD3388(I) (C)	NETS107	58	24	24	12	35	24	57

2332-AVT-IR-LS-TAS-NEPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	U.P.									Bihar						W.Bengal									Jharkhand			Assam		
			Kanpur			Prayagraj			Ayodhya			Varanasi			Sabour			RPCAU-Pusa			Manikchak			Kalyani			Burdwan			Ranchi			Shillongani		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	WH1323	NELS202	35.7	8	0	40.8	5	1	42.1	6	0	39.9	8	0	36.5	5	0	32.3	8	0	58.1	2	1	43.2	2	1	32.4	6	0	35.1	8	0	46.9	1	1
2	RAJ4581	NELS203	46.5	3	0	41.4	4	1	47.8	1	1	47.8	4	1	41.9	1	1	40.6	1	1	53.6	5	0	44.8	1	1	36.9	1	1	49.4	2	1	39.4	8	0
3	WH1324	NELS204	46.2	4	0	42.6	2	1	44.6	5	1	43.7	5	0	31.5	8	0	35.1	5	0	56.2	4	1	40.1	7	0	30.3	7	0	40.3	7	0	44.7	4	0
4	HI1563 (C)	NELS201	51.7	2	1	45.2	1	1	46.9	3	1	43.5	6	0	39.2	3	0	37.6	3	0	60.0	1	1	40.4	6	0	32.8	4	0	51.5	1	1	46.0	2	1
5	DBW107 (C)	NELS205	44.2	5	0	35.9	7	0	44.8	4	1	49.4	2	1	32.9	7	0	39.5	2	1	50.3	6	0	41.4	4	0	32.6	5	0	45.7	6	0	41.1	6	0
6	PBW833 (C)	NELS206	41.6	7	0	33.5	8	0	47.7	2	1	50.9	1	1	38.9	4	0	34.6	6	0	56.9	3	1	42.5	3	0	35.1	2	1	46.3	5	0	42.5	5	0
7	HD3118 (C)	NELS207	43.4	6	0	41.9	3	1	38.2	8	0	48.1	3	1	35.4	6	0	36.3	4	0	44.6	7	0	41.2	5	0	29.6	8	0	48.4	3	1	40.3	7	0
8	HI1621 (C)	NELS208	52.5	1	1	39.9	6	0	39.4	7	0	43.0	7	0	39.3	2	0	32.5	7	0	41.8	8	0	39.4	8	0	34.1	3	1	47.1	4	1	45.2	3	1
G.M.			45.2			40.1			43.9			45.8			37.0			36.1			52.7			41.6			32.9			45.5			43.3		
S.E.(M)			1.690			1.954			1.698			1.682			0.711			0.540			2.619			0.722			1.222			2.077			0.882		
C.D. (10%)			4.1			4.8			4.1			4.1			1.7			1.3			6.4			1.8			3.0			5.1			2.1		
C.V.			7.5			9.7			7.7			7.3			3.8			3.0			9.9			3.5			7.4			9.1			4.1		
D.O.S.(dd.mm.yy)			12.12.23			14.12.23			14.12.23			16.12.23			15.12.23			14.12.23			14.12.23			14.12.23			15.12.23			13.12.23			06.12.23		

No. of Trials: Proposed = 11 Conducted = 11
Trials not conducted (00) = Nil
Trials not reported (00) = Nil

2332-AVT-IR-LS-TAS-NEPZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	U.P.			Bihar			W.Bengal			Jharkhand			Assam			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	WH1323	NELS202	39.6	8	0	34.4	7	0	44.6	3	1	35.1	8	0	46.9	1	1	40.3	8	0
2	RAJ4581	NELS203	45.9	2	1	41.3	1	1	45.1	1	1	49.4	2	1	39.4	8	0	44.6	2	1
3	WH1324	NELS204	44.3	3	0	33.3	8	0	42.2	5	0	40.3	7	0	44.7	4	0	41.4	5	0
4	HI1563 (C)	NELS201	46.8	1	1	38.4	2	1	44.4	4	1	51.5	1	1	46.0	2	1	45.0	1	1
5	DBW107 (C)	NELS205	43.5	5	0	36.2	4	0	41.4	6	0	45.7	6	0	41.1	6	0	41.6	4	0
6	PBW833 (C)	NELS206	43.4	6	0	36.8	3	1	44.8	2	1	46.3	5	0	42.5	5	0	42.8	3	0
7	HD3118 (C)	NELS207	42.9	7	0	35.9	6	0	38.4	7	0	48.4	3	1	40.3	7	0	40.7	7	0
8	HI1621 (C)	NELS208	43.7	4	0	35.9	5	0	38.4	8	0	47.1	4	1	45.2	3	1	41.3	6	0
G.M.			43.8			36.5			42.4			45.5			43.3			42.2		
S.E.(M)			0.880			0.446			0.993			2.077			0.882			0.474		
C.D. (10%)			2.1			1.1			2.3			5.1			2.1			1.1		

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial: AVT-IR-LS-TAS-NEPZ, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics						Grain Characteristics	
			LB, HS(Av)	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	WH1323	NELS202	57(24)	64-86	74	103-121	112	77-103	94	38-43	40
2	RAJ4581	NELS203	35(24)	62-81	71	99-122	110	86-104	95	31-48	40
3	WH1324	NELS204	57(24)	64-85	75	103-127	112	82-103	94	33-48	41
4	HI1563 (C)	NELS201	78(35)	55-79	67	97-119	108	80-105	92	34-43	39
5	DBW107 (C)	NELS205	35(24)	63-85	73	100-124	112	75-96	90	24-45	36
6	PBW833 (C)	NELS206	35(24)	67-87	76	105-126	115	80-101	91	34-47	41
7	HD3118 (C)	NELS207	35(24)	67-85	75	105-123	113	85-109	99	36-41	33
8	HI1621 (C)	NELS208	89(35)	62-82	71	99-121	108	84-97	91	31-42	37

1. Ancillary data from Varanasi, Shillongani, Sabour, RPCAU-Pusa, Ranchi, Prayagraj, Manikchak, Kanpur, Kalyani, Burdwan and Ayodhya centres
2. Leaf blight data from Varanasi, Sabour, Ayodhya, Manikchak, Kalyani and RPCAU- Pusa.

Individual Station Leaf Blight Data

SN	Variety	Code	Leaf blight					
			Varanasi	Sabour	RPCAU-Pusa	Manikchak	Kalyani	Burdwan
1	WH1323	NELS202	57	23	24	12	35	13
2	RAJ4581	NELS203	35	24	34	12	24	25
3	WH1324	NELS204	57	24	24	12	35	25
4	HI1563 (C)	NELS201	78	35	24	35	23	25
5	DBW107 (C)	NELS205	35	23	34	24	25	35
6	PBW833 (C)	NELS206	24	35	24	24	24	13
7	HD3118 (C)	NELS207	24	24	24	13	35	35
8	HI1621 (C)	NELS208	89	24	34	24	35	35

2333-AVT-RI-TS-TAS-NEPZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	U.P.						Bihar						W.Bengal									Jharkhand			Assam		
			Kanpur			Prayagraj			Sabour			RPCAU-Pusa			Manikchak			Kalyani			Burdwan			Ranchi			Shillongani		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	JKW304	NERI302	42.9	4	1	35.5	7	1	26.5	5	0	30.2	6	0	33.4	4	0	43.9	1	1	28.7	2	0	53.6	6	0	36.3	4	0
2	HD3460	NERI306	44.7	2	1	37.4	5	1	37.4	2	0	33.6	3	0	33.3	5	0	38.1	4	0	27.7	3	0	59.4	4	1	34.1	6	0
3	HD3171 (C)	NERI301	37.8	7	0	39.6	2	1	25.3	6	0	31.1	5	0	26.0	7	0	37.5	5	0	26.8	4	0	51.2	7	0	36.2	5	0
4	HI1612 (C)	NERI303	45.6	1	1	41.9	1	1	32.6	4	0	40.4	1	1	46.7	1	1	32.7	7	0	26.6	5	0	54.5	5	0	40.7	1	1
5	K1317 (C)	NERI304	41.3	5	1	39.5	4	1	22.1	7	0	26.4	7	0	34.7	3	0	33.6	6	0	26.3	6	0	60.1	3	1	38.2	2	0
6	HD3293 (C)	NERI305	40.8	6	0	36.6	6	1	40.8	1	1	40.3	2	1	32.1	6	0	38.5	3	0	24.4	7	0	62.0	1	1	32.4	7	0
7	DBW252 (C)	NERI307	42.9	3	1	39.5	3	1	33.4	3	0	31.6	4	0	43.7	2	1	40.4	2	0	40.7	1	1	60.4	2	1	37.1	3	0
G.M.			42.3			38.6			31.1			33.4			35.7			37.8			28.7			57.3			36.4		
S.E.(M)			1.937			2.767			0.552			0.614			2.248			0.624			1.021			2.318			0.821		
C.D. (10%)			4.7			6.8			1.4			1.5			5.5			1.5			2.5			5.7			2.0		
C.V.			9.2			14.4			3.5			3.7			12.6			3.3			7.1			8.1			4.5		
D.O.S.(dd.mm.yy)			31.10.23			30.10.23			04.11.23			05.11.23			01.11.23			05.11.23			01.11.23			02.11.23			01.11.23		

No. of Trials : Proposed = 12 Conducted = 12
Trial not conducted (00) = Nil
Trials not reported (03) = Ayodhya (RMT), Varanasi (LSM), Dumka (LSM)

2333-AVT-RI-TS-TAS-NEPZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	U.P.			Bihar			W.Bengal			Jharkhand			Assam			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	JKW304	NERI302	39.2	5	0	28.3	5	0	35.3	3	0	53.6	6	0	36.3	4	0	36.8	5	0
2	HD3460	NERI306	41.0	3	1	35.5	3	0	33.0	4	0	59.4	4	1	34.1	6	0	38.4	4	0
3	HD3171 (C)	NERI301	38.7	7	0	28.2	6	0	30.1	7	0	51.2	7	0	36.2	5	0	34.6	7	0
4	HI1612 (C)	NERI303	43.7	1	1	36.5	2	0	35.3	2	0	54.5	5	0	40.7	1	1	40.2	2	1
5	K1317 (C)	NERI304	40.4	4	1	24.2	7	0	31.5	6	0	60.1	3	1	38.2	2	0	35.8	6	0
6	HD3293 (C)	NERI305	38.7	6	0	40.6	1	1	31.7	5	0	62.0	1	1	32.4	7	0	38.7	3	0
7	DBW252 (C)	NERI307	41.2	2	1	32.5	4	0	41.6	1	1	60.4	2	1	37.1	3	0	41.1	1	1
G.M.			40.4			32.3			34.1			57.3			36.4			37.9		
S.E.(M)			1.689			0.413			0.849			2.318			0.821			0.551		
C.D. (10%)			4.0			1.0			2.0			5.7			2.0			1.3		

Summary of Disease Data and Agronomic Characteristics

North Eastern Plains Zone **Trial: AVT-RI-TS-TAS-NEPZ, 2023-24**

SN	Variety	Code	Disease Reaction		Agronomic Characteristics						Grain Characteristics	
			LB, HS(Av)	Br	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	JKW304	NERI302	34(13)	0	62-107	82	118-148	131	92-125	99	32-49	42
2	HD3460	NERI306	36(24)	0	63-109	84	114-142	129	86-130	99	30-53	42
3	HD3171 (C)	NERI301	47(35)	40S	54-106	74	110-146	127	84-116	96	34-48	41
4	HI1612 (C)	NERI303	58(24)	5S	66-104	88	115-143	131	87-138	100	30-48	43
5	K1317 (C)	NERI304	48(35)	0	61-102	84	103-146	130	88-134	101	28-50	43
6	HD3293 (C)	NERI305	37(13)	10S	64-108	82	116-148	129	91-126	102	36-51	45
7	DBW252 (C)	NERI307	47(35)	0	63-107	84	115-141	129	83-130	95	37-51	45

1. Ancillary data from Sabour, Burdwan, Coochbehar, Dumka, Kalyani, Kanpur, Prayagraj, Ranchi, RPCAU-Pusa, Shillongani and Varanasi centres.
2. Brown rust data reported from Kanpur.
3. Leaf blight data from Varanasi, Sabour, Burdwan, Manikchak, Kalyani and RPCAU- Pusa.

Individual Station Leaf Blight Data

SN	Variety	Code	Leaf blight					
			Varanasi	Sabour	RPCAU-Pusa	Manikchak	Kalyani	Burdwan
1	JKW304	NERI302	01	24	34	00	25	12
2	HD3460	NERI306	12	35	24	12	36	12
3	HD3171 (C)	NERI301	24	47	46	12	47	12
4	HI1612 (C)	NERI303	12	24	24	01	58	23
5	K1317 (C)	NERI304	46	34	36	12	48	35
6	HD3293 (C)	NERI305	01	24	24	01	37	12
7	DBW252 (C)	NERI307	46	47	34	01	47	34

Central Zone

2341 - AVT-IR-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Gujarat												U.P.					
			Vijapur			SK Nagar			Junagadh			Anand			Banda			Jhansi		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1669*	CZTS112	59.3	12	0	49.8	12	0	50.6	14	0	56.8	7	0	55.5	12	0	49.3	7	1
2	MACS4125(d)	CZTS103	57.8	15	0	48.9	14	0	55.1	2	1	38.8	15	0	57.5	9	0	41.7	16	0
3	GW554	CZTS104	60.3	9	0	54.4	6	1	47.7	17	0	61.9	3	1	56.4	10	0	50.3	4	1
4	MACS4135(d)	CZTS105	64.4	5	1	52.6	9	1	53.3	7	0	43.5	12	0	60.0	5	1	51.9	1	1
5	MACS6837	CZTS106	66.2	3	1	53.0	7	1	54.8	4	1	63.2	1	1	66.6	2	1	47.0	10	1
6	HI1684	CZTS107	60.3	8	0	49.0	13	0	42.2	19	0	45.6	11	0	58.9	7	0	42.5	15	0
7	HI8850(d)	CZTS108	58.2	13	0	48.1	16	0	52.5	8	0	40.9	13	0	57.6	8	0	47.2	9	1
8	HI8849(d)	CZTS109	64.0	6	0	46.7	18	0	48.6	16	0	31.4	19	0	58.9	6	0	50.3	2	1
9	HI8848(d)	CZTS110	55.1	18	0	45.5	19	0	50.8	12	0	39.9	14	0	52.0	17	0	39.4	17	0
10	GW555	CZTS111	66.4	2	1	52.9	8	1	57.2	1	1	62.9	2	1	62.6	4	1	44.4	12	1
11	MP3570	CZTS113	65.3	4	1	55.8	4	1	55.0	3	1	53.4	9	0	68.9	1	1	44.1	13	1
12	HI1683	CZTS114	60.2	10	0	50.0	11	0	53.6	6	1	61.2	5	1	63.4	3	1	39.4	18	0
13	MPO1395 (d)	CZTS119	57.6	16	0	47.7	17	0	50.8	12	0	37.8	16	0	53.5	14	0	48.1	8	1
14	HI1650 (C)	CZTS115	63.2	7	0	57.6	1	1	49.8	15	0	59.3	6	1	55.0	13	0	50.2	6	1
15	MACS6768(C)	CZTS116	67.6	1	1	56.5	2	1	46.2	18	0	56.6	8	0	51.4	18	0	50.3	4	1
16	GW322 (C)	CZTS118	55.6	17	0	55.6	5	1	54.2	5	1	61.8	4	1	52.7	15	0	50.3	2	1
17	HI8737(d)(C)	CZTS102	60.1	11	0	48.6	15	0	51.0	11	0	32.4	18	0	50.9	19	0	45.0	11	1
18	HI8713(d)(C)	CZTS117	58.1	14	0	50.6	10	0	51.7	9	0	35.5	17	0	56.2	11	0	37.7	19	0
19	GW547(l)(C)	CZTS101	54.6	19	0	56.2	3	1	51.4	10	0	50.1	10	0	52.1	16	0	43.6	14	0
G.M.			60.8			51.6			51.4			49.1			57.4			45.9		
S.E.(M)			1.407			2.341			1.597			1.900			3.857			3.379		
C.D. (10%)			3.3			5.5			3.8			4.5			9.1			8.0		
C.V.			4.6			9.1			6.2			7.7			13.4			14.7		
D.O.S.(dd.mm.yy)			20.11.23			10.11.23			10.11.23			20.11.23			18.11.23			13.11.23		

No. of Trials : Proposed = 14 Conducted = 14
Trial not conducted (00) : Nil
Trials not reported (00) = Nil

2341 - AVT-IR-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	M.P.												Rajasthan		
			Jabalpur (JNKVV)			Sagar			Gwalior			Powarkheda			Indore			Udaipur		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1669*	CZTS112	55.1	11	0	62.2	1	1	53.2	4	0	51.4	10	0	64.8	2	1	63.0	10	0
2	MACS4125(d)	CZTS103	48.1	19	0	54.0	12	0	40.8	19	0	47.0	15	0	62.2	8	1	66.7	5	1
3	GW554	CZTS104	55.3	10	0	60.0	2	1	53.0	6	0	56.4	3	1	55.8	17	0	64.9	6	1
4	MACS4135(d)	CZTS105	63.3	1	1	54.3	11	0	50.1	11	0	55.4	4	1	63.5	5	1	69.4	1	1
5	MACS6837	CZTS106	56.2	8	0	54.9	9	0	46.8	12	0	45.3	17	0	57.4	15	0	62.6	11	0
6	HI1684	CZTS107	49.2	18	0	52.2	15	0	52.8	7	0	48.8	13	0	63.9	4	1	56.5	19	0
7	HI8850(d)	CZTS108	54.2	14	0	56.2	7	0	50.2	10	0	58.9	1	1	65.1	1	1	67.0	3	1
8	HI8849(d)	CZTS109	61.9	2	1	58.2	4	1	43.8	18	0	48.6	14	0	63.0	6	1	67.2	2	1
9	HI8848(d)	CZTS110	55.1	12	0	53.5	13	0	59.9	1	1	49.5	11	0	58.8	14	0	57.4	17	0
10	GW555	CZTS111	54.0	16	0	59.9	3	1	53.2	5	0	53.5	6	1	57.1	16	0	66.8	4	1
11	MP3570	CZTS113	56.1	9	0	46.7	18	0	44.4	17	0	53.0	8	0	55.6	18	0	64.0	7	0
12	HI1683	CZTS114	53.0	17	0	57.3	5	0	58.7	2	1	56.6	2	1	64.0	3	1	61.2	13	0
13	MPO1395 (d)	CZTS119	56.5	5	0	52.2	16	0	45.0	15	0	51.7	9	0	60.5	9	0	60.8	14	0
14	HI1650 (C)	CZTS115	54.1	15	0	54.4	10	0	45.1	14	0	45.3	17	0	60.4	10	0	58.6	16	0
15	MACS6768(C)	CZTS116	61.1	4	1	41.0	19	0	46.7	13	0	49.3	12	0	52.9	19	0	61.9	12	0
16	GW322 (C)	CZTS118	54.6	13	0	55.3	8	0	51.7	8	0	44.1	19	0	59.5	12	0	59.8	15	0
17	HI8737(d)(C)	CZTS102	56.3	7	0	52.9	14	0	53.3	3	0	47.0	15	0	60.2	11	0	63.1	9	0
18	HI8713(d)(C)	CZTS117	61.4	3	1	52.0	17	0	44.8	16	0	54.5	5	1	62.8	7	1	63.7	8	0
19	GW547(l)(C)	CZTS101	56.5	6	0	57.1	6	0	50.4	9	0	53.5	7	1	59.4	13	0	57.2	18	0
G.M.			55.9			54.4			49.7			51.0			60.4			62.7		
S.E.(M)			1.338			1.918			0.913			2.324			1.572			2.050		
C.D. (10%)			3.2			4.5			2.2			5.5			3.7			4.9		
C.V.			4.8			7.0			3.7			9.1			5.2			6.5		
D.O.S.(dd.mm.yy)			08.11.23			17.11.23			15.11.23			14.11.23			11.11.23			05.11.23		

2341 - AVT-IR-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Chhattisgarh					
			Bilaspur			Raipur		
			Yield	Rk	G	Yield	Rk	G
1	HI1669*	CZTS112	47.8	8	0	44.4	7	0
2	MACS4125(d)	CZTS103	44.6	14	0	41.8	19	0
3	GW554	CZTS104	51.0	6	0	42.6	13	0
4	MACS4135(d)	CZTS105	40.9	19	0	42.5	14	0
5	MACS6837	CZTS106	57.3	1	1	52.9	3	1
6	HI1684	CZTS107	42.5	15	0	42.9	9	0
7	HI8850(d)	CZTS108	54.2	4	1	48.8	5	0
8	HI8849(d)	CZTS109	46.6	13	0	42.0	18	0
9	HI8848(d)	CZTS110	40.9	18	0	43.4	8	0
10	GW555	CZTS111	56.7	2	1	52.9	3	1
11	MP3570	CZTS113	41.2	17	0	55.7	1	1
12	HI1683	CZTS114	46.8	11	0	42.4	15	0
13	MPO1395 (d)	CZTS119	46.6	12	0	54.0	2	1
14	HI1650 (C)	CZTS115	46.8	10	0	46.0	6	0
15	MACS6768(C)	CZTS116	47.5	9	0	42.1	17	0
16	GW322 (C)	CZTS118	54.6	3	1	42.8	12	0
17	HI8737(d)(C)	CZTS102	41.6	16	0	42.8	11	0
18	HI8713(d)(C)	CZTS117	50.2	7	0	42.9	10	0
19	GW547(l)(C)	CZTS101	53.7	5	1	42.1	16	0
G.M.			48.0			45.5		
S.E.(M)			2.313			1.804		
C.D. (10%)			5.5			4.3		
C.V.			9.6			7.9		
D.O.S.(dd.mm.yy)			15.11.23			14.11.23		

2341 - AVT-IR-TS-TAD-CZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Gujarat			U.P.			M.P.			Rajasthan			Chhattisgarh			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1669*	CZTS112	54.1	9	0	52.4	8	1	57.3	2	1	63.0	10	0	46.1	11	0	54.5	6	0
2	MACS4125(d)	CZTS103	50.2	12	0	49.6	15	0	50.4	18	0	66.7	5	1	43.2	15	0	50.4	18	0
3	GW554	CZTS104	56.1	8	0	53.4	6	1	56.1	5	0	64.9	6	1	46.8	8	0	55.0	3	0
4	MACS4135(d)	CZTS105	53.4	10	0	55.9	3	1	57.3	3	1	69.4	1	1	41.7	19	0	54.6	5	0
5	MACS6837	CZTS106	59.3	2	1	56.8	1	1	52.1	15	0	62.6	11	0	55.1	1	1	56.0	2	1
6	HI1684	CZTS107	49.3	14	0	50.7	14	0	53.4	12	0	56.5	19	0	42.7	16	0	50.5	16	0
7	HI8850(d)	CZTS108	49.9	13	0	52.4	9	1	56.9	4	1	67.0	3	1	51.5	3	0	54.2	8	0
8	HI8849(d)	CZTS109	47.7	19	0	54.6	4	1	55.1	10	0	67.2	2	1	44.3	14	0	52.2	12	0
9	HI8848(d)	CZTS110	47.8	18	0	45.7	19	0	55.3	8	0	57.4	17	0	42.2	18	0	50.1	19	0
10	GW555	CZTS111	59.9	1	1	53.5	5	1	55.5	6	0	66.8	4	1	54.8	2	1	57.2	1	1
11	MP3570	CZTS113	57.4	4	0	56.5	2	1	51.2	17	0	64.0	7	0	48.4	6	0	54.2	7	0
12	HI1683	CZTS114	56.3	7	0	51.4	11	1	57.9	1	1	61.2	13	0	44.6	13	0	54.9	4	0
13	MPO1395 (d)	CZTS119	48.4	16	0	50.8	13	1	53.2	13	0	60.8	14	0	50.3	4	0	51.6	14	0
14	HI1650 (C)	CZTS115	57.5	3	0	52.6	7	1	51.8	16	0	58.6	16	0	46.4	10	0	53.3	10	0
15	MACS6768(C)	CZTS116	56.7	6	0	50.9	12	1	50.2	19	0	61.9	12	0	44.8	12	0	52.2	13	0
16	GW322 (C)	CZTS118	56.8	5	0	51.5	10	1	53.0	14	0	59.8	15	0	48.7	5	0	53.8	9	0
17	HI8737(d)(C)	CZTS102	48.0	17	0	47.9	16	0	53.9	11	0	63.1	9	0	42.2	17	0	50.4	17	0
18	HI8713(d)(C)	CZTS117	49.0	15	0	47.0	18	0	55.1	9	0	63.7	8	0	46.5	9	0	51.6	15	0
19	GW547(l)(C)	CZTS101	53.1	11	0	47.8	17	0	55.4	7	0	57.2	18	0	47.9	7	0	52.7	11	0
G.M.			53.2			51.7			54.3			62.7			46.8			53.1		
S.E.(M)			0.923			2.564			0.753			2.050			1.467			0.584		
C.D. (10%)			2.2			6.1			1.8			4.9			3.5			1.4		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: AVT-IR-TS-TAD-CZ, 2023-24**

SN	Variety	Code	Disease reaction		Agronomic Characteristics						Grain Characteristics	
			Br	Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	HI1669*	CZTS112	tR	tMR	56-86	70	82-133	119	80-115	98	26-55	42
2	MACS4125 (d)	CZTS103	10MS	10S	58-90	71	90-133	120	68-101	87	30-58	47
3	GW554	CZTS104	TMS	10MS	64-88	72	88-136	120	70-104	93	24-67	48
4	MACS4135(d)	CZTS105	0	0	45-82	63	82-137	118	70-103	88	31-59	46
5	MACS6837	CZTS106	tMS	10MS	53-83	66	83-131	118	69-99	85	26-60	48
6	HI1684	CZTS107	tMS	5S	60-88	72	84-136	119	76-104	93	28-50	43
7	HI8850(d)	CZTS108	tMS	20MS	47-84	64	84-135	117	68-107	93	28-52	40
8	HI8849(d)	CZTS109	0	0	65-90	74	83-135	120	72-104	90	26-64	44
9	HI8848(d)	CZTS110	tR	5MS	64-90	73	89-134	119	66-106	92	28-61	46
10	GW555	CZTS111	tR	tMS	67-85	75	84-120	111	70-113	92	31-59	46
11	MP3570	CZTS113	0	0	47-86	64	86-118	108	59-95	80	28-54	42
12	HI1683	CZTS114	0	tR	50-84	65	79-129	116	70-106	90	25-52	41
13	MPO1395(d)	CZTS119	tMS	10MS	58-87	70	84-136	120	78-106	92	31-50	43
14	HI1650 (C)	CZTS115	0	tR	53-89	69	88-134	119	74-109	95	34-59	45
15	MACS6768 (C)	CZTS116	0	tR	51-86	67	86-133	117	74-104	90	29-51	44
16	GW322 (C)	CZTS118	tR	tMR	50-84	66	80-130	116	69-102	88	24-54	42
17	HI8737 (d) (C)	CZTS102	0	tMR	68-93	78	85-136	122	75-108	93	29-59	42
18	HI8713 (d) (C)	CZTS117	5MS	5S	60-86	71	83-134	117	77-105	92	25-46	38
19	GW547 (l)(C)	CZTS101	10MS	20S	63-90	72	90-132	119	69-105	93	27-65	50

1. Ancillary data from Anand, Banda, Bilaspur, Gwalior, Indore, Jabalpur, Jhansi, Junagadh, Powarkheda, Raipur, Sagar, SK Nagar,Udaipur, and Vijapur centres
2. Black and brown rust data reported from Vijapur centre
3. Lodging data reported from Anand, Jabalpur, Jhansi, Junagadh, Udaipur and Vijapur centres

2342 - AVT-IR-LS-TAS-CZ , 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Gujarat								U.P.		M.P.										Chhattisgarh			
			Vijapur		Junagadh		Anand		Lok-Bharti		Banda		Jabalpur (JNKVV)		Gwalior		Powarkheda		Indore		Bilaspur		Raipur	
			Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG	Yield	RkG
1	HI1674*	CZLS206	42.1	2 1	40.8	6 0	59.0	1 1	50.7	5 0	50.2	7 1	42.9	10 0	33.5	10 0	48.6	2 1	62.9	1 1	36.5	10 0	33.8	8 0
2	WSM138	CZLS201	35.9	7 0	42.9	2 0	48.1	10 0	56.0	1 1	53.7	2 1	47.3	4 0	50.7	2 0	42.8	4 0	59.5	5 1	46.3	3 1	42.4	4 1
3	HI1687	CZLS202	41.0	3 0	42.1	3 0	56.1	5 1	51.7	4 0	49.7	8 1	48.9	3 0	34.5	8 0	40.3	5 0	60.1	4 1	42.9	5 0	36.4	7 0
4	MACS6830	CZLS205	33.3	8 0	41.2	5 0	56.2	4 1	49.0	7 0	48.7	9 0	44.2	7 0	41.0	6 0	46.5	3 1	50.4	10 0	42.2	6 0	33.3	9 0
5	DBW425	CZLS209	44.6	1 1	40.4	7 0	57.8	3 1	49.9	6 0	57.3	1 1	45.4	5 0	42.3	4 0	50.0	1 1	59.0	6 1	40.2	8 0	42.7	2 1
6	GW556	CZLS210	36.8	5 0	46.7	1 1	54.8	9 1	54.7	3 1	53.6	3 1	51.0	2 0	57.8	1 1	34.0	9 0	58.7	7 1	47.0	2 1	42.5	3 1
7	HI1634 (C)	CZLS203	28.3	9 0	34.8	9 0	55.0	7 1	49.0	8 0	51.2	5 1	45.2	6 0	34.5	9 0	34.7	7 0	58.0	8 0	41.4	7 0	32.8	10 0
8	MP4010 (C)	CZLS204	28.2	10 0	34.3	10 0	55.9	6 1	46.1	10 0	50.5	6 1	43.8	8 0	40.4	7 0	37.2	6 0	61.4	2 1	36.5	9 0	37.9	6 0
9	HD2932 (C)	CZLS207	37.7	4 0	41.5	4 0	57.8	2 1	54.9	2 1	52.9	4 1	43.5	9 0	41.5	5 0	34.7	8 0	60.3	3 1	43.5	4 0	44.6	1 1
10	CG1029 (C)	CZLS208	36.5	6 0	36.8	8 0	54.9	8 1	47.3	9 0	43.1	10 0	59.6	1 1	47.1	3 0	33.8	10 0	53.2	9 0	47.0	1 1	41.8	5 1
G.M.			36.4		40.2		55.6		50.9		51.1		47.2		42.3		40.3		58.3		42.4		38.8	
S.E.(M)			1.489		1.541		1.942		1.408		3.149		1.756		1.009		1.782		2.031		1.391		1.304	
C.D. (10%)			3.6		3.7		4.7		3.4		7.6		4.2		2.4		4.3		4.9		3.4		3.1	
C.V.			8.2		7.7		7.0		5.5		12.3		7.4		4.8		8.9		7.0		6.6		6.7	
D.O.S.(dd.mm.yy)			06.12.23		12.12.23		07.12.23		09.12.23		08.12.23		10.12.23		15.12.23		14.12.23		10.12.23		14.12.23		10.12.23	

No. of Trials: Proposed =12 Conducted = 12
Trial not Conducted (00) : Nil
Trials not reported (01) = S.K.Nagar (LSM)

2342 - AVT-IR-LS-TAS-CZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Gujarat			U.P.			M.P.			Chhattisgarh			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	HI1674*	CZLS206	48.2	3	1	50.2	7	1	47.0	5	0	35.1	10	0	45.6	7	0
2	WSM138	CZLS201	45.7	6	0	53.7	2	1	50.1	2	1	44.4	3	1	47.8	3	1
3	HI1687	CZLS202	47.7	5	1	49.7	8	1	46.0	6	0	39.6	6	0	45.8	5	0
4	MACS6830	CZLS205	44.9	7	0	48.7	9	0	45.5	8	0	37.7	7	0	44.2	8	0
5	DBW425	CZLS209	48.2	2	1	57.3	1	1	49.2	3	1	41.5	5	0	48.1	2	1
6	GW556	CZLS210	48.3	1	1	53.6	3	1	50.4	1	1	44.7	1	1	48.9	1	1
7	HI1634 (C)	CZLS203	41.8	9	0	51.2	5	1	43.1	10	0	37.1	9	0	42.3	10	0
8	MP4010 (C)	CZLS204	41.1	10	0	50.5	6	1	45.7	7	0	37.2	8	0	42.9	9	0
9	HD2932 (C)	CZLS207	48.0	4	1	52.9	4	1	45.0	9	0	44.0	4	1	46.6	4	0
10	CG1029 (C)	CZLS208	43.9	8	0	43.1	10	0	48.4	4	1	44.4	2	1	45.6	6	0
G.M.			45.8			51.1			47.0			40.6			45.8		
S.E.(M)			0.804			3.149			0.844			0.954			0.540		
C.D. (10%)			1.9			7.6			2.0			2.2			1.3		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial AVT-IR-LS-TAS, 2023-24**

SN	Variety	Code	Disease reaction		Agronomic Characteristics							Grain Characteristics	
			Br	Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.	TGW.R	TGW.M
1	HI1674*	CZLS206	0	tR	51-77	62	97-116	108	78-101	88	0	36-46	40
2	WSM138	CZLS201	tR	5MR	53-76	61	95-116	107	73-98	83	0	38-50	45
3	HI1687	CZLS202	0	tMR	54-72	59	93-115	106	70-95	81	0	34-49	40
4	MACS6830	CZLS205	tR	20MS	51-75	59	93-116	106	64-93	77	0	36-46	41
5	DBW425	CZLS209	0	tMR	56-77	64	98-116	109	77-115	97	10	36-51	43
6	GW556	CZLS210	0	tMR	52-72	59	95-116	108	58-85	73	0	36-51	43
7	HI1634(C)	CZLS203	tR	40S	51-75	61	94-116	108	70-95	84	0	36-46	40
8	MP4010(C)	CZLS204	0	5MR	54-76	61	95-116	107	69-96	84	0	37-56	48
9	HD2932(C)	CZLS207	tMR	40S	55-76	63	99-114	109	79-104	88	0	36-46	41
10	CG1029(C)	CZLS208	tR	10MR	53-73	60	94-115	107	62-86	75	0	37-50	43

1. Ancillary data from Anand, Lokbharti, Banda, Bilaspur, Gwalior, Indore, Jabalpur, Junagadh, Powarkheda, Raipur, SK Nagar and Vijapur
2. Black rust data reported from Junagadh and Vijapur centres and brown rust data reported from Vijapur centre.
3. Lodging data reported from Raipur centres

Individual Centre Rust Data

SN	Variety	Code	Bl	
			Junagadh	Vijapur
1	HI1674*	CZLS206	0	tMR
2	WSM138	CZLS201	0	tR
3	HI1687	CZLS202	0	5MR
4	MACS6830	CZLS205	0	tMR
5	DBW425	CZLS209	40S	20S
6	GW556	CZLS210	0	10MR
7	HI1634 (C)	CZLS203	0	tMR
8	MP4010 (C)	CZLS204	5S	20MS
9	HD2932 (C)	CZLS207	40S	20MS
10	CG1029 (C)	CZLS208	0	5MR

2343- AVT-RI-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Gujarat										U.P.					
			Vijapur			Dhandhuka			Junagadh			Anand			Banda			Jhansi		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW441[M]*	CZRI312	41.6	7	0	39.5	6	1	29.6	10	0	36.3	8	0	51.2	5	0	47.4	6	0
2	NIAW4267	CZRI303	47.1	3	0	36.2	13	0	32.7	6	0	43.0	1	1	54.6	4	1	37.7	13	0
3	HI8852(d)	CZRI305	22.1	17	0	36.9	11	1	28.7	11	0	25.2	13	0	34.7	17	0	31.4	16	0
4	UAS3029	CZRI307	50.4	2	1	39.0	7	1	36.4	1	1	40.6	5	1	47.3	6	0	47.9	5	0
5	DBW432	CZRI309	46.6	4	0	42.0	2	1	33.0	4	0	42.1	3	1	57.8	3	1	56.6	1	1
6	MACS4131(d)	CZRI310	34.6	12	0	42.1	1	1	27.4	13	0	22.6	17	0	41.6	11	0	38.4	12	0
7	HI8851(d)	CZRI311	39.0	11	0	37.5	10	1	30.8	9	0	29.6	11	0	38.4	14	0	29.7	17	0
8	UAS484(d)	CZRI313	30.4	15	0	40.2	5	1	25.7	16	0	24.8	14	0	38.1	16	0	49.8	2	1
9	DBW428	CZRI314	40.7	9	0	30.8	16	0	27.1	14	0	38.2	6	0	38.3	15	0	46.2	8	0
10	MPO1398(d)	CZRI315	33.2	13	0	32.1	15	0	26.3	15	0	22.7	16	0	47.1	7	0	47.0	7	0
11	DBW110 (C)	CZRI302	45.3	6	0	36.9	11	1	32.1	7	0	35.6	10	0	59.8	1	1	48.0	4	0
12	CG1036 (C)	CZRI304	41.6	8	0	37.9	9	1	33.8	3	1	41.7	4	1	41.3	12	0	43.4	9	0
13	HI1655 (C)	CZRI306	39.6	10	0	38.3	8	1	32.9	5	0	36.8	7	0	45.3	9	0	39.4	11	0
14	HI8627(d)(C)	CZRI308	27.8	16	0	18.3	17	0	24.8	17	0	23.5	15	0	40.9	13	0	41.3	10	0
15	HI8823(d)(C)	CZRI316	32.6	14	0	34.2	14	0	28.0	12	0	25.8	12	0	42.6	10	0	49.7	3	1
16	CG1040(I)(C)	CZRI301	45.8	5	0	41.4	3	1	33.9	2	1	35.6	9	0	58.4	2	1	35.2	15	0
17	DBW359(I)(C)	CZRI317	52.9	1	1	40.2	4	1	31.2	8	0	42.4	2	1	45.4	8	0	36.1	14	0
G.M.			39.5			36.7			30.3			33.3			46.0			42.7		
S.E.(M)			1.505			2.306			1.240			1.522			3.221			3.177		
C.D. (10%)			3.6			5.5			2.9			3.6			7.6			7.5		
C.V.			7.6			12.6			8.2			9.1			14.0			14.9		
D.O.S.(dd.mm.yy)			03.11.23			08.11.23			02.11.23			10.11.23			05.11.23			08.11.23		

No. of Trials : Proposed = 14 Conducted = 14

Trial not conducted (00) : Nil

Trials not reported (02) = Sagar (RMT), SK Nagar (LSM)

2343- AVT-RI-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	M.P.									Rajasthan			Chhattisgarh					
			Powarkheda			Jabalpur			Indore			Udaipur			Bilaspur			Raipur		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW441[M]*	CZRI312	44.3	1	1	42.8	8	0	57.5	2	1	57.4	2	1	37.4	5	1	33.8	2	0
2	NIAW4267	CZRI303	40.6	9	1	39.1	12	0	51.6	13	1	48.3	11	0	33.4	11	0	30.1	12	0
3	HI8852(d)	CZRI305	35.1	14	0	43.8	7	0	52.7	11	1	49.8	8	0	27.0	17	0	27.9	17	0
4	UAS3029	CZRI307	43.0	4	1	41.8	10	0	51.6	12	1	51.0	7	0	31.9	13	0	28.4	16	0
5	DBW432	CZRI309	41.4	7	1	45.9	2	0	52.8	9	1	48.2	12	0	36.1	8	0	30.1	11	0
6	MACS4131(d)	CZRI310	43.7	3	1	44.9	4	0	53.2	8	1	52.7	6	0	30.4	14	0	28.6	15	0
7	HI8851(d)	CZRI311	40.4	10	0	49.0	1	1	56.2	6	1	48.1	13	0	27.7	16	0	30.2	10	0
8	UAS484(d)	CZRI313	32.3	15	0	44.1	6	0	56.5	3	1	47.5	14	0	34.7	9	0	31.4	7	0
9	DBW428	CZRI314	41.3	8	1	44.6	5	0	50.4	15	0	48.5	10	0	37.1	7	0	30.3	9	0
10	MPO1398(d)	CZRI315	42.4	5	1	38.8	14	0	48.5	16	0	43.3	16	0	38.2	3	1	33.2	4	0
11	DBW110 (C)	CZRI302	40.0	11	0	37.5	15	0	47.4	17	0	53.8	5	0	33.8	10	0	30.6	8	0
12	CG1036 (C)	CZRI304	31.3	17	0	45.0	3	0	55.0	7	1	56.1	3	1	41.2	1	1	33.3	3	0
13	HI1655 (C)	CZRI306	41.8	6	1	35.6	16	0	52.7	10	1	49.7	9	0	32.4	12	0	31.8	6	0
14	HI8627(d)(C)	CZRI308	35.4	13	0	41.0	11	0	51.3	14	1	38.9	17	0	37.1	6	0	32.5	5	0
15	HI8823(d)(C)	CZRI316	31.7	16	0	32.7	17	0	58.3	1	1	44.5	15	0	38.2	3	1	28.7	14	0
16	CG1040(I)(C)	CZRI301	44.1	2	1	42.3	9	0	56.2	5	1	55.2	4	0	39.8	2	1	36.2	1	1
17	DBW359(I)(C)	CZRI317	38.6	12	0	39.1	13	0	56.5	4	1	58.8	1	1	30.4	15	0	29.5	13	0
G.M.			39.3			41.7			53.4			50.1			34.5			31.0		
S.E.(M)			1.605			1.252			3.021			1.513			1.667			0.915		
C.D. (10%)			3.8			3.0			7.2			3.6			4.0			2.2		
C.V.			8.2			6.0			11.3			6.0			9.7			5.9		
D.O.S.(dd.mm.yy)			03.11.23			03.11.23			01.11.23			03.11.23			03.11.23			05.11.23		

2343- AVT-RI-TS-TAD-CZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Gujarat			U.P.			M.P.			Rajasthan			Chhattisgarh			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW441[M]*	CZRI312	36.8	9	0	49.3	3	0	48.2	2	1	57.4	2	1	35.6	4	0	43.2	3	1
2	NIAW4267	CZRI303	39.7	4	1	46.2	7	0	43.8	12	0	48.3	11	0	31.7	12	0	41.2	8	0
3	HI8852(d)	CZRI305	28.2	16	0	33.1	17	0	43.9	10	0	49.8	8	0	27.4	17	0	34.6	16	0
4	UAS3029	CZRI307	41.6	2	1	47.6	4	0	45.5	6	0	51.0	7	0	30.2	13	0	42.5	4	0
5	DBW432	CZRI309	40.9	3	1	57.2	1	1	46.7	5	1	48.2	12	0	33.1	8	0	44.4	1	1
6	MACS4131(d)	CZRI310	31.7	12	0	40.0	15	0	47.3	4	1	52.7	6	0	29.5	15	0	38.4	11	0
7	HI8851(d)	CZRI311	34.2	10	0	34.0	16	0	48.5	1	1	48.1	13	0	28.9	16	0	38.0	12	0
8	UAS484(d)	CZRI313	30.3	13	0	43.9	9	0	44.3	9	0	47.5	14	0	33.0	9	0	38.0	13	0
9	DBW428	CZRI314	34.2	11	0	42.2	12	0	45.5	7	0	48.5	10	0	33.7	6	0	39.5	10	0
10	MPO1398(d)	CZRI315	28.6	15	0	47.1	5	0	43.2	14	0	43.3	16	0	35.7	3	0	37.7	14	0
11	DBW110 (C)	CZRI302	37.5	7	0	53.9	2	1	41.6	16	0	53.8	5	0	32.2	10	0	41.7	7	0
12	CG1036 (C)	CZRI304	38.8	6	0	42.3	11	0	43.8	11	0	56.1	3	1	37.2	2	1	41.8	5	0
13	HI1655 (C)	CZRI306	36.9	8	0	42.3	10	0	43.4	13	0	49.7	9	0	32.1	11	0	39.7	9	0
14	HI8627(d)(C)	CZRI308	23.6	17	0	41.1	13	0	42.6	15	0	38.9	17	0	34.8	5	0	34.4	17	0
15	HI8823(d)(C)	CZRI316	30.1	14	0	46.1	8	0	40.9	17	0	44.5	15	0	33.5	7	0	37.2	15	0
16	CG1040(I)(C)	CZRI301	39.2	5	0	46.8	6	0	47.6	3	1	55.2	4	0	38.0	1	1	43.7	2	1
17	DBW359(I)(C)	CZRI317	41.7	1	1	40.8	14	0	44.7	8	0	58.8	1	1	29.9	14	0	41.8	6	0
G.M.			34.9			44.4			44.8			50.1			32.7			39.9		
S.E.(M)			0.845			2.262			1.214			1.513			0.951			0.596		
C.D. (10%)			2.0			5.3			2.8			3.6			2.2			1.4		

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: AVT-RI-TS-TAD, 2023-24**

SN	Variety	Code	Disease reaction		Agronomic Characteristics							Grain Characteristics	
			Br	Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	DBW441[M]*	CZRI312	tR	10S	45-82	66	101-134	117	77-117	94	0	29-53	44
2	NIAW4267	CZRI303	tR	5MS	44-87	68	102-133	118	70-106	91	0	30-52	43
3	HI8852(d)	CZRI305	0	5MR	44-84	62	98-132	115	70-112	93	10	29-47	41
4	UAS3029	CZRI307	0	tR	45-85	58	93-127	113	48-105	76	0	30-53	45
5	DBW432	CZRI309	0	0	43-86	62	102-128	116	63-112	80	10	29-58	47
6	MACS4131(d)	CZRI310	0	0	41-81	61	100-131	116	72-119	97	20	29-51	42
7	HI8851(d)	CZRI311	tR	10MS	42-86	68	100-133	117	69-116	95	5	29-50	44
8	UAS484(d)	CZRI313	0	tR	59-87	75	109-133	121	68-112	92	5	28-55	44
9	DBW428	CZRI314	tR	10MS	41-78	62	101-133	116	69-111	92	0	28-51	44
10	MPO1398(d)	CZRI315	0	5MS	41-87	61	102-128	115	65-104	82	15	30-55	48
11	DBW110 (C)	CZRI302	0	0	45-79	63	101-128	116	67-107	87	15	28-57	50
12	CG1036 (C)	CZRI304	tR	5MS	43-86	67	102-134	117	72-113	91	10	24-52	42
13	HI1655 (C)	CZRI306	tMR	10MR	46-85	69	103-130	118	63-105	81	0	30-45	38
14	HI8627(d)(C)	CZRI308	0	tR	44-82	66	99-133	116	71-109	91	10	27-57	47
15	HI8823(d)(C)	CZRI316	tR	10MR	55-87	71	101-133	119	62-113	84	5	28-56	46
16	CG1040 (I)(C)	CZRI301	0	5MR	56-86	74	102-132	120	64-102	83	15	28-55	43
17	DBW359(I)(C)	CZRI317	0	5MS	42-75	60	98-130	115	67-107	91	5	27-51	44

1. Ancillary data from Anand, Banda, Bilaspur, Dhandhuka, Indore, Jabalpur, Jhansi, Junagadh, Powarkheda, Raipur, SK Nagar, Udaipur,and Vijapur centres
2. Black and brown rust data reported from Vijapur centre
3. Lodging data reported from Bilapur, Jabalpur, Jhansi, Powarkheda, and Vijapur centres

Peninsular Zone

2351 - AVT-IR-TS-TAD-PZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Maharashtra										Karnataka								
			Niphad			Pune			Akola			Nashik			Ugar-Khurd			Kalloli			Nippani		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	PBW891*	PZTS104	46.1	3	1	53.1	9	0	49.3	2	1	61.0	4	1	41.4	12	0	47.1	1	1	45.0	15	0
2	AKAW5100*	PZTS108	37.3	17	0	46.3	22	0	40.4	21	0	49.0	24	0	40.2	15	0	40.7	12	0	42.0	18	0
3	WH1306*	PZTS110	38.7	14	0	49.5	19	0	41.6	17	0	56.6	15	0	42.1	11	0	36.8	21	0	38.1	22	0
4	NWS2222*	PZTS116	37.3	18	0	44.8	23	0	44.4	8	0	57.3	14	0	42.7	9	1	43.5	8	1	36.8	23	0
5	DBW443*	PZTS123	43.0	9	0	52.3	11	0	40.3	22	0	57.7	13	0	40.3	14	0	43.8	7	1	45.1	14	0
6	DDW62(d)	PZTS101	44.1	7	0	49.6	18	0	42.7	14	0	60.8	6	1	34.0	22	0	42.0	11	0	46.9	9	1
7	MACS6842	PZTS102	35.2	22	0	50.2	16	0	43.4	11	0	52.0	22	0	45.3	3	1	40.3	14	0	45.6	12	0
8	UAS3026	PZTS103	35.2	23	0	51.2	13	0	46.8	6	1	53.6	20	0	43.5	4	1	40.4	13	0	44.1	17	0
9	MPO1395(d)	PZTS105	36.6	20	0	54.3	7	0	44.2	9	0	60.5	7	1	34.0	23	0	38.8	16	0	47.7	7	1
10	MACS6837	PZTS106	34.8	24	0	50.9	14	0	42.0	16	0	53.4	21	0	48.4	2	1	36.1	22	0	45.8	11	0
11	HI8849(d)	PZTS107	45.4	5	1	57.6	3	0	43.1	13	0	59.6	8	0	34.4	20	0	43.2	9	1	53.2	2	1
12	MACS6844	PZTS111	49.9	1	1	49.4	20	0	40.5	20	0	54.6	19	0	49.5	1	1	44.5	5	1	46.3	10	1
13	MACS4125(d)	PZTS112	45.8	4	1	53.6	8	0	41.2	18	0	63.0	1	1	39.5	17	0	37.0	20	0	50.4	4	1
14	HI8850(d)	PZTS113	41.4	12	0	28.4	24	0	38.5	23	0	56.2	16	0	34.4	19	0	37.2	17	0	53.4	1	1
15	HI8848(d)	PZTS114	44.7	6	0	54.5	5	0	42.6	15	0	60.8	5	1	34.1	21	0	33.7	23	0	50.0	5	1
16	MP3570	PZTS117	37.8	15	0	55.9	4	0	43.6	10	0	58.6	11	0	43.3	6	1	42.2	10	0	45.6	13	0
17	NIAW4364	PZTS119	44.1	8	0	51.9	12	0	47.9	4	1	61.6	2	1	43.5	5	1	28.2	24	0	36.6	24	0
18	MACS4135(d)	PZTS120	48.3	2	1	61.4	1	1	44.5	7	0	58.0	12	0	40.4	13	0	37.1	19	0	50.9	3	1
19	CG1045	PZTS121	41.8	11	0	53.1	10	0	50.6	1	1	59.2	9	0	43.0	8	1	45.1	2	1	47.4	8	1
20	GW322 (C)	PZTS118	37.7	16	0	50.3	15	0	40.6	19	0	58.9	10	0	43.0	7	1	44.4	6	1	48.3	6	1
21	MACS6222 (C)	PZTS122	35.4	21	0	50.0	17	0	43.2	12	0	51.7	23	0	40.0	16	0	44.8	4	1	38.3	21	0
22	HI8737(d)(C)	PZTS109	37.1	19	0	54.5	6	0	37.5	24	0	55.1	17	0	33.7	24	0	37.1	18	0	38.5	20	0
23	MACS3949(d)(C)	PZTS115	42.1	10	0	48.2	21	0	47.6	5	1	61.3	3	1	37.5	18	0	40.1	15	0	44.4	16	0
24	MP1378(I)(C)	PZTS124	41.2	13	0	58.9	2	1	49.2	3	1	54.7	18	0	42.7	10	1	44.9	3	1	39.8	19	0
G.M.			40.9			51.2			43.6			57.3			40.4			40.4			45.0		
S.E.(M)			1.645			1.200			2.087			1.040			2.484			1.699			2.618		
C.D. (10%)			4.6			3.4			5.9			2.9			7.0			4.8			7.4		
C.V.			8.0			4.7			9.6			3.6			12.3			8.4			11.6		
D.O.S.(dd.mm.yy)			10.11.23			04.11.23			10.11.23			10.11.23			05.11.23			15.11.23			15.11.23		

No. of Trials : Proposed = 11 Conducted = 10

Trial not conducted (01) = Dhule

Trials not reported (03) = Parbhani (RMT), Karad (RMT), Dharwad (LSM)

2351 - AVT-IR-TS-TAD-PZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Maharashtra			Karnataka			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	PBW891*	PZTS104	52.4	2	1	44.5	4	1	49.0	1	1
2	AKAW5100*	PZTS108	43.2	23	0	41.0	18	0	42.3	22	0
3	WH1306*	PZTS110	46.6	17	0	39.0	22	0	43.3	21	0
4	NWS2222*	PZTS116	46.0	19	0	41.0	16	0	43.8	19	0
5	DBW443*	PZTS123	48.3	14	0	43.0	9	0	46.0	10	0
6	DDW62(d)	PZTS101	49.3	10	0	41.0	17	0	45.7	13	0
7	MACS6842	PZTS102	45.2	21	0	43.7	5	1	44.6	17	0
8	UAS3026	PZTS103	46.7	16	0	42.7	11	0	45.0	15	0
9	MPO1395(d)	PZTS105	48.9	12	0	40.2	20	0	45.2	14	0
10	MACS6837	PZTS106	45.3	20	0	43.4	8	0	44.5	18	0
11	HI8849(d)	PZTS107	51.4	3	1	43.6	7	0	48.1	4	1
12	MACS6844	PZTS111	48.6	13	0	46.8	1	1	47.8	5	1
13	MACS4125(d)	PZTS112	50.9	7	0	42.3	13	0	47.2	7	0
14	HI8850(d)	PZTS113	41.1	24	0	41.7	14	0	41.4	24	0
15	HI8848(d)	PZTS114	50.7	8	0	39.3	21	0	45.8	12	0
16	MP3570	PZTS117	49.0	11	0	43.7	6	1	46.7	8	0
17	NIAW4364	PZTS119	51.4	4	1	36.1	24	0	44.8	16	0
18	MACS4135(d)	PZTS120	53.1	1	1	42.8	10	0	48.7	2	1
19	CG1045	PZTS121	51.2	5	0	45.1	3	1	48.6	3	1
20	GW322 (C)	PZTS118	46.9	15	0	45.2	2	1	46.2	9	0
21	MACS6222 (C)	PZTS122	45.1	22	0	41.0	15	0	43.3	20	0
22	HI8737(d)(C)	PZTS109	46.0	18	0	36.4	23	0	41.9	23	0
23	MACS3949(d)(C)	PZTS115	49.8	9	0	40.7	19	0	45.9	11	0
24	MP1378(I)(C)	PZTS124	51.0	6	0	42.4	12	0	47.3	6	0
G.M.			48.2			41.9			45.5		
S.E.(M)			0.774			1.330			0.721		
C.D. (10%)			1.8			3.1			1.7		

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial: AVT-IR-TS-TAD, 2023-24**

SN	Variety	Code	Disease reaction				Agronomic Characteristics						Grain Characteristics	
			Br	Bl	ACI	LB	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	PBW891*	PZTS104	0	5MS	2.3	12	57−72	65	91−123	109	75−96	84	31−46	42
2	AKAW5100*	PZTS108	0	5MS	2.0	12	55−71	64	96−126	112	85−96	90	27−39	34
3	WH1306*	PZTS110	0	20S	8.8	12	51−67	61	91−124	108	80−95	88	36−50	44
4	NWS2222*	PZTS116	0	30S	13.8	12	50−65	58	92−123	105	83−96	87	25−45	39
5	DBW443*	PZTS123	0	5S	4.3	12	55−70	61	97−124	107	79−100	87	36−49	46
6	DDW62(d)	PZTS101	0	5MS	2.5	12	60−75	67	91−120	112	78−87	81	36−52	44
7	MACS6842	PZTS102	0	10S	7.0	12	54−66	60	93−121	107	85−100	93	37−49	43
8	UAS3026	PZTS103	5MS	40S	26.0	12	51−66	60	93−121	107	91−106	96	31−47	41
9	MPO1395(d)	PZTS105	0	10MS	2.2	12	55−66	62	92−118	108	82−103	88	37−54	46
10	MACS6837	PZTS106	0	30S	20.0	12	53−64	60	93−125	107	81−101	90	38−51	46
11	HI8849(d)	PZTS107	0	10MS	3.0	12	51−66	60	94−119	106	76−93	83	35−55	49
12	MACS6844	PZTS111	0	5S	2.6	01	59−71	64	96−123	109	75−99	89	29−46	40
13	MACS4125(d)	PZTS112	0	10MS	3.0	12	57−72	65	93−122	111	83−95	92	46−59	50
14	HI8850(d)	PZTS113	0	10MS	2.0	34	53−73	64	98−122	110	63−90	82	31−54	45
15	HI8848(d)	PZTS114	0	5MS	2.0	12	59−75	69	92−126	113	72−95	87	21−54	41
16	MP3570	PZTS117	0	30S	22.5	12	52−63	57	93−118	104	79−93	85	39−48	44
17	NIAW4364	PZTS119	0	60S	28.8	24	57−74	68	92−127	112	86−110	98	32−45	39
18	MACS4135(d)	PZTS120	0	5MS	3.0	24	50−61	55	88−117	102	80−91	84	41−58	51
19	CG1045	PZTS121	0	20S	8.0	12	51−66	61	93−120	107	82−98	88	40−51	47
20	GW322 (C)	PZTS118	5MS	10S	6.3	12	50−63	59	91−120	104	72−91	84	30−41	36
21	MACS6222 (C)	PZTS122	0	5MS	2.3	12	50−62	56	87−119	103	62−95	77	34−51	45
22	HI8737(d) (C)	PZTS109	0	5MS	1.0	12	56−68	63	89−117	108	73−97	83	38−54	48
23	MACS3949(d) (C)	PZTS115	0	5MS	2.0	12	59−78	69	93−124	112	70−90	83	20−53	41
24	MP1378(I) (C)	PZTS124	0	5MS	1.3	12	57−76	66	96−125	111	67−90	81	30−43	38

1. Ancillary data from Kalloli, Nippani, Parbhani, Pune, Dharwad and Ugar centres
2. Black rust data from Dharwad, Ugar-khurd, Nippani and Kalloli; Brown rust data from Dharwad centre.

Trial: AVT-IR-TS-TAD, 2023-24
Individual Centre Rust Data

SN	Variety	Code	Br	Bl			
			Dharwad	Kalloli	Nippani	Dharwad	Ugar Khurd
1	PBW891*	PZTS104	0	5MS	5MR	0	5MS
2	AKAW5100*	PZTS108	0	5MS	0	0	5MS
3	WH1306*	PZTS110	0	20S	0	5S	10S
4	NWS2222*	PZTS116	0	30S	10S	10S	5S
5	DBW443*	PZTS123	0	5S	0	5MS	10MS
6	DDW62(d)	PZTS101	0	5MS	0	tMS	5S
7	MACS6842	PZTS102	0	10S	0	10S	10MS
8	UAS3026	PZTS103	5MS	30S	5MS	40S	30S
9	MPO1395(d)	PZTS105	0	0	0	tMS	10MS
10	MACS6837	PZTS106	0	30S	10S	10S	30S
11	HI8849(d)	PZTS107	0	5MS	0	0	10MS
12	MACS6844	PZTS111	0	5S	tMR	tMS	5MS
13	MACS4125(d)	PZTS112	0	10MS	0	0	5MS
14	HI8850(d)	PZTS113	0	0	0	0	10MS
15	HI8848(d)	PZTS114	0	5MS	0	0	5MS
16	MP3570	PZTS117	0	30S	10S	20S	30S
17	NIAW4364	PZTS119	0	40S	5S	10S	60S
18	MACS4135(d)	PZTS120	0	5MS	0	5MS	5MS
19	CG1045	PZTS121	0	5MS	0	10MS	20S
20	GW322 (C)	PZTS118	5MS	10S	5MS	5MR	10S
21	MACS6222 (C)	PZTS122	0	5MS	0	5MR	5MS
22	HI8737(d) (C)	PZTS109	0	0	0	0	5MS
23	MACS3949(d) (C)	PZTS115	0	5MS	0	0	5MS
24	MP1378(I) (C)	PZTS124	0	0	5MR	0	5MS

2352 - AVT-IR-LS-TAS-PZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Maharashtra																Karnataka											
			Niphad			Pune			Nashik			Akola			Dhule			Karad			Parbhani			Dharwad			Ugar-Khurd			Bagalkot			Kalloli			Nippani		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	LOK79*	PZLS202	43.2	5	1	43.0	7	0	43.1	11	0	41.6	15	0	56.3	3	1	52.2	1	1	51.7	7	0	34.5	3	1	35.3	5	1	37.1	14	0	42.5	1	1	36.7	9	0
2	NIAW4114*	PZLS206	43.4	3	1	39.6	13	0	43.5	10	0	46.5	11	0	52.9	7	1	40.9	10	0	58.7	1	1	27.4	12	0	31.2	12	0	41.9	7	0	41.2	3	1	45.2	2	1
3	HI1674*	PZLS213	38.5	11	0	41.9	9	0	45.0	7	0	46.8	10	0	50.2	12	1	35.5	13	0	40.0	15	0	34.2	5	1	34.5	7	1	44.7	3	0	32.9	8	0	40.1	6	0
4	NIAW4120*	PZLS215	43.3	4	1	44.6	4	0	45.1	6	0	43.3	14	0	56.7	1	1	43.3	7	0	58.2	2	1	34.5	3	1	34.8	6	1	43.5	4	0	30.1	12	0	31.0	14	0
5	UAS3027	PZLS201	38.6	10	0	44.2	6	0	47.5	3	1	47.8	7	0	53.4	5	1	35.6	12	0	51.3	8	0	23.5	14	0	34.0	8	1	42.3	6	0	30.6	11	0	28.4	15	0
6	DBW425	PZLS204	32.1	13	0	42.8	8	0	49.7	1	1	48.9	4	0	49.2	13	0	44.0	6	0	50.4	10	0	17.9	15	0	34.0	9	1	38.5	11	0	24.8	15	0	44.8	3	1
7	NIAW4432	PZLS205	42.1	6	0	38.2	14	0	42.6	12	0	47.6	9	0	50.7	9	1	33.6	14	0	55.9	4	1	31.1	8	0	31.1	13	0	41.2	8	0	39.1	5	1	32.7	13	0
8	MACS6830	PZLS207	43.7	2	1	47.7	1	1	45.8	5	0	46.0	12	0	55.8	4	1	50.9	3	1	50.1	11	0	30.6	10	0	35.6	4	1	39.9	10	0	35.8	7	0	44.6	4	1
9	HI1687	PZLS210	41.6	7	0	44.9	3	1	48.7	2	1	52.1	2	1	52.6	8	1	40.4	11	0	49.1	12	0	30.8	9	0	38.6	1	1	34.9	15	0	41.8	2	1	43.1	5	1
10	DBW426	PZLS211	39.1	9	0	40.0	11	0	44.0	8	0	53.7	1	1	50.7	9	1	41.3	9	0	48.8	13	0	31.8	7	0	32.7	11	0	47.1	2	1	31.9	9	0	37.2	8	0
11	MACS6829	PZLS212	45.6	1	1	46.1	2	1	39.1	15	0	45.2	13	0	43.2	15	0	51.1	2	1	56.7	3	1	28.8	11	0	36.1	3	1	43.4	5	0	40.6	4	1	46.1	1	1
12	HD3090 (C)	PZLS203	40.8	8	0	44.2	5	0	39.4	14	0	50.0	3	1	53.2	6	1	48.8	4	1	42.2	14	0	35.6	1	1	33.9	10	1	51.4	1	1	37.4	6	1	38.2	7	0
13	HD2932 (C)	PZLS208	31.8	14	0	40.3	10	0	41.4	13	0	47.8	8	0	56.3	2	1	41.7	8	0	50.6	9	0	26.5	13	0	31.0	14	0	41.0	9	0	29.7	14	0	35.7	12	0
14	RAJ4083(C)	PZLS209	28.6	15	0	32.9	15	0	46.8	4	1	48.5	5	0	44.8	14	0	31.2	15	0	52.6	6	1	34.7	2	1	29.9	15	0	38.3	12	0	29.9	13	0	35.8	11	0
15	HI1633 (C)	PZLS214	36.1	12	0	39.8	12	0	43.9	9	0	47.8	6	0	50.5	11	1	44.7	5	0	53.2	5	1	32.0	6	0	36.7	2	1	38.1	13	0	31.4	10	0	36.1	10	0
G.M.			39.2			42.0			44.4			47.6			51.8			42.3			51.3			30.3			34.0			41.6			34.6			38.4		
S.E.(M)			1.299			1.270			1.498			1.824			3.044			2.280			2.769			1.488			2.361			2.054			2.139			2.333		
C.D. (10%)			3.1			3.0			3.6			4.3			7.2			5.4			6.6			3.5			5.6			4.9			5.1			5.6		
C.V.			6.6			6.0			6.8			7.7			11.8			10.8			10.8			9.8			13.9			9.9			12.3			12.2		
D.O.S.(dd.mm.yy)			13.12.23			15.12.23			11.12.23			10.12.23			13.12.23			14.12.23			08.12.23			05.12.23			12.12.23			05.12.23			13.12.23			15.12.23		

No. of Trials : Proposed = 12 Conducted = 12
Trial not Conducted (00) : Nil
Trials not reported (00) = Nil

2352 - AVT-IR-LS-TAS-PZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Maharashtra			Karnataka			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	LOK79*	PZLS202	47.3	3	1	37.2	7	1	43.1	4	1
2	NIAW4114*	PZLS206	46.5	6	0	37.4	4	1	42.7	6	1
3	HI1674*	PZLS213	42.6	14	0	37.3	6	1	40.4	11	0
4	NIAW4120*	PZLS215	47.8	2	1	34.8	11	0	42.4	7	0
5	UAS3027	PZLS201	45.5	8	0	31.8	15	0	39.8	12	0
6	DBW425	PZLS204	45.3	10	0	32.0	14	0	39.8	13	0
7	NIAW4432	PZLS205	44.4	12	0	35.0	9	0	40.5	10	0
8	MACS6830	PZLS207	48.6	1	1	37.3	5	1	43.9	1	1
9	HI1687	PZLS210	47.1	4	1	37.8	3	1	43.2	3	1
10	DBW426	PZLS211	45.4	9	0	36.1	8	0	41.5	8	0
11	MACS6829	PZLS212	46.7	5	0	39.0	2	1	43.5	2	1
12	HD3090 (C)	PZLS203	45.5	7	0	39.3	1	1	42.9	5	1
13	HD2932 (C)	PZLS208	44.3	13	0	32.8	13	0	39.5	14	0
14	RAJ4083(C)	PZLS209	40.8	15	0	33.7	12	0	37.8	15	0
15	HI1633 (C)	PZLS214	45.1	11	0	34.9	10	0	40.9	9	0
G.M			45.5			35.8			41.5		
S.E.(M)			0.795			0.939			0.607		
C.D. (10%)			1.9			2.2			1.4		

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial : AVT-IR-LS-TAS, 2023-24**

SN	Variety	Code	Disease reaction			Agronomic Characteristics						Grain Characteristics	
			Bl	ACI	LB	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	TGW.R	TGW.M
1	LOK79*	PZLS202	10S	3.5	34	45−58	51	83−104	93	75−90	83	32−45	39
2	NIAW4114*	PZLS206	20S	6.3	12	48−55	51	87−105	96	68−96	82	30−44	35
3	HI1674*	PZLS213	10S	3.5	24	45−56	51	86−106	95	64−79	72	39−46	42
4	NIAW4120*	PZLS215	5S	2.3	24	45−57	51	84−108	95	76−88	81	40−49	43
5	UAS3027	PZLS201	40S	18.5	12	50−58	54	91−108	99	81−93	85	37−46	41
6	DBW425	PZLS204	30S	18.5	12	51−59	55	89−105	99	80−94	87	22−45	34
7	NIAW4432	PZLS205	10S	5.5	12	48−59	54	88−108	97	70−98	82	31−39	35
8	MACS6830	PZLS207	5S	2.3	12	49−57	53	86−107	98	71−107	88	38−50	45
9	HI1687	PZLS210	10MS	3.0	12	48−57	52	88−108	97	76−91	84	27−49	39
10	DBW426	PZLS211	20S	9.3	12	52−60	56	91−107	100	76−93	85	39−51	43
11	MACS6829	PZLS212	10S	6.0	12	41−58	49	81−108	93	66−107	85	33−43	39
12	HD3090 (C)	PZLS203	10S	3.5	12	52−59	56	94−107	100	76−98	84	30−42	35
13	HD2932 (C)	PZLS208	60S	20.3	12	50−57	53	86−104	96	76−101	77	28−50	36
14	RAJ4083 (C)	PZLS209	20S	10.3	24	47−56	51	84−105	95	73−88	82	31−44	37
15	HI1633 (C)	PZLS214	40S	13.0	12	45−59	51	85−107	95	72−90	78	34−43	38

1. Ancillary data from Bagalkot, Kalloli, Nippani, Parbhani, Pune and Dharwad
2. Black rust data reported from Kalloli, Nippani, Dharwad and Ugar Khurd; Leaf blight data from Bagalkot, Kalloli, Nippani, Dharwad and Ugar Khurd

Trial : AVT-IR-LS-TAS, 2023-24
Individual Centre Rust Data

SN	Variety	Code	Bl					LB				
			Kalloli	Nippani	Dharwad	Ugar Khurd		Bagalkot	Kalloli	Nippani	Dharwad	Ugar Khurd
1	LOK79*	PZLS202	0	0	10S	5MS		1	34	12	12	12
2	NIAW4114*	PZLS206	0	5MR	20S	5MS		1	12	12	12	12
3	HI1674*	PZLS213	0	0	10S	5MS		0	12	12	12	24
4	NIAW4120*	PZLS215	0	0	5S	5MS		0	12	12	12	24
5	UAS3027	PZLS201	20S	5MS	40S	10S		1	12	12	12	01
6	DBW425	PZLS204	30S	5MS	20S	20S		1	12	01	12	12
7	NIAW4432	PZLS205	5MS	0	10S	10MS		0	12	01	12	12
8	MACS6830	PZLS207	0	0	5S	5MS		12	12	12	12	12
9	HI1687	PZLS210	0	0	10MS	5MS		0	12	01	12	12
10	DBW426	PZLS211	10MS	5MR	20S	10MS		0	12	01	12	01
11	MACS6829	PZLS212	5MS	0	10S	10S		0	01	12	12	01
12	HD3090 (C)	PZLS203	0	0	10S	5MS		0	12	01	12	01
13	HD2932 (C)	PZLS208	10S	5MR	60S	10S		1	01	01	12	12
14	RAJ4083 (C)	PZLS209	10S	5MR	20S	10S		0	24	12	12	12
15	HI1633 (C)	PZLS214	5MS	5MS	40S	5MS		12	12	24	12	12

2353- AVT-RI-TS-TAD-PZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Maharashtra													Karnataka								
			Akola			Pune			Niphad			Parbhani			Karad			Nippani			Ugar-Khurd			Kalloli		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	CG1047	PZRI301	34.8	3	1	31.8	2	1	37.6	3	1	35.9	3	1	24.8	7	0	35.1	2	1	27.9	5	0	29.4	5	1
2	MACS4131(d)	PZRI303	31.0	6	0	30.2	6	0	29.8	13	0	32.8	7	0	25.8	6	0	29.2	9	0	24.3	12	0	26.8	7	0
3	GW1368(d)	PZRI304	20.7	14	0	21.9	14	0	26.7	14	0	24.6	14	0	24.7	8	0	24.7	13	0	20.9	14	0	19.0	14	0
4	HI8852(d)	PZRI306	25.7	13	0	27.5	9	0	35.1	9	1	30.8	11	0	22.3	13	0	30.2	7	1	27.4	7	0	24.1	10	0
5	UAS484(d)	PZRI310	27.1	11	0	27.2	10	0	38.1	1	1	31.7	8	0	23.9	10	0	28.6	10	0	27.3	8	0	23.1	12	0
6	NIAW4267	PZRI311	27.7	9	0	31.6	3	1	36.8	7	1	37.8	1	1	31.7	1	1	20.3	14	0	34.7	2	1	33.8	1	1
7	HI8851(d)	PZRI314	30.3	7	0	26.9	11	0	37.8	2	1	36.3	2	1	24.2	9	0	25.9	12	0	23.9	13	0	23.8	11	0
8	HI1605 (C)	PZRI302	36.4	2	1	29.6	8	0	37.1	6	1	30.8	10	0	26.7	5	0	32.0	5	1	30.1	3	0	31.1	2	1
9	NIAW3170 (C)	PZRI305	32.6	5	1	31.0	5	1	34.5	11	0	31.0	9	0	28.8	2	1	30.9	6	1	25.7	11	0	31.1	3	1
10	UAS446(d) (C)	PZRI307	27.7	10	0	24.9	13	0	34.8	10	1	33.1	6	0	22.8	12	0	32.3	4	1	25.8	9	0	24.4	9	0
11	NIDW1149(d)(C)	PZRI312	26.8	12	0	29.9	7	0	34.3	12	0	33.8	5	0	20.5	14	0	35.2	1	1	27.6	6	0	22.5	13	0
12	UAS478(d)(I)(C)	PZRI308	28.0	8	0	25.3	12	0	37.4	4	1	30.4	12	0	27.8	4	1	29.8	8	1	25.7	10	0	27.7	6	0
13	HI1665(I)(C)	PZRI309	32.9	4	1	32.4	1	1	35.9	8	1	28.8	13	0	27.8	3	1	32.4	3	1	28.4	4	0	30.5	4	1
14	DBW359(I)(C)	PZRI313	36.4	1	1	31.3	4	1	37.4	5	1	34.3	4	0	22.8	11	0	28.2	11	0	36.3	1	1	26.4	8	0
G.M.			29.9			28.7			35.2			32.3			25.3			29.6			27.6			26.7		
S.E.(M)			1.479			0.640			1.203			1.093			1.432			1.984			1.707			1.673		
C.D. (10%)			4.2			1.8			3.4			3.1			4.1			5.7			4.9			4.8		
C.V.			9.9			4.5			6.8			6.8			11.3			13.4			12.4			12.5		
D.O.S.(dd.mm.yy)			04.11.23			30.10.23			03.11.23			05.11.23			04.11.23			05.11.23			05.11.23			05.11.23		

No. of Trials : Proposed = 11 Conducted = 11

Trial not conducted (00) = Nil

Trials not reported (03) = Bagalkot (RMT), Nashik (LSM), Dharwad (LSM)

2353- AVT-RI-TS-TAD-PZ, 2023-24
STATE AND ZONAL MEANS (q/ha)

SN	Variety	Code	Maharashtra			Karnataka			Zonal		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	CG1047	PZRI301	33.0	2	1	30.8	2	1	32.2	1	1
2	MACS4131(d)	PZRI303	29.9	8	0	26.8	11	0	28.7	9	0
3	GW1368(d)	PZRI304	23.7	14	0	21.5	14	0	22.9	14	0
4	HI8852(d)	PZRI306	28.3	13	0	27.2	10	0	27.9	13	0
5	UAS484(d)	PZRI310	29.6	10	0	26.3	12	0	28.4	11	0
6	NIAW4267	PZRI311	33.1	1	1	29.6	5	1	31.8	2	1
7	HI8851(d)	PZRI314	31.1	7	0	24.5	13	0	28.6	10	0
8	HI1605 (C)	PZRI302	32.1	4	1	31.1	1	1	31.7	3	1
9	NIAW3170 (C)	PZRI305	31.6	6	0	29.2	6	1	30.7	6	0
10	UAS446(d) (C)	PZRI307	28.6	12	0	27.5	9	0	28.2	12	0
11	NIDW1149(d)(C)	PZRI312	29.1	11	0	28.5	7	0	28.8	8	0
12	UAS478(d)(l)(C)	PZRI308	29.8	9	0	27.7	8	0	29.0	7	0
13	HI1665(l)(C)	PZRI309	31.6	5	0	30.4	3	1	31.1	5	1
14	DBW359(l)(C)	PZRI313	32.5	3	1	30.3	4	1	31.6	4	1
G.M.			30.3			28.0			29.4		
S.E.(M)			0.540			1.035			0.514		
C.D. (10%)			1.3			2.4			1.2		

Summary of Disease Data and Agronomic Characteristics

Peninsular Zone **Trial : AVT-RI-TS-TAD, 2023-24**

SN	Variety	Code	Disease reaction				Agronomic Characteristics							Grain Characteristics	
			Br	Bl	ACI	LB	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	CG1047	PZRI301	0	30S	11.0	01	47–61	53	91–117	103	76–100	86	0	32–45	39
2	MACS4131(d)	PZRI303	0	10S	3.5	12	52–64	55	92–114	101	71–81	76	5	33–56	41
3	GW1368(d)	PZRI304	0	40S	22.3	24	50–65	55	93–116	102	55–67	62	0	31–48	38
4	HI8852(d)	PZRI306	0	10MS	4.0	12	52–66	57	95–116	104	67–77	73	15	36–77	45
5	UAS484(d)	PZRI310	0	5MS	2.5	24	54–68	58	97–120	106	81–97	88	0	36–58	44
6	NIAW4267	PZRI311	0	10MS	5.0	24	49–65	54	93–118	103	76–98	84	0	30–49	38
7	HI8851(d)	PZRI314	0	20S	6.0	24	55–67	58	99–115	104	71–88	81	5	41–58	45
8	HI1605 (C)	PZRI302	0	40S	20.0	12	52–64	56	96–117	105	76–99	86	0	31–48	36
9	NIAW3170 (C)	PZRI305	5MS	30S	12.5	12	50–61	54	91–116	103	80–96	86	0	35–49	39
10	UAS446(d) (C)	PZRI307	0	20MS	6.0	12	54–68	58	99–116	104	70–90	81	0	30–46	35
11	NIDW1149(d) (C)	PZRI312	0	5S	3.3	24	51–61	55	96–118	102	69–81	77	10	40–55	46
12	UAS478(d)(I) (C)	PZRI308	10S	40S	25.0	12	54–69	58	96–115	104	73–81	75	0	28–49	34
13	HI1665(I) (C)	PZRI309	0	5MS	1.5	12	51–62	55	98–121	105	76–94	83	0	31–74	39
14	DBW359(I) (C)	PZRI313	0	30S	15.0	12	51–63	55	94–122	102	65–98	83	0	31–49	40

1. Ancillary data from Kalloli, Nippani, Parbhani, Pune, Dharwad and Ugar centres.
2. Brown rust data reported from Kalloli and Ugar Khurd; Black rust data from Dharwad, Kalloli, Nippani and Ugar Khurd.
3. Leaf blight data from Kalloli

Trial : AVT-RI-TS-TAS, 2023-24

Individual Centre Rust Data

SN	Variety	Code	Br		Bl			
			Kalloli	Ugar Khurd	Dharwad	Kalloli	Nippani	Ugar Khurd
1	CG1047	PZRI301	0	0	30S	10S	0	5MS
2	MACS4131(d)	PZRI303	0	0	10S	5MS	0	0
3	GW1368(d)	PZRI304	0	0	40S	40S	5S	5MS
4	HI8852(d)	PZRI306	0	0	10MS	5MS	0	5MS
5	UAS484(d)	PZRI310	0	0	5MR	5MS	0	5MS
6	NIAW4267	PZRI311	0	0	10MS	5MS	5MS	5MS
7	HI8851(d)	PZRI314	0	0	20S	5MS	0	0
8	HI1605 (C)	PZRI302	0	0	40S	30S	0	10S
9	NIAW3170 (C)	PZRI305	5MS	0	30S	10S	0	10S
10	UAS446(d) (C)	PZRI307	0	0	20MS	10MS	0	0
11	NIDW1149(d) (C)	PZRI312	0	0	5S	5MS	0	5MS
12	UAS478(d)(I) (C)	PZRI308	10S	10MS	40S	40S	10S	10S
13	HI1665(I) (C)	PZRI309	0	0	5MR	5MS	0	0
14	DBW359(I) (C)	PZRI313	0	0	30S	20S	10S	0

Special Trials

2361-SPL-HYPT-IR-ES-TAS-NWPZ, 2023-24
LOCATIONWISE, STATE AND ZONAL MEAN YIELD (q/ha)

SN	Variety	Code	Delhi			Punjab						Punjab			Haryana			U.P.			Rajasthan			Zonal		
			Delhi			Ludhiana			BISA Ladhowal						Hisar			Modipuram			Sriganganagar					
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW438	SPL-HYPT-106	76.1	6	0	81.8	2	1	72.3	4	0	77.1	3	1	68.4	2	1	79.5	3	0	74.3	6	0	75.4	5	0
2	DBW371 (C)	SPL-HYPT-101	83.4	4	0	78.7	3	1	70.6	6	0	74.7	4	0	65.8	4	1	74.6	5	0	84.1	1	1	76.2	4	0
3	PBW872 (C)	SPL-HYPT-102	86.5	2	0	84.5	1	1	75.9	2	0	80.2	1	1	65.4	5	1	71.7	6	0	79.5	4	1	77.3	2	1
4	DBW372 (C)	SPL-HYPT-103	91.8	1	1	75.5	4	0	80.3	1	1	77.9	2	1	60.1	6	0	83.0	1	1	79.7	3	1	78.4	1	1
5	DBW327 (C)	SPL-HYPT-104	85.4	3	0	73.6	5	0	75.4	3	0	74.5	5	0	66.9	3	1	75.1	4	0	83.3	2	1	76.6	3	1
6	DBW187 (C)	SPL-HYPT-105	76.5	5	0	70.1	6	0	71.8	5	0	71.0	6	0	68.7	1	1	81.9	2	1	75.6	5	0	74.1	6	0
G.M.			83.3			77.4			74.4			75.9			65.9			77.6			79.4			76.3		
S.E.(M)			1.632			2.986			1.591			1.692			2.081			0.808			2.455			0.835		
C.D. (10%)			4.0			7.4			3.9			4.0			5.2			2.0			6.1			1.9		
C.V.			3.9			7.7			4.3						6.3			2.1			6.2					
D.O.S.(dd.mm.yy)			27.10.23			27.10.23			25.10.23						01.11.23			03.11.23			31.10.23					

No. of Trials: Proposed = 07 Conducted = 07
Trial not conducted (00) = Nil
Trials not reported (01) = Karnal (LSM)

Summary of Disease Data and Agronomic Characteristics

North Western Plains Zone **Trial: SPL-HYPT-IR-ES-TAS-NWPZ, 2023-24**

SN	Variety	Code	Disease Reaction		Agronomic Characteristics							Grain Characteristics	
			YI	Br	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	DBW438	SPL-HYPT-106	5S	0	101-113	106	151-166	156	91-108	101	50	39-47	44
2	DBW371 (C)	SPL-HYPT-101	10S	tS	100-113	106	149-166	155	92-114	103	50	45-47	46
3	PBW872 (C)	SPL-HYPT-102	20S	tS	95-106	101	146-164	153	85-109	95	35	43-54	48
4	DBW372 (C)	SPL-HYPT-103	10S	5S	99-111	106	147-166	155	83-105	93	30	40-44	42
5	DBW327 (C)	SPL-HYPT-104	5S	0	95-106	101	143-164	152	82-104	95	50	41-52	48
6	DBW187 (C)	SPL-HYPT-105	tS	0	98-105	103	150-164	154	90-104	96	40	41-47	44

1. Ancillary data from BISA-Ladhowal, Delhi, Hisar, Karnal, Ludhiana and Sriganganagar centres.
2. Yellow and Brown rust data from Hisar and Karnal centres..
3. Lodging data from Ladhowal, Delhi and Karnal centres.

Individual Station Rust Data

SN	Variety	Code	Yellow rust		Brown rust	
			Hisar	Karnal	Hisar	Karnal
1	DBW438	SPL-HYPT-106	5S	5S	0	0
2	DBW371 (C)	SPL-HYPT-101	tS	10S	tS	0
3	PBW872 (C)	SPL-HYPT-102	5S	20S	tS	0
4	DBW372 (C)	SPL-HYPT-103	10S	10S	0	5S
5	DBW327 (C)	SPL-HYPT-104	5S	0	0	0
6	DBW187 (C)	SPL-HYPT-105	tS	0	0	0

2362-SPL-HYPT-IR-ES-TAS-CZ, 2023-24
LOCATIONWISE, STATE AND ZONAL MEAN YIELD (q/ha)

SN	Variety	Code	M.P.									Gujarat						Gujarat			Zonal		
			Indore			Powarkheda			BISA-Jabalpur			M.P.			Junagadh			Vijapur						
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	CG1044*	SPL-HYPT-201	65.2	10	0	64.6	3	1	70.7	6	0	66.8	3	1	62.1	2	1	57.1	13	0	59.6	7	0	63.9	3	1
2	GW543*	SPL-HYPT-208	67.2	5	1	57.3	8	0	70.1	9	0	64.9	7	0	62.8	1	1	60.7	9	0	61.7	4	1	63.6	6	1
3	MP1399	SPL-HYPT-203	66.2	9	0	67.4	2	1	69.8	10	0	67.8	2	1	52.8	13	0	65.7	2	1	59.3	8	0	64.4	1	1
4	WH1320	SPL-HYPT-204	69.0	3	1	51.7	13	0	68.0	13	0	62.9	12	0	53.5	11	0	60.0	10	0	56.8	11	0	60.4	12	0
5	HD3461	SPL-HYPT-205	64.4	12	0	57.6	7	0	66.0	15	0	62.7	13	0	58.9	8	1	63.6	5	1	61.3	6	1	62.1	10	1
6	DBW434	SPL-HYPT-207	64.0	13	0	59.4	5	0	68.3	12	0	63.9	9	0	53.0	12	0	51.2	16	0	52.1	15	0	59.2	13	0
7	PBW906	SPL-HYPT-209	67.1	6	0	54.1	11	0	71.9	5	1	64.3	8	0	59.5	6	1	67.1	1	1	63.3	1	1	63.9	4	1
8	HD3463	SPL-HYPT-210	63.0	14	0	68.7	1	1	64.1	16	0	65.2	6	1	61.6	3	1	61.6	8	1	61.6	5	1	63.8	5	1
9	PBW929	SPL-HYPT-212	71.8	2	1	54.3	10	0	70.3	7	0	65.5	4	1	60.4	5	1	64.2	3	1	62.3	3	1	64.2	2	1
10	DBW445	SPL-HYPT-213	68.9	4	1	62.8	4	0	72.5	4	1	68.1	1	1	49.0	14	0	62.0	7	1	55.5	12	0	63.1	8	1
11	DBW436	SPL-HYPT-215	73.1	1	1	48.6	15	0	68.6	11	0	63.4	11	0	59.4	7	1	58.6	11	0	59.0	9	0	61.7	11	0
12	DBW187 (C)	SPL-HYPT-206	66.2	8	0	46.4	16	0	73.2	2	1	61.9	15	0	47.6	15	0	58.5	12	0	53.0	14	0	58.4	15	0
13	GW322 (C)	SPL-HYPT-211	61.8	15	0	58.2	6	0	66.0	14	0	62.0	14	0	55.5	10	0	53.9	15	0	54.7	13	0	59.1	14	0
14	DBW303 (C)	SPL-HYPT-216	64.5	11	0	49.7	14	0	70.2	8	0	61.5	16	0	47.0	16	0	56.9	14	0	52.0	16	0	57.7	16	0
15	DBW377(I)(C)	SPL-HYPT-202	66.6	7	0	56.4	9	0	73.0	3	1	65.3	5	1	55.6	9	0	62.1	6	1	58.8	10	0	62.7	9	1
16	DBW327(I)(C)	SPL-HYPT-214	61.4	16	0	53.8	12	0	76.0	1	1	63.7	10	0	61.1	4	1	63.7	4	1	62.4	2	1	63.2	7	1
G.M.			66.3			56.9			69.9			64.4			56.2			60.4			58.3			62.0		
S.E.(M)			2.514			2.341			1.981			1.322			1.825			2.356			1.490			0.992		
C.D. (10%)			6.0			5.6			4.7			3.1			4.3			5.6			3.5			2.3		
C.V.			7.6			8.2			5.7						6.5			7.8								
D.O.S.(dd.mm.yy)			05.11.23			09.11.23			04.11.23						02.11.23			04.11.23								

No. of Trials: Proposed = 07 Conducted = 07
Trial not conducted (00) = Nil
Trials not reported (02) = JNKVV-Jabalpur (RMT), Bilaspur (LSM)

Summary of Disease Data and Agronomic Characteristics

Central Zone **Trial: SPL-HYPT-IR-ES-TAS, 2023-24**

SN	Variety	Code	Disease Reaction	Agronomic Characteristics							Grain Characteristics	
			Bl	Hd.R	Hd.M	Mat.R	Mat.M	Ht.R	Ht.M	Lod.M	TGW.R	TGW.M
1	CG1044*	SPL-HYPT-201	10MS	58-89	72	106-132	123	86-106	100	65	42-54	47
2	GW543*	SPL-HYPT-208	0	58-80	67	105-129	120	77-98	90	0	41-55	48
3	MP1399	SPL-HYPT-203	tR	59-85	70	106-131	123	76-99	88	0	42-56	49
4	WH1320	SPL-HYPT-204	tR	53-87	67	103-132	120	77-100	90	5	32-48	42
5	HD3461	SPL-HYPT-205	0	59-89	74	109-133	125	81-96	91	0	39-47	44
6	DBW434	SPL-HYPT-207	tMR	53-75	65	99-126	118	80-99	90	15	43-53	48
7	PBW906	SPL-HYPT-209	0	58-80	69	107-130	122	76-99	89	0	41-59	51
8	HD3463	SPL-HYPT-210	0	59-90	74	106-132	123	84-98	92	0	39-49	45
9	PBW929	SPL-HYPT-212	0	62-91	73	107-132	123	76-92	88	0	39-50	46
10	DBW445	SPL-HYPT-213	tR	62-91	73	110-132	124	81-103	92	5	38-52	45
10	DBW436	SPL-HYPT-215	0	61-90	73	106-131	123	78-102	91	0	39-50	45
12	DBW187 (C)	SPL-HYPT-206	0	55-84	66	105-129	121	82-98	91	35	41-54	48
13	GW322 (C)	SPL-HYPT-211	0	54-78	66	101-126	119	76-93	87	20	35-45	40
14	DBW303 (C)	SPL-HYPT-216	0	54-77	64	102-130	120	73-97	85	0	38-52	44
15	DBW377(I) (C)	SPL-HYPT-202	0	59-90	73	108-130	123	77-98	89	0	41-54	47
16	DBW327(I) (C)	SPL-HYPT-214	0	56-74	66	104-129	121	74-95	87	5	41-53	48

1. Ancillary data from BISA-Jabalpur, Bilaspur, Jabalpur, Indore, Junagadh, Powarkheda, and Vijapur centres.
2. Black rust and lodging data from Vijapur centre only.

Physiological Trials

Physiological investigations on heat and drought stress tolerance in wheat

Heat and Drought Tolerance Screening Trial (HDTST) was conducted to identify the temperature and drought stress tolerant lines among AVT final year genotypes and the trial was planted under timely sown(TS), late sown (LS) and drought stress (DR) conditions. The HDTST trial was conducted using 25 entries including checks sown in 5 x 5 lattice square design with two replications during the crop season 2023-24. The trial was planted at 12 locations under TS (November) and LS (December) conditions keeping at least 21 days difference between the sowing dates to expose the crop to optimum and high temperature environments, respectively. In addition, one set was also planted under drought stress condition with pre sown irrigation. Observations on weather, growth and yield parameters were recorded at all the locations in the prescribed format. Physiological parameters namely Normalized Difference Vegetation Index (NDVI), canopy temperature (CT) and chlorophyll content index (CCI) were recorded at 15 days after anthesis (DAA) and 21DAA at Karnal, Ludhiana, Hisar, Sabour, Junagadh, Vijapur, Dharwad and Pune locations. The data from Pusa and the late sown data of Indore centres were not included for analysis, as there was no yield reduction under stress conditions and rest of the 11 locations data were considered for pooled analysis.

Magnitude of heat and drought stress:

- In NWPZ and NEPZ, the mean minimum and maximum temperature across centres was higher by 1.2^{0}C and 1.1^{0}C respectively, under reproductive stage in LS compared to TS conditions. The RH ranged from 38-62% and the rainfall received was more under TS reproductive stagecompared to LS.
- In CZ and PZ, the mean minimum and maximum temperature across centres was higher by 2.3^{0}C and 1.5^{0}C respectively, under reproductive stage in LS compared to TS conditions. The RH ranged from 42-76% and the rainfall received was almost same both in TS and LS reproductive stages.

Impact of heat/drought stress was adjudged by taking into account, Heat Sensitivity Index (HSI) and Drought Sensitivity Index (DSI). HSI/DSI was calculated using the formula HSI/DSI = (1-YD/Yi)/ (1-XD/Xi) where, YD and Yi are the grain yield for each genotype under stress and control conditions respectively. XD and Xi are the means of all study genotypes grain yield under stress and control conditions respectively. For reference, HSI/DSI<0.5 is considered as highly tolerant, HSI/DSI<0.5-1 as moderately tolerant and HSI/DSI>1.0 as stress susceptible genotypes.

Under heat stress, the genotypes HI1674 (0.65), HD3428 (0.67) and DBW386 (0.67) showed lowest HSI with minimum yield reduction compared to the best check HI1633 (0.70). Under drought condition, HD3428 (0.79) and GW543 (0.82) showed lower DSI compared to the best check NIDW1149 (0.88) with minimum yield reduction under drought condition. The list of genotypes showing HSI /DSI <1 in HDTST is listed in Table 1.

Table 1: List of wheat genotypes identified as heat/ drought tolerant (HSI/DSI<1.0) in HDTSTduring 2023-24.

Trial	Genotypes with	
	HSI<1	**DSI<1**
HDTST	HI1674 (0.65), HD3428 (0.67), DBW386 (0.67), AKAW5100 (0.75), HD3471 (0.79), NWS2222(0.83), DBW443 (0.85), HI1669 (0.85), LOK79 (0.94)	HD3428 (0.79), GW543 (0.82), HD3471 (0.89), DBW443 (0.89), PBW891 (0.93), AKAW5100 (0.93), LOK79 (0.96), HI1669(0.99), DBW441 (0.99)

Values in the paranthesis indicates HSI /DSI

Correlation of grain yield with different traits under late sown and drought conditions

The correlation of different growth, yield and physiological traits with yield under late sown condition indicated that, the grain yield is positively correlated with days to maturity, biomass, plant height, harvest index, grain number and weight/spike, chlorophyll content and NDVI. The grain yield under drought condition is positively correlated with biomass, thousand grain weight, harvest index, grain number and weight/spike, chlorophyll content and NDVI at 21DAA.

Table 2: Correlation (r^2) of pooled analysis traits with GYLS and GYDR

Traits	**GYLS**	**GYDR**
Days to heading	0.23	0.17
Days to maturity	**0.63****	0.16
Tiller number	0.21	0.26
Biomass	**0.90****	**0.82****
Thousand grain weight	0.23	**0.37***
Plant height	**0.48****	0.15
Harvest index	**0.40****	**0.56****
Grain filling Period	0.20	0.21
Grain number per spike	**0.67****	0**.49****
Grain weight per spike	**0.69****	**0.62****
CT at 15DAA	-0.16*	-0.2
CT at 21DAA	-0.10**	0.22
CCI at 15DAA	**0.53****	0.31
CCI at 21DAA	0.24	**0.40****
NDVI at 1month after germination.	**0.49****	0.24
NDVI at 21 DAA	**0.70****	**0.46****

* Significant@ 5%, ** @ 1%.

Annexure I: The grain yield, HSI, DSI and yield reduction percentage of genotypes pooled across locations during 2023-24

Genotype	Grain Yield (Kg/plot)			DSI	HSI	Yield reduction (%)	
	TS	LS	DR			HS	DS
AKAW5100	1.14	0.94	0.76	0.75	0.93	17.5	33.4
CG1044	1.21	0.82	0.75	1.40	1.07	32.7	38.3
DBW386	1.17	0.99	0.74	0.67	1.02	15.7	36.5
DBW441	1.21	0.87	0.78	1.20	0.99	28.0	35.5
DBW443	1.31	1.05	0.89	0.85	0.89	19.8	31.9
DDW55(d)	1.17	0.79	0.68	1.38	1.17	32.2	42.1
GW543	1.36	0.98	0.96	1.19	0.82	27.7	29.5
HD3428	1.27	1.07	0.91	0.67	0.79	15.6	28.4
HD3471	1.23	1.00	0.84	0.79	0.89	18.5	31.8
HI1668	1.32	0.97	0.84	1.13	1.02	26.3	36.5
HI1669	1.18	0.94	0.76	0.85	0.99	19.9	35.4
HI1674	1.12	0.95	0.71	0.65	1.02	15.1	36.4
LOK 79	1.05	0.82	0.69	0.94	0.96	22.0	34.4
NIAW4114	1.05	0.76	0.65	1.17	1.06	27.2	38.0
NIAW4120	1.21	0.88	0.70	1.16	1.17	27.1	41.8
NWS2222	1.17	0.95	0.74	0.83	1.02	19.4	36.5
PBW891	1.20	0.88	0.80	1.15	0.93	26.9	33.3
WH1306	1.19	0.86	0.75	1.17	1.04	27.4	37.2
DBW110 (C)	1.28	0.84	0.83	1.47	0.98	34.4	35.0
DBW187(C)	1.31	1.01	0.84	0.97	1.01	22.7	36.2
GW322(C)	1.17	0.91	0.75	0.96	1.01	22.5	36.3
HI1633(C)	1.18	0.99	0.75	0.70	1.02	16.2	36.4
NIDW1149(d) (C)	1.12	0.91	0.77	0.82	0.88	19.1	31.4
PBW826(C)	1.30	1.03	0.86	0.90	0.94	21.1	33.8
WH730(C)	1.09	0.85	0.63	0.93	1.19	21.7	42.5

HS-Heat stress, DS-Drought stress

Annexure 2a: The grain yield (kg/plot), HSI, DSI and yield reduction percentage of genotypes at Hisar and Karnal locations during 2023-24.

SN	Genotypes	Hisar							Karnal						
		GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D	GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D
1	AKAW5100	1.11	0.81	0.70	0.82	0.71	27.5	36.9	1.92	1.34	1.01	1.06	1.06	30.0	47.5
2	CG1044	1.37	1.00	0.70	0.82	0.94	27.3	49.3	1.70	1.52	0.77	0.38	1.22	10.9	54.7
3	DBW386	1.22	0.86	0.64	0.88	0.91	29.5	47.5	1.42	1.74	0.51	-0.79	1.44	-22.4	64.5
4	DBW441	1.10	0.98	0.68	0.32	0.73	10.5	38.4	2.06	1.24	1.16	1.41	0.97	40.0	43.8
5	DBW443	1.53	0.93	0.66	1.18	1.09	39.4	57.2	1.86	1.69	1.16	0.32	0.84	9.2	37.6
6	DDW55(d)	1.41	0.86	0.69	1.17	0.98	38.9	51.4	1.18	1.50	0.55	-0.95	1.19	-26.9	53.4
7	GW543	1.35	0.92	0.61	0.95	1.06	31.6	55.2	1.98	1.31	1.32	1.19	0.73	33.7	33.0
8	HD3428	1.25	0.89	0.63	0.86	0.94	28.6	49.4	1.94	1.76	1.19	0.33	0.86	9.3	38.6
9	HD3471	1.27	0.79	0.69	1.13	0.87	37.7	45.7	2.21	1.25	1.15	1.54	1.07	43.6	47.9
10	HI1668	1.53	0.81	0.53	1.41	1.25	47.2	65.4	2.24	1.23	1.17	1.59	1.06	45.2	47.9
11	HI1669	1.59	0.98	0.69	1.14	1.08	38.1	56.5	1.20	0.81	0.72	1.14	0.90	32.3	40.3
12	HI1674	1.25	0.88	0.69	0.88	0.85	29.3	44.7	1.08	1.12	0.58	-0.11	1.04	-3.1	46.9
13	LOK79	1.28	0.75	0.62	1.24	0.98	41.2	51.1	0.89	0.54	0.54	1.38	0.88	39.3	39.6
14	NIAW4114	1.22	0.74	0.55	1.17	1.05	39.1	55.1	0.96	0.55	0.55	1.50	0.95	42.6	42.8
15	NIAW4120	1.57	1.03	0.61	1.03	1.18	34.3	61.5	1.74	1.24	0.86	1.01	1.12	28.8	50.4
16	NWS2222	1.13	0.65	0.59	1.28	0.91	42.7	47.8	2.11	1.53	1.04	0.97	1.12	27.6	50.5
17	PBW891	1.36	0.85	0.60	1.12	1.07	37.5	56.1	2.14	1.21	1.30	1.53	0.87	43.4	39.2
18	WH1306	1.18	0.87	0.58	0.79	0.98	26.4	51.1	1.63	1.48	1.02	0.32	0.84	9.0	37.7
19	DBW110(C)	1.55	0.94	0.70	1.17	1.05	39.1	54.7	1.98	1.43	1.17	0.97	0.91	27.5	40.9
20	DBW187(C)	1.47	0.85	0.70	1.26	1.00	41.9	52.2	2.53	1.45	1.18	1.50	1.19	42.5	53.4
21	GW322(C)	1.48	0.92	0.58	1.14	1.17	37.9	61.0	1.61	1.05	0.88	1.23	1.01	35.1	45.4
22	HI1633(C)	1.29	0.87	0.55	0.96	1.10	32.1	57.5	1.64	1.49	0.95	0.33	0.94	9.4	42.4
23	NIDW1149(d) (C)	1.15	0.79	0.59	0.92	0.94	30.8	48.9	1.33	1.53	0.79	-0.54	0.91	-15.4	40.9
24	PBW826(C)	1.19	1.01	0.74	0.44	0.73	14.8	38.2	2.05	1.74	1.22	0.54	0.91	15.4	40.7
25	WH730(C)	1.21	0.91	0.51	0.75	1.11	25.1	58.1	0.99	1.30	0.31	-1.13	1.52	-32.2	68.6

GYTS - Grain yield under timely sown, GYLS - Grain yield under late sown, GYDR -Grain yield under drought, YR%H -Yield reduction percentage under heat stress, YR%D - Yield reduction percentage under drought stress

Annexure 2b: The grain yield(kg/plot), HSI, DSI and yield reduction percentage of genotypes at Ludhiana and Ranchi locations during 2023-24

SN	Genotypes	Ludhiana							Ranchi						
		GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D	GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D
1	AKAW5100	0.99	0.78	0.62	1.03	1.14	21.6	38.0	1.30	1.20	1.30	1.87	0.00	7.7	0.0
2	CG1044	0.86	0.66	0.42	1.12	1.56	23.7	51.9	1.40	1.25	1.65	2.61	-2.37	10.7	-17.9
3	DBW386	1.41	0.79	0.99	2.09	0.90	43.9	30.0	1.45	1.50	1.30	-0.84	1.37	-3.4	10.3
4	DBW441	1.13	0.92	0.69	0.87	1.15	18.2	38.4	1.60	1.30	1.50	4.56	0.83	18.8	6.3
5	DBW443	1.51	1.27	1.05	0.75	0.91	15.8	30.5	1.45	1.45	1.50	0.00	-0.46	0.0	-3.4
6	DDW55(d)	1.21	0.58	0.82	2.48	0.97	52.2	32.4	1.60	1.35	1.30	3.80	2.49	15.6	18.8
7	GW543	1.26	0.92	0.88	1.29	0.90	27.2	30.1	1.70	1.55	1.65	2.15	0.39	8.8	2.9
8	HD3428	1.36	1.20	1.32	0.58	0.10	12.3	3.4	1.90	1.65	1.65	3.20	1.75	13.2	13.2
9	HD3471	1.29	1.31	1.21	-0.08	0.19	-1.7	6.5	1.40	1.45	1.30	-0.87	0.95	-3.6	7.1
10	HI1668	1.32	1.08	1.27	0.86	0.12	18.2	3.9	1.30	1.55	1.35	-4.68	-0.51	-19.2	-3.8
11	HI1669	0.87	0.72	0.37	0.78	1.72	16.4	57.2	1.40	1.55	1.35	-2.61	0.47	-10.7	3.6
12	HI1674	0.99	0.76	0.44	1.12	1.66	23.5	55.4	1.30	1.40	1.35	-1.87	-0.51	-7.7	-3.8
13	LOK 79	0.87	0.57	0.35	1.63	1.79	34.3	59.6	1.15	1.40	1.10	-5.29	0.58	-21.7	4.3
14	NIAW4114	0.71	0.49	0.34	1.49	1.57	31.3	52.2	1.45	1.50	1.20	-0.84	2.29	-3.4	17.2
15	NIAW4120	0.71	0.52	0.35	1.29	1.54	27.1	51.3	1.50	1.45	1.30	0.81	1.77	3.3	13.3
16	NWS2222	1.08	1.07	0.72	0.05	1.01	1.0	33.6	1.40	1.50	1.30	-1.74	0.95	-7.1	7.1
17	PBW891	1.02	0.96	0.63	0.25	1.13	5.3	37.6	1.45	1.35	1.50	1.68	-0.46	6.9	-3.4
18	WH1306	1.41	0.99	1.16	1.40	0.53	29.4	17.8	1.35	1.40	1.20	-0.90	1.47	-3.7	11.1
19	DBW110 (C)	1.10	0.90	0.68	0.85	1.14	17.9	37.8	1.75	1.30	1.60	6.26	1.14	25.7	8.6
20	DBW187(C)	1.43	1.23	0.93	0.66	1.05	13.9	34.9	1.50	1.45	1.45	0.81	0.44	3.3	3.3
21	GW322(C)	0.95	0.86	0.45	0.42	1.57	8.8	52.2	1.40	1.35	1.10	0.87	2.84	3.6	21.4
22	HI1633(C)	1.03	1.03	0.40	0.01	1.84	0.2	61.3	1.45	1.45	1.30	0.00	1.37	0.0	10.3
23	NIDW1149(d) (C)	1.23	0.92	0.96	1.18	0.64	24.9	21.5	1.70	1.30	1.20	5.73	3.90	23.5	29.4
24	PBW826(C)	1.66	1.31	1.37	1.01	0.54	21.3	17.8	1.35	1.35	1.35	0.00	0.00	0.0	0.0
25	WH730(C)	1.28	0.75	0.64	1.97	1.49	41.5	49.8	1.25	1.20	1.05	0.97	2.12	4.0	16.0

Annexure 2c: The grain yield(kg/plot), HSI, DSI and yield reduction percentage of genotypes at Sabour and Dharwad locations during 2023-24

SN	Genotypes	Sabour							Dharwad						
		GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D	GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D
1	AKAW5100	0.99	0.62	1.01	0.92	-0.25	36.9	-2.3	0.69	0.70	0.60	-0.06	0.53	-1.5	13.4
2	CG1044	0.90	0.64	0.74	0.72	1.90	28.7	17.3	0.51	0.31	0.40	1.48	0.90	40.0	22.8
3	DBW386	1.21	0.60	1.00	1.26	1.92	50.4	17.4	0.64	0.60	0.39	0.26	1.54	7.0	39.2
4	DBW441	0.97	0.53	0.83	1.14	1.64	45.8	14.9	0.38	0.15	0.23	2.19	1.51	59.4	38.3
5	DBW443	1.11	0.63	1.02	1.08	0.87	43.2	7.9	0.65	0.43	0.48	1.23	1.02	33.5	25.8
6	DDW55(d)	0.85	0.43	0.65	1.24	2.65	49.4	24.1	0.44	0.21	0.18	1.97	2.30	53.4	58.4
7	GW543	1.10	0.53	1.17	1.30	-0.70	51.8	-6.4	0.63	0.53	0.51	0.62	0.74	16.8	18.9
8	HD3428	1.11	0.67	1.10	0.98	0.02	39.4	0.2	0.61	0.32	0.42	1.72	1.18	46.7	29.9
9	HD3471	1.12	0.72	0.94	0.89	1.72	35.6	15.7	0.61	0.46	0.52	0.91	0.60	24.7	15.2
10	HI1668	1.25	0.68	1.07	1.15	1.57	45.9	14.2	0.61	0.48	0.53	0.78	0.48	21.1	12.2
11	HI1669	0.99	0.76	1.16	0.58	-1.95	23.4	-17.8	0.62	0.57	0.52	0.31	0.68	8.5	17.4
12	HI1674	1.06	0.64	0.89	1.00	1.76	39.9	16.0	0.61	0.54	0.52	0.41	0.59	11.2	14.9
13	LOK 79	0.75	0.52	0.79	0.78	-0.55	31.3	-5.0	0.64	0.63	0.53	0.05	0.65	1.2	16.6
14	NIAW4114	0.95	0.57	0.76	1.01	2.23	40.5	20.3	0.69	0.54	0.36	0.81	1.87	21.9	47.4
15	NIAW4120	0.81	0.65	0.63	0.49	2.50	19.7	22.8	0.67	0.64	0.41	0.14	1.52	3.9	38.5
16	NWS2222	1.14	0.71	0.84	0.95	2.90	38.0	26.4	0.44	0.19	0.39	2.07	0.43	56.3	10.9
17	PBW891	0.77	0.49	0.91	0.90	-2.08	35.8	-18.9	0.79	0.48	0.50	1.44	1.48	39.1	37.5
18	WH1306	1.00	0.63	0.60	0.91	4.36	36.6	39.6	0.52	0.20	0.32	2.31	1.56	62.6	39.7
19	DBW110(C)	0.87	0.42	0.80	1.30	0.91	52.1	8.3	0.63	0.25	0.55	2.22	0.50	60.1	12.8
20	DBW187(C)	0.98	0.74	1.15	0.62	-1.88	24.8	-17.1	0.53	0.58	0.37	-0.37	1.16	-10.0	29.5
21	GW322(C)	1.07	0.61	0.85	1.08	2.22	43.2	20.2	0.69	0.39	0.61	1.62	0.46	43.8	11.8
22	HI1633(C)	1.04	0.61	0.98	1.04	0.71	41.5	6.5	0.64	0.61	0.50	0.19	0.84	5.0	21.4
23	NIDW1149(d) (C)	0.73	0.44	0.94	1.01	-3.13	40.4	-28.4	0.61	0.50	0.55	0.66	0.36	18.0	9.1
24	PBW826(C)	1.22	0.71	0.99	1.05	2.06	42.1	18.7	0.39	0.21	0.29	1.74	1.05	47.1	26.8
25	WH730(C)	0.98	0.54	0.85	1.14	1.46	45.5	13.2	0.54	0.37	0.37	1.15	1.26	31.2	32.0

Annexure 2d: The grain yield(kg/plot), HSI, DSI and yield reduction percentage of genotypes at Pune and Niphad locations during 2023-24

SN	Genotypes	Pune							Niphad						
		GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D	GYTS	GYLS	GYDR	HSI	DSI	YR%	YR%D
1	AKAW5100	1.05	0.90	0.39	0.44	0.97	14.0	63.0	0.82	0.94	0.86	-0.76	-1.02	-15.3	-5.7
2	CG1044	1.11	0.77	0.44	0.97	0.93	30.7	60.3	1.29	0.58	1.00	2.73	3.90	55.2	21.9
3	DBW386	1.05	0.87	0.47	0.52	0.86	16.6	55.6	0.78	0.80	0.64	-0.12	3.35	-2.4	18.8
4	DBW441	1.14	0.80	0.31	0.95	1.12	30.1	72.6	0.88	0.50	0.89	2.14	-0.07	43.4	-0.4
5	DBW443	1.33	0.63	0.46	1.66	1.00	52.4	65.2	0.96	0.60	1.08	1.87	-2.16	37.8	-12.1
6	DDW55(d)	1.28	0.54	0.34	1.83	1.13	57.8	73.1	0.76	0.29	0.78	3.04	-0.59	61.4	-3.3
7	GW543	1.40	0.90	0.58	1.12	0.90	35.4	58.5	1.19	0.78	1.20	1.70	-0.28	34.4	-1.6
8	HD3428	1.23	0.88	0.52	0.90	0.89	28.5	58.0	0.81	0.88	0.92	-0.44	-2.37	-8.8	-13.3
9	HD3471	1.17	0.69	0.34	1.30	1.09	41.0	70.8	0.85	0.69	0.82	0.90	0.55	18.3	3.1
10	HI1668	1.03	0.84	0.41	0.58	0.92	18.3	59.7	0.83	0.64	0.61	1.16	4.71	23.5	26.4
11	HI1669	1.13	0.88	0.35	0.71	1.07	22.6	69.3	1.07	0.83	0.85	1.12	3.65	22.6	20.5
12	HI1674	1.21	0.92	0.46	0.76	0.96	24.0	62.5	0.85	0.82	0.84	0.17	0.24	3.5	1.3
13	LOK 79	1.09	0.80	0.40	0.85	0.97	26.8	63.2	0.89	1.05	0.89	-0.91	-0.05	-18.4	-0.3
14	NIAW4114	1.26	0.89	0.42	0.92	1.02	29.1	66.4	0.83	1.10	0.75	-1.60	1.77	-32.3	9.9
15	NIAW4120	1.37	0.96	0.44	0.94	1.04	29.7	67.9	0.99	0.84	0.79	0.75	3.68	15.2	20.7
16	NWS2222	1.02	0.81	0.42	0.64	0.91	20.3	59.1	0.76	0.74	0.85	0.15	-2.22	3.0	-12.5
17	PBW891	1.00	0.66	0.34	1.06	1.02	33.5	66.0	1.06	0.71	0.90	1.63	2.70	33.0	15.2
18	WH1306	1.04	0.58	0.32	1.40	1.07	44.2	69.4	0.87	0.46	0.76	2.32	2.20	47.0	12.3
19	DBW110(C)	1.32	0.65	0.55	1.61	0.90	50.9	58.6	0.79	0.33	0.87	2.87	-1.94	58.1	-10.9
20	DBW187(C)	1.12	0.61	0.42	1.43	0.97	45.3	62.8	0.86	0.54	0.67	1.84	3.93	37.2	22.1
21	GW322(C)	1.27	0.97	0.39	0.74	1.07	23.2	69.4	0.96	0.66	0.88	1.55	1.47	31.4	8.3
22	HI1633(C)	1.08	0.88	0.34	0.58	1.05	18.2	68.4	0.75	0.74	0.68	0.10	1.67	2.0	9.4
23	NIDW1149(d) (C)	1.17	0.92	0.42	0.69	0.99	21.7	64.3	0.95	0.89	0.82	0.27	2.28	5.6	12.8
24	PBW826(C)	1.36	0.95	0.49	0.95	0.99	30.1	64.3	0.96	0.73	0.95	1.20	0.14	24.3	0.8
25	WH730(C)	1.14	0.80	0.39	0.96	1.01	30.2	65.5	0.71	0.82	0.74	-0.73	-0.57	-14.7	-3.2

Annexure 2e: The grain yield(kg/plot), HSI, DSI and yield reduction percentage of genotypes at Indore and Junagadh locations during 2023-24

		Indore				Junagadh						
		GYTS	GYDR	DSI	YR%D	GYTS	GYLS	GYDR	HSI	DSI	YR%H	YR%D
1	AKAW5100	1.382	0.950	1.23	31.3	1.211	0.837	0.439	0.88	1.01	30.9	63.7
2	CG1044	1.346	1.005	0.99	25.3	1.540	0.880	0.468	1.22	1.10	42.9	69.6
3	DBW386	1.419	0.931	1.35	34.4	0.982	0.701	0.465	0.82	0.83	28.7	52.7
4	DBW441	1.323	1.116	0.61	15.6	1.315	0.832	0.475	1.05	1.01	36.7	63.9
5	DBW443	1.362	0.877	1.40	35.6	1.094	0.660	0.481	1.13	0.89	39.7	56.1
6	DDW55(d)	1.438	1.082	0.97	24.8	1.352	0.718	0.381	1.34	1.13	46.9	71.8
7	GW543	1.514	1.147	0.95	24.3	1.391	0.820	0.458	1.17	1.06	41.0	67.1
8	HD3428	1.254	1.081	0.54	13.8	1.149	0.895	0.445	0.63	0.97	22.1	61.3
9	HD3471	1.171	1.005	0.56	14.2	1.111	0.863	0.435	0.64	0.96	22.3	60.9
10	HI1668	1.529	1.070	1.18	30.1	1.284	0.883	0.431	0.89	1.05	31.2	66.5
11	HI1669	1.649	1.185	1.10	28.1	1.120	0.835	0.458	0.73	0.93	25.5	59.1
12	HI1674	1.557	0.964	1.49	38.1	1.150	0.802	0.433	0.86	0.98	30.3	62.4
13	LOK 79	1.474	1.130	0.91	23.3	1.089	0.735	0.425	0.93	0.96	32.5	61.0
14	NIAW4114	1.498	1.113	1.01	25.7	0.976	0.695	0.497	0.82	0.77	28.8	49.1
15	NIAW4120	1.521	1.103	1.08	27.5	1.359	0.823	0.507	1.13	0.99	39.4	62.7
16	NWS2222	1.331	0.965	1.08	27.5	1.175	0.825	0.443	0.85	0.98	29.8	62.3
17	PBW891	1.235	1.007	0.72	18.5	1.237	0.725	0.504	1.18	0.94	41.4	59.3
18	WH1306	1.380	0.911	1.33	34.0	1.283	0.659	0.462	1.39	1.01	48.6	64.0
19	DBW110(C)	1.272	0.951	0.99	25.2	1.473	0.792	0.440	1.32	1.11	46.2	70.2
20	DBW187(C)	1.525	1.103	1.09	27.7	1.142	0.750	0.427	0.98	0.99	34.3	62.6
21	GW322(C)	1.391	1.160	0.65	16.6	1.186	0.879	0.473	0.74	0.95	25.9	60.2
22	HI1633(C)	1.511	1.161	0.91	23.2	1.138	0.779	0.433	0.90	0.98	31.6	62.0
23	NIDW1149(d) (C)	1.275	0.827	1.38	35.1	1.036	0.623	0.498	1.14	0.82	39.9	51.9
24	PBW826(C)	1.280	1.106	0.53	13.6	1.406	0.864	0.381	1.10	1.15	38.6	72.9
25	WH730(C)	1.398	1.149	0.70	17.8	1.053	0.647	0.374	1.10	1.02	38.5	64.5

Annexure 2f: The grain yield(kg/plot), HSI, DSI and yield reduction percentage of genotypes at Vijapur location during 2023-24

		Vijapur						
		GYTS	**GYLS**	**GYDR**	**HSI**	**DSI**	**YR%H**	**YR%D**
1	AKAW5100	1.095	0.603	0.495	1.10	1.30	45.0	54.8
2	CG1044	1.293	0.908	0.633	0.73	1.21	29.8	51.1
3	DBW386	1.283	0.918	0.850	0.70	0.80	28.5	33.7
4	DBW441	1.458	0.673	0.743	1.32	1.16	53.9	49.1
5	DBW443	1.583	1.018	1.058	0.88	0.78	35.7	33.2
6	DDW55(d)	1.328	0.703	0.670	1.15	1.17	47.1	49.5
7	GW543	1.445	0.840	1.008	1.03	0.72	41.9	30.3
8	HD3428	1.328	0.810	0.698	0.96	1.12	39.0	47.5
9	HD3471	1.325	0.955	0.818	0.68	0.91	27.9	38.3
10	HI1668	1.588	0.893	0.773	1.07	1.21	43.8	51.3
11	HI1669	1.323	0.718	0.730	1.12	1.06	45.7	44.8
12	HI1674	1.228	0.880	0.655	0.69	1.10	28.3	46.6
13	LOK 79	1.425	0.900	0.788	0.90	1.06	36.8	44.7
14	NIAW4114	0.985	0.550	0.608	1.08	0.91	44.2	38.3
15	NIAW4120	1.055	0.870	0.753	0.43	0.68	17.5	28.7
16	NWS2222	1.328	0.855	0.633	0.87	1.24	35.6	52.4
17	PBW891	1.183	0.753	0.635	0.89	1.09	36.4	46.3
18	WH1306	1.398	0.745	0.885	1.15	0.87	46.7	36.7
19	DBW110(C)	1.410	0.663	0.873	1.30	0.90	53.0	38.1
20	DBW187(C)	1.340	0.778	0.808	1.03	0.94	42.0	39.7
21	GW322(C)	0.873	0.720	0.825	0.43	0.13	17.5	5.4
22	HI1633(C)	1.378	0.715	0.945	1.18	0.74	48.1	31.4
23	NIDW1149(d) (C)	1.205	0.585	0.888	1.26	0.62	51.5	26.3
24	PBW826(C)	1.433	0.750	0.605	1.17	1.37	47.6	57.8
25	WH730(C)	1.413	0.525	0.500	1.54	1.53	62.8	64.6

Breeder Seed Production

Breeder & Nucleus Seed Indent and Production during 2023-24

During 2023-24, consolidated indent of 15334.25q breeder seed of 198 wheat varieties (including duplications) was received from DA&FW, New Delhi for total 24 indenting agencies. Out of total indenting agencies, 08 public sector agencies (NSC, IFFDC, IFCCO, KCO, NFL, Hindustan Insecticide Ltd., KVSS and NAFED) and National Seed Association of India (NSAI) representing private seed sector. Among all 15 states, UP placed maximum breeder seed indent of 3000.0q (22% Share) followed by MP 2298.0q, NSAI (2295q) for private seed companies and Bihar (1100.00q). A total of 10078q (68.60%) breeder seed indent of 67 latest varieties notified during 2019 and 2023 *viz*., DBW 187, DBW 303, DBW 222, DBW 327 HD 3626, etc. The maximum indent was received for DBW 187 (1748q), followed by DBW 303 (1522.20q) and DBW 222 (811.90q). All the top ten indented variety having share of 45.60 % in the total indent.

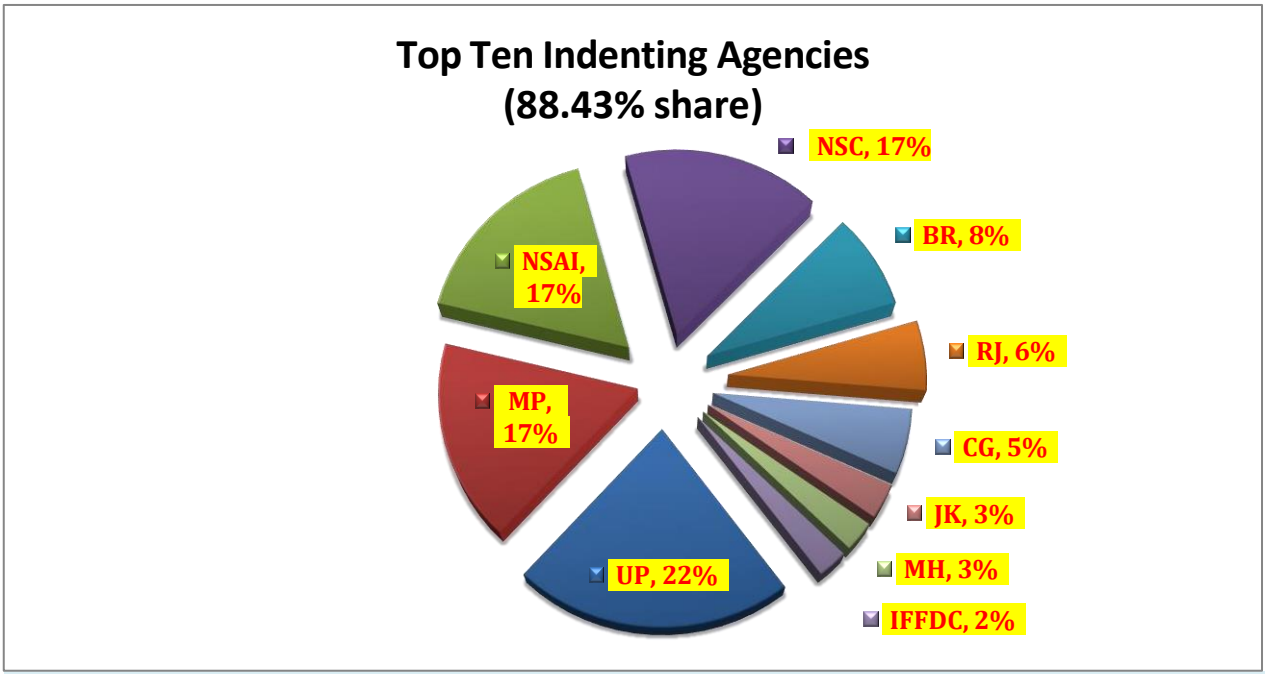

Fig.1: Breeder seed indent by different indenting agencies

Breeder Seed Allocation & Production

Total allocation 14698.87q of breeder seed of 132 varieties was made to 34 BSP Centre for the production during 2023-24 against 15334.25q total indent in 15 states. The indent of 331.38q breeder seed of 44 varieties *viz*., PBW 343, PBW 373, HUW 234 etc. was not allocated due to >15 years old varieties, <5.0q of indent and insufficient nucleus seed availability. The part indent (160q out of 464q) of 03 varieties viz., HI 8830, HI 1655 & HI 1650 was accepted by IARI_RS Indore due to the issues of non-lifting and unavailability of sufficient quantity of nucleus seed of these varieties.

The total breeder seed production was 21935.55q during 2023-24 with surplus production of **7236.68q**. Among all 34 BSP centers, ICAR-IIWBR, Karnal, produced maximum quantity *i.e*., 3296.0q of breeder seed against 3140.40q indent followed by IARI-RS, Indore (2631.30q) and RARI Durgapura (2205.00q). The highest quantity of breeder seed was produced for DBW 187 (2562.18q) followed DBW 303 (1923.72q), DBW 222 (1045q) and HD2967 (1040.0q) against DA&FW indent. The varieties *viz*., HI8826 (-50q) followed by MP 1323 (-37.00q), BRW 934 (-32.20q) and MP 1255 (-28.60q) produced deficit breeder seed against the allocation of indented quantity. Two BSP centres *viz*., BUAT, Banda (-62q) and BAU, Sabour (-32.10q) produced deficit

breeder seed against the allocation. The three varieties, viz., DBW 187, DBW 303 and DBW 222 of ICAR-IIWBR, Karnal ranked 1,2, and 3rd in the breeder seed indent during 2023-24 and top 5 indented varieties contributed 31.13% share in total breeder seed indent.

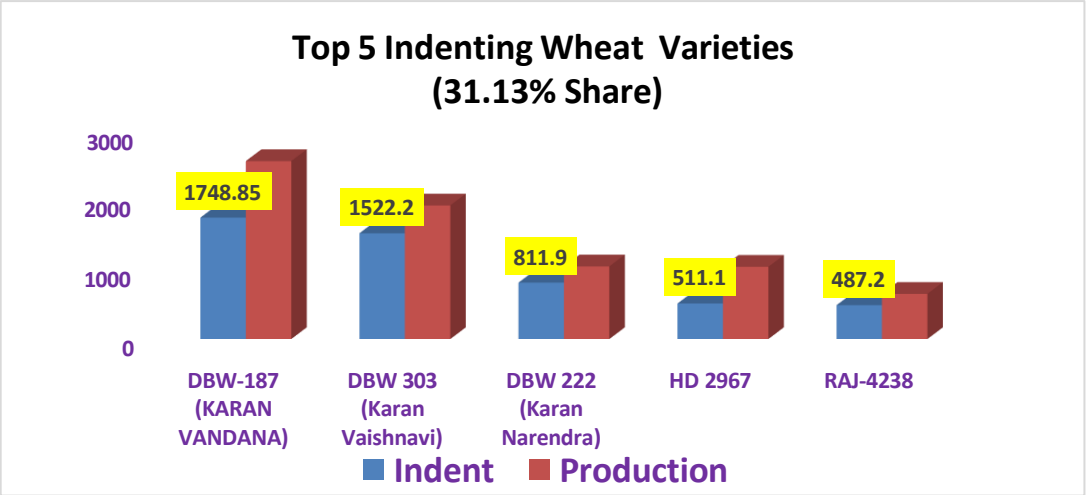

Fig. 2: Breeder seed indent and production of top five indented (31.13%) wheat varieties

Table: Top Ten breeder seed Indented wheat varieties during 2023-24

SN	Variety	Year	Breeder Seed (q) (BSP)			
			Indent	Allocation	Production	Surplus/ Deficit
1	DBW-187 (Karan Vandana)	2019	1748.85	1748.85	2562.18	813.33
2	DBW 303 (Karan Vaishnavi)	2021	1522.20	1522.20	1923.72	401.52
3	DBW 222 (Karan Narendra)	2020	811.90	811.90	1045.00	233.10
4	HD 2967	2011	511.10	511.10	1040.00	528.90
5	RAJ-4238	2023	487.20	487.20	650.00	162.80
6	Pusa Gautami (HD 3086)	2014	402.00	402.00	615.00	213.00
7	Pusa Yashasvi (HD 3226)	2019	401.40	401.40	412.00	10.60
8	DBW 327 (Karan Shivani)	2021	375.30	375.30	448.00	72.70
9	MP 3382 (JW 3382)	2016	366.90	366.90	457.24	90.34
10	HI 8759 (Pusa Tejas)	2017	365.30	365.30	494.50	129.20
	Total		**6992.15**	**6992.15**	**9647.64**	**2655.49**

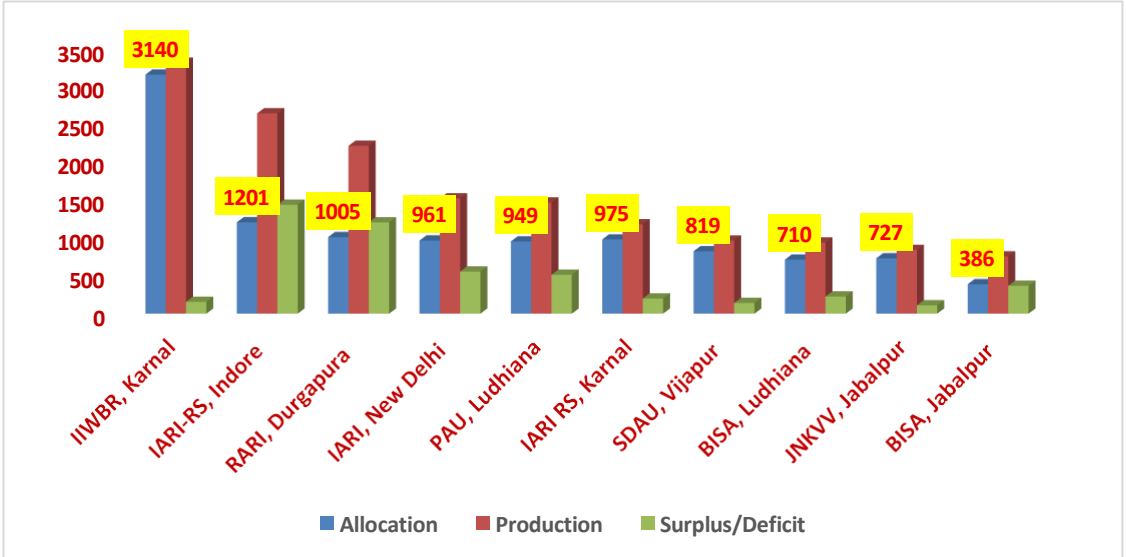

Fig: 3: Top ten breeder seed production centres (71.86% share) of wheat during 2023-24

Table 3: Centre Wise Breeder/Nucleus Seed production

SN	BSP Centre	Allocation	Production	Surplus/ Deficit	BNS-1	BNS -IV	Surplus/ Deficit
1	ICAR-IIWBR, Karnal	3140.40	3296.00	155.60	75.00	103.00	28.00
2	IARI-RS, Indore	1200.74	2631.30	1430.56	32.50	164.60	132.10
3	RARI, Durgapura	1005.40	2205.00	1199.60	24.50	83.00	58.50
4	IARI, New Delhi	960.80	1514.00	553.20	23.50	35.49	11.99
5	PAU, Ludhiana	949.20	1459.80	510.60	23.00	138.75	115.75
6	IARI RS, Karnal	974.60	1174.00	199.40	23.50	33.69	10.19
7	SDAU, Vijapur	819.10	960.02	140.92	20.00	116.28	96.28
8	BISA Ludhiana	709.80	935.00	225.20	17.00	19.12	2.12
9	JNKVV Jabalpur	727.10	836.29	109.19	19.50	102.00	82.50
10	BISA, Jabalpur	386.00	752.00	366.00	11.00	18.14	7.14
11	IARI, RS,Pusa,	332.50	704.00	371.50	8.00	57.80	49.80
12	WRC, Lokbharti	259.80	580.00	320.20	7.00	27.00	20.00
13	GBPUAT, Pantnagar	116.40	512.00	395.60	6.50	4.70	-1.80
14	BISA Pusa	432.65	471.00	38.35	8.50	12.75	4.25
15	RPCAU, Dholi, Bihar	322.45	438.16	115.71	6.50	2.66	-3.84
16	SKUA&T, Jammu	170.00	416.00	246.00	6.50	0.00	-6.50
17	CCS HAU Hisar	446.80	396.00	-50.80	12.00	21.20	9.20
18	RVSKVV, Gwalior	150.00	360.00	210.00	3.00	4.00	1.00
19	IGKVV, Raipur	330.30	349.40	19.10	9.00	35.64	26.64
20	CSAUA&T, Kanpur	84.00	339.71	255.71	4.50	25.91	21.41
21	RLBCAU, Jhansi	150.00	228.12	78.12	3.50	0.00	-3.50
22	MPKV, Niphad	66.60	196.70	130.10	3.50	9.81	6.31
23	ICAR-IISS, Mau	170.00	191.00	21.00	3.75	0.00	-3.75
24	SVPUA&T Meerut	125.00	154.60	29.60	3.00	0.00	-3.00
25	ARI, Pune	90.44	154.50	64.06	3.50	8.50	5.00
26	BAU, Sabour	165.00	132.90	-32.10	6.00	15.00	9.00
27	WRU, PDKV, Akola	20.60	118.00	97.40	1.00	2.50	1.50
28	VPKAS Almora	90.00	106.95	16.95	3.50	5.00	1.50
29	JAU, Junagarh	43.00	95.20	52.20	2.50	3.00	0.50
30	BUAT, Banda	150.00	86.00	-64.00	3.50	0.00	-3.50
31	UAS, Dharwad	53.99	62.40	8.41	2.75	5.91	3.16
32	HPKV, Palampur	40.00	40.50	0.50	0.50	2.00	1.50
33	BHU, Varanasi	11.20	28.00	16.80	1.00	1.60	0.60
34	BAU, Ranchi	5.00	11.00	6.00	0.50	0.50	0.00
	Total	**14698.87**	**21935.55**	**7236.68**	**379.50**	**1059.55**	**680.05**

Nucleus Seed Allocation & Production

Against an allocation of 379.50q nucleus seed of 132 wheat varieties was made to the 28 BSP Centre (producing BS of mainly IIWBR Varieties except SVPUA&T, Meerut, BAUT, Banda, RVSKVV, Gwalior, IISS, Mau, RLBCAU, Jhansi and SKAUST, Jammu. A total of 1059.55q of nucleus seed was produced with a surplus of 680.05q by 28 Centres. The highest quantity (164.60) of nucleus seed was produced by IARI-RS, Indore followed by PAU, Ludhiana (138.75q), SDAU Vijapur (116.28 q) and IIWBR, Karnal (103.0q).

Test Stock Multiplication and Grow Out Test Report

National Seed Corporation was given target for test stock multiplication of 13 varieties identified for release during last workshop (2023) during 2023-24. NSC has reported a total of 565.50q seed of 5 newly identified wheat varieties *viz*., DBW 377 (225q), GW 547 (130 q), WH 1402 (103q) and HD 3386 (70q), HD 3388 (37.50q) during 2023-24 on NSC farms at Hisar, Surathgarh and Sardargarh.

ICAR-IIWBR, Karnal conducted grow out test of 61 wheat varieties received from 7 BSP Centres. BSP Centres *viz*., CSAUT, Kanpur, ARI, Pune, IARI-RS, Sapmastipur, IGKV, Raipur, RVSKV, Gwalior, JNKVV, Jabalpur and RPCAU, Dholi did not send the samples for grow out test. Almost all the tested varieties found genetically pure within the permissible limit except HI 8859 where 10 % off-types for plant height and shape of ear head were reported.

Annexure 1: Variety wise Breeder Seed & Nucleus Seed Production Programme of wheat varieties during 2023-24. (Figures in quintals)

S.No.	Variety	Year	Indent	Allocation	Production	Surplus/Deficit	BNS-1	BNS -IV	Surplus/Deficit
1	DBW 370 (Karan Vaidehi)	2023	192.80	192.80	195.00	2.20	4.50	3.00	-1.50
2	DBW 371 (Karan Vrinda)	2023	234.20	234.20	250.00	15.80	10.00	12.00	2.00
3	DBW 372 (Karan Varuna)	2023	229.20	229.20	230.00	0.80	10.00	10.00	0.00
4	DDW 55 (D) (KARAN MANJARI)	2023	55.00	55.00	46.00	-9.00	2.00	0.00	-2.00
5	Karan Prema (DBW 316)	2023	3.20	3.20	10.00	6.80	2.00	3.00	1.00
6	PBW 826	2023	214.40	214.40	250.00	35.60	5.00	17.00	12.00
7	PBW 872	2023	16.80	16.80	16.80	0.00	2.00	20.00	18.00
8	Phule Anupam (NIAW 3624)	2023	8.00	8.00	27.10	19.10	1.00	0.87	-0.13
9	PUSA HARSHA (HI 1655)	2023	118.00	50.00	160.80	110.80	2.00	12.80	10.80
10	Pusa Jagriti (HI 1653)	2023	50.00	50.00	50.00	0.00	1.00	0.00	-1.00
11	Pusa Kirti (HI 8830)	2023	213.00	50.00	217.00	167.00	4.50	15.20	10.70
12	PUSA OJASWI (HI1650)	2023	133.00	60.00	532.20	472.20	1.50	10.70	9.20
13	Pusa Poshtik ((HI 8826)	2023	50.00	50.00	0.00	-50.00	1.50	18.70	17.20
14	PUSA WHEAT 3369 (HD 3369)	2023	100.80	100.80	112.00	11.20	2.00	2.68	0.68
15	RAJ-4238	2023	487.20	487.20	650.00	162.80	9.00	18.00	9.00
16	UNNAT HD 2932 (HD 3407)	2023	37.00	37.00	40.00	3.00	1.00	0.00	-1.00
17	UNNAT HD 2967 (HD 3406)	2023	174.20	174.20	192.00	17.80	4.00	5.10	1.10
18	VIDHYA (CG 1036)	2023	106.50	106.50	85.20	-21.30	2.50	3.65	1.15
19	HPW 373	2022	40.00	40.00	40.50	0.50	0.50	2.00	1.50
20	Jammu Wheat 672	2022	50.00	50.00	50.00	0.00	0.50	0.00	-0.50
21	K-1616	2022	2.00	2.00	146.00	144.00	1.00	5.00	4.00
22	VL Gehun 2028	2022	3.00	3.00	3.10	0.10	0.50	1.00	0.50
23	Birsa Gehun-4 (JKW-261)	2021	5.00	5.00	11.00	6.00	0.50	0.50	0.00
24	DBW 296 (Karan Aishwaraya)	2021	134.00	134.00	237.00	103.00	4.50	0.88	-3.62
25	DBW 303 (Karan Vaishnavi)	2021	1522.20	1522.20	1923.72	401.52	34.50	29.04	-5.46
26	DBW 327 (Karan Shivani)	2021	375.30	375.30	448.00	72.70	9.00	10.00	1.00
27	DBW 332 (Karan Aditya)	2021	197.20	197.20	245.00	47.80	5.50	5.00	-0.50
28	DBWH 221 (DBW 221)	2021	9.00	9.00	15.00	6.00	1.00	1.50	0.50
29	DDW-47 (DDW 147)	2021	5.00	5.00	11.00	6.00	0.50	0.00	-0.50
30	GW 1339 (BANAS) (VD 2014-24)	2021	45.60	45.60	46.40	0.80	1.50	2.51	1.01
31	GW 499	2021	82.60	82.60	91.61	9.01	2.00	8.21	6.21
32	GW 513	2021	302.80	302.80	349.80	47.00	6.00	20.51	14.51
33	Hansa Wheat (CG 1023)	2021	47.00	47.00	48.00	1.00	1.00	6.98	5.98
34	HD 3293	2021	68.00	68.00	70.00	2.00	2.00	3.20	1.20
35	HD 3298	2021	116.20	116.20	125.00	8.80	3.00	4.10	1.10
36	HI 1633 (Pusa Vani)	2021	8.00	8.00	0.00	-8.00	0.50	6.00	5.50
37	HI 1634 (Pusa Ahilya)	2021	150.00	150.00	324.00	174.00	3.50	23.40	19.90

38	HUW 838	2021	11.20	11.20	28.00	16.80	1.00	1.60	0.60
39	Kanishka (CG 1029)	2021	80.00	80.00	100.80	20.80	2.00	10.60	8.60
40	MP (JW) 1323	2021	37.00	37.00	0.00	-37.00	1.00	2.00	1.00
41	MP (JW) 1358	2021	5.60	5.60	0.00	-5.60	1.00	2.00	1.00
42	MP 3465 (JW 3465)	2021	187.60	187.60	249.75	62.15	4.00	50.00	46.00
43	NIDW 1149 (Durum)	2021	5.00	5.00	27.00	22.00	0.50	1.07	0.57
44	PBW 1 Chapati	2021	0.80	0.80	40.00	39.20	1.00	3.50	2.50
45	PBW 824	2021	3.80	3.80	70.00	66.20	1.50	12.00	10.50
46	PBW 869	2021	30.50	30.50	150.00	119.50	1.00	14.50	13.50
47	Pusa Prabhat (HI 8823)	2021	20.00	20.00	0.00	-20.00	0.50	14.00	13.50
48	Pusa Vakula (HI 1636)	2021	131.00	131.00	188.20	57.20	3.00	5.90	2.90
49	Sunehri (PBW766)	2021	8.20	8.20	50.00	41.80	0.50	11.00	10.50
50	WB 02 (Rajendra Genhu-3)	2021	110.00	110.00	154.63	44.63	2.50	1.13	-1.37
51	WH 1270	2021	338.60	338.60	259.00	-79.60	8.00	15.00	7.00
52	DBW 222 (Karan Narendra)	2020	811.90	811.90	1045.00	233.10	16.25	33.10	16.85
53	DBW-252	2020	112.45	112.45	120.45	8.00	2.00	0.45	-1.55
54	PBW 771	2020	46.40	46.40	78.00	31.60	1.50	2.50	1.00
55	Pusa Wheat 1628 (HI 1628)	2020	10.00	10.00	10.00	0.00	0.50	0.00	-0.50
56	Pusa Wheat 3249 (HD 3249)	2020	77.00	77.00	163.00	86.00	2.00	27.00	25.00
57	Pusa Wheat 3271 (HD 3271)	2020	25.20	25.20	50.00	24.80	1.00	1.70	0.70
58	Chhatti Amber Wheat (CG 1018)	2019	21.20	21.20	50.40	29.20	1.00	4.66	3.66
59	DBW-187 (KARAN VANDANA)	2019	1748.85	1748.85	2562.18	813.33	35.00	46.24	11.24
60	HD 3237 (Pusa Wheat 3237)	2019	35.00	35.00	40.00	5.00	1.00	1.53	0.53
61	PUSA YASHASVI (HD 3226)	2019	401.40	401.40	412.00	10.60	10.00	16.99	6.99
62	HI-1620 (PUSA WHEAT-1620)	2019	2.80	2.80	5.00	2.20	0.50	1.19	0.69
63	Jammu Wheat 584 (JW 584)	2019	10.00	10.00	10.00	0.00	0.50	0.00	-0.50
64	PBW 752	2019	35.20	35.20	82.00	46.80	1.00	3.50	2.50
65	PBW 757	2019	20.20	20.20	21.00	0.80	1.00	3.00	2.00
66	UNNAT PBW 550	2019	115.70	115.70	190.00	74.30	1.00	11.00	10.00
67	VL Gehun 967 (VL 967)	2019	50.00	50.00	55.00	5.00	1.50	1.00	-0.50
68	Chhattisgarh Gehun-3 (CG-1013)	2018	25.00	25.00	26.80	1.80	1.00	6.38	5.38
69	Chhattisgarh Genhu-4 (CG 1015)	2018	50.60	50.60	38.20	-12.40	1.50	3.37	1.87
70	DBW 168	2018	13.50	13.50	10.30	-3.20	0.50	0.00	-0.50
71	DBW 173	2018	75.00	75.00	86.40	11.40	1.50	0.00	-1.50
72	K-1317	2018	13.00	13.00	36.50	23.50	1.00	5.50	4.50
73	MACS-4028 (d)	2018	1.44	1.44	1.50	0.06	0.50	0.50	0.00
74	Pusa Wheat 8777 (HI 8777)	2018	41.44	41.44	114.10	72.66	1.00	8.00	7.00
75	UAS-375	2018	1.44	1.44	3.90	2.46	0.25	1.18	0.93
76	Gujarat Wheat 463 (GJW 463)	2017	40.00	40.00	43.20	3.20	1.50	1.80	0.30
77	HD 3171	2017	55.00	55.00	96.00	41.00	1.50	3.00	1.50
78	HI 1605 (Pusa Ujala)	2017	56.00	56.00	161.80	105.80	1.50	0.00	-1.50

79	HI 8759 (Pusa Tejas)	2017	365.30	365.30	494.50	129.20	8.00	33.90	25.90
80	PBW 1Zn (HPBW 01)	2017	58.60	58.60	72.00	13.40	1.00	9.00	8.00
81	PBW 725	2017	53.40	53.40	80.00	26.60	1.50	9.50	8.00
82	Sabour Nirjal	2017	55.00	55.00	67.10	12.10	2.00	6.50	4.50
83	Sabour Samriddhi	2017	55.00	55.00	43.00	-12.00	2.00	6.50	4.50
84	Sabour Shreshtha (BRW 934)	2017	55.00	55.00	22.80	-32.20	2.00	2.00	0.00
85	Unnat PBW 343 (PBW 723)	2017	225.50	225.50	225.50	0.00	1.50	11.00	9.50
86	WB 2	2017	30.00	30.00	44.50	14.50	2.00	0.00	-2.00
87	Central Wheat HS- 562	2016	30.00	30.00	30.00	0.00	1.00	2.00	1.00
88	GW 451	2016	50.60	50.60	60.80	10.20	1.50	16.51	15.01
89	MP 3382(JW 3382)	2016	366.90	366.90	457.24	90.34	9.00	30.00	21.00
90	MPO 1255(MPO(JW)1255)	2016	47.60	47.60	19.00	-28.60	1.50	5.00	3.50
91	PBW 677	2016	67.20	67.20	82.00	14.80	2.00	9.50	7.50
92	PDKV SARDAR (AKAW-4210-6)	2016	20.60	20.60	118.00	97.40	1.00	2.50	1.50
93	Phule Samadhan (NIAW-1994)	2016	48.60	48.60	137.60	89.00	1.50	7.30	5.80
94	UP 2784	2016	20.00	20.00	22.00	2.00	1.00	1.10	0.10
95	VL 953 (VL Gehun 953)	2016	7.00	7.00	23.85	16.85	0.50	1.50	1.00
96	DBW 110	2015	52.00	52.00	74.00	22.00	1.50	9.43	7.93
97	Pusa Anmol (HI 8737)	2015	132.00	132.00	160.50	28.50	3.00	10.00	7.00
98	Pusa Kiran (HS-542)	2015	40.00	40.00	40.00	0.00	1.00	0.00	-1.00
99	UAS 347	2015	1.44	1.44	1.60	0.16	0.25	0.00	-0.25
100	K-1006	2014	55.00	55.00	56.71	1.71	1.50	2.15	0.65
101	MACS 6478	2014	21.00	21.00	88.00	67.00	1.00	4.00	3.00
102	Pusa Gautami (HD 3086)	2014	402.00	402.00	615.00	213.00	8.50	15.00	6.50
103	MP 3336 (JW 3336)	2013	40.60	40.60	41.61	1.01	1.50	8.00	6.50
104	UAS-304	2013	5.88	5.88	7.10	1.22	0.25	1.02	0.77
105	WH 1105	2013	29.00	29.00	48.00	19.00	0.50	1.60	1.10
106	PBW 644	2012	52.50	52.50	52.50	0.00	1.50	1.75	0.25
107	UAS - 428 Duram	2012	3.00	3.00	7.30	4.30	0.25	0.47	0.22
108	HD 2967	2011	511.10	511.10	1040.00	528.90	12.00	35.50	23.50
109	MP 3288 (JW 3288)	2011	40.60	41.80	68.69	26.89	1.50	5.00	3.50
110	Netravati (NIAW-1415)	2011	5.00	5.00	5.00	0.00	0.50	0.57	0.07
111	Raj-4079	2011	61.00	61.00	90.00	29.00	1.50	9.00	7.50
112	MACS 6222	2010	68.00	68.00	65.00	-3.00	2.00	4.00	2.00
113	VL Gehun 907 (VL 907)	2010	50.00	50.00	55.00	5.00	2.00	1.50	-0.50
114	UAS-415	2009	1.44	1.44	4.50	3.06	0.25	0.54	0.29
115	Purna (HI-1544)	2008	87.00	87.00	278.20	191.20	2.00	6.00	4.00
116	DBW-17	2007	14.40	14.40	10.00	-4.40	1.00	0.00	-1.00
117	GW-366	2007	3.00	3.00	52.00	49.00	1.00	1.20	0.20
118	HD-2851(Pusa Vishesh)	2005	152.20	152.20	337.00	184.80	3.50	8.00	4.50
119	K-9423 (Unnat Halna)	2005	5.00	5.00	100.50	95.50	0.50	12.32	11.82

120	RAJ 4037	2005	305.60	305.60	910.00	604.40	10.00	30.00	20.00
121	GW-322	2002	113.90	113.90	138.41	24.51	3.00	7.01	4.01
122	WH 711	2002	36.20	36.20	59.00	22.80	1.00	1.60	0.60
123	Halna (K-7903)	2001	7.00	9.00	0.00	-9.00	0.50	0.94	0.44
124	GW 273	1998	39.60	39.60	88.80	49.20	1.00	15.01	14.01
125	RAJ-3765	1996	34.00	34.00	75.00	41.00	1.00	9.50	8.50
126	GW-173	1994	17.60	17.60	17.00	-0.60	1.00	9.51	8.51
127	DWR-162	1993	27.29	27.29	27.70	0.41	1.00	2.70	1.70
128	GUJRAT WHEAT-496	1990	166.40	166.40	167.20	0.80	4.00	37.01	33.01
129	RAJ-3077	1989	81.60	81.60	200.00	118.40	2.00	6.50	4.50
130	RAJ-1482	1983	36.00	36.00	280.00	244.00	1.00	10.00	9.00
131	LOK-1	1982	259.80	259.80	580.00	320.20	7.00	27.00	20.00
132	Improved (Deshi)- Variety C-306	1978	34.80	34.00	15.00	-19.00	1.50	1.50	0.00
	Grand Total		**15,334.25**	**14698.87**	**21935.55**	**7236.68**	**379.5**	**1059.551**	**680.051**

Annexure 2: Centre -wise BSP/BNS Programme of wheat varieties during 2023-24 ***(Figures in quintals)***

Name of the Centre	Variety	Year	Indent	Allocation	Production	Surplus/ Deficit	BNS-1	BNS-IV	Surplus/ Deficit
1)ARI, Pune (MH)	MACS 6222	2010	68.00	68.00	65.00	-3.00	2.00	4.00	2.00
	MACS 6478	2014	21.00	21.00	88.00	67.00	1.00	4.00	3.00
	MACS-4028 (d)	2018	1.44	1.44	1.50	0.06	0.50	0.50	0.00
	Total		**90.44**	**90.44**	**154.50**	**64.06**	**3.50**	**8.50**	**5.00**
2) BAU, Sabour, Bihar	Sabour Nirjal	2017	55.00	55.00	67.10	12.10	2.00	6.50	4.50
	Sabour Samriddhi	2017	55.00	55.00	43.00	-12.00	2.00	6.50	4.50
	Sabour Shreshtha (BRW 934)	2017	55.00	55.00	22.80	-32.20	2.00	2.00	0.00
	Total		**165.00**	**165.00**	**132.90**	**-32.10**	**6.00**	**15.00**	9.00
3)BHU, Varanasi	HUW 838	2021	11.20	11.20	28.00	16.80	1.00	1.60	0.60
	Total		**11.20**	**11.20**	**28.00**	**16.80**	**1.00**	**1.60**	0.60
4)BISA Jabalpur (MP)	DBW 110	2015	52.00	52.00	74.00	22.00	1.50	9.43	7.93
	DDW 55 (D) (KARAN MANJARI)	2023	55.00	55.00	46.00	-9.00	2.00	0.00	-2.00
	DDW-47 (DDW 147)	2021	5.00	5.00	11.00	6.00	0.50	0.00	-0.50
	DBW-187 (KARAN VANDANA)	2019	1748.85	28.00	276.00	248.00	1.00	8.71	7.71
	DBW 303 (Karan Vaishnavi)	2021	1522.20	246.00	345.00	99.00	6.00	0.00	-6.00
	Total			**386.00**	**752.00**	**366.00**	**11.00**	**18.14**	**7.14**
5)BISA Ludhiana (PB]	DBW 296 (Karan Aishwaraya)	2021	134.00	72.00	142.00	70.00	2.00	0.88	-1.12
	Karan Vaishanavi (DBW 303)	2020	1522.20	150.00	191.00	41.00	3.50	10.84	7.34
	DBW-187(Karan Vandana)	2019	1748.85	300.00	373.00	73.00	6.50	7.40	0.90
	Karan Aditya (DBW 332)	2021	197.20	87.00	134.00	47.00	2.50	0.00	-2.50
	Karan Vaidehi (DBW 370)	2023	192.80	100.80	95.00	-5.80	2.50	0.00	-2.50
	Total			**709.80**	**935.00**	**225.20**	**17.00**	**19.12**	**2.12**

6)RLBCAU, Jhansi	DBW-187(Karan Vandana)	2019	869.45	50.00	101.40	51.40	1.50	0.00	-1.50
	DBW 303 (Karan Vaishnavi)	2021	1522.20	100.00	126.72	26.72	2.00	0.00	-2.00
	Total			**150.00**	**228.12**	**78.12**	**3.50**	**0.00**	**-3.50**
7) BUAT, Banda	DBW-187(Karan Vandana)	2019	869.45	50.00	0.00	-50.00	1.50	0.00	-1.50
	DBW 303 (Karan Vaishnavi)	2021	1522.20	100.00	86.00	-14.00	2.00	0.00	-2.00
	Total			**150.00**	**86.00**	**-64.00**	**3.50**	**0.00**	**-3.50**
8)BISA Pusa (Bihar)	DBW-187 (Karan Vandana)	2019	869.45	332.65	383.00	50.35	6.00	5.85	-0.15
	Karan Narendra (DBW 222)	2020	811.90	100.00	88.00	-12.00	2.50	6.90	4.40
	Total			**432.65**	**471.00**	**38.35**	**8.50**	**12.75**	**4.25**
9)ICAR-IISS, Mau	Karan Narendra (DBW 222)	2020	811.90	100.00	104.00	4.00	2.25	0.00	-2.25
	Karan Vandana (DBW 187)	2019	1748.85	50.00	52.00	2.00	1.00	0.00	-1.00
	Pusa Wheat 3249 (HD 3249)	2020	77.00	20.00	35.00	15.00	0.50	0.00	-0.50
	Total			**170.00**	**191.00**	**21.00**	**3.75**	**0.00**	**-3.75**
10)SKUA&T, Jammu	Jammu Wheat 584 (JW 584)	2019	10.00	10.00	10.00	0.00	0.50	0.00	-0.50
	Jammu Wheat 672	2022	50.00	50.00	50.00	0.00	0.50	0.00	-0.50
	DBW 296 (Karan Aishwaraya)	2021	134.00	20.00	40.00	20.00	1.00	0.00	-1.00
	WB 2	2017	30.00	10.00	30.00	20.00	1.00	0.00	-1.00
	DBW 173	2018	75.00	20.00	30.00	10.00	0.50	0.00	-0.50
	DBW 187 (Karan Vandana)	2019	1748.85	10.00	90.00	80.00	0.50	0.00	-0.50
	Karan Narendra (DBW 222)	2020	811.90	20.00	68.00	48.00	0.50	0.00	-0.50
	DBW 327 (Karan Shivani)	2021	1522.20	10.00	68.00	58.00	1.00	0.00	-1.00
	VL Gehun 907(VL 907)	2010	50.00	20.00	30.00	10.00	1.00	0.00	-1.00
	Total			**170.00**	**416.00**	**246.00**	**6.50**	**0.00**	**-6.50**
11)RVSKVV, Gwalior	DBW 303 (Karan Vaishnavi)	2021	1333.00	100.00	200.00	100.00	2.00	2.00	0.00
	DBW-187(Karan Vandana)	2019	1748.85	50.00	160.00	110.00	1.00	2.00	1.00
	Total			**150.00**	**360.00**	**210.00**	**3.00**	**4.00**	**1.00**

12) SVPUA&T Meerut	DBW 173	2018	75.00	55.00	56.40	1.40	1.00	0.00	-1.00
	DBW-187(KARAN VANDANA)	2019	1748.00	50.00	83.70	33.70	1.00	0.00	-1.00
	WB 2	2017	30.00	20.00	14.50	-5.50	1.00	0.00	-1.00
	Total			**125.00**	**154.60**	**29.60**	**3.00**	**0.00**	**-3.00**
13) ICAR-IIWBR, Karnal	DBW 303 (Karan Vaishnavi)	2021	1522.20	816.20	825.00	8.80	18.00	15.00	-3.00
	DBW 327 (Karan Shivani)	2021	375.30	365.30	380.00	14.70	8.00	10.00	2.00
	Karan Aditya (DBW 332)	2021	197.20	110.20	111.00	0.80	3.00	5.00	2.00
	Karan Vaidehi (DBW 370)	2023	192.80	92.00	100.00	8.00	2.00	3.00	1.00
	Karan Narendra (DBW 222)	2020	811.90	581.90	610.00	28.10	10.00	25.00	15.00
	Karan Prema (DBW 316)	2023	3.20	3.20	10.00	6.80	2.00	3.00	1.00
	Karan Vandana (DBW 187)	2019	1748.85	708.20	780.00	71.80	12.00	20.00	8.00
	Karan Varuna (DBW 372)	2023	229.20	229.20	230.00	0.80	10.00	10.00	0.00
	Karna Vrinda (DBW 371)	2023	234.20	234.20	250.00	15.80	10.00	12.00	2.00
	Total			**3140.40**	**3296.00**	**155.60**	**75.00**	**103.00**	**28.00**
14)RPCAU, Dholi, Muzaffarpur, Bihar	DBW-252	2020	112.45	112.45	120.45	8.00	2.00	0.45	-1.55
	DBW-187(Karan Vandana)	2019	1748.85	100.00	163.08	63.08	2.00	1.08	-0.92
	WB 02 (Rajendra Genhu-3)	2021	110.00	110.00	154.63	44.63	2.50	1.13	-1.37
	Total			**322.45**	**438.16**	**115.71**	**6.50**	**2.66**	**-3.84**
15) GBPUAT Pantnagar (UK)	UP 2784	2016	20.00	20.00	22.00	2.00	1.00	1.10	0.10
	DBW 303 (Karan Vaishnavi)	2021	1522.20	10.00	150.00	140.00	1.00	1.20	0.20
	DBW 187 (Karan Vandana)	2019	1748.85	20.00	100.00	80.00	1.00	1.20	0.20
	DBW-17	2007	14.40	14.40	10.00	-4.40	1.00	0.00	-1.00
	DBW 222 (Karan Narendra)	2020	811.90	10.00	175.00	165.00	1.00	1.20	0.20
	DBW 296 (Karan Aishwaraya)	2021	134.00	42.00	55.00	13.00	1.50	0.00	-1.50
	Total			**116.40**	**512.00**	**395.60**	**6.50**	**4.70**	**-1.80**
16) CCS HAU Hisar	WH 1105	2013	29.00	29.00	48.00	19.00	0.50	1.60	1.10
	WH 1270	2021	338.60	338.60	259.00	-79.60	8.00	15.00	7.00
	WH 711	2002	36.20	36.20	59.00	22.80	1.00	1.60	0.60
	Improved (Deshi)- Variety C-306	1978	34.80	34.00	15.00	-19.00	1.50	1.50	0.00
	DBWH 221 (DBW 221)	2021	9.00	9.00	15.00	6.00	1.00	1.50	0.50
	Total			**446.80**	**396.00**	**-50.80**	**12.00**	**21.20**	**9.20**

17)CSAUA&T, Kanpur	K-1006	2014	55.00	55.00	56.71	1.71	1.50	2.15	0.65
	K-1616	2022	2.00	2.00	146.00	144.00	1.00	5.00	4.00
	K-1317	2018	13.00	13.00	36.50	23.50	1.00	5.50	4.50
	K-9423 (Unnat Halna)	2005	5.00	5.00	100.50	95.50	0.50	12.32	11.82
	Halna (K-7903)	2001	7.00	9.00	0.00	-9.00	0.50	0.94	0.44
	Total			**84.00**	**339.71**	**255.71**	**4.50**	**25.91**	**21.41**
18) IARI, New Delhi	HD 3237 (Pusa Wheat 3237)	2019	35.00	35.00	40.00	5.00	1.00	1.53	0.53
	HD 3293	2021	68.00	68.00	70.00	2.00	2.00	3.20	1.20
	HD 3298	2021	116.20	116.20	125.00	8.80	3.00	4.10	1.10
	HD-2967	2011	511.10	245.60	400.00	154.40	6.00	8.50	2.50
	UNNAT HD 2967 (HD 3406)	2023	174.20	174.20	192.00	17.80	4.00	5.10	1.10
	PUSA WHEAT 3369 (HD 3369)	2023	100.80	100.80	112.00	11.20	2.00	2.68	0.68
	Pusa Gautami (HD 3086)	2014	402.00	130.80	450.00	319.20	2.50	5.70	3.20
	Pusa Wheat 3271 (HD 3271)	2020	25.20	25.20	50.00	24.80	1.00	1.70	0.70
	PUSA YASHASVI (HD 3226)	2019	401.40	65.00	75.00	10.00	2.00	2.99	0.99
	Total			**960.80**	**1514.00**	**553.20**	**23.50**	**35.49**	**11.99**
19) IARI-RS, Indore (MP)	Purna(HI-1544)	2008	87.00	87.00	278.20	191.20	2.00	6.00	4.00
	HI 1605 (Pusa Ujala)	2017	56.00	56.00	161.80	105.80	1.50	0.00	-1.50
	HI 1633 (Pusa Vani)	2021	8.00	8.00	0.00	-8.00	0.50	6.00	5.50
	HI 1634 (Pusa Ahilya)	2021	150.00	150.00	324.00	174.00	3.50	23.40	19.90
	Pusa Vakula (HI 1636)	2021	131.00	131.00	188.20	57.20	3.00	5.90	2.90
	PUSA OJASWI (HI1650)	2023	133.00	60.00	532.20	472.20	1.50	10.70	9.20
	PUSA HARSHA (HI 1655)	2023	118.00	50.00	160.80	110.80	2.00	12.80	10.80
	Pusa Anmol (HI 8737)	2015	132.00	132.00	160.50	28.50	3.00	10.00	7.00
	HI 8759 (Pusa Tejas)	2017	365.30	365.30	494.50	129.20	8.00	33.90	25.90
	Pusa Wheat 8777 (HI 8777)	2018	41.44	41.44	114.10	72.66	1.00	8.00	7.00
	Pusa Prabhat (HI 8823)	2021	20.00	20.00	0.00	-20.00	0.50	14.00	13.50
	Pusa Poshtik ((HI 8826)	2023	50.00	50.00	0.00	-50.00	1.50	18.70	17.20
	Pusa Kirti (HI 8830)	2023	213.00	50.00	217.00	167.00	4.50	15.20	10.70
	Total		**1504.74**	**1200.74**	**2631.30**	**1430.56**	**32.50**	**164.60**	132.10

20) IARI Regional Station, Karnal-	HD-2851(Pusa Vishesh)	2005	152.20	152.20	337.00	184.80	3.50	8.00	4.50
	Central Wheat HS- 562	2016	30.00	30.00	30.00	0.00	1.00	2.00	1.00
	HD-2967	2011	511.10	155.00	160.00	5.00	3.50	0.00	-3.50
	HD-3226	2019	401.40	336.40	337.00	0.60	8.00	14.00	6.00
	UNNAT HD 2932 (HD 3407)	2023	37.00	37.00	40.00	3.00	1.00	0.00	-1.00
	HI-1620 (PUSA WHEAT-1620)	2019	2.80	2.80	5.00	2.20	0.50	1.19	0.69
	Pusa Gautami (HD 3086)	2014	402.00	161.20	165.00	3.80	3.50	8.50	5.00
	Pusa Kiran (HS-542)	2015	40.00	40.00	40.00	0.00	1.00	0.00	-1.00
	Pusa Wheat 1628 (HI 1628)	2020	10.00	10.00	10.00	0.00	0.50	0.00	-0.50
	Pusa Jagriti (HI 1653)	2023	50.00	50.00	50.00	0.00	1.00	0.00	-1.00
	Total			**974.60**	**1174.00**	**199.40**	**23.50**	**33.69**	**10.19**
21) Regional Station, IARI Pusa, (Bihar)	HD 3171	2017	55.00	55.00	96.00	41.00	1.50	3.00	1.50
	Pusa Wheat 3249 (HD 3249)	2020	77.00	57.00	128.00	71.00	1.50	27.00	25.50
	Pusa Gautami (HD 3086)	2014	402.00	110.00	0.00	-110.00	2.50	0.80	-1.70
	HD 2967	2011	511.10	110.50	480.00	369.50	2.50	27.00	24.50
	Total			**332.50**	**704.00**	**371.50**	**8.00**	**57.80**	**49.80**
22) IGKVV Raipur (Chhattishgarh)	Chhattisgarh Amber Wheat (CG 1018)	2019	21.20	21.20	50.40	29.20	1.00	4.66	3.66
	Chhattisgarh Gehun-3 (CG-1013)	2018	25.00	25.00	26.80	1.80	1.00	6.38	5.38
	Chhattisgarh Genhu-4 (CG 1015)	2018	50.60	50.60	38.20	-12.40	1.50	3.37	1.87
	Hansa Wheat (CG 1023)	2021	47.00	47.00	48.00	1.00	1.00	6.98	5.98
	Kanishka (CG 1029)	2021	80.00	80.00	100.80	20.80	2.00	10.60	8.60
	VIDHYA (CG 1036)	2023	106.50	106.50	85.20	-21.30	2.50	3.65	1.15
	Total			**330.30**	**349.40**	**19.10**	**9.00**	**35.64**	**26.64**
23)JAU, Junagarh	GW-366	2007	3.00	3.00	52.00	49.00	1.00	1.20	0.20
	Gujarat Junagadh Wheat 463 (GJW 463)	2017	40.00	40.00	43.20	3.20	1.50	1.80	0.30
	Total			**43.00**	**95.20**	**52.20**	**2.50**	**3.00**	**0.50**
24)JNKVV Jabalpur (MP)	MP (JW) 1323	2021	37.00	37.00	0.00	-37.00	1.00	2.00	1.00
	MP (JW) 1358	2021	5.60	5.60	0.00	-5.60	1.00	2.00	1.00
	MP 3288 (JW 3288)	2011	40.60	41.80	68.69	26.89	1.50	5.00	3.50

	MP 3336 (JW 3336)	2013	40.60	40.60	41.61	1.01	1.50	8.00	6.50
	MP 3382(JW 3382)	2016	366.90	366.90	457.24	90.34	9.00	30.00	21.00
	MP 3465 (JW 3465)	2021	187.60	187.60	249.75	62.15	4.00	50.00	46.00
	MPO 1255(MPO(JW)1255)	2016	47.60	47.60	19.00	-28.60	1.50	5.00	3.50
	Total			**727.10**	**836.29**	**109.19**	**19.50**	**102.00**	**82.50**
25)WRC, Lokbharti. Sanosara (Guj)	LOK-1	1982	259.80	259.80	580.00	320.20	7.00	27.00	20.00
	Total			**259.80**	**580.00**	**320.20**	**7.00**	**27.00**	**20.00**
26)MPKV Niphad-422 303	Phule Anupam (NIAW 3624)	2023	8.00	8.00	27.10	19.10	1.00	0.87	-0.13
	Phule Samadhan (NIAW-1994)	2016	48.60	48.60	137.60	89.00	1.50	7.30	5.80
	NIDW 1149 (Durum)	2021	5.00	5.00	27.00	22.00	0.50	1.07	0.57
	Netravati (NIAW-1415)	2011	5.00	5.00	5.00	0.00	0.50	0.57	0.07
	Total			**66.60**	**196.70**	**130.10**	**3.50**	**9.81**	**6.31**
27) PAU, Ludhiana	PBW 1 Chapati	2021	0.80	0.80	40.00	39.20	1.00	3.50	2.50
	PBW 1Zn (HPBW 01)	2017	58.60	58.60	72.00	13.40	1.00	9.00	8.00
	PBW 644	2012	52.50	52.50	52.50	0.00	1.50	1.75	0.25
	PBW 677	2016	67.20	67.20	82.00	14.80	2.00	9.50	7.50
	Unnat PBW 343 (PBW 723)	2017	225.50	225.50	225.50	0.00	1.50	11.00	9.50
	PBW 752	2019	35.20	35.20	82.00	46.80	1.00	3.50	2.50
	PBW 757	2019	20.20	20.20	21.00	0.80	1.00	3.00	2.00
	PBW 771	2020	46.40	46.40	78.00	31.60	1.50	2.50	1.00
	PBW 824	2021	3.80	3.80	70.00	66.20	1.50	12.00	10.50
	PBW 826	2023	214.40	214.40	250.00	35.60	5.00	17.00	12.00
	PBW 869	2021	30.50	30.50	150.00	119.50	1.00	14.50	13.50
	PBW 872	2023	16.80	16.80	16.80	0.00	2.00	20.00	18.00
	PBW 725	2017	53.40	53.40	80.00	26.60	1.50	9.50	8.00
	UNNAT PBW 550	2019	115.70	115.70	190.00	74.30	1.00	11.00	10.00
	Sunehri (PBW766)	2021	8.20	8.20	50.00	41.80	0.50	11.00	10.50
	Total			**949.20**	**1459.80**	**510.60**	**23.00**	**138.75**	**115.75**
28) WRU, PDKV, Akola	PDKV SARDAR (AKAW-4210-6)	2016	20.60	20.60	118.00	97.40	1.00	2.50	1.50
	Total			**20.60**	**118.00**	**97.40**	**1.00**	**2.50**	**1.50**

29) RARI, SKNAU, Durgapura, Jaipur (Rajasthan)	RAJ 4037	2005	305.60	305.60	910.00	604.40	10.00	30.00	20.00
	RAJ-1482	1983	36.00	36.00	280.00	244.00	1.00	10.00	9.00
	RAJ-3077	1989	81.60	81.60	200.00	118.40	2.00	6.50	4.50
	RAJ-3765	1996	34.00	34.00	75.00	41.00	1.00	9.50	8.50
	Raj-4079	2011	61.00	61.00	90.00	29.00	1.50	9.00	7.50
	RAJ-4238	2023	487.20	487.20	650.00	162.80	9.00	18.00	9.00
	Total			**1005.40**	**2205.00**	**1199.60**	**24.50**	**83.00**	**58.50**
30)SDAU Vijapur (Gujarat)	GUJRAT WHEAT-496	1990	166.40	166.40	167.20	0.80	4.00	37.01	33.01
	GW 1339 (BANAS) (VD 2014-24)	2021	45.60	45.60	46.40	0.80	1.50	2.51	1.01
	GW 273	1998	39.60	39.60	88.80	49.20	1.00	15.01	14.01
	GW 451	2016	50.60	50.60	60.80	10.20	1.50	16.51	15.01
	GW 499	2021	82.60	82.60	91.61	9.01	2.00	8.21	6.21
	GW 513	2021	302.80	302.80	349.80	47.00	6.00	20.51	14.51
	GW-173	1994	17.60	17.60	17.00	-0.60	1.00	9.51	8.51
	GW-322	2002	113.90	113.90	138.41	24.51	3.00	7.01	4.01
	Total			**819.10**	**960.02**	**140.92**	**20.00**	**116.28**	**96.28**
31) UAS , Dharwad	UAS - 428 Duram	2012	3.00	3.00	7.30	4.30	0.25	0.47	0.22
	UAS 347	2015	1.44	1.44	1.60	0.16	0.25	0.00	-0.25
	UAS-304	2013	5.88	5.88	7.10	1.22	0.25	1.02	0.77
	UAS-375	2018	1.44	1.44	3.90	2.46	0.25	1.18	0.93
	UAS-415	2009	1.44	1.44	4.50	3.06	0.25	0.54	0.29
	DBW 168	2018	13.50	13.50	10.30	-3.20	0.50	0.00	-0.50
	DWR-162	1993	27.29	27.29	27.70	0.41	1.00	2.70	1.70
	Total			**53.99**	**62.40**	**8.41**	**2.75**	**5.91**	**3.16**
32)VPKAS Almora	VL 953 (VL Gehun 953)	2016	7.00	7.00	23.85	16.85	0.50	1.50	1.00
	VL Gehun 2028	2022	3.00	3.00	3.10	0.10	0.50	1.00	0.50
	VL Gehun 907(VL 907)	2010	50.00	30.00	25.00	-5.00	1.00	1.50	0.50
	VL Gehun 967 (VL 967)	2019	50.00	50.00	55.00	5.00	1.50	1.00	-0.50
	Total			**90.00**	**106.95**	**16.95**	**3.50**	**5.00**	**1.50**
33) BAU, Ranchi	Birsa Gehun-4 (JKW-261)	2021	5.00	5.00	11.00	6.00	0.50	0.50	0.00
	Total		**5.00**	**5.00**	**11.00**	**6.00**	**0.50**	**0.50**	**0.00**
34)HPKV, Palampur	HPW 373	2022	40.00	40.00	40.50	0.50	0.50	2.00	1.50
	Total			**40.00**	**40.50**	**0.50**	**0.50**	**2.00**	**1.50**
	Grand Total	**15,334.25**	**14632.87**	**14698.87**	**21935.55**	**7236.68**	**379.5**	**1059.55**	**680.051**

Evaluation of National and International Germplasm

National Genetic Stock Nursery

National Genetic Stock Nursery (NGSN) is considered as “Suggested Crossing Block” and is constituted with the objective to provide new germplasm lines to cooperating centres under AICW&BIP for utilization in wheat improvement programmes. The NGSN comprising 111 genotypes including *T. aestivum* (98) and *T. durum* (13) was provided to 35 centers. All the centers reported the data. The bread wheat genotypes were categorized as released varieties, disease resistant and registered genetic stocks/elite lines. Durum genotypes were categorized as released varieties and disease resistant lines. The nursery was conducted in augmented design with three bread wheat checks Sonalika, HD 2967 and DBW 187 along with durum check DDW 47 which were accommodated once in a block of 20 entries. An infector row was also included for observing disease incidence. The data were recorded on grain yield (g/plot) and its component traits, namely, days to heading, plant height (cm), tillers/m, grain number/spike, 1000-grains weight (g) and spike length (cm). The data from all the 35 locations were pooled and mean values (Table 4) were considered for identification of promising genotypes. Based on centers pooled mean values of the data, promising genotypes were identified for various traits (Table 1).

Table 1: Promising genotypes for yield component traits in NGSN during 2023-24

Traits	Range	Mean	Criteria	Promising genotypes	Best check
Days to heading (days)	68-92	80	<75	LBP 2017-2 (73), HD 3407 (73), HPW 484 (73), WCF 12-19 (73), PBW 803 (73), VL 3035 (70), HS 545 (70), DTW 119 (70), HPW 487 (70), GW 2019-957 (68), Unnnat PBW 550 (68), PHSN 10 (68), BSNR 6 (68)	Sonalika (70)
Plant height (cm)	76-132	84	<85	CG 136 (83), Unnat PBW 550 (82), HI 8886 (81), HD 3368 (80), HI 8847 (79), IC 78841 (76)	DDW 47 (d) (97)
Tillers/m	50-117	88	>105	CG 1036 (117), LBP 2017-2 (101), DBW 372 (102), HI 1665 (101), BNSR 6 (101), HD 3411 (101), DBW 370 (101), VL Gehun 2041 (100), WCF 12-61 (100), RWP 2018-32 (100)	Sonalika (89)
Grains/spike	44-82	63	>57	MP 1323 (61), DBW 370 (61), DBW 377 (60), PBW 824 (60), DBW 371 (60), RWP 2017-21 (58), Karan Poshan 2 (58), DBW 302 (59), HI 1650 (58), HI 1653 (58), HI 8826 (d) (58), MACS 6795 (58), CG 1040 (58), LBP 2023-24 (58), PBS-NGSN-23-02 (58)	HD 2967 (56)
1000- grain weight (g)	27-60	44	>46	PHSL 10 (51), HI 1653 (49), CG 1029 (49), VL 3035 (49), PBW 869 (48), HS 681 (48), WAP 2320 (48), HPW 487 (48), UASQ 332 (D) (48)	DBW 187 (46)
Spike length (cm)	6.2-15.6	10.9	>11.5	CG 1040 (15.6), IC 212176 (12.5), PBW 766 (12.5), VL Gehun 2041	Sonalika (11.1)

				(12.1), PHSL 10 (11.8), WAP 2320 (11.8), Karan Poshan (11.7), WAP 2321 (11.6), MACS 6795 (11.6)	
Yield/ plot (g)	188-804	553	>692	PBS-NGSN-23-01 (804), MP 1323 (740), HPW 493 (717), WH 1403 (696), PBW 824 (693), HI 1653 (692), DBW 371 (691)	DBW 187 (704)

**Value in parenthesis indicates the values of the traits*

Disease resistance

Response of genotypes was recorded at multilocation under natural conditions against black rust (Pune, Niphad, Dharwad and Indore), brown rust (Dharwad, Imphal, Niphad, Hisar, Almora, Ludhiana and Indore), yellow rust (Hisar, Malan, Ludhiana and Almora) and leaf blight (Ayodhya, Coochbehar, Kalyani and Dharwad) diseases. Based on highest reactions genotypes exhibiting resistant response were identified (Table 2).

Table 2: Genotypes showing resistance to diseases in NGSN under field conditions

Disease	Resistant genotypes
Yellow rust (<10S)	DBW 308, RWP 2018-31, Unnat PBW 550, PBW 766, VL Gehun 2028, VL 3028, HI 8846 (d), HI 8847, WH 1402
Brown rust (0 or 10S)	DBW 308, RW 5, HI 1650, HI 1654, PBW 875, DBW 325, MP 1378
Black rust (0 or 10S)	QLD 212, RWP 2018-32, HS 679, HI 8847, GW 2019-957, LBP 2023-25, UASQ 332 (d)
Leaf blight (<24)	IIWBR PHY 2, DBW 278, HS 628, PBW 803, PBW 766, HI 1650, K 1616, PBW 835, DBW 342, IC 78841

Utilization of genotypes

The utilization report indicated that 23 out of 35 centres utilized NGSN genotypes. The overall utilization was 15.08% (Table 3) and all the genotypes except VL 2041, VL 3010, HI 8827 (d), GW 2019-957 and HI 8840 (d) were utilized by one or other centers for different purposes. Bread wheat genotypes were utilized by 20 centres whereas durum genotypes were utilized by 10 centres, only PBW 902 a genotype is resistant to all the three rusts, Karnal bunt and flag smut was utilized at 9 centres, whereas, PBW 308 was utilized at 7 centres, whereas, RP 2017-21, Karan Poshan 1, Karan Poshan 2, DWAP 1608, DBW 302 QLD 118, QLD 120 QLD 121, BNSR 6, DBW 371 and DBW 316 were utilized at 6 centres. Maximum utilization was done by Durgapura (42 genotypes) followed by Junagadh (39), Parbhani (28) and Sagar (24 genotypes) centers.

Table 3: Utilization of genotypes in NGSN during 2023-24

Category	# Entries	Utilization	
		Frequency	%
T. aestivum			
Released varieties	17	60	15.35
Disease resistance	38	128	14.65
Elite lines or Genetic stocks	43	163	16.48
Sub total	**98**	**341**	**15.13**
T. durum			
Released varieties	07	09	5.59
Disease resistance	06	08	5.80
Sub total	13	17	5.69
Total	**111**	**385**	**15.08**

Table 4: Pooled performance of genotypes for various traits in NGSN during 2023-24

SN	Genotypes	Days to heading (days)	Pl. ht. (cm)	Tillers /m row	Grains /spike	1000-gr. wt. (g)	Sp. Length (cm)	Grain Yield/ plot (g)
1	DBW 308	81	90	93	53	41	10.0	560
2	LBP 2017-2	73	91	91	53	40	9.8	586
3	IIWBR Phy 2	74	92	81	53	42	10.3	505
4	RW 5	72	83	76	51	43	10.4	507
5	RWP 2017-21	76	93	77	58	44	10.6	635
6	Karan Poshan 1	81	109	87	51	32	10.0	366
7	Karan Poshan 2	81	132	74	58	35	11.7	361
8	DBW 278	72	97	72	53	45	10.5	569
9	DWAP 1608	76	88	76	55	38	10.0	539
10	HS 628	82	93	89	53	33	10.7	473
11	DBW 302	75	91	74	59	40	9.9	581
12	QLD 118	79	94	83	54	42	10.3	506
13	QLD 120	79	88	86	53	43	10.1	519
14	QLD 121	82	93	76	63	41	9.9	578
15	QLD 122	84	93	76	54	44	9.7	490
16	WCF 12-61	76	92	97	51	37	9.5	470
17	BFKW 07	80	106	83	52	34	10.0	373
18	BNSR 6	68	85	94	55	41	9.9	516
19	IIWBR DN 502	74	88	84	56	39	10.8	517
20	RWP 2018-31	83	93	93	55	36	9.8	571
21	RWP 2018-32	79	88	93	55	39	10.4	573
22	DBW 166	82	91	87	51	39	9.4	614
23	DBW 243	78	94	84	54	42	10.8	604
24	WCF 12-19	73	110	89	47	42	10.3	500
25	WCF 12-208	72	110	89	51	42	9.8	402
26	IC 212176	71	108	60	62	44	12.5	421
27	DTW 119	70	92	72	53	43	10.9	472
28	PBW 803	73	91	75	53	42	9.9	616
29	PBW 824	76	94	86	60	42	10.4	693
30	PBW 869	76	96	78	53	48	11.1	627
31	Unnat PBW 550	68	82	82	55	40	10.6	614
32	PBW 766	75	93	91	56	45	12.5	678
33	HD 3411	81	97	95	55	40	10.7	634
34	DBW 370	80	93	95	61	40	10.9	661
35	DBW 371	80	93	83	60	43	10.4	691
36	DBW 372	81	92	99	54	42	10.3	665
37	MP 1323	78	94	81	61	45	10.9	740
38	VL Gehun 2028	81	94	94	55	40	11.0	633
39	VL Gehun 2041	88	104	96	57	37	12.1	517
40	VL Gehun 3010	71	84	95	50	42	10.0	593
41	DBW 316	76	89	86	52	44	9.3	624
42	HI 1650	74	89	83	58	44	10.6	667
43	HI 1653	77	98	80	58	49	11.1	693
44	HI 1654	82	94	86	57	43	10.3	623
45	HI 1655	76	97	86	55	42	10.3	650
46	CG 1036	72	83	111	48	42	9.2	585
47	HD 3369	78	96	83	53	45	10.4	676
48	K 1616	78	99	84	55	44	11.1	626
49	MACS 6768	71	86	90	52	42	9.9	587

50	HS 679	78	93	82	52	39	11.2	516
51	HS 681	82	94	84	51	48	10.2	544
52	RAJ 4541	75	87	84	55	43	10.0	610
53	VL 3024	80	84	81	56	40	10.5	533
54	DBW 318	78	87	81	55	44	9.8	634
55	GW 528	74	90	79	54	44	10.5	580
56	PBW 835	71	89	86	52	45	10.9	636
57	DBW 342	82	91	79	54	44	10.1	667
58	PBW 875	81	90	87	55	43	9.8	661
59	DBW 357	78	95	78	53	42	10.7	607
60	HI 8826 (d)	80	92	80	58	45	9.2	661
61	HI 8830 (d)	78	89	81	51	45	9.0	583
62	MACS 4100 (d)	74	85	77	52	42	7.8	495
63	MPO 1357 (d)	80	88	84	52	43	7.9	538
64	HI 8818 (d)	78	85	67	51	46	8.9	504
65	IC 376265	81	98	81	44	32	9.8	251
66	IC 78841	92	76	44	52	36	9.1	188
67	DBW 325	77	91	85	57	41	10.6	662
68	DBW 400	80	93	85	53	42	10.1	607
69	VL 3035	70	88	81	49	49	10.7	578
70	PHSL 10	68	105	54	51	52	12.3	393
71	HS 545	70	89	73	47	40	10.2	419
72	GW 547	75	92	89	46	44	10.6	673
73	WAP 2320	80	92	67	51	48	11.8	566
74	WAP 2321	75	89	68	56	44	11.8	594
75	NIAW 4028	76	95	75	55	47	11.5	662
76	HD 3407	73	91	84	48	40	9.9	567
77	VL 3028	76	95	70	57	43	11.0	661
78	HI 8846 (d)	77	81	65	50	43	8.5	429
79	WHD 965 (d)	77	89	72	53	44	8.4	595
80	HI 8827 (d)	79	86	77	53	44	8.7	564
81	HI 8839 (d)	79	84	80	48	45	7.9	576
82	WH 1403	79	88	84	52	44	10.4	696
83	HI 8847	76	79	76	50	42	8.3	447
84	PBW 902	85	90	91	51	41	9.8	689
85	PBW 870	83	87	90	55	38	11.0	604
86	HPW 489	81	94	88	51	40	10.7	500
87	HPW 493	79	93	88	57	40	10.8	717
88	HI 1665	77	92	97	49	42	9.9	623
89	MACS 6795	81	90	85	58	38	11.6	552
90	HD 3438	74	80	81	48	42	9.4	516
91	HD 3440	84	89	90	50	39	10.5	570
92	GW 532	78	91	92	47	46	10.2	594
93	WH 1402	80	88	87	51	43	10.7	622
94	HD 3437	83	91	90	51	37	10.0	563
95	HPW 484	73	93	81	54	45	10.5	618
96	HPW 487	70	91	72	49	48	10.8	445
97	GW 2019-957	68	84	74	49	46	9.9	500
98	CG 1029	72	86	80	49	49	9.9	548
99	CG 1040	80	93	82	58	43	11.6	585
100	MP 1378	83	87	89	82	38	10.1	591
101	HI 8840 (d)	77	85	73	55	44	8.4	565
102	LBP 2023-24	78	91	77	61	43	10.3	641
103	LBP 2023-25	79	87	77	55	41	10.1	626
104	DBW 377	80	90	79	60	44	11.2	663

105	PBS-NGSN-23-01	80	87	77	57	42	10.8	804
106	PBS-NGSN-23-02	79	91	77	58	44	10.9	588
107	HD 3386	79	89	83	55	45	10.3	647
A	**Sonalika(C)**	**70**	**91**	**104**	**44**	**41**	**10.9**	**608**
B	**DBW 187(C)**	**78**	**93**	**105**	**55**	**45**	**11.1**	**721**
C	**HD 2967(C)**	**79**	**92**	**99**	**56**	**44**	**11.2**	**693**
D	**DDW 47(C)**	**82**	**88**	**82**	**52**	**40**	**7.9**	**334**

International Nurseries and Trials

The ICAR-Indian Institute of Wheat and Barley Research, Karnal being a National Active Germplasm Site for wheat and barley crops annually procures wheat lines from CIMMYT, Mexico; ICARDA, Syria and International Winter Wheat Yield Programme (IWWYP), Turkey in the form of international trials and nurseries to further enrich the ongoing wheat breeding programmes at various cooperating centres in the country. These trials and nurseries are evaluated at various locations spread across the zones in India. Also, one set of this material is planted at Karnal to facilitate in-situ selections and also disease screening particularly stripe rust. The details of the material collected and its evaluation are described below.

Nurseries/ trials received during 2023-24

During 2023-24, 158 sets of eight trials and eight nurseries comprising a total of 1414 lines (1207 bread wheat and 207 lines of durum wheat) were received from CIMMYT, Mexico; 8 sets of two trials comprising of 351 bread wheat lines were received from ICARDA, Morocco and 145 lines of facultative winter wheat from International Winter Wheat Yield Programme (IWWYP), Turkey and evaluated at various wheat breeding centres (Table 1 & 2). Duly filled-in data booklets were received from most of the indented centres.

Table 1: International germplasm received from ICARDA, Morocco and IWWYP, Turkey during 2023-24

SN	Trial /Nursery	Entries#	Rep#	Set#	Cooperating centres
Bread wheat					
1.	24th ESBWYT	50	2	3	Karnal, Hisar, Jabalpur
2.	31st FAWWON-SA	115	-	2	Almora, Malan
3.	24th SBWON-HT&DT	301	-	5	Karnal, Hisar, Jabalpur, Durgapura, Parbhani
4.	25th IWWYT	30	2	1	Almora

Table 2: International germplasm shared with centres during 2023-24

SN	Trial/Nursery	Entries #	Rep. #	Set	Co-operating centres
Bread wheat					
1.	44th ESWYT	50	2	16	Karnal, Ludhiana, Hisar, Kanpur, RAU-Pusa*, Indore, Pantnagar, Gwalior, Powarkheda, Niphad, Dharwad, Vijapur, Parbhani, Delhi, Malan, Jodhpur
2.	31st HRWYT	50	2	4	Karnal, Shillongani, Wellington, Imphal*
3.	22nd HTWYT	50	2	21	Karnal, Ludhiana, Durgapura, Hisar, Udaipur, Kanpur, Ayodhya, Indore, Jabalpur, Vijapur, Powarkheda, Junagadh, Jodhpur, Bilaspur, Pune, Niphad, Dharwad, RAU-Pusa*, Kalyani, Varanasi, Delhi
4.	31st SAWYT-NM	50	2	20	Karnal, Ludhiana, Hisar, Durgapura, Pantnagar, Kanpur, Ayodhya, Ranchi, Bilaspur, Indore, Powarkheda, Vijapur, Niphad, Dharwad, Parbhani, Jammu, CSSRI-Karnal, Varanasi*, Delhi, Jodhpur
5.	1st SAWYT-EM	50	2	13	Ludhiana, Hisar, Pantnagar, Malan, Bilaspur, Dharwad, Ayodhya, Karnal, Durgapura, Varanasi, Parbhani, Jodhpur, Mahabaleshwar
6.	11th WYCYT	45	2	9	Karnal, Pantnagar, Ludhiana, Udaipur, Dharwad, Parbhani, Delhi, Shillongani, Gwalior
7.	13th SATYNDRGT	45	2	3	Karnal, Ludhiana, Dharwad
8.	56th IBWSN	231	-	23	Ludhiana, Hisar, Indore, Pantnagar, Ayodhya, Wellington, Karnal, Delhi, Durgapura, Coochbehar, Varanasi*, Jammu, Malan, Gwalior,

SN	Trial/Nursery	Entries #	Rep. #	Set	Co-operating centres
					Vijapur, Bilaspur, Kalyani, CSSRI(Karnal), Dharwad, Imphal*, Jabalpur, Kanpur, Jodhpur
9.	34th HRWSN	124	-	4	Karnal, Wellington, Shillongani, Imphal*
10.	41st SAWSN	232	-	18	Ludhiana, Pune, Hisar, Jabalpur, Powarkheda, Junagadh, Bilaspur, Niphad, Dharwad, Sabour, Ayodhya, Ranchi, Karnal, Delhi, Durgapura, Kanpur, RAU(Pusa)*, Vijapur, Jammu
11.	18th STEMRRSN	118	-	4	Karnal, Mahabaleshwar, Wellington, Delhi
12.	15th HLBSN	52	-	7	Karnal, Ayodhya, Sabour, Coochbehar, RPCAU-Pusa*, Kalyani, Varanasi*
13.	25th FHBSN	50		2	Karnal, Delhi
14.	1st ARSN	60	-	2	Karnal, Ludhiana
Durum wheat					
15.	55th IDYN	50	2	7	Karnal, Ludhiana, Niphad, Indore, Vijapur, Dharwad, Hisar
16.	55th IDSN	157	-	5	Karnal, Ludhiana, Pune, Indore, Niphad, Dharwad

***Data booklet not received*

Based on yield *per se* and field screening for multiple diseases under different agro-climatic conditions, promising lines were identified for grain yield, thousand grain weight and resistance to rust and other disease for various zones (Table 3 & 4).

One set of each of CIMMYT/ICARDA trial that were planted at ICAR-IIWBR, Karnal for comprehensive evaluation, seed multiplication also facilitated *in-situ* selection by large number of wheat breeders/pathologists, who made selections at IIWBR Karnal during Field Day (19th, March 2024). The indented seed in limited quantity will be supplied as per their requirement before the ensuing crop season for utilization by respective indentor.

Table 3: Promising lines identified for higher grain yield and disease resistance in various yield trials in various zones vis a vis across the zone

Trial name	Zone and criteria used (q/ha)	Promising line vis a vis check and check yield	Disease reaction
Bread wheat			
1st SAWYT-EM	NWPZ (>60q)	625, 641, 620, 621, 639 (Check=57.5q)	Yr (0-20S), Lr (0-20S)
	NEPZ (>42q)	647, 627, 641, 620, 643 (Check=34.3q)	LB (0-23)
	CZ (>50q)	617, 630, 612, (Check=47.0q)	-
	PZ (>58q)	602, 604, 605, 621, 622, 643 (Check=45.1q)	-
	NHZ (>50q)	613, 609, 617, 622 (Check=38.8q)	-
	Across zones (>52q)	617, 641 (Check- 48.4)	
11th WYCYT	NWPZ	None of the entry was superior to check	-
	NEPZ (>34q)	5, 9, 14, 17, 25, 26, 32, 34 (Check=22.5q)	-
	CZ (>49q)	4, 8, 30, 32 (Check=47.0q)	-
	PZ (>45q)	7, 14, 17, 20, 23 (Check=24.1q)	-
	Across zones (>50q)	17 (Check- 46.5)	
13th SATYNDRGT	NWPZ (>65q)	9410 (Check=64.8q)	Yr (0-20s), Lr (0-10s)
	PZ(>45q)	9403, 9409, 9416, 9441, 9444(Check=33.3q)	-
	Across zones (>55q)	9403, 9410, 9416 (Check- 54.4)	
31st HRWYT	NWPZ (>45q)	223, 230, 231, 234 (Check=41.2q))	Yr (0), Lr (0)
	NEPZ (>40q)	221, 225, 231, 232, 243 (Check=22.5q)	-
	PZ (>55q)	203, 221, 224, 225, 226, 229, 243, 244, 248 (Check=35.8q)	Yr (0-20s), Lr (0-20s), PM (0-6)
	Across zones (>45q)	221, 225, 231, 243 (Check- 33.2)	
31st SAWYT-NM	NWPZ (>62q)	304, 317,318, 342, 347 (Check=58.8q)	Yr (0-20s), Lr (0-20s)
	NEPZ (>62q)	304, 310, 311, 312, 313, 330, 332, 342 (Check=54.0q)	LB (1-24)

	CZ (>43q)	308, 312, 326, 330, 331, 336 (Check=42.8q)	-
	PZ (>50q)	302, 306, 310, 314, 316, 319, 330, 336, 342, 343, 348 (Check=40.0q)	-
	Across zones (>54q)	307, 326, 330, 342 (Check- 50.9)	
44th ESWYT	NWPZ (59.9q)	139 (Check=58.6q)	Yr (20s), Lr (5s-10s)
	NEPZ	None of the entry was superior to check	-
	CZ	None of the entry was superior to check	-
	PZ (>50q)	103, 105, 110, 111, 114, 124, 126, 129, 131, 133, 140, 141, 145 (Check=47.3q)	-
	NHZ (>50q)	102, 117, 130, 131, 133, 139, 140, 145, 146, 147, 148, 150 (Check=43.2q)	-
	Across zones (>49q)	101, 103, 131, 140 (Check- 52.0)	
22nd HTWYT	NWPZ (>73.0q)	3, 13, 24, 25, 28, 42 (Check=71.9q)	Yr (0-20s), Lr (5-20s)
	NEPZ (>50q)	5, 6, 7, 9, 11, 28, 32, 41 (Check=44.2q)	LB (1-24)
	CZ (>50q)	9, 10, 45 (Check=44.8q)	-
	PZ (>55q)	9, 10, 11, 16, 31, 35, 43 (Check=46.7q)	Lr (0-20s)
	Across zones (>52q)	8, 9, 10, 16, 28, 45 (Check- 48.6)	
24th ESBWYT*	NWPZ (>60q)	8, 28, 36 (Check=57.9q)	-
	PZ (>55q)	7, 18, 22, 26, 27, 28, 35, 37, 48 (Check=45.6q)	-
25th IWWYT**	Almora	3, 8 , 20, 28, 29 (HD 2967=1062g)	Yr (0-5s), Lr (0-5s)
Durum wheat			
55th IDYN	CZ (>52q)	706, 707, 715, 718, 730, 731, 743 (Check=51.2q)	Lr (TS, TMS, TR, TMR)
	PZ (>45q)	710, 730, 741 (Check=42.7q)	-
	Across zones (>47q)	710, 718, 730, 741 (Check= 47.0q)	

***ICARDA trial ** IWWYP**

Table 4: Promising lines identified for 1000-gr. wt. and disease resistance in different nurseries

Trials	Zone/Centre	Promising line vis a vis check	Disease reaction
Bread wheat			
18th STEMRRSN	Karnal (>50g)	6024, 6088, 6092 (Check= 46.0g)	Lr (0), Yr (5s-20s), Sr (0),
	Wellington (>60g)	6007, 6049, 6086, 6104 (Check= 42.0g)	Lr (0-10s), Yr (0-10s)
	Across zones (>54g)	6019,6024, 6037, 6046, 6063, 6083, 6084, 6086, 6088, 6092, 6104(Check-43.5g)	
56th IBWSN	NWPZ (>46g)	1001,1010,1096,1155,1178, 1180 (Check= 44.8g)	Lr (0-20s), Yr (0-20s)
	NEPZ (>45g)	1076, 1094 (Check= 43.6g)	Lr (0), Sr (0), LB (0-12)
	CZ (>46g)	1052, 1118, 1230 (Check= 45.4g)	Lr (0), Sr (0-10MS)
	PZ (>55g)	1001,1036,1063,1094,1103,1118,1196(Check= 44.3g)	Lr (0-20s), Sr (0-20s),
	NHZ (>56g)	1052, 1103, 1126, 1148, 1154, 1162, 1231 (Check= 52.9g)	Yr (0)
	Across zones(>46g)	1094, 1103, 1118, 1180 (Check- 43.5g)	-
41st SAWSN	NWPZ (>49g)	3060, 3094, 3098, 3163, 3178, 3185 (Check= 44.3g)	Yr (0-20s), Lr (0-20s)
	NEPZ (>50g)	3002, 3146, 3177, 3210 (Check= 49.2g)	LB (1-12)
	CZ (>50g)	3011, 3027, 3041, 3211 (Check= 47.5g)	Lr (0), Sr (0-20s)
	PZ (>50g)	3085, 3199, 3211 (Check= 45.7g)	Sr (0-20MR), Lr (0-10s),
	Across zones (>48g)	3002, 3041, 3008, 3153, 3211 (Check-43.9g)	-

34th HRWSN	NWPZ (>51g)	2017, 2069, 2101, 2120, 2122 (Check= 47.7g)	-
	NEPZ (>55g)	2015, 2101 (Check= 49.0g)	-
	PZ (>55g)	2005, 2012, 2013, 2018, 2019, 2027, 2043, 2062, 2063, 2112, 2114, 2122 (Check= 41.0g)	Lr (0-10s), Sr (0-10s)
	Across zones (>52 g)	2015, 2017, 2042, 2068, 2082, 2101, 2110, 2122 (Check- 45.6g)	
24thHTDTSBWON*	NWPZ (>45g)	32, 41, 42, 43, 44 (DBW187= 44.6g)	Yr (0), LB (0-13)
	CZ (>50g)	38, 108, 207, 208, 218, 227, 228, 247, 268, 272, 281 (Check= 44.3g)	Yr (0), Sr (0)
	PZ (54g)	250 (Check= 51g)	Yr (0), LB (13)
	Across zones (>47 g)	42, 43, 44 (Check- 44.5g)	
31stFAWWON-SA**	Almora (>37g)	241, 281, 304, 305, 309 (Check= 35.9g)	Yr (0-5s), Sr (0-20s)
Durum wheat			
55th IDSN	NWPZ (>55g)	7134, 7136, 7138, 7139 (Check= 48.5g)	Yr (0-20s)
	CZ (>50g)	7090, 7097 (Check= 47.3g)	-
	PZ (>45g)	7138, 7139, 7140, 7148, 7151 (Check= 40.9g)	Lr (0-20s), Sr (10-20s),
	Across zones (>46g)	7010, 7024, 7040, 7135, 7138, 7139 (Check= 44.5g)	

*ICARDA Nursery **IWWYP

Apart from this, some specific nurseries from CIMMYT were evaluated against particular disease or pests for the identification of resistance sources (Table 5).

Table 5: Promising lines identified for resistance against various diseases and pests

Trials	Zone/Centre	Promising lines	Disease reaction
25th FHBSN	Delhi and Karnal	6433, 6435, 6436, 6437 (Check-Sumai #3)	FHB (2)
	Karnal	6434, 6435, 6436, 6443, 6448	FHB (2)
15th HLBSN	Karnal	2, 4, 6, 7, 29, 45 (Ccheck- DBW 187)	HLB (<35)
	Kalyani	15, 41, 43	HLB (≤35)
	Ayodhya	6, 7, 13, 26	LB (<12)
1st ARSN	Karnal & Ludhiana	1, 2, 4, 20, 30, 35, 51, 56	Aphid population (<75)

Segregating Stock Nursery (SSN)

The 27th Segregating Stock Nursery (SSN) comprised 247 segregating populations (F_2/F_3) that were contributed by PAU, Ludhiana, VPKAS, Almora, IIWBR, Karnal, GBPUAT, Pantnagar, SDAU, Vijapur, CCS HAU, Hisar and ARI, Pune during 2023-24. From ICAR-IIWBR, the contributors were rice-wheat programme, leaf blight programme, warmer area programme and pre-breeding programme. The main objective of the SSN is to share promising segregating material with upcoming wheat breeding centres under All India Coordinated Research Project on Wheat and Barley. The nursery provides an opportunity to select superior plants and further advancement of selected progenies. During 2023-24, the nursery was supplied to 25 wheat breeding centers across five wheat growing zones namely; Khudwani and Wadura in NHZ; Jammu, Pantnagar, Hisar and Durgapura in NWPZ; Ayodhya, Kalyani, Ranchi, Sabour and Manipur in NEPZ; Gwalior, Jabalpur, Udaipur, Bilaspur, Powarkheda, Junagadh, Lok Bharti, Sagar and Jodhpur in CZ; and Parbhani, Akola, Niphad, Pune and Dharwad in PZ. Data were not received from Wadura, Gwalior and Powarkheda centres. The feedback/utilization report indicated that all the 247 crosses were utilized by one or the other centre for various traits (yield components, disease resistance, physiological traits) and a total of 10143 plants were selected across the centres. The utilization report indicated that the nursery could achieve an overall utilization of 33.29% across centres.

Utilization pattern of segregating populations in 27th SSN

Institute name/ programme	Segregating Populations	Frequency of Utilization	Utilization (%)	# Plants Selected
ICAR-VPKAS, Almora	50	425	38.64	1809
PAU, Ludhiana	50	318	28.91	2087
CCSHAU, Hisar	25	184	34.85	855
GBPUA&T, Pantnagar	20	158	47.88	642
ARI, Pune	10	86	39.09	290
SDAU, Vijapur	30	251	39.34	1738
ICAR-IIWBR, Karnal				
Leaf blight	15	115	37.34	458
Warmer area	15	136	41.21	601
Rice-wheat	17	147	41.76	717
Pre-breeding	15	121	39.29	946
Total	**247**	**1941**	**35.72**	**10143**

The maximum number of plant selection was carried out at Jammu (1896) followed by Pune (1800), Kalyani (1324) and Manipur (800) centers (Table). Durgapura, Kalyani, Bilaspur and Parbhani centers reported 100% utilization of 27th Segregating Stock Nursery.

Centre-wise utilization of segregating stocks in 27th SSN

SN	Centre	Plant selected	Cross utilized	Utilization %	Selection criteria
NHZ					
1	Khudwani	49	12	4.86	Yield and disease resistance
NWPZ					
2	Jammu	1896	35	14.17	Disease resistance and yield components
3	Hisar	290	58	23.48	Yield and disease resistance and morpho-physiological traits
4	Pantnagar	228	108	43.72	Disease resistance and yield

					components
5	Durgapura	600	247	100.00	Disease resistance and yield components
NEPZ					
6	Ayodhya	128	19	7.70	Yield, disease, morpho-physiological and yield components
7	Kalyani	1324	247	100.00	Yield and disease resistance
8	Ranchi	99	39	15.78	Yield and disease resistance
9	Sabour	202	77	31.17	Disease resistance and yield components
10	Manipur	800	52	21.05	Yield and disease resistance and morpho-physiological traits
CZ					
11	Jabalpur	159	26	10.52	Yield, disease, morpho-physiological and yield components
12	Udaipur	118	35	14.17	Yield, disease, morpho-physiological and yield components
13	Bilaspur	552	247	100.00	Yield and disease resistance and morpho-physiological traits
14	Junagadh	142	57	23.07	Disease resistance and yield components
15	Lokbharti	48	44	17.81	Yield and disease resistance and morpho-physiological traits
16	Sagar	393	135	54.65	Yield and seed traits
17	Jodhpur	43	35	14.17	Yield components
PZ					
18	Akola	74	22	8.90	Yield and disease resistance and morpho-physiological traits
19	Dharwad	323	101	40.89	Yield and disease resistance and morpho-physiological traits
20	Niphad	127	62	25.10	Yield, disease, morpho-physiological and yield components
21	Parbhani	796	247	100.00	Yield and disease resistance
22	Pune	1800	36	14.57	Yield and disease resistance and morpho-physiological traits
	Total	**10143**	**1941**	**35.72**	

Drought and Heat Tolerance Screening Nursery (DHTSN)

The 35th Drought and Heat Tolerance Screening Nursery (DHTSN) comprising 64 wheat genotypes including 6 checks (DBW187, DBW296, GW322, NIAW3170, RW5 and WH730) was conducted at 8 centres (Hisar, Karnal, Pusa, Indore, Sabour, Junagadh, Pune and Dharwad) to identify wheat genotypes having tolerance to drought and heat stress. The nursery was sown in 8x8 simple lattice design (8 blocks X 8 plots) under drought (DR), irrigated (IR) and late sown (LS) conditions with a plot size of 1.5m length of 3 rows. Except pre-sowing irrigation, no irrigation was given under drought treatment, while recommended irrigations were provided under irrigated and late sown treatments. Data from Sabour centre was not received and Indore and Pune centre late sown data was not included for analysis as there was no yield reduction under stress condition and rest of the locations data were considered for pooled analysis.

Weather conditions during the crop season (2023-24)

In the current crop season (2023-24) varying amount of rainfall was received. During TS vegetative phase Indore (71.5mm) received the highest rainfall while, Karnal (19.9mm), Junagadh (19mm), Hisar (15.5mm), Dharwad (8.4mm) and Pune (1.8mm) received little amount of rainfall. During TS reproductive period, Hisar received highest rainfall of 47.7mm followed by Karnal (11.7mm). Under LS condition, Hisar received maximum rainfall (56.3mm), followed by Junagadh (11.1). Hisar centre also received maximum rainfall (6.8mm) during reproductive stage; however, rest of the centres either received a little or no rainfall. Hisar was reported with minimum temperature both under TS (7.8°C) and LS (7.3°C) conditions during vegetative stage. During reproductive phase, maximum temperature was recorded at Junagadh under TS (31.5°C) and Hisar under LS (34.7°C) conditions.

Impact of drought and heat stress

Impact of drought/heat stress was adjudged by taking into account Drought Sensitivity Index (DSI) /Heat Sensitivity Index (HSI). DSI/HSI was calculated using the formula DSI/HSI= (1-YD/Yi)/(1-XD/Xi) Where, YD and Yi are the grain yield for each genotype under stress and control conditions respectively. XD and Xi are the means of all study genotypes grain yield under stress and control conditions respectively. For reference, DSI/HSI<0.5 is considered as highly tolerant, DSI/HSI<0.5-1 as moderately tolerant and DSI/HSI>1.0 as susceptible genotypes.

Drought and heat tolerant genotypes identified

Under drought stress, the genotype GW2023-1031 (0.69), showed lower DSI against best check NIAW3170 (0.75). Under heat stress, the ID2313(d) (0.56), ID2311(d) (0.61), GW2023-1031 (0.62), DBW-EMS-23 (0.65), GW2023-1033 (0.65), QYT2323 (0.68), showed lower HSI compared to the best check WH730 (0.70). The list of promising genotypes showing DSI / HSI <1 is listed in Table 1.

Table 1: List of promising wheat genotypes identified as drought/heat tolerant (DSI/HSI<1.0) in DHTSN during 2023-24

Genotypes	
DSI<1	**HSI<1**
GW2023-1031 (0.69), UASD23- 2(d) (0.87), UASD23- 7(0.87), QYT2324 (0.87), UASD23- 6 (0.88), GW2023-1032 (0.88), MACS6809 (0.88), MACS6805 (0.90), INDB2318 (0.90), RWP2077 (0.91), WAP2319 (0.91), GW2023-1033 (0.92), GW2023-1034 (0.92), MACS6811 (0.93), RWP1896 (0.93), HTW2312 (0.94), DTW182 (0.94), QYT2323 (0.95), HTW2307 (0.96), PBSDHTSN 23-2 (0.97), INDB2315 (0.97), HTW2306 (0.97), NIAW 5439 (0.98), ID2314(d) (0.99), HTW2304 (0.99),DBW-EMS-23 (0.99)	ID2313(d) (0.56), ID2311(d) (0.61), GW2023-1031 (0.62), DBW-EMS-23 (0.65), GW2023-1033 (0.65), QYT2323 (0.68), HTW2306 (0.71), WAP2319 (0.74), RWP2077 (0.77), HTW2302 (0.77), HTW2312 (0.79), HTW2304 (0.80), MACS6809 (0.81), UASD23-2(d) (0.82), MACS6814 (0.84), LBP2023-27 (0.84), RWP2073 (0.84), QYT2324 (0.85), ID2314(d) (0.85), PBSDHTSN 23-2 (0.86), WBL3066 (0.89), RWP1896 (0.89), DBW-EMS-22 (0.90), HTW2305(0.90), HTW2301(0.91), WAP2314(0.91), DBW-EMS-354(0.92), CG1061 (0.94), MACS6811(0.94), WBL3069 (0.95), WBL3067(0.96), DTW182(0.97), UASD23-1(d) (0.99), HTW2309(0.99), PBSDHTSN 23-1 (0.99)

Values in the parenthesis indicates DSI / HSI

Table 2: Drought Sensitivity Index of promising DHTSN genotypes (DSI<1) and yield reduction (%) across locations along with checks

SN	Genotype	Drought Sensitivity Index							Pooled analysis			
		Hisar	Karnal	Pusa	Dharwad	Pune	Indore	Junagadh	GYTS (g/plot)	GYDR (g/plot)	DSI	YR%
1	CG1050	1.53	0.90	1.34	0.91	1.14	1.06	0.95	600.0	297.6	1.09	50.4
2	CG1052	1.57	1.00	0.97	1.10	1.06	1.34	0.94	597.4	284.9	1.13	52.3
3	CG1061	1.27	1.05	0.94	0.91	0.97	1.42	0.98	577.7	301.0	1.03	47.9
4	DBW-EMS-10	1.72	1.01	0.60	1.29	0.87	1.37	1.01	570.4	259.7	1.18	54.5
5	DBW-EMS-22	1.09	0.98	0.63	1.11	0.88	0.47	0.96	561.6	301.7	1.00	46.3
6	DBW-EMS-23	0.88	0.92	0.63	1.09	1.31	0.83	1.00	506.3	274.6	0.99	45.8
7	DBW-EMS-354	1.32	0.88	1.07	1.62	1.13	0.44	1.00	553.6	261.6	1.14	52.7
8	DTW182	1.40	0.70	1.48	0.99	0.64	-0.37	0.94	521.6	293.5	0.94	43.7
9	GW2023-1030	1.61	0.75	1.63	0.78	1.07	0.95	0.95	597.8	321.0	1.00	46.3
10	GW2023-1031	0.15	0.82	-0.14	0.72	0.24	1.28	0.93	512.8	349.1	0.69	31.9
11	GW2023-1032	0.69	0.97	0.83	0.86	0.86	1.78	0.57	650.5	386.2	0.88	40.6
12	GW2023-1033	0.60	1.11	0.72	0.96	0.72	1.17	0.97	531.8	306.1	0.92	42.4
13	GW2023-1034	1.25	1.06	1.17	0.43	0.84	0.76	1.07	549.5	315.5	0.92	42.6
14	HTW2301	0.91	1.20	1.54	0.94	1.15	0.72	0.93	603.0	312.5	1.04	48.2
15	HTW2302	0.68	0.90	1.03	1.62	1.42	1.79	1.09	585.0	278.9	1.13	52.3
16	HTW2303	1.25	1.26	0.15	0.99	0.90	1.26	0.99	611.1	293.6	1.12	52.0
17	HTW2304	0.90	0.99	1.17	1.04	1.15	0.12	0.94	596.8	324.0	0.99	45.7
18	HTW2305	1.28	0.94	0.83	1.06	1.02	1.32	0.91	543.7	274.8	1.07	49.5
19	HTW2306	1.09	0.68	1.16	1.03	0.72	1.22	1.00	600.8	331.1	0.97	44.9
20	HTW2307	0.37	1.05	1.00	1.33	0.68	0.65	0.98	497.4	276.2	0.96	44.5
21	HTW2308	0.92	1.06	1.50	0.99	1.16	0.53	1.11	552.5	274.7	1.09	50.3
22	HTW2309	0.58	1.06	0.85	0.96	1.16	0.68	0.94	531.0	286.3	1.00	46.1
23	HTW2310	0.50	1.05	1.07	1.08	1.29	0.84	1.07	629.3	320.4	1.06	49.1
24	HTW2311	0.95	0.96	0.76	0.77	1.44	0.99	1.08	628.5	330.8	1.02	47.4
25	HTW2312	0.88	0.85	1.01	0.81	1.37	0.32	1.00	595.3	337.0	0.94	43.4
26	ID2311(d)	1.00	1.57	2.10	0.80	0.97	1.45	0.98	523.6	266.8	1.06	49.1
27	ID2312(d)	1.07	1.06	0.87	1.36	1.38	1.52	1.07	624.5	289.3	1.16	53.7
28	ID2313d)	0.88	1.25	1.52	1.75	1.02	-0.51	1.06	460.2	24.8	1.05	48.8
29	ID2314(d)	0.43	0.76	1.64	1.07	0.93	1.40	1.12	610.8	332.0	0.99	45.6
30	INDB2315	1.67	0.80	0.85	0.93	0.52	1.01	0.98	589.1	324.9	0.97	44.9
31	INDB2316	1.59	1.44	0.46	0.93	0.60	1.24	1.00	585.8	292.0	1.08	50.2
32	INDB2317	1.26	1.11	1.21	1.01	1.21	1.42	0.99	574.8	270.9	1.14	52.9
33	INDB2318	0.64	1.15	0.93	0.52	0.80	1.49	1.04	642.8	373.8	0.90	41.9
34	LBP2023-27	0.88	1.10	0.72	1.22	0.88	0.46	0.96	631.8	328.5	1.04	48.0
35	MACS6805	1.17	0.83	1.21	0.65	0.73	1.03	0.92	609.0	354.8	0.90	41.7
36	MACS6809	1.30	0.77	0.85	0.68	1.14	0.55	0.87	646.8	383.6	0.88	40.7
37	MACS6811	0.70	1.02	0.83	1.15	1.07	0.41	0.92	661.3	376.8	0.93	43.0
38	MACS6814	1.41	0.67	2.19	0.85	1.01	1.25	1.01	566.7	299.9	1.02	47.1
39	NIAW 5439	0.74	0.85	0.91	1.41	0.99	0.52	1.12	521.0	285.5	0.98	45.2
40	PBSDHTSN 23-1	0.84	0.99	1.08	1.17	1.02	1.36	0.91	566.4	298.8	1.02	47.2
41	PBSDHTSN 23-2	0.57	0.86	0.95	0.90	0.82	2.21	0.97	583.1	322.3	0.97	44.7
42	QYT2323	0.47	1.08	0.77	1.02	1.37	0.79	0.94	558.1	311.6	0.95	44.2
43	QYT2324	0.51	0.83	0.63	0.65	1.08	1.12	1.03	645.7	384.1	0.87	40.5
44	RWP1875	0.62	0.95	0.81	1.35	0.72	1.46	0.99	751.4	401.1	1.01	46.6
45	RWP1896	0.79	0.80	1.26	0.87	0.59	1.18	1.03	650.3	369.4	0.93	43.2
46	RWP2073	0.95	1.11	1.14	0.91	1.26	1.79	0.93	750.5	363.0	1.12	51.6

47	**RWP2077**	0.83	0.89	0.48	1.15	1.20	0.47	0.95	625.0	362.4	0.91	42.0
48	**UASD23- 1(d)**	0.93	0.99	2.19	1.31	1.05	1.30	1.01	538.3	261.1	1.11	51.5
49	**UASD23- 2(d)**	0.87	0.61	0.96	0.63	1.09	1.13	1.04	526.2	315.4	0.87	40.1
50	**UASD23- 6**	0.55	0.94	1.37	0.94	0.89	0.00	0.93	641.9	381.4	0.88	40.6
51	**UASD23- 7**	0.90	1.03	0.66	0.72	0.93	0.42	1.04	710.6	423.4	0.87	40.4
52	**WAP2314**	1.39	1.04	1.34	0.78	0.51	1.06	1.07	608.2	325.9	1.00	46.4
53	**WAP2319**	0.48	0.99	0.92	1.23	0.94	0.52	0.94	602.3	348.0	0.91	42.2
54	**WBL3065**	0.91	0.93	0.45	1.35	1.20	1.24	1.02	637.8	321.3	1.07	49.6
55	**WBL3066**	0.95	0.85	0.63	1.39	0.85	0.36	0.98	570.6	305.9	1.00	46.4
56	**WBL3067**	1.10	1.09	0.51	1.23	0.93	1.18	0.93	634.4	315.6	1.09	50.3
57	**WBL3068**	1.22	1.09	0.78	1.41	1.20	0.75	1.02	606.0	277.3	1.17	54.2
58	**WBL3069**	1.64	1.17	1.42	1.07	1.30	1.58	1.13	651.3	251.6	1.33	61.4
59	**WH730(C)**	1.15	1.36	1.16	0.94	0.79	1.40	1.04	530.8	267.5	1.07	49.6
60	**DBW187(C)**	0.58	0.95	0.64	0.76	0.85	0.03	0.95	659.1	397.1	0.86	39.8
61	**DBW296(C)**	0.69	1.03	0.64	1.22	0.88	0.20	0.87	621.3	350.5	0.94	43.6
62	**GW322(C)**	0.62	1.07	0.35	0.99	0.76	0.43	1.00	633.2	376.5	0.88	40.5
63	**NIAW3170(C)**	0.73	0.72	0.33	0.91	0.83	0.00	0.96	606.6	397.0	0.75	34.6

GYI -Grain yield per plot (g) under irrigated condition, GYD-Grain yield per plot (g) under drought condition, DSI-Drought Sensitivity Index, YR%-Yield reduction percentage

Table 3: Heat Sensitivity Index (HSI) of promising DHTSN genotypes (HSI<1) and yield reduction (%) across locations along with checks

SN	Genotype	Heat Sensitivity Index					Pooled analysis			
		Hisar	Karnal	Pusa	Dharwad	Junagadh	GYTS (g/plot)	GYLS (g/plot)	HSI	YR%
1	**CG1050**	0.86	2.43	2.16	0.91	0.93	637.6	393.3	1.13	38.3
2	**CG1052**	1.41	4.07	1.46	1.16	0.8	601.0	314.2	1.41	47.7
3	**CG1061**	1.22	-1.27	0.37	1.04	1.04	574.3	391.3	0.94	31.8
4	**DBW-EMS-10**	0.6	3.3	1.34	1.3	1.08	598.6	325.4	1.35	45.6
5	**DBW-EMS-22**	0.93	0.86	0.82	1.07	0.98	598.4	416.9	0.90	30.3
6	**DBW-EMS-23**	0.78	-2.13	1.27	1.11	0.89	527.5	411.5	0.65	22.0
7	**DBW-EMS-354**	1.41	-0.36	0.94	1.23	1.06	602.3	413.9	0.92	31.2
8	**DTW182**	1.36	0.23	0.98	1.06	1.03	570.1	383.1	0.97	32.8
9	**GW2023-1030**	1	1.62	2.01	1.15	0.88	622.4	350.8	1.29	43.6
10	**GW2023-1031**	-1.18	-0.05	-0.34	0.96	0.92	512.8	404.8	0.62	21.0
11	**GW2023-1032**	0.91	2.79	0.42	1.02	0.87	640.4	395.1	1.13	38.3
12	**GW2023-1033**	0.55	-2.86	-0.32	0.93	0.9	524.5	408.8	0.65	22.0
13	**GW2023-1034**	0.63	3.04	0.87	0.98	1.01	573.2	352.3	1.14	38.5
14	**HTW2301**	1.13	0.42	0.76	0.93	1	635.7	440.3	0.91	30.7
15	**HTW2302**	1.21	-0.66	0.83	1.28	1.13	603.6	446.2	0.77	26.0
16	**HTW2303**	1.58	1.61	-0.68	1.15	1.09	638.3	387.7	1.16	39.2
17	**HTW2304**	-0.29	0.89	1.2	1.19	1.13	637.9	464.8	0.80	27.1
18	**HTW2305**	0.65	0.13	1.33	0.98	1	572.3	398.0	0.90	30.4
19	**HTW2306**	0.63	-1.14	0.94	0.94	1.05	622.8	473.2	0.71	24.0
20	**HTW2307**	0.63	2.22	0.85	1.24	1.1	533.1	328.7	1.13	38.3
21	**HTW2308**	0.88	2.24	1.61	0.92	1.12	582.4	357.4	1.14	38.6
22	**HTW2309**	0.13	2.11	0.99	0.87	1.03	563.0	374.2	0.99	33.5
23	**HTW2310**	0.56	2.85	0.99	1.04	1.14	677.4	395.7	1.23	41.5
24	**HTW2311**	1.02	1.59	0.59	0.85	1.2	677.9	449.0	1.00	33.7
25	**HTW2312**	1.09	1.06	0.71	0.7	0.99	636.6	466.8	0.79	26.6
26	**ID2311(d)**	1.28	-6.76	1.61	0.83	0.96	499.7	396.2	0.61	20.7
27	**ID2312(d)**	1.93	0.54	1.43	1.1	1.23	616.1	372.0	1.17	39.6
28	**ID2313d)**	1.03	-4.86	2.14	0.98	1.22	482.7	391.0	0.56	18.9
29	**ID2314(d)**	0.44	-0.71	1.98	0.89	1.1	599.2	426.0	0.85	28.9
30	**INDB2315**	1.65	4.48	1.29	1	0.98	575.5	296.9	1.43	48.4
31	**INDB2316**	1.97	3.14	0.74	1.12	0.8	588.3	300.6	1.44	48.9
32	**INDB2317**	0.99	1.86	1.77	0.99	0.95	575.3	344.2	1.19	40.1
33	**INDB2318**	0.75	2.94	1.17	1.01	0.94	649.4	378.0	1.23	41.7

34	**LBP2023-27**	1.31	0.95	1.03	0.98	0.69	667.8	478.6	0.84	28.3
35	**MACS6805**	1.37	1.09	1.65	1	1.03	629.1	397.7	1.09	36.7
36	**MACS6809**	1.56	-0.1	0.79	0.7	0.75	685.1	497.1	0.81	27.4
37	**MACS6811**	0.78	2.5	1.02	0.7	1.02	685.7	467.0	0.94	31.8
38	**MACS6814**	0.8	-1.65	2	0.97	1.12	566.7	406.3	0.84	28.3
39	**NIAW 5439**	1.6	3.14	0.65	1.06	1.13	544.6	297.9	1.34	45.3
40	**PBSDHTSN 23-1**	0.85	1.67	0.78	0.99	1.04	574.0	381.4	0.99	33.5
41	**PBSDHTSN 23-2**	-0.21	1.12	1.07	0.92	0.99	599.4	423.8	0.86	29.2
42	**QYT2323**	0.59	-1.69	0.78	0.92	1.15	573.2	441.9	0.68	22.9
43	**QYT2324**	0.45	1.78	0.87	0.59	1.04	672.4	478.5	0.85	28.8
44	**RWP1875**	0.77	1.76	1.09	1.18	1.12	786.7	480.3	1.15	38.9
45	**RWP1896**	0.52	1.17	1.14	0.9	0.89	684.5	478.3	0.89	30.1
46	**RWP2073**	1.58	-0.58	0.8	1.03	1	778.0	556.1	0.84	28.5
47	**RWP2077**	0.58	0.59	0.38	1.15	0.96	656.6	486.4	0.77	25.9
48	**UASD23- 1(d)**	1.21	0.19	2.09	1.15	1	542.0	360.3	0.99	33.5
49	**UASD23- 2(d)**	1.17	-0.02	0.94	0.97	0.85	524.2	378.1	0.82	27.8
50	**UASD23- 6**	0.59	1.57	1.5	0.91	0.95	689.1	451.4	1.02	34.4
51	**UASD23- 7**	1.59	1.5	0.58	0.89	1.01	759.3	486.5	1.06	35.9
52	**WAP2314**	1.41	-0.88	1.02	1.2	0.84	616.1	425.7	0.91	30.9
53	**WAP2319**	0.73	0.2	1.06	1.05	0.93	620.4	464.7	0.74	25.0
54	**WBL3065**	1.19	1.68	1.02	1.04	1.02	671.2	427.7	1.07	36.2
55	**WBL3066**	0.54	1.09	0.85	1.14	0.94	634.0	443.5	0.89	30.0
56	**WBL3067**	1.07	0.46	0.82	1.11	0.92	665.9	449.2	0.96	32.5
57	**WBL3068**	2.01	2.15	0.83	1.05	1.08	663.1	398.2	1.18	39.9
58	**WBL3069**	1.46	0.96	1.49	0.7	1.26	675.9	458.0	0.95	32.2
59	**WH730(C)**	0.74	-0.45	0.98	0.83	0.79	549.1	418.0	0.70	23.8
60	**DBW187(C)**	0.96	1.76	0.33	1.08	0.82	708.9	464.8	1.02	34.4
61	**DBW296(C)**	1.04	0.93	0.86	1.03	1	658.6	459.5	0.89	30.2
62	**GW322(C)**	0.82	2.98	0.48	1.02	0.91	661.0	408.6	1.13	38.1
63	**NIAW3170(C)**	1.09	-0.65	1.06	1.09	1	605.2	398.1	1.01	34.2
64	**WH730(C)**	0.36	0.36	0.34	1.06	0.95	641.3	483.8	0.72	24.5

GYTS - Grain yield per plot (g) under timely sown condition, GYLS- Grain yield per plot (g) under late sown condition, HSI-Heat Sensitivity Index, YR%-Yield reduction percentage

Correlation of grain yield with different traits under drought and late sown condition

The correlation of different growth, yield and physiological traits with yield under drought and late sown conditions indicated that, the grain yield under drought stress is positively correlated with biomass, thousand grain weight, grain weight per spike and harvest index. The grain yield under late sown is significantly positively correlated with biomass, thousand grain weight, plant height, grain number per spike, grain weight per spike, CCI at 21 DAA and NDVI at 21 DAA.

Table 4: Correlation of pooled analysis traits (r^2) with GYD and GYLS

Traits	GYD	GYLS	Traits	GYD	GYLS
Days to Heading	-0.21	0.18	Grain Number per spike	0.22	**0.46****
Days to Anthesis	-0.22	0.11	Grain weight per spike	**0.35***	**0.50****
Days to maturity	-0.22	0.14	CCI at 15 DAA	0.25	0.30
Biomass	**0.69****	**0.75****	CCI at 21 DAA	0.12	**0.53****
Thousand grain weight	**0.35***	**0.50****	CT at 15 DAA	0.02	0.01
Plant height	0.22	**0.37***	CT at 21 DAA	0.10	0.01
Grain filling duration	-0.08	-0.23	NDVI at one month after germination	0.08	0.17
Harvest index	**0.71****	0.31	NDVI at 21 DAA	-0.15	**0.34***

* Significant@ 5%, ** @ 1% .

Quality Component and Wheat Biofortification Nursery (QCWBN)

The Quality Component and Wheat Biofortification Nursery (QCBWN) for the crop season 2023-24 comprising of 36 genotypes including four check varieties viz., DBW187, DBW327, GW322, HI8777(d) and DDW55(d) was supplied to 15 centres of four wheat zones namely; Karnal, Ludhiana, Delhi, Hisar, Pantnagar (NWPZ), Kanpur, Varanasi, Ranchi, (NEPZ); Vijapur, Powarkheda, Junnagadh, Indore (CZ); and Niphad, Dharwad, and Pune (PZ). The experiment was carried out in 6x6 simple lattice design in two replications in plot size of 3.2 m^2 . The nursery was conducted in all the centres except IARI Delhi. The yield data from all cooperators was pooled zone wise. The recordings on quality traits viz., Protein content at 12% Moisture, Zn content (ppm) and Fe content (ppm) of all entries and checks from 14 centres was carried out at ICAR-IIWBR Karnal.

Entries showing better yield zonal checks, having resistance against rust disease of respective zones and high nutritional traits (protein>13.0%; Fe and Zn >40.0 ppm; at least two) were suggested for inclusion in the respective advance varietal trials.

Out of 31 test entries from different collaborators, three entries namely HDHG2022-52(d) in North Western Plains Zone, RWP219 in Central Zone and GW1029 in Peninsular Zone were found promising on the basis of yield, rust resistance and nutritional traits. These three entries can be recommended for inclusion in advance varietal trials of respective zones.

Table: Promising entries from QCBWN 2023-24

SN	Entry	Grain Yield (q/ha)	Disease Data from IPPSN 2023-24				Nutritional Traits#		
			ACI	HS	ACI	HS	Protein Content at 12% moisture	Fe (PPM)	ZN (PPM)
NWPZ			**Leaf Rust (N)**		**Yellow Rust**				
1	HDHG2022-52(d)	59.6	4.07	20MS	13.2	60S	9.6	41.3	42.1
Central Zone			**Black Rust**		**Leaf Rust (S)**				
2	RWP2196	69.6	8.3	40MS	4	20MR	13.6	42.7	43.5
Peninsular Zone									
3	GW1029	47.0	13.3	60S	4.3	10MR	13.6	48.2	43.7

Note: * Rust data from Plant Pathological Screening Nursery
Nutritional traits data from Quality Report

Table: Yield (q/ha) of entries tested in QCBWN along with checks (2023-24)

Entry	Code	NWPZ			NEPZ			CZ			PZ		
		YLD	RK	Gr	YLD	RK	Gr	YLD	RK	Gr	YLD	RK	Gr
NIAW4114	QC-01	53.7	28	0	53.5	25	0	54.8	11	0	37.9	28	0
UASQ337(d)	QC-02	58.0	18	0	58.3	18	0	45.0	34	0	38.5	27	0
BST23-1	QC-03	52.6	31	0	48.8	33	0	47.0	30	0	33.3	35	0
QBP2308	QC-04	62.9	7	0	68.7	7	0	48.5	26	0	38.6	26	0
RWP2196	QC-05	69.6	1	1	69.8	5	0	59.7	4	0	35.7	34	0
UP3127	QC-06	58.0	17	0	66.1	10	0	57.6	5	0	38.9	25	0
WBL9966	QC-08	65.6	2	1	63.9	14	0	56.0	9	0	42.6	13	1
GW1028	QC-09	44.8	35	0	49.1	32	0	42.6	35	0	36.5	33	0
IBW2022-22	QC-10	48.3	34	0	56.7	21	0	45.3	33	0	37.1	31	0
BSP2328	QC-11	62.9	6	0	59.6	16	0	51.2	18	0	41.2	16	0
QBP2310	QC-12	55.6	24	0	59.5	17	0	56.6	7	0	42.4	15	1
K2001	QC-13	59.2	12	0	50.9	26	0	45.6	32	0	31.5	36	0
MACS6892	QC-14	65.5	3	1	71.4	4	0	50.2	20	0	42.8	11	1
LBP2023-26	QC-16	62.2	8	0	64.7	13	0	51.8	17	0	47.1	1	1
WHB2	QC-17	63.1	4	0	57.0	20	0	62.0	2	1	40.9	17	0
GW1367	QC-18	39.3	36	0	56.1	22	0	47.5	28	0	43.0	8	1
QBP2311	QC-19	58.4	15	0	60.9	15	0	46.9	31	0	43.8	7	1
WBL0028	QC-21	58.8	14	0	55.1	24	0	49.1	24	0	39.8	21	0
UASQ336(d)	QC-22	55.7	23	0	49.7	30	0	48.6	25	0	42.7	12	1
QBP2309	QC-23	63.0	5	0	66.5	9	0	52.1	15	0	37.9	29	0
QYT2322	QC-25	60.0	10	0	66.7	8	0	60.4	3	1	42.5	14	1
GW1029	QC-26	54.6	25	0	46.5	35	0	50.4	19	0	47.0	2	1
HDHG2022-52(d)	QC-27	59.6	11	0	44.9	36	0	47.5	29	0	40.5	18	0
QYT2325	QC-28	59.0	13	0	72.6	3	1	63.3	1	1	40.3	19	0
WBL1747	QC-30	53.8	26	0	50.5	28	0	50.1	21	0	40.3	20	0
NIAW4120	QC-31	51.1	32	0	55.5	23	0	56.8	6	0	45.7	5	1
CG2213	QC-32	60.4	9	0	50.6	27	0	52.6	14	0	37.3	30	0
WHB1	QC-33	56.7	20	0	75.8	1	1	55.8	10	0	44.6	6	1
UP3102	QC-34	53.8	27	0	65.5	12	0	49.5	23	0	39.2	23	0
K2101	QC-35	58.2	16	0	49.4	31	0	38.9	36	0	42.8	9	1
MACS6893	QC-36	52.9	30	0	57.8	19	0	51.9	16	0	42.8	10	1
GW322 (C)	**QC-07**	**56.6**	**21**	**0**	**65.9**	**11**	**0**	**50.0**	**22**	**0**	**46.3**	**4**	**1**
DBW187 (C)	**QC-15**	**57.8**	**19**	**0**	**69.5**	**6**	**0**	**56.3**	**8**	**0**	**46.6**	**3**	**1**
DBW327 (C)	**QC-29**	**53.6**	**29**	**0**	**73.6**	**2**	**1**	**53.7**	**12**	**0**	**39.1**	**24**	**0**
HI8777(d) (C)	**QC-20**	**55.9**	**22**	**0**	**50.4**	**29**	**0**	**48.3**	**27**	**0**	**39.6**	**22**	**0**
DDW55(d) (C)	**QC-24**	**48.6**	**33**	**0**	**47.9**	**34**	**0**	**53.0**	**13**	**0**	**36.7**	**32**	**0**
	CD	4.9			3.9			3.2			5.5		

Salinity Alkalinity Tolerance Screening Nursery 2023-24

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The Salinity/Alkalinity Tolerance Screening Nursery was constituted with the aim to identify wheat lines that can perform better under salt affected soils. This nursery also serves as the source of test entry for Special Variety Evaluation Trial for salt stress conditions under AICW&BIP. During the year 2023-24 the nurseries were conducted at 9 centers. The data of Karnal, Hisar, Bathinda, Muktsar, Kanpur, Pali and Bharuch were pooled to obtain the mean values. The nursery consisted of 24 test entries and five checks (KRL 210, Kharchia 65, DBW 187, KRL 19 and GW 322) in augmented design in which each set was having 3 blocks comprising of eight test entries and five checks. Superior lines were identified on the basis of the analysis of grain yield and comparison with the pooled value.

SOIL STATUS			
Location	**pH_2**	**EC_e : dSM^{-1}**	**EC_{iw} dSM^{-1}**
Karnal	9.1	-	-
Kanpur	9.25	-	-
Hisar	-	6.4	-
Bathinda	-	6.3	-
Muktsar	-	5.7	-
Bharuch	-	-	6-7
Pali	-	-	4

Out of 24 test entries, 4 entries were found to be promising on the basis of mean yield along with resistance to all the three rusts (stem leaf and yellow rust) as evident from IPPSN 2023-24 (Table 1). Entry KRL 2301 was significantly superior to the best check KRL 210.

Table 1: Mean performance of the entries in Salinity/Alkalinity Tolerance Screening Nursery (SATSN) 2023-24

SN	Entry	Mean Yield (q/ha)	Rk	G	STI	Rk	Stem rust		Leaf rust (South)		Leaf rust (North)		Stripe rust	
							ACI	HS	ACI	HS	ACI	HS	ACI	HS
1	KRL 2301*	51.1*	1	1	0.88	5	15.3	40S	6.0	20S	13.3	40S	11.9	40S
2	KRL 2215	49.6	2	1	0.79	6	16.3	30S	3.0	10MS	5.8	20S	11.6	40S
3	WAP 2327	46.5	3	1	0.69	11	16.3	30S	7.5	20MS	16.7	40S	11.7	40S
4	LBP-2023-23	45.8	4	1	0.47	24	17.5	40S	14.3	20S	16.7	40S	9.5	40S
Checks														
	Kharchia 65 (c)	29.6	29	0	0.90	2								
	DBW 187 (c)	42.1	8	0	0.48	23								
	KRL 210 (c)	42.5	7	0	0.69	12								
	KRL 19 (c)	32.8	27	0	0.46	26								
	GW 322 (c)	37.6	20	0	0.60	16								
	G.M.	39.5												
	CD (10%)	7.8												

Appendix-I

Trials Not Reported

2303-NIVT-2-IR-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ			PZ					
			M.P.			Maharashtra			Karnataka		
			Gwalior			Dhule			Dharwad		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS6862	N301	30.8	25	0	25.6	24	0	37.5	21	0
2	MACS6858	N302	38.1	13	0	34.2	15	0	45.2	7	1
3	PWU13	N303	23.7	26	0	22.3	29	0	39.2	18	0
4	MP1401	N304	39.4	9	0	39.8	4	1	33.4	25	0
5	GW561	N305	46.5	5	0	23.9	27	0	40.7	15	0
6	MACS6864	N307	36.3	19	0	35.1	13	0	43.6	10	1
7	RAJ4590	N308	17.4	36	0	20.3	32	0	35.1	23	0
8	GW565	N309	37.5	14	0	26.9	22	0	43.2	11	0
9	PBW946	N310	36.5	18	0	25.3	25	0	21.6	32	0
10	CG1050	N311	18.5	35	0	37.0	9	0	33.3	27	0
11	GW566	N312	38.8	12	0	32.5	18	0	50.4	1	1
12	UAS3030	N313	32.8	22	0	37.9	7	0	33.7	24	0
13	GW560	N314	39.7	8	0	27.4	21	0	37.6	19	0
14	MP3583	N315	36.5	16	0	38.3	6	0	42.4	12	0
15	LOK82	N316	19.1	33	0	18.3	34	0	30.4	31	0
16	AKAW4764	N317	31.0	24	0	33.1	17	0	32.6	28	0
17	DBW457	N318	18.6	34	0	39.0	5	0	47.0	4	1
18	GW559	N319	55.8	3	0	18.1	35	0	46.8	5	1
19	JWS1528	N320	32.0	23	0	35.8	12	0	17.6	33	0
20	MP1400	N321	34.8	21	0	37.1	8	0	33.4	26	0
21	WH1332	N322	39.3	10	0	21.5	31	0	9.4	36	0
22	NIAW4516	N323	19.5	32	0	25.8	23	0	16.0	34	0
23	HI1694	N324	60.9	2	1	17.9	36	0	42.4	13	0
24	PWU52	N325	35.2	20	0	34.5	14	0	32.4	29	0
25	MP3584	N327	20.3	31	0	40.4	3	1	39.3	17	0
26	UAS3031	N328	44.8	6	0	44.7	1	1	11.7	35	0
27	NWS2237	N329	51.4	4	0	31.3	19	0	45.1	8	1
28	HI1695	N330	22.0	29	0	33.6	16	0	48.0	2	1
29	NIAW4581	N333	23.5	27	0	36.5	10	0	47.6	3	1
30	HW3298-1	N334	21.4	30	0	19.1	33	0	40.6	16	0
31	DBW456	N335	36.5	17	0	31.0	20	0	36.3	22	0
32	HD3481	N336	44.1	7	0	21.7	30	0	32.1	30	0
33	MACS6222(C)	N306	22.1	28	0	36.5	10	0	45.5	6	1
34	DBW187 (C)	N326	62.9	1	1	22.6	28	0	42.2	14	0
35	HI1650(C)	N331	38.9	11	0	25.1	26	0	44.4	9	1
36	GW322(C)	N332	36.7	15	0	44.4	2	1	37.5	20	0
G.M.			34.5			30.4			36.5		
S.E.(M)			2.085			2.363			3.008		
C.D.(10%)			5.0			5.6			7.2		
C.V.			8.5			11.0			11.6		
D.O.S.(dd.mm.yy)			15.11.23			06.11.23			15.11.23		

Trials not reported (05)=CZ : Bilaspur (RMT), Gwalior (LSM)
PZ: Parbhani (RMT), Dhule (LSM), Dharwad (LSM)

2305-NIVT-3B-IR-LS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ			PZ		
			Gujarat			Karnataka		
			SK Nagar			Dharwad		
			Yield	RK	G	Yield	RK	G
1	DBW464	N502	31.9	18	0	16.5	23	0
2	HI1697	N504	37.9	3	1	35.8	2	1
3	WH1338	N505	36.5	8	1	30.1	14	0
4	GW567	N506	39.0	2	1	29.5	15	0
5	WSM141	N507	33.0	15	0	28.8	16	0
6	DBW463	N508	33.8	13	0	22.4	19	0
7	MACS6868	N509	32.4	17	0	32.7	10	1
8	GW562	N510	36.8	6	1	34.7	4	1
9	MP3599	N511	26.4	23	0	20.9	21	0
10	NIAW4621	N512	33.4	14	0	34.5	6	1
11	CG1061	N513	30.5	19	0	27.2	17	0
12	NIAW4624	N514	36.7	7	1	33.3	9	1
13	LOK83	N515	26.2	24	0	22.7	18	0
14	HI1698	N516	27.4	22	0	32.5	11	1
15	HI1696	N517	34.1	12	0	34.7	5	1
16	MP3598	N518	40.6	1	1	19.7	22	0
17	HI1699	N519	29.1	21	0	34.3	8	1
18	UAS3033	N521	34.8	10	0	31.7	12	1
19	UAS3032	N522	34.7	11	0	11.8	24	0
20	MACS6854	N523	37.7	4	1	34.5	7	1
21	PBW952	N524	35.0	9	1	36.2	1	1
22	MP1402	N525	25.7	25	0	11.2	25	0
23	HD2864 (C)	N501	33.0	16	0	31.4	13	1
24	HD2932 (C)	N503	37.3	5	1	22.2	20	0
25	HI1633(C)	N520	30.0	20	0	35.0	3	1
G.M.			33.4			28.2		
S.E.(M)			2.362			2.393		
C.D.(10%)			5.7			5.9		
C.V.			10.0			12.0		
D.O.S.(dd.mm.yy)			11.12.23			05.12.23		

Trials not reported (02)=CZ:SK Nagar(LSM)
PZ :Dharwad(LSM)

2306-NIVT-4-IR-TS-TDM-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ						CZ			PZ		
			Haryana						M.P.			Maharashtra		
			Hisar			Karnal			Gwalior			Niphad		
			Yield	RK	G	Yield	RK	G	Yield	RK	G	Yield	RK	G
1	MACS4146	N601	46.9	18	0	45.9	24	0	19.3	35	0	39.3	13	0
2	HI8854	N602	52.9	13	0	56.2	8	0	47.2	5	0	42.7	7	0
3	NIDW1557	N603	59.3	4	1	49.7	18	0	23.5	27	0	38.0	17	0
4	DDK1067(Dic)	N604	42.4	27	0	43.8	27	0	77.9	1	1	33.5	30	0
5	UAS485	N605	44.7	24	0	59.3	2	1	39.0	8	0	38.8	14	0
6	PDW368	N606	48.7	15	0	59.0	3	1	37.2	11	0	37.6	19	0
7	MACS5064(Dic)	N607	45.6	22	0	40.2	30	0	20.0	34	0	29.9	35	0
8	HI8855	N608	59.7	2	1	48.2	22	0	35.0	13	0	53.2	1	1
9	GW1369	N610	57.5	7	1	35.0	35	0	31.8	15	0	43.4	4	0
10	AKDW5520	N611	44.7	23	0	56.9	6	0	30.8	16	0	47.2	2	1
11	GW1370	N612	46.1	20	0	56.2	7	0	23.9	24	0	46.4	3	0
12	PDW366	N613	46.0	21	0	45.8	26	0	25.0	20	0	36.8	21	0
13	MACS5065(Dic)	N615	41.5	28	0	38.6	32	0	25.4	19	0	36.7	22	0
14	PDW367	N616	50.1	14	0	48.3	21	0	25.7	18	0	30.2	34	0
15	MPO1403	N617	55.2	10	1	49.4	20	0	33.6	14	0	37.4	20	0
16	MPO1404	N618	48.2	16	0	49.5	19	0	25.8	17	0	35.1	26	0
17	WHD969	N619	53.2	12	1	50.4	16	0	46.7	6	0	35.0	28	0
18	NIDW1542	N620	56.3	8	1	50.9	15	0	35.5	12	0	34.0	29	0
19	DDW66	N621	40.6	33	0	57.8	5	1	21.4	33	0	40.0	11	0
20	HI8853	N622	59.6	3	1	51.4	13	0	59.3	2	1	37.8	18	0
21	HW5306 (Dic)	N623	39.8	34	0	41.8	29	0	23.0	30	0	32.7	32	0
22	UAS486	N625	58.2	5	1	50.3	17	0	50.2	3	0	35.1	27	0
23	GW1371	N628	41.1	30	0	52.1	11	0	39.8	7	0	32.6	33	0
24	HI8858	N629	58.2	6	1	46.0	23	0	18.0	36	0	38.8	15	0
25	DDK1066(Dic)	N630	47.9	17	0	37.0	33	0	22.6	32	0	35.9	25	0
26	HW5305 (Dic)	N631	40.7	31	0	36.0	34	0	24.8	21	0	24.5	36	0
27	PBN1841	N632	40.6	32	0	30.7	36	0	47.9	4	0	36.5	23	0
28	MACS4147	N633	46.4	19	0	55.3	9	0	24.0	23	0	32.8	31	0
29	DDW67	N634	54.9	11	1	58.2	4	1	24.3	22	0	41.8	9	0
30	PWU8	N635	39.7	35	0	45.9	25	0	38.5	9	0	43.1	5	0
31	DDW65	N636	44.2	25	0	63.9	1	1	23.7	26	0	40.3	10	0
32	MACS3949(C)	N609	43.0	26	0	51.4	14	0	22.7	31	0	42.6	8	0
33	PDW314(C)	N614	41.2	29	0	51.6	12	0	23.5	27	0	38.0	16	0
34	HI8737(C)	N624	59.7	1	1	54.2	10	0	37.4	10	0	40.0	11	0
35	HI8713(C)	N627	55.4	9	1	43.0	28	0	23.1	29	0	42.7	6	0
36	DDK1029(Dic.C	N626	39.7	36	0	40.1	31	0	23.9	25	0	36.5	24	0
G.M.			48.6			48.6			32.0			38.0		
S.E.(M)			2.774			2.628			9.068			2.549		
C.D.(10%)			6.7			6.3			21.7			6.1		
C.V.			8.1			7.6			40.1			9.5		
D.O.S.(dd.mm.yy)			13.11.23			10.11.23			15.11.23			10.11.23		

Trials not reported (04)=NWPZ :Hisar(LSM), Karnal (LSM)
CZ : Gwalior (LSM) PZ : Niphad(LSM)

2307-NIVT-5A-RI-TS-TAS-NAT-ZONE, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ					
			U.P.			Rajasthan		
			Bulandshahr			Durgapura		
			Yield	RK	G	Yield	RK	G
1	PBW956	N702	37.5	7	1	26.2	21	0
2	BRW3959	N703	29.2	22	1	31.8	15	0
3	HD3485	N704	42.4	2	1	27.2	19	0
4	WH1340	N706	34.7	10	1	31.8	14	0
5	DBW468	N707	31.9	16	1	35.0	10	0
6	JAUW719	N708	41.7	3	1	19.0	25	0
7	HD3487	N709	33.3	13	1	28.3	18	0
8	UP3147	N710	36.8	9	1	39.7	6	0
9	PBW953	N711	25.0	23	0	51.4	1	1
10	DBW465	N713	43.1	1	1	39.6	7	0
11	PBW954	N714	37.5	7	1	32.7	12	0
12	PBW955	N715	40.3	4	1	31.4	16	0
13	WH1339	N717	34.7	10	1	42.5	2	0
14	HUW861	N718	33.3	13	1	35.5	9	0
15	DBW467	N719	32.6	15	1	40.6	4	0
16	HD3488	N720	39.6	5	1	40.1	5	0
17	KRL2203	N721	29.9	21	1	36.2	8	0
18	JKW320	N722	31.9	16	1	21.8	23	0
19	K2310	N723	24.3	25	0	21.3	24	0
20	DBW466	N724	30.6	20	1	41.2	3	0
21	HD3486	N725	31.3	18	1	32.0	13	0
22	NIAW3170(C)	N701	31.3	18	1	28.9	17	0
23	HI1612(C)	N705	39.6	5	1	34.3	11	0
24	K1317(C)	N712	34.0	12	1	24.6	22	0
25	PBW644(C)	N716	25.0	23	0	26.4	20	0
G.M.			34.1			32.8		
S.E.(M)			6.206			1.562		
C.D.(10%)			15.0			3.9		
C.V.			25.8			6.7		
D.O.S.(dd.mm.yy)			11.11.23			04.11.23		

Trials not reported (04) =
NWPZ:Bulandshahr(LSM,HCV), Durgapura(LSM)
NEPZ: Kanpur (RMT), Shillongani (RMT)

2308-NIVT-5B-RI-TS-TDM-NAT-ZONE,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	CZ			PZ		
			Gujarat			Karnataka		
			SKNagar			Dharwad		
			Yield	RK	G	Yield	RK	G
1	HI8856(d)	N801	19.8	7	1	9.7	24	0
2	HI1700	N803	20.0	6	1	39.7	2	1
3	HI8857(d)	N804	17.1	13	0	19.3	16	0
4	DBW469	N805	17.4	12	0	25.6	12	0
5	MP3601	N806	14.7	22	0	29.4	7	0
6	DBW470	N808	16.0	18	0	23.0	14	0
7	MP1405	N809	15.6	21	0	23.9	13	0
8	MACS6851	N810	15.8	19	0	35.6	3	0
9	GW563	N811	18.1	10	0	40.3	1	1
10	AKAW5441	N812	23.7	1	1	27.5	8	0
11	CG1052	N813	21.7	2	1	16.8	18	0
12	UAS487(d)	N814	14.3	24	0	14.9	20	0
13	MACS6850	N815	20.9	3	1	31.3	6	0
14	DDW68(d)	N816	9.0	25	0	12.5	23	0
15	PBN2115	N817	16.7	16	0	33.5	4	0
16	GW1372(d)	N818	16.7	16	0	8.0	25	0
17	HI1702	N820	17.5	11	0	27.0	9	0
18	NIAW4533	N822	18.7	9	0	26.8	10	0
19	HI1701	N823	20.8	4	1	13.9	22	0
20	UAS3034	N824	14.5	23	0	20.6	15	0
21	HI8627(d)(C)	N807	18.7	8	0	16.7	19	0
22	HI1605(C)	N819	20.6	5	1	31.5	5	0
23	DBW110(C)	N821	17.0	15	0	25.8	11	0
24	NIDW1561(d)	N825	15.6	20	0	14.0	21	0
25	UAS446(d)(C)	N802	17.1	13	0	18.2	17	0
G.M.			17.5			23.4		
S.E.(M)			1.977			2.237		
C.D.(10%)			4.8			5.4		
C.V.			16.0			13.5		
D.O.S.(dd.mm.yy)			04.11.23			30.10.23		

Trials not reported (03) =
CZ:Bilaspur (RMT), SKNagar(LSM)
PZ : Dharwad (LSM)

2309-NIVT-6-ES-IR-NWPZ/CZ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	NWPZ			CZ					
			Haryana			Gujarat			M.P.		
			Karnal			Vijapur			Powarkheda		
			Yield	RK	G	Yield	RK	G	Yield	RK	G
1	UP3148	N901	49.3	18	0	40.1	25	0	39.6	25	0
2	DBW473	N902	66.5	13	0	56.2	8	1	50.7	17	0
3	PBW934	N903	65.7	14	0	61.6	2	1	50.0	18	0
4	PBW931	N904	49.5	17	0	52.9	11	0	45.1	21	0
5	DBW474	N905	84.9	1	1	53.0	10	0	61.1	3	1
6	PBW932	N908	68.5	10	0	59.2	5	1	52.1	16	0
7	MP1406	N909	75.0	5	1	49.7	17	0	52.8	14	0
8	HD3489	N910	40.7	20	0	50.5	16	0	53.5	12	0
9	WH1334	N911	68.2	11	0	59.5	4	1	66.0	1	1
10	DBW475	N913	74.8	6	1	51.7	15	0	55.6	8	0
11	GW568	N914	29.1	25	0	48.8	18	0	40.3	24	0
12	DBW471	N915	52.6	16	0	41.0	24	0	49.3	19	0
13	PBW935	N916	78.7	3	1	56.3	7	1	60.4	4	1
14	DBW472	N917	40.2	21	0	48.1	20	0	41.0	23	0
15	HD3492	N918	34.0	24	0	54.3	9	0	47.2	20	0
16	HD3491	N920	66.6	12	0	52.8	13	0	56.9	7	1
17	RAJ4591	N921	39.7	22	0	46.5	22	0	43.1	22	0
18	WH1333	N922	83.1	2	1	48.3	19	0	54.2	10	0
19	PBW933	N923	74.2	7	1	47.9	21	0	61.1	2	1
20	HD3490	N924	55.6	15	0	60.8	3	1	53.5	12	0
21	GW564	N925	38.4	23	0	59.1	6	1	54.2	9	0
22	DBW327(C)	N906	69.6	9	0	62.1	1	1	58.3	6	1
23	DBW187(C)	N907	71.9	8	1	51.8	14	0	59.0	5	1
24	GW322(C)	N912	47.6	19	0	52.9	12	0	52.8	15	0
25	DBW303(C)	N919	76.9	4	1	42.3	23	0	54.2	10	0
G.M.			60.0			52.3			52.5		
S.E.(M)			6.266			2.632			3.976		
C.D.(10%)			15.2			6.5			9.6		
C.V.			14.8			7.1			10.7		
D.O.S.(dd.mm.yy)			27.10.23			04.11.23			09.11.23		

Trials not reported (05) = NWPZ:Karnal(LSM)
CZ :Indore(RMT), Jabalpur-JNKVV (RMT),
Powarkheda (LSM), Vijapur (LSM)

2311-AVT-RF-TS-TAS-NHZ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Manipur Imphal		
			Yield	Rk	G
1	VL2059[M]	NHRF103	5.1	5	0
2	HS562(C)	NHRF101	13.9	1	1
3	VL907(C)	NHRF102	10.0	2	0
4	VL2041(C)	NHRF104	8.6	3	0
5	HPW349(C)	NHRF105	7.4	4	0
G.M.			9.0		
S.E.(M)			1.167		
C.D.(10%)			2.8		
C.V.			31.8		
D.O.S.(dd.mm.yy)			30.10.23		

Trials not reported (01)=Imphal(LSM)

2312-IVT-RF-TS-TAS-NHZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Manipur Imphal			UTK Majhera		
			Yield	Rk	G	Yield	Rk	G
1	HPW500	NHIVT202	8.5	2	1	16.1	15	0
2	VL2056	NHIVT203	3.6	16	0	18.3	6	0
3	UP3149	NHIVT204	5.1	12	0	18.3	7	0
4	VL2057	NHIVT205	7.2	4	1	20.9	3	1
5	SKW367	NHIVT206	5.4	11	0	17.9	8	0
6	VL2055	NHIVT207	4.8	14	0	18.8	5	0
7	HPW502	NHIVT208	9.0	1	1	17.4	10	0
8	HS701	NHIVT209	7.0	5	0	17.4	10	0
9	HS702	NHIVT210	5.5	10	0	16.5	14	0
10	HS700	NHIVT211	6.3	8	0	17.0	13	0
11	HPW499	NHIVT212	6.9	6	0	17.4	10	0
12	VL2058	NHIVT213	5.8	9	0	21.9	2	1
13	HD3493	NHIVT214	4.6	15	0	17.9	9	0
14	HPW501	NHIVT215	6.7	7	0	13.8	16	0
15	HS507(C)	NHIVT201	4.9	13	0	19.2	4	0
16	HS562(C)	NHIVT216	7.3	3	1	22.3	1	1
G.M.			6.2			18.2		
S.E.(M)			0.865			0.990		
C.D.(10%)			2.1			2.4		
C.V.			28.1			10.9		
D.O.S.(dd.mm.yy)			30.10.23			30.10.23		

Trials not reported (02)= Imphal(LSM), Majhera(LSM)

2313-IVT/AVT-LS-RI-TAS-NHZ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	UTK Gaja			Manipur Imphal		
			Yield	Rk	G	Yield	Rk	G
1	VL3031	NHIVT302	25.8	2	1	10.6	10	1
2	HS703	NHIVT303	11.1	9	0	13.3	1	1
3	VL3033	NHIVT304	20.8	5	0	13.3	2	1
4	HPW504	NHIVT305	8.7	12	0	11.1	7	1
5	VL3036[M]	NHIVT307	29.1	1	1	10.4	11	0
6	HS704	NHIVT308	13.8	7	0	11.1	8	1
7	HPW503	NHIVT309	12.2	8	0	12.2	5	1
8	VL3035	NHIVT310	23.1	4	0	8.1	13	0
9	HS705	NHIVT311	8.1	13	0	11.7	6	1
10	VL3034	NHIVT312	10.9	10	0	12.7	4	1
11	HPW505	NHIVT313	24.4	3	0	10.8	9	1
12	HS698	NHIVT314	9.0	11	0	10.3	12	0
13	HS490(C)	NHIVT301	7.3	14	0	13.0	3	1
14	VL892(C)	NHIVT306	13.9	6	0	7.9	14	0
G.M.			15.6			11.2		
S.E.(M)			1.332			0.997		
C.D.(10%)			3.8			2.9		
C.V.			17.1			17.8		
D.O.S.(dd.mm.yy)			06.12.23			23.12.23		

Trials not reported (02)=Gaja(LSM), Imphal(LS,LSM)

2321-AVT-IR-TS-TAS-NWPZ,2023-24
LOCATIONWISE MEAN YIELD(q/ha)

SN	Variety	Code	Haryana Karnal		
			Yield	Rk	G
1	HI1668*	NWTS104	56.7	4	0
2	DBW386*	NWTS109	63.3	1	1
3	DBW477[M]	NWTS102	38.9	15	0
4	PBW957[M]	NWTS105	53.1	6	0
5	DBW417	NWTS107	42.7	14	0
6	HD3471[M]	NWTS108	48.9	9	0
7	PBW916	NWTS113	49.5	8	0
8	PBW958[M]	NWTS114	49.6	7	0
9	DBW476[M]	NWTS117	36.8	17	0
10	HD3494[M]	NWTS118	38.1	16	0
11	PBW725(C)	NWTS101	44.2	11	0
12	DBW88(C)	NWTS103	44.1	12	0
13	HD2967(C)	NWTS106	34.1	18	0
14	HD3086(C)	NWTS110	55.6	5	0
15	DBW187(C)	NWTS111	48.5	10	0
16	DBW222(C)	NWTS112	43.2	13	0
17	PBW826(C)	NWTS116	62.9	2	1
18	HD3386(I)(C)	NWTS115	59.8	3	1
G.M.			48.3		
S.E.(M)			2.501		
C.D.(10%)			5.9		
C.V.			10.3		
D.O.S.(dd.mm.yy)			05.11.23		

Trials not reported (01)=Karnal(LSM)

2322-AVT-IR-LS-TAS-NWPZ,2023-24
LOCATIONWISE MEAN YIELD(q/ha)

SN	Variety	Code	U.P. Nagina		
			Yield	Rk	G
1	HD3428*	NWLS202	43.2	2	1
2	WH1324	NWLS201	31.7	12	0
3	NW8071	NWLS203	32.2	11	0
4	HD3455	NWLS204	32.5	10	0
5	DBW422	NWLS208	43.5	1	1
6	PBW921	NWLS209	38.9	4	0
7	RAJ4581	NWLS210	34.1	8	0
8	HD3495[M]	NWLS211	35.8	6	0
9	HD3059(C)	NWLS205	36.3	5	0
10	PBW771(C)	NWLS206	34.3	7	0
11	JKW261(C)	NWLS207	39.0	3	0
12	DBW173(C)	NWLS212	33.8	9	0
G.M.			36.3		
S.E.(M)			0.966		
C.D.(10%)			2.3		
C.V.			5.3		
D.O.S.(dd.mm.yy)			08.12.23		

Trials not reported (01)= Nagina (LSM)

2331-AVT-IR-TS-TAS-NEPZ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Jharkhand Dumka			Assam Shillongani			U.P. Prayagraj			U.P. Ayodhya		
			Yield	Rk	G	Yield	Rk	G	Yield	Rk	G	Yield	Rk	G
1	DBW386*	NETS112	29.7	2	1	28.7	14	0	42.1	6	1	43.9	6	0
2	UP3123	NETS101	22.5	11	0	37.0	6	0	42.4	5	1	45.2	5	1
3	HD3447	NETS102	18.8	14	0	41.1	3	0	38.5	12	1	39.9	10	0
4	PBW908	NETS103	18.5	15	0	39.6	4	0	42.0	7	1	43.8	7	0
5	PBW915	NETS104	29.7	2	1	36.3	8	0	38.9	11	1	36.5	14	0
6	HP1978	NETS109	26.0	8	1	36.1	10	0	42.6	4	1	50.8	1	1
7	KRL2106	NETS110	14.2	16	0	38.4	5	0	35.6	15	0	42.7	8	0
8	PBW913	NETS111	26.3	7	1	33.3	12	0	37.7	14	0	39.5	11	0
9	HD3467	NETS114	26.4	6	1	42.7	2	0	34.3	16	0	38.2	12	0
10	BCW29	NETS115	25.8	10	1	31.1	13	0	39.6	10	1	37.2	13	0
11	UP3124	NETS116	21.3	13	0	47.2	1	1	40.1	9	1	27.8	16	0
12	DBW222(C)	NETS105	26.0	8	1	36.9	7	0	37.8	13	0	50.0	2	1
13	PBW826(C)	NETS106	30.2	1	1	36.3	8	0	42.7	3	1	45.9	4	1
14	HD3249(C)	NETS113	22.0	12	0	20.5	16	0	42.9	2	1	49.3	3	1
15	DBW187(C)	NETS117	26.9	5	1	26.4	15	0	43.6	1	1	41.4	9	0
16	HD3388(I)(C)	NETS107	27.2	4	1	33.6	11	0	40.2	8	1	35.1	15	0
G.M.			24.5			35.3			40.1			41.7		
S.E.(M)			2.117			0.370			2.292			2.760		
C.D.(10%)			5.0			1.1			5.4			6.6		
C.V.			17.3			1.8			11.4			13.2		
D.O.S.(dd.mm.yy)			29.11.23			06.11.23			05.11.23			15.11.23		

Trials not reported (04)=Prayagraj (LSM),Ayodhya (LSM),Dumka (LSM),Shillongani (LSM)

2333-AVT-RI-TS-TAS-NEPZ,2023-24
LOCATIONWISE MEAN YIELD(q/ha)

SN	Variety	Code	U.P. Varanasi			Jharkhand Dumka		
			Yield	Rk	G	Yield	Rk	G
1	JKW304	NERI302	28.2	6	0	17.0	6	0
2	HD3460	NERI306	32.9	2	1	19.9	3	1
3	HD3171(C)	NERI301	13.9	7	0	14.3	7	0
4	HI1612(C)	NERI303	30.6	3	1	19.4	4	1
5	K1317(C)	NERI304	28.9	4	0	17.4	5	1
6	HD3293(C)	NERI305	33.1	1	1	20.6	2	1
7	DBW252(C)	NERI307	28.9	4	0	21.6	1	1
G.M.			28.1			18.6		
S.E.(M)			1.388			1.798		
C.D.(10%)			3.4			4.4		
C.V.			9.9			19.3		
D.O.S.(dd.mm.yy)			09.11.23			29.11.23		

Trials not reported(03)=Ayodhya(RMT),Varanasi(LSM),Dumka (LSM)

2342 - AVT-IR-LS-TAS-CZ ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Gujarat SKNagar Yield	Rk	G
1	HI1674*	CZLS206	29.5	1	1
2	WSM138	CZLS201	27.4	4	1
3	HI1687	CZLS202	28.4	2	1
4	MACS6830	CZLS205	25.5	7	0
5	DBW425	CZLS209	28.0	3	1
6	GW556	CZLS210	24.7	8	0
7	HI1634(C)	CZLS203	21.9	10	0
8	MP4010(C)	CZLS204	26.2	6	1
9	HD2932(C)	CZLS207	27.1	5	1
10	CG1029(C)	CZLS208	24.4	9	0
G.M.			26.3		
S.E.(M)			1.513		
C.D.(10%)			3.6		
C.V.			11.5		
D.O.S.(dd.mm.yy)			11.12.23		

Trials no treported (01)=S.K.Nagar(LSM)

2351-AVT-IR-TS-TAD-PZ,2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Karnataka Dharwad Yield	Rk	G
1	PBW891*	PZTS104	39.1	3	1
2	AKAW5100*	PZTS108	32.0	24	0
3	WH1306*	PZTS110	35.2	16	0
4	NWS2222*	PZTS116	35.8	12	0
5	DBW443*	PZTS123	37.7	7	0
6	DDW62(d)	PZTS101	33.5	21	0
7	MACS6842	PZTS102	37.7	8	0
8	UAS3026	PZTS103	39.1	4	1
9	MPO1395(d)	PZTS105	34.3	19	0
10	MACS6837	PZTS106	34.9	17	0
11	HI8849(d)	PZTS107	37.9	6	0
12	MACS6844	PZTS111	34.8	18	0
13	MACS4125(d)	PZTS112	36.5	9	0
14	HI8850(d)	PZTS113	36.1	11	0
15	HI8848(d)	PZTS114	33.6	20	0
16	MP3570	PZTS117	35.4	14	0
17	NIAW4364	PZTS119	32.2	23	0
18	MACS4135(d)	PZTS120	40.9	2	1
19	CG1045	PZTS121	44.8	1	1
20	GW322(C)	PZTS118	35.2	15	0
21	MACS6222(C)	PZTS122	33.2	22	0
22	HI8737(d)(C)	PZTS109	35.6	13	0
23	MACS3949(d)(C)	PZTS115	36.4	10	0
24	MP1378(I)(C)	PZTS124	38.9	5	1
G.M.			36.3		
S.E.(M)			2.214		
C.D.(10%)			6.2		
C.V.			12.2		
D.O.S.(dd.mm.yy)			15.11.23		

Trials not reported (03)=
Parbhani(RMT),Karad(RMT),Dharwad(LSM)

2343- AVT-RI-TS-TAD-CZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Gujarat SKNagar Yield	Rk	G
1	DBW441[M]*	CZRI312	23.6	9	0
2	NIAW4267	CZRI303	28.9	5	1
3	HI8852(d)	CZRI305	18.1	16	0
4	UAS3029	CZRI307	32.7	1	1
5	DBW432	CZRI309	21.9	10	0
6	MACS4131(d)	CZRI310	13.4	17	0
7	HI8851(d)	CZRI311	19.0	15	0
8	UAS484(d)	CZRI313	21.4	12	0
9	DBW428	CZRI314	30.4	3	1
10	MPO1398(d)	CZRI315	21.1	13	0
11	DBW110(C)	CZRI302	24.1	8	0
12	CG1036(C)	CZRI304	26.4	6	0
13	HI1655(C)	CZRI306	29.4	4	1
14	HI8627(d)(C)	CZRI308	21.8	11	0
15	HI8823(d)(C)	CZRI316	20.1	14	0
16	CG1040(I)(C)	CZRI301	31.6	2	1
17	DBW359(I)(C)	CZRI317	24.5	7	0
G.M.			24.0		
S.E.(M)			1.655		
C.D.(10%)			3.9		
C.V.			13.8		
D.O.S.(dd.mm.yy)			04.11.23		

Trials not reported (02)= Sagar(RMT),SK Nagar(LSM)

2353- AVT-RI-TS-TAD-PZ, 2023-24
LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Maharashtra Nashik Yield	Rk	G	Karnataka Dharwad Yield	Rk	G
1	CG1047	PZRI301	16.7	11	0	24.8	3	1
2	MACS4131(d)	PZRI303	21.3	6	0	23.8	4	0
3	GW1368(d)	PZRI304	15.1	14	0	16.2	14	0
4	HI8852(d)	PZRI306	15.7	13	0	21.8	9	0
5	UAS484(d)	PZRI310	16.2	12	0	23.8	5	0
6	NIAW4267	PZRI311	21.7	3	0	23.8	6	0
7	HI8851(d)	PZRI314	18.8	9	0	21.6	10	0
8	HI1605(C)	PZRI302	20.2	7	0	22.1	8	0
9	NIAW3170(C)	PZRI305	21.4	4	0	23.5	7	0
10	UAS446(d) (C)	PZRI307	17.4	10	0	20.6	11	0
11	NIDW1149(d)(C)	PZRI312	18.8	8	0	20.4	12	0
12	UAS478(d)(I)(C)	PZRI308	23.7	2	1	17.2	13	0
13	HI1665(I)(C)	PZRI309	24.3	1	1	26.4	2	1
14	DBW359(I)(C)	PZRI313	21.4	4	0	27.3	1	1
G.M.			19.5			22.4		
S.E.(M)			0.795			1.105		
C.D.(10%)			2.3			3.2		
C.V.			8.2			9.9		
D.O.S.(dd.mm.yy)			02.11.23			30.10.23		

Trials not reported (03)=
Bagalkot(RMT),Nashik(LSM),Dharwad(LSM)

2361-SPL-HYPT-IR-ES-TAS-NWPZ, 2023-24

LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Haryana		
			Karnal		
			Yield	Rk	G
1	DBW438	SPL-HYPT-106	53.5	6	0
2	DBW371(C)	SPL-HYPT-101	70.2	1	1
3	PBW872(C)	SPL-HYPT-102	68.9	2	1
4	DBW372(C)	SPL-HYPT-103	60.1	3	0
5	DBW327(C)	SPL-HYPT-104	59.8	4	0
6	DBW187(C)	SPL-HYPT-105	58.9	5	0
G.M.			61.9		
S.E.(M)			3.886		
C.D.(10%)			9.6		
C.V.			12.6		
D.O.S.(dd.mm.yy)			27.10.23		

Trials not reported (01) = Karnal(LSM)

2362-SPL-HYPT-IR-ES-TAS-CZ, 2023-24

LOCATIONWISE MEAN YIELD (q/ha)

SN	Variety	Code	Chhattisgarh		
			Bilaspur		
			Yield	Rk	G
1	CG1044*	SPL-HYPT-201	64.0	1	1
2	GW543*	SPL-HYPT-208	49.2	13	0
3	MP1399	SPL-HYPT-203	62.6	2	1
4	WH1320	SPL-HYPT-204	43.1	16	0
5	HD3461	SPL-HYPT-205	59.3	4	0
6	DBW434	SPL-HYPT-207	50.7	11	0
7	PBW906	SPL-HYPT-209	52.0	8	0
8	HD3463	SPL-HYPT-210	59.8	3	0
9	PBW929	SPL-HYPT-212	49.3	12	0
10	DBW445	SPL-HYPT-213	50.7	10	0
11	DBW436	SPL-HYPT-215	56.3	5	0
12	DBW187(C)	SPL-HYPT-206	48.3	14	0
13	GW322(C)	SPL-HYPT-211	47.0	15	0
14	DBW303(C)	SPL-HYPT-216	52.9	6	0
15	DBW377(I)(C)	SPL-HYPT-202	51.2	9	0
16	DBW327(I)(C)	SPL-HYPT-214	52.7	7	0
G.M.			53.1		
S.E.(M)			1.736		
C.D.(10%)			4.1		
C.V.			6.5		
D.O.S.(dd.mm.yy)			09.11.23		

Trials not reported (02) =JNKVV-Jabalpur(RMT), Bilaspur(LSM)

Appendix-II

Zonal Monitoring Reports

Zonal Monitoring Report 2023-24

Zone: NHZ – Team I

Period of visit: 14.04.2024 to 17.04.2024

Name of team members	Centers visited
Drs. Jogendra Singh, Prem Lal Kashyap (IIWBR, Karnal), Dharam Pal (IARI RS, Shimla)	Malan, Bajaura and Shimla

Summary of Wheat breeding trials allocated & monitored:

Centre	Trial(s) Allotted	Trials Not Conducted /Rejected	Reason/Remark*
Malan	AVT-RF-TS, IVT-RF-TS, IVT/AVT-RI-LS	All trials conducted	Very Good & Satisfactory
Bajaura	AVT-RF-TS, IVT-RF-TS, IVT/AVT-RI-LS	All trials conducted	Very Good & Satisfactory
Shimla	AVT-RF-TS, IVT-RF-TS, IVT/AVT-RI-LS	All trials conducted	Very Good & Satisfactory

**Trials as very good, good, average and poor based on conduction*

Entries showing promising performance in breeding trials across centres:

Trial	Entry	Remarks
AVT-RF-TS	NHRF-101, NHRF-104	Observations are based on appearance of the genotype and plant stand.
IVT-RF-TS	NHIVT-201, NHIVT-204, NHIVT-209, NHIVT-214, NHIVT-216	Observations are based on appearance of the genotype and plant stand.
IVT/AVT-RI-LS	NHLS-311, NHSL-314, NHLS-305	Observations are based on appearance of the genotype and plant stand.

Entries recommended for purification:

Trials	Entry	Remarks
AVT-RF-TS	None	Variation for plant height and glume colour was observed and it was presumed that these entries can be purified by roughing off these few plants. Hence recommended for purification.
IVT-RF-TS	NHIVT-207, NHIVT-208	
IVT/AVT-RI-LS	NHLS-313, NHLS-303	

Entries recommended to be dropped from further testing: Nil

Entries exhibiting higher diseases incidence /insect infestation:

AVT-RF-TS: NHRF 102 (40MS), NHRF 101 (20S) for yellow rust.

IVT-RF-TS: NHIVT 216 (40MS), NHIVT 215 (20S) for yellow rust.

IVT/AVT-RI-LS: NHSL-304 (20S) for yellow rust.

Report on Agronomical Trials:

Centre	Trials	Trials Not Conducted / Rejected	Remark
Bajaura	SPL-3	Conducted successfully	Treatment effects were visible among treatments

Report on Pathological Nurseries:

Centre	Nursery	Remark
Malan	IPPSN, PPSN (NIVT, AVT), LSSN, KBSN, EMDSN, PMSN	• Nurseries were conducted satisfactorily. • Yellow rust severity in infectors ranged from 40S to 60S.

Bajaura	IPPSN, PPSN (NIVT AVT), EMDSN	• Nurseries were conducted satisfactorily. • Yellow rust severity in infectors ranged from 40S to 60S.

Special comments, if any (2-3 bullet Points only): Nil

Signature(s):

(Jogendra Singh) **(PL Kashyap)** **(Dharam Pal)**

Team - II

Period of visit: 15.04.2024 to 17.04.2024

Name of team members:	**Centres Visited:**
Dr. Charan Singh, Dr. Pramod Prasad, Dr. Navin Chander Gahtyari	Majhera, Almora, Gaja (Ranichauri)

Summary of breeding trials allocated & monitored:

Centre	**Trial(s) Allotted**	**Trials Not Conducted / Rejected**	**Reason/Remark**
Majhera	AVT-RF-TS-TAS, IVT/AVT-LS-RI-TAS, IVT-RF-TS-TAS	All trials conducted	Very good.
Almora	AVT-RF-TS-TAS, IVT/AVT-LS-RI-TAS, IVT-RF-TS-TAS	All trials conducted	Very good
Gaja/ Ranichauri	AVT-RF-TS-TAS, IVT/AVT-LS-RI-TAS, IVT-RF-TS-TAS	All trials conducted	Very good

Entries showing promising performance in breeding trials across centres:

Trial	**Entry**	**Remarks**
AVT-RF-TS-TAS	NHRFZ102, NHRF104,	Better yield attributing traits were observed in the mentioned entries. Less disease incidence was observed.
IVT/AVT-LS-RI-TAS	NHIVT301, NHIVT304, NHIVT306, NHIVT309	
IVT-RF-TS-TAS	NHIVT201, NHIVT203, NHIVT204, NHIVT209, NHIVT216	

Entries recommended for purification:

Trial	**Entry**	**Remark**
AVT-RF-TS-TAS	-	-
IVT/AVT-LS-RI-TAS	-	-
IVT-RF-TS-TAS	NHIVT215	Few off-type plants showing height and maturity variation.

Entries recommended to be dropped from further testing: Nil

Entries exhibiting higher diseases incidence /insect infestation:

Centre	**Entry**	**Remark**
Almora	NHIVT304	Yr – 10S
	NHIVT311	Yr – 20S
Gaja/ Ranichauri	NHRF102	Yr – 10MS
	NHRF105	Yr – 10S
	NHIVT304	Yr – 10S
	NHIVT201	Yr – 10S
	NHIVT202	Yr – 5MS
	NHIVT203	Yr – 5S
	NHIVT204	Yr – 10MS
	NHIVT208	Yr – 10MS
	NHIVT209	Yr – 10MS
	NHIVT210	Yr – 20S
	NHIVT212	Yr – 10MSS
	NHIVT216	Yr – 5MS
Majhera	-	Crop was at ready to harvest stage. Hence, disease incidence could not be recorded.

Report on Agronomical Trials:

Centre	Trial	Remark
Almora	SPL-2	The trial was well conducted with wheat variety VL 2041 with different treatments. The treatment no. 5 (Two spray of Lihocin & Folicur) showed visible plant height reduction in comparison to the control treatment.
	SPL-6	The trial was well conducted with barely variety VL *Jau* 118 with different treatments. The treatment no. 5 (Two spray of Lihocin & Folicur) seems to reduce plant height in comparison to the control treatment.

Report on Pathological Nurseries:

Centre	Nurseries	Remark
Almora	IPPSN and PPSN	Both the nurseries were well conducted. Infectors and some of the test entries revealed upto 80S score of yellow rust.

Special comments, if any (2-3 bullet points only)

- During the monitoring we could not find stem rust infection in any trial at Majhera, Almora and Gaja (Ranichauri).

Signature(s)

(Charan Singh) **(Pramod Prasad)** **(Navin Chander Gahtyari)**

Zone: North Western Plains Zone

Team - I

Period of visit: March 15-17, 2024

Name of Team Members	Centres Visited
Dr. V. S. Sohu, HoD, Plant Breeding & Genetics, PAU Ludhiana Dr Hanif Khan, Sr. Scientist, ICAR-IIWBR Karnal Dr R.S. Beniwal Plant Pathologist, CCS-HAU, Hisar Dr Bhagat Singh, Agronomist, CCS-HAU, Hisar	SKAUST-J, Jammu PAU Station, Gurdaspur BISA, Ladhowal, PAU, Ludhiana

Summary of breeding trials allocated & monitored:

Centre	Trial(s) Monitored	Remarks*
SKAUST-J, Jammu	NIVT- 3A, NIVT 5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	Trials were good except NIVT-3A
PAU Station, Gurdaspur	NIVT-1A, NIVT-1B, NIVT- 3A, NIVT 5A, AVT-IR-TS, AVT-IR-LS, AVT- RI-TS	All trials were very good.
BISA, Ladhowal	NIVT-6 & SPL–HYPT	All trials were very good.
PAU, Ludhiana	NIVT-1A, NIVT-1B, NIVT- 3A, NIVT-4, NIVT 5A, NIVT 6, AVT-IR-TS, AVT-IR-LS, AVT- RI-TS & SPL–HYPT	All trials were very good.

***Evaluate trials as very good, good, average and poor based on conduction*

Trials not conducted / **rejected** by monitoring team:

Centre	Trial	Remarks
SKAUST-Jammu	NIVT-3A	NIVT-3A was **rejected** because of poor plant stand and unsatisfactory growth in majority of plots
SKAUST-Jammu	IR-LS-DOS-TAS	IR-LS-DOS-TAS was **rejected** due to poor plant stand and unsatisfactory growth in all plots in second date of sowing (D2).

Entries showing promising performance in breeding trials across the centres:

Trial	Entry
NIVT-1A	N101, N110, N111, N117, N118, N121, N127, N130, N131
NIVT-1B	N201, N202, N204, N209, N220, N224, N226, N228, N230
NIVT-3A	N404, N430, N431
NIVT-5A	N709, N717, N719, N707, N723
NIVT-6	N903, N904, N908, N916, N919
AVT-IR-TS-NW	NWTS101, NWTS111, NWTS115, NWTS116
AVT-RI-TS-NW	NWRI308,
AVT-IR-LS-NW	NWLS202, NWLS206, NWLS208, NWLS209
SPL–HYPT-NW	HYPT102

Entries recommended for purification:

Trial	Entry	Remark
NIVT-1A	N106, N110, N116, N118, N119, N124, N133	Off types/segregants were observed and need to be purified.
NIVT-1B	N211, N216	
NIVT-3A	N405	
NIVT-4	N603	
NIVT-5A	N711, N720, N722, N725	
NIVT-6	N910, N913, N920, N922, N924	
AVT-IR-TS-NW	NWTS101, NWTS109, NWTS117	
AVT-IR-LS-NW	NWLS203	
AVT-RI-TS-NW	NWRI302, NWRI303, NWRI306	
SPL–HYPT-NW	HYPT101, HYPT103, HYPT105	

Entries recommended to be dropped from further testing:

Trial	Entry	Remark
NIVT-5A	N704	High variation in plant height, maturity and spike colour
NIVT-4	N628	High variation for spike traits and plant height

Entries exhibiting higher natural rust incidence /insect infestation:

Centre	Entry	Remark
SKAUST-J, Jammu	N701, N705, N706	Yellow rust ≥ 40MS/S
PAU Station, Gurdaspur	N108, N113, N125, N420, N434, NWTS106	Yellow rust ≥ 40MS/S
PAU, Ludhiana	N108, N125, N420, N434, N626, N630, NWTS106, NWRI309 (Brown rust 40S)	Yellow rust ≥ 40MS/S

Pathological Observations

Epiphytotic creation rust disease on infector lines around PPSN and other pathological nurseries was good at SKAUST- Jammu (yellow rust), very good at PAU Station Gurdaspur (yellow rust) and PAU Ludhiana (yellow and brown rusts) centres.

High rust incidence (≥ 40S) in **PPSN** entries at was as under.

Name of nursery	Yellow Rust Entry number
Ludhiana	14, 19, 30, 52, 58, 63, 68, 71, 72, 73, 77, 78, 79, 81, 82, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 102, 107, 108, 109, 113, 115, 116, 117, 120, 127, 131, 132, 134, 135, 137, 138, 139, 140, 141, 145
Gurdaspur	5, 14, 30, 63, 68, 71, 72, 77, 78, 79, 81, 82, 86, 87, 88, 89, 93, 94, 95, 96, 97, 102, 107, 108, 109, 113, 115, 116, 117, 127, 130, 131, 132, 134, 136, 137, 138, 139, 140, 145
Jammu	14, 35, 52, 71, 72, 73, 77, 78, 79, 81, 82, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 102, 108, 109, 115, 116, 123, 127, 130,131, 132, 135, 137, 138, 139, 141, 145

Report on Agronomical Trials:

Name of Centre	Trial Allotted	Trial Conducted	Remarks
SKAUST-J, Jammu	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-2, SPL-4	IR-TS-DOS-TAS, IR-LS-DOS-TAS	Two trials were conducted i.e. IR-TS-DOS-TAS, IR-LS-DOS-TAS. Trial IR-LS-DOS-TAS was **recommended for rejection** due to less germination and very poor plant stand in second date of sowing (D_2). **Trials SPL-2 and SPL-4 were not conducted.**
PAU Station, Gurdaspur	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-2, SPL-3	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-2, SPL-3	All the trials were properly conducted and managed excellently
BISA, Ladhowal	SPL -1	SPL -1	Trial was properly conducted and well managed
PAU, Ludhiana	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-2, SPL-3	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-1, SPL-2, SPL-3	All the trials were properly conducted and excellently managed

Special comments, if any (2-3 bullet points only)

- Overall performance of special-early, restricted irrigation, timely sown irrigated and late sown irrigated trials was very good.
- The breeder/nucleus seed production program was also monitored at Jammu and Ludhiana centres, which was satisfactory.

Signatures:

(Hanif Khan) **(V S Sohu)** **(R S Beniwal)** **(Bhagat Singh)**

Team: II

Period of visit: **20th to 22th March 2024,**

Name of team members	Centres Visited
Drs. Vikas Gupta, PL Kashyap and Anil Khippal	Modipuram, Nagina, Pantnagar, Bulandshahr and Karnal

Summary of breeding trials allocated & monitored:

Centre	Trial(s) Allotted	Trials Not Conducted / Rejected	Reason/Remark*
Modipuram	NIVT-1A, NIVT-3A, NIVT-5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, SPL-HYPT	All trials conducted	Satisfactory trial conduct at all locations
Nagina	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS		
Pantnagar	NIVT-1A, NIVT-3A, NIVT-4, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS		
Bulandshahr	NIVt-1B, NIVT-5A, NIVT-6, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS		
Karnal (26.03.2024)	NIVT-1A,NIVT-1B, NIVT3A, NIVT-4, NIVT-5A, NIVT-6, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, SPL-HYPT		

Entries showing promising performance in breeding trials across centres:

Trial	Entry	Remarks
NIVT-1A	N111, 114,120, 126	Based on morphological appearance, plant height, spike characters, maturity group and biotic stresses tolerance
NIVT-1B	N202, 210, 217,231	
NIVT-3A	N406, 424, 432	
NIVT-4	N603, N611, N627	

NIVT-5A	N712, 714, 726	
NIVT-6	N902, N905, N912	
AVT-IR-TS-TAS	NWTS101, CZTS102, CZTS112	
AVT-RI-TS-TAS	NWRI34, CZRI309, CZRI310	
AVT-IR-LS-TAS	NWLS205, 210	

Entries recommended for purification:

Trial	Entry	Remarks
NIVT-1A	N112, 127,133, 134	Off-type plants for plant height, maturity group and spike variation
NIVT-3A	N430,	Off-type plants for plant height and maturity
NIVT-5A	N707, 721	Off-type plants for plant height
NIVT-6	N901, 917	Off-type plants for plant height
AVT-IR-LS-TAS	N203, 207, 211	Off-type plants for plant height and maturity
SPL-HYPT	SPL-102	Spike variation

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
NIVT-1A	N133	Segregation for spike morphology
NIVT-3A	N416, 419, 429, 433	Ear head variation, segregation for plant height
NIVT-4	N628, 632	Two tier crop
NIVT-5A	N704	Mixture of two types of plants
NIVT-6	N910	Two tier crop

Entries exhibiting higher diseases incidence /insect infestation:

Trial	Entry (disease score)
NIVT-1A	N121(Br 40S), N104 (Yl 40S)
NIVT-1B	N215 (Yl 20S)
NIVT-3A	N420 (Yl 40S), 424, 432
NIVT-5A	N716 (Br 20S)
NIVT-6	N913(Yl 40S), 918 (Yl 60S), N925(Yl 60S)
AVT-IR-TS-TAS	NWTS104 (Br 40S), 114 (Br 40S), 116 (Br 60S)
AVT-RI-TS-TAS	NWRI: Br 40S (302, 303, 307, 310), Br 60S (305, 309)
SPL-HYPT	HYPT-102 (Yl 20S)

Report on Agronomical Trials:

Centre	Trial	Remark
Karnal	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-1, SPl-2, SPL-3, SPL-5, SPL-6, IR-TS-HL- DOS	All the experiments were conducted and the trial conduction was very good
Pantnagar	IR-TS-DOS-TAS, IR-LS-DOS-TAS, SPL-2 and SPL-3	

Report on Pathological Nurseries:

Centre	Nursery	Remarks
Karnal	IPPSN, PPSN	Both leaf and stem rust incidence was upto 80S in the infectors and disease development in the nurseries was optimum.
Pantnagar	IPPSN, PPSN	

Special comments, if any (2-3 bullet points only)

- Durum and dicoccum trial must be separate in Gujarat state

Signature(s)

(Vikas Gupta) **(PL Kashyap)** **(Anil Khippal)**

Zone: North Eastern Zone (NEPZ)

Team-I

Period of visit: 9th to 13th March, 2024

Team	Centres visited
Drs AK Sharma, Dr. RS Chhokar, Dr. Ravindra Kumar and Dr. Harikrishna	Varanasi, Prayagraj, Ayodhya and Kanpur

Breeding trials allocated & monitored:

Centre	Trial	Remark
Varanasi	NIVT1A, NIVT1B, NIVT3A, NIVT 5A and AVT-IR-TS-TAS, AVT-RI-TS-TAS,	Very Good
Prayagraj	NIVT1B, AVT-IR-TS-TAS, AVT-RI-TS-TAS and AVT-IR-LS-TAS	Very good
Ayodhya	NIVT1A, NIVT1B, NIVT3A and AVT-IR-TS-TAS, AVT-RI-TS-TAS,	Very Good except AVT-RI-TA-TAS
Kanpur	NIVT1A, NIVT1B, NIVT3A, NIVT 5A and AVT-IR-TS-TAS, AVT-RI-TS-TAS,	Good except NIVT 5A

Trials not conducted/rejected by monitoring team: All trials were conducted

Centre	Breeding Trial	Remark
Varanasi	NIL	Very good
Prayagraj	NIL	Very good
Ayodhya	AVT-RI-TS-TAS	Rejected due to Poor crop stand
Kanpur	NIVT 5A	Rejected due to rat damage

Entries showing promising performance in breeding trials:

Trial	Entry
AVT-IR-TS-TAS,	NE-TS-105 and NE-TS-112
AVT-RI-TS-TAS	NE-RI-307
AVT-IR-LS-TAS	NELS 203, NELS 204
NIVT1A	N 102, N 111, N 119
NIVT1B	N-204; N 227; N-232
NIVT3A	N-422; N-429
NIVT5A	N-707; N-719

Entries recommended for purification

Trial	Entry	Remarks
NIVT-1A	N-129 and N-133,	Mixture/ off types /variation in plant height
NIVT-1B	N-202, N-212, N-216	
NIVT-3A	N-407, N-416	
NIVT-5A	N-716, N-718	
AVT-IR-TS	NETS110	
AVT-IR-LS	NELS205; NELS206	
AVT-RI-TS	NERI301	

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
NIVT-1A	N-136	Segregation for plant height / ear type/ maturity
NIVT-1B	N-211 and N-225	
NIVT-3A	N-433 and N-416	
NIVT 5A	N 723	

Report on Agronomical Trials:

Centre	Trial	Remark
Varanasi	IR-TS-DOS-TAS, SPL-3 (Precision N management) and SP-4 (intercropping of oilseed/pulses with wheat and barley)	All the trials were well conducted as per technical programme and plant stand was good
Ayodhya	IR-TS-DOS-TAS and SPL-4 (intercropping of oilseed/pulses with wheat and barley)	Trials were properly conducted
Kanpur	IR-TS-DOS-TAS, SPL-3 (Precision N management) and SP-4 (intercropping of oilseed/pulses with wheat and barley)	The IR-TS-DOS-TAS (irrigated timely sown) was rejected due to damage by rats in first date of sowing. Spl-3 was rejected due to non-imposition of green seeker treatments

Report on Pathological Nurseries:

Centre	Nursery	Remarks
Varanasi	IPPSN (Leaf blight)	Nursery was conducted well and leaf blight development was observed in many entries. leaf bight up to 57 was recorded.
Ayodhya	IPPSN (Leaf blight)	Nursery was conducted well and leaf blight development was observed in many entries. leaf bight up to 67 was recorded in infectors.
	PPSN (Leaf rust)	Nursery was conducted and the disease development was very slow and late.
Kanpur	IPPSN & PPSN (Leaf rust)	Nursery was conducted well and leaf rust development was observed in many entries. Leaf rust up to 60S was recorded in infectors.

Special comments, if any

1. The team also visited the Crossing Block, and other breeding programmes at all the centres.
2. For precision in trial conduction and data reporting, precision seed drills and plot threshers may be provided to centres.

Signature:

(AK Sharma) (RS Chhokar) (Ravindra Kumar) (Harikrishna)

(Team - 2)

Period of visit: 04.03.2024 to 08.03.2024

Name of team members:	Centres Visited:
Drs Tapamay Dhar, Raghunath Mandal and Satish Kumar	Kalyani, Burdwan, Manikchak, Coochbehar and Shillongani

Summary of breeding trials allocated& monitored:

Centre	Trial(s) Allotted	Trials Not Conducted / Rejected	Reason/Remark*
Kalyani	NIVT 1B, NIVT3A, NIVT5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	All trials were conducted	Very Good
Burdwan	NIVT3A, NIVT5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	All trials were conducted nicely	Very Good
Manikchak	NIVT 1A, NIVT3A, NIVT5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	All trials were conducted nicely	Very Good

Shillongani	NIVT3A, NIVT5A, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	Trials were conducted nicely. NIVT5A and replication 1 of AVT-IR-TS were rejected on account of poor plant stand.	Good

***Evaluate trials as very good, good, average and poor based on conduction*

Entries showing promising performance in breeding trials across centres:

Trial	Entry	Remarks
NIVT 1A	N102, N124, N126, N128	Excellent plant stand, Uniformity, Luxurious growth.
NIVT 1B	N226, N227	
NIVT 3A	N404, N414, N425, N432, N435	
NIVT 5A	N706, N720, N724	
AVT-IR-TS	NETS108, NETS114	
AVT-IR-LS	NELS206, NELS208	

Entries recommended for purification:

Trial	Entry	Remark
NIVT 1A	N103, N110, N116, N122, N129, N136	Two types of plants, off types, maturity difference in few plants, spike shape, plant height.
NIVT 1B	N221, N228, N231	
NIVT 3A	N401, N406, N415, N424, N429	
NIVT 5A	N705, N714, N717, N721	
AVT-IR-TS	NETS104, NETS106, NETS112, NETS113, NETS116	
AVT-IR-LS	NELS202, NELS205	
AVT-RI-TS	NERI301, NERI304, NERI307	

Entries recommended to be dropped from further testing:

Trial	Entry	Remark
NIVT 1A	N104, N107	Segregating types, with more than one type of plants. Differences in flowering, height, maturity etc.
NIVT 3A	N411, N416, N433	
NIVT 5A	N711, N716, N718	

Entries exhibiting higher diseases incidence /insect infestation: (LB infection more than 57)

NIVT1B: N220, N232, N228, N234
AVT-IR-TS: NETS104, NETS105, NETS106, NETS107, NETS109
AVT-RI-TS: NERI304

Report on Agronomical Trials:

Centre	Trial(s) allotted and conducted	Remark
Kalyani	IR-TS-DOS-TAS	All the trials were conducted properly and performance was very good.
Burdwan	SPL-4	
Coochbehar	IR-TS-DOS-TAS & SPL-3	
Shillangoni	IR-TS-DOS-TAS & SPL-4	

Report on Pathological Nurseries:

Centre	Nursery	Remark
Kalyani	IPPSN, PPSN	The conduct of these nurseries was very good. The disease severity on infector lines was relatively lower than the test entries at both the locations.
Coochbehar	IPPSN, PPSN	

Special comments, if any (2-3 bullet points only)

Signatures

(Tapamay Dhar) (Raghunath Mandal) (Satish Kumar)

Zone: Central Zone (CZ)
(Team: I)

Period of visit: **13th to 16th February 2024**

Name of team members	Centres Visited
Drs. Vikas Gupta, AG Pansuriya, Ravindra Kumar and Neeraj Kumar	SK Nagar, Vijapur, Anand, Dhandhuka, Sanosara, Junagadh

Summary of breeding trials allocated & monitored:

Centre	Trial(s) Allotted	Trials Not Conducted / Rejected	Reason/Remark*
SK Nagar	NIVT-2, NIVT-3B, NIVT-5B, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	All trials conducted	Very good conduction of the trial. The plant population in almost all AVT-RI-TS and NIVT-5B trials was good,
Vijapur	NIVT-2, NIVT-3B, NIVT-4 NIVT-5B, NIVT-6, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, SPL-HYPT		
Anand	NIVT-4, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS,		
Dhandhuka	NIVT-5B, AVT-RI-TS		
Sanosara	NIVT-3B, AVT-IR-LS		
Junagadh	NIVT-2, NIVT-3B, NIVT-4, NIVT-5B, NIVT-6, AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, SPL-HYPT		

***Evaluate trials as very good, good, average and poor based on conduction*

Barley trials planted at Vijapur centre were also monitored and all trials were conducted however the spot blotch incidence was very high in all the entries.

Entries showing promising performance in breeding trials across centres:

Trial	Entry	Remarks
NIVT-2	N305, N309, N316, N335	Based on morphological appearance, plant height, spike characters, maturity group and biotic stresses tolerance
NIVT-3B	N501, N503, N519	
NIVT-4	N603, N611, N627	
NIVT-5B	N803, N811, N822	
NIVT-6	N902, N903, N912	
AVT-IR-TS-TAS	CZTS101, CZTS103, CZTS114, CZTS115	
AVT-RI-TS-TAS	CZRI303, CZRI317, CZRI306	
AVT-IR-LS-TAS	CZLS207	
SPL-HYPT	SPL-HYT202, 207, 215	

Entries recommended for purification:

Trial	Entry	Remarks
NIVT-2	N303, 323, 307, 336	Off-type plants for plant height, maturity group and spike variation
NIVT-4	N624	Off-type plants of *T. aestivum,* plant height and awn colour
NIVT-5B	N802, 811, 818,	Off-type plants for plant height and maturity
NIVT-6	N904	Off-type plants and plant height variation
AVT-IR-TS-TAS	CZTS-106	Off-type plants for plant height
AVT-RI-TS-TAS	CZRI-302, 317	Off-type plants for plant height
AVT-IR-LS-TAS	CZLS-204	Off-type plants for plant height
SPL-HYPT	SPL-HYT-209, 210	Off-type plants for plant height

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
NIVT-2	N317, 335	Plant height and ear head variation
NIVT-4	N623	Very late genotype
NIVT-5B	N816, 820, 822, 825	Variations for spike colour and plant height
NIVT-6	N909, 910, 920, 924,	Spike tapering& clubbed and plant height and maturity variation
AVT-RI-TS-TAS	CZRI-312	Spike waxiness, maturity and plant height variations

Entries exhibiting higher diseases incidence /insect infestation:
There was very low disease incidence in the trials.

Report on Agronomical Trials:

Centre	Trial	Remark
Vijapur	IR-TS-DOS-TAD	Trial conduction was very good
	IR-LS-DOS-TAS	Trial conduction was good
	SPL-IR-ES-HYPT	Trial conduction was good
	IR-TS-HL-DOS	**Rejected**: Inadequate tillers and grassy appearance of barley without ear heads
	SPL-3	Trial conduction was good
	SPL-5	Trial conduction was good
Junagadh	IR-TS-DOS-TAD	Trial conduction was good
	IR-LS-DOS-TAS	Trial conduction was good

Report on Pathological Nurseries:

Centre	Nursery	Remarks
Vijapur	IPPSN, PPSN	Both leaf and stem rust incidence was up to 80S in the infectors and disease development in the nurseries was optimum
Junagadh	IPPSN, PPSN,	

Special comments, if any (2-3 bullet points only)

- The trial on dicoccum must be separate as all the dicoccum entries were very late in the centers visited.

Signature(s)

(Vikas Gupta) **(AG Pansuriya)** **(Ravindra Kumar)** **(Neeraj Kumar)**

(Team: II)

Period of visit- *14.02.2024 to 17.02.2024*
Name of team members:

1. Dr Hanif Khan, Sr. Scientist (Plant Breeding), ICAR-IIWBR, Karnal
2. Dr Anil K. Khippal, Pr. Scientist (Agronomy), ICAR-IIWBR, Karnal
3. Dr T. L. Prakasha, Senior Scientist (Plant Pathology), IARI-RS Indore, (MP)
4. Dr A.P. Agrawal, Professor, IGKV Research Station (BTC), Bilaspur (CG)

Centres visited:
IGKV-Raipur, IGKV-Bilaspur, JNKVV- Jabalpur, BISA-Jabalpur, JNKVV-Sagar, JNKVV-Powarkheda and IARI-Indore

Breeding trials allocated & monitored:

Centre	Trial	Remark
Raipur	AVT-IR-TS-TAD, AVT-IR-LS-TAD, AVT-RI-TS-TAD,	Satisfactorily conducted
Bilaspur	NIVT-2, NIVT-3B, NIVT-5B, NIVT-6, AVT-IR-TS-TAD, AVT-IR-LS-TAD, AVT-RI-TS-TAD, SPL-HYPT-CZ	Satisfactorily conducted. NIVT-2 and **NIVT-5B not satisfactory**
JNKVV Jabalpur	NIVT-2, NIVT-3B, NIVT-4 & NIVT-5B, NIVT-6, AVT-IR-TS-TAD, AVT-IR-LS-TAD, AVT-RI-TS-TAD, SPL-HYPT-CZ	Satisfactorily conducted. **HYPT-CZ and NIVT-6 not satisfactory**
BISA Jabalpur	SPL-HYPT-CZ, SPL-NIVT-6	Trials nicely conducted.
Sagar	NIVT-2, NIVT-5B, AVT-IR-TS-TAD, AVT-RI-TS-TAD,	Satisfactorily conducted. **AVT-RI-TS-TAD not satisfactory**
Powarkheda	NIVT-2, NIVT-3B, NIVT-4, NIVT-5B, NIVT-6, AVT-IR-TS-TAD, AVT-IR-LS-TAD, AVT-RI-TS-TAD, SPL-HYPT-CZ, QCWBN	Trials nicely conducted.

Indore	NIVT-2, NIVT-3B, NIVT-4, NIVT-5B, NIVT-6, AVT-IR-TS-TAD, AVT-IR-LS-TAD, AVT-RI-TS-TAD, QCWBN, DHTSN, HDTST	Trials nicely conducted. **NIVT-6 not satisfactory**

Trials not conducted / **rejected** by monitoring team:

Centre	Trial	Remarks
Bilaspur	NIVT-2 & NIVT-5B	Trial **rejected** by monitoring team due to poor plant stand and presence of high weeds.
JNKVV, Jabalpur	HYPT-CZ & NIVT-6	Un-even expression of all the genotypes over replications. Untimely one spray of growth regulator
Sagar	AVT-RI-TS-TAD	Rejected by monitoring team because of poor management of the trial & damage by rodents. Performance of many genotypes effected by the shade of tall tree located at two side of experimental field.
Indore	NIVT 6	Damage by rodents

Entries recommended for purification:

Trial	Entry	Remarks
AVT-IR-TS-TAD	CZTS-104, 112, 118,	Off-types/Mixtures were found & need purification
AVT-IR-LS-TAD	CZ-LS-204,	
AVT-RI-TS-TAD	CZ-RI-306, 309, 317	
SPL-HYPT-CZ	SPL-HYPT-203, 208, 209, 212, 213, 214, 215, 216	
NIVT-2	N-303, 314, 316, 325, 327, 334	
NIVT-3B	N-514	
NIVT-4	N-602, 611, 625, 626	
NIVT-5B	N-802, 806, 807, 816, 817, 820	
NIVT-6	N-902,909, 911, 917, 921	

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
NIVT-5B	N-825 N 822	Both entries have two types of plant populations, with high variation for plant height, maturity, and spike characters
NIVT-6	N-910	High variation for spike traits and plant height
	N-913	High variation for heading days, ear waxiness, plant height
	N-922	High variation for plant height, maturity and spike characters
AVI-IR-TS-TAD	CZ-TS-113	High variation for plant height, ear characteristics, and maturity duration
AVI-RI-TS-TAD	CZ-RI-312	High variation for plant height, ear shape, and maturity duration
SPL-HYPT-IR-ES-TAS-CZ	SPL-HYT-205	High variation for ear shape and waxiness
	SPL-HYT-210	High variation for plant height, ear characteristics, and maturity duration

Entries found promising:

Trial	Entry
NIVT-2	N-306, 322, 324, 328
NIVT 3B	N-511, 517, 519, 525
NIVT-4	N-606, 607, 610, 617, 624, 629, 633
NIVT-5B	N-808, 815, 823, 824
NIVT-6	N-903, 912, 915
AVI-IR-TS-TAD	CZ-TS-105, 106, 109, 115
AVI-IR-LS-TAD	CZ-LS-203
AVI-RI-TS-TAD	CZ-RI-301, 307, 310, 313
SPL-HYPT	SPL-HYPT-201, 211

Entries exhibiting higher disease incidence / insect infestation:
The trials were free from diseases and insect infestation.

Report on Agronomical Trials:

S.No	Centre	Trials allotted	Remarks
1	Bilaspur	IR-DOS-TAD, IR-LS-DOS-TAS, RIR-TS-TAD,	Satisfactorily conducted
2	JNKVV-Jabalpur	IR-DOS-TAD, IR-LS-DOS-TAS, RIR-TS-TAD, SPL-IR-ES-HYPT & SPL-5	Satisfactorily conducted
3	BISA-Jabalpur	SPL-IR-ES-HYPT	Satisfactorily conducted
3	Powarkheda	IR-DOS-TAD, IR-LS-DOS-TAS, RIR-TS-TAD, SPL-IR-ES-HYPT	Satisfactorily conducted
4	Indore	IR-DOS-TAD, IR-LS-DOS-TAS, RIR-TS-TAD	Satisfactorily conducted

NOTE: Entry No SPL-HYT-204 & 206 have uneven expression at all the locations in SPL-IR-ES-HYPT trial.

Report on Pathological Nurseries (PPSN and IPPSN):
Epiphytotic creation for Black and Brown rust on Infector lines around Pathological nurseries was very good at Powarkheda and Indore centres.

Entries showing leaf rust incidence ≥20S in **PPSN** entries at IARI- Indore centre was as under-

AVT Lines	1, 3, 27, 30, 53, 56, 57, 58, 60, 79, 93, 94, 123, 141
NIVT lines	9, 32, 35, 67, 70, 77, 110, 112, 118, 148, 154, 215, 221, 243, 47

Special comments, if any (2-3 bullet points only)

- Trial performance should be improved by proper weed control and land levelling at many locations such as Raipur, Bilaspur, Sagar and Jabalpur.
- The trials should be planted away from shadow areas.
- The team also monitored nucleus seed (NSS-I and NSS-II) production at Raipur, Bilaspur, JNKVV-Jabalpur, BISA-Jabalpur and Indore. Separate reports of seed monitoring for each centre have been submitted.

Signature

(Hanif Khan) **(A. K. Khippal)** **(T.L. Prakasha)** **(A.P. Agrawal)**

Zone:Peninsular Zone (PZ)

Team-I

Period of visit: 05th-08th February 2024

Team	Centres visited
Dr. C N Mishra, IIWBR Karnal Dr. Uday G Reddy, UAS Dharwad Dr. K K Mishra, Powarkheda, MP Dr. A S Kharub, IIWBR Karnal	Bagalkot, Kalloli, Ugar khurd, Nippani, Karad, UAS Dharwad

Breeding trials allocated & monitored:

Centre	Trial	Remark
Bagalkot	NIT3B, NIVT4, AVT-IR-LS, AVT-RI-TS	Good except AVT-RI-TS
Kalloli	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	Very Good
Ugarkhurd	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	Good
Karad	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS	Good except AVT-IR-TS was planted 15 days late

Nippani	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, NIVT-2, NIVT4, NIVT3B, NIVT-5B	Very Good
Dharwad	AVT-IR-TS, AVT-IR-LS, AVT-RI-TS, NIVT-2, NIVT4, NIVT3B, NIVT-5B	Very Good

Trials not conducted/rejected by monitoring team:
All trials were conducted
Trials rejected by Monitoring Team

SN	Center	Trial	Reason of Rejection
1	Bagalkot	AVT-RI-TS	Poor plant population in many plots across the replications
2	Karad	AVT-IR-TS	The trial was planted on 30th November

Entries showing promising performance in breeding trials:

Trial	Entry
AVT-IR-TS	PZTS105, PZTS109, PZTS115
AVT-RI-TS	PZRI312
AVT-IR-LS	PZLS212, PZLS207
NIVT2	N-314, N-321, N-330
NIVT-3B	N-519, N-513, N-523,
NIVT4	N-601, N-629
NIVT5B	N-811, N-823

Entries recommended for purification

Trial	Entry	Remarks
AVT-IR-TS	PZTS103, PZTS110, PZTS118, PZTS121, PZTS124	Mixture/ off types /variation in plant height
AVT-RI-TS	PZRI302, PZRI305, PZRI307, PZRI308, PZRI313	
AVT-IR-LS	PZLS203, PZLS215, PZLS213	
NIVT2	N-301, N-305, N-320, N-334, N-336	
NIVT-3B	N-501, N-520	
NIVT4	N-602, N-616, N-621, N-631	
NIVT5B	N-806, N-810,N-815, N-820	

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
AVT-IR-TS	PZTS-117	Segregation for plant height / ear type/ maturity
NIVT2	N-303, N-307, N-310, N-315, N-317, N-327	
NIVT-3B	N-507, N-511	
NIVT4	N-632, N-620	
NIVT5B	N-803, N-825	

Entries showing high disease incidence in breeding trials
Following entries showed higher incidence (≥40S) of black rust in the breeding trials.

Trial	Entry
AVT-IR-TS	PZTS103 (40S)-Dharwad
AVT-RI-TS	PZRI304 (40S)- Kalloli and Dharwad PZRI308 (40S)-Kalloli
NIVT2	N-307 (40S), N-310 (40S), N-315 (40S),N-317(40S), N-322 (80S), N-323 (80S), N-328(80S), N-329 (80S): Dharwad
NIVT-3B	N-522 (60S), N-525 (80S)-Dharwad
NIVT4	N-610 (40S), N-614 (80S), N-635 (80S)-Dharwad
NIVT5B	N-801 (60S), N-804 (40S), N-816 (60S), N-819(40S), N-824 (40S)-Dharwad

Report on Agronomical Trials:

1. All the allotted agronomic trials were conducted as per the work plan and the performance was satisfactory at UAS Dharwad Center

Report on Pathological Nurseries:

1. Good development of stem rust was observed in PPSN and IPPSN.

2. PPSN and IPPSN for leaf and stem rust should be conducted separately as less development of leaf rust was observed on test entries at UAS Dharwad
3. Entries showing more than 40S incidence of black rust in PPSN

AVT Entries	NIVT Entries
AVT-01, 04, 20, 26, 27, 57, 58, 61, 64, 66, 79, 91, 93, 97, 100, 146	NIVT-04, 09, 10, 17, 19, 26, 37, 56(Br&Bl), 60, 61, 64, 65, 66, 70, 81, 84, 86, 98, 107, 112, 117, 118, 124, 126, 135, 140, 151, 154, 165, 186, 193, 197 (Br&Bl), 214, 215, 217, 272, 284, 301, 302, 304, 311, 315, 316, 323

Remarks:

1. Seed Production programme of UAS Dharwad was monitored.

2. Contingency of centers may be revised on the basis of hike in labour wages

Signature

CN Mishra Uday Reddy KK Mishra AS Kharub

Team - II

Period of visit: 13th to16th February 2024

Name of team members	Centres Visited
Drs. Charan Singh, Yashavantha KJ,KD Lamani, Prem Lal Kashyap	Pune, Nashik, Niphad, Dhule, Akola, Parbhani

Summary of breeding trials allocated & monitored:

Centre	Trial(s) Allotted	Not Conducted /Rejected	Reason/ Remark*
Pune	NIVT-2, NIVT-3B, NIVT-4, NIVT-5B, AVT-IR-TS-TAD, AVT-IR-LS- TAS, AVT-RI-TS-TAD	All conducted	Very good
Nashik	AVT-IR-TS-TAD, AVT-IR-LS-TAS, AVT-RI-TS-TAD	All conducted	Very good
Niphad	NIVT-2, NIVT-3B, NIVT-4, NIVT-5B, AVT-IR-TS-TAD, AVT-IR-LS- TAS, AVT-RI-TS-TAD	All conducted	Very good
Dhule	NIVT-2, NIVT-3B, NIVT-5B, AVT-IR-LS-TAS	All conducted except AVT-IR- TS-TAD	Very good
Akola	NIVT-2, NIVT-3B, NIVT-4, NIVT- 5B, AVT-IR-TS-TAD, AVT-IR-LS-TAS, AVT-RI-TS-TAD	All conducted	Very good
Parbhani	NIVT-2, NIVT-3B, NIVT-5B, AVT-IR-TS-TAD, AVT-IR-LS-TAS, AVT-RI-TS-TAD	All conducted; Trials rejected: NIVT-2, AVT-IR-TS-TAD	Very good; NIVT-2, AVT-IR-TS-TAD rejected due to delayed sowing

Evaluate trials as very good, good, average and poor based on conduction

Entries showing promising performance in breeding trials across centres:

Trial	Entry	Remarks
NIVT-2	N301, N304, N306, N313, N314, N322, N326, N333	Based on morphological appearance, plant height, spike characters, maturity group and biotic stresses tolerance
NIVT-3B	N501, N504, N508, N509, N510, N515, N516, N517, N519, N523	
NIVT-4	N601, N602, N608, N610, N623, N627, N629	
NIVT-5B	N803, N805, N808, N811, N813, N817, N819, N820, N824	
AVT-IR-TS-TAD	PZTS101, PZTS102, PZTS104, PZTS105, PZTS109, PZTS112, PZTS114, PZTS116, PZTS119, PZTS122	
AVT-RI-TS-TAD	PZRI301, PZRI302, PZRI305, PZRI309, PZEI310, PZRI313	
AVT-IR-LS-TAS	PZLS202, PZLS206, PZLS207, PZLS215	

Entries recommended for purification:

Trial	Entry	Remarks
NIVT-2	N303, N305, N316, N317, N336	Off-type plants for plant height
NIVT-3B	N507	Off-type plants for plant height
NIVT-5B	N818	Off-type plants for plant height and maturity

Entries recommended to be dropped from further testing:

Trial	Entry	Remarks
NIVT-2	N325, N334	Plant height and ear head variation
NIVT-3B	N502	Very late
NIVT-4	N632	Plant height and ear head variation
NIVT-5B	N825	Plant height and ear head variation

Entries exhibiting higher diseases incidence/ insect infestation:

Centre	Entry	Remarks
Pune (NIVT-2)	N308, N324	High Leaf blight disease severity (>34)
Pune (NIVT-4)	N604, N609, N622, N625, N628, N631	
Pune (AVT-IR-TS)	PZTS113, PZTS115, PZTS122	
Akola (NIVT- 4)	N612, N619, N634	
Akola (AVT-IR-TS)	PZTS106, PZTS111, PZTS113	

Report on Agronomical Trials:

Centre	Trial	Remarks
Niphad	IR-TS-DOS-TAD, IR-LS-DOS-TAS	All trials were conducted. Trial conduction was very good.
Akola	IR-TS-DOS-TAD, IR-LS-DOS-TAS	
ARI, Pune	IR-TS-DOS-TAD, IR-LS-DOS-TAS	

Report on Pathological Nurseries:

Centre	Nursery	Remarks
Pune	IPPSN, PPSN	In infector rows leaf rust (40-60S) & stem rust (20-40S) was observed. All other plantprotection trials/ nurseries were conducted systematically.
Niphad	IPPSN, PPSN	In infector rows leaf rust (60-80S) & stem rust (40-60S) was observed. All other plant protection trials/ nurseries were conducted systematically.

Special comments, if any (2-3 bullet points only)

- Budget allocation for seed drill for precision sowing (Bhopal seed drill) can provided to different centers.
- High disease incidence of Fusarium head scab was recorded in farmer's field in Umberkehd, Nashik.
- Natural infestation of stem rust disease was observed in Dhule, Parbhani and Nashik.

Signature(s)

(Charan Singh) (Yashavantha KJ) (KD Lamani) (Prem Lal Kashyap)

Appendix-III

1. Recording of agro-morphological data
2. Sowing time schedule of coordinated Trials

Guidelines for Recording Agro-morphological Characteristics in Coordinated Trials

SN	Characteristics	Method of recording
1.	Days to heading	It is calculated as days taken from sowing to emergence of 75% of ears (spikes) in a plot. Observation on off-type plant(s) should not be considered.
2.	Days to maturity	Total days taken from sowing to maturity when all the plants in the plot show natural senescence and the grains become hard and fit for harvesting.
3.	Plant height	Measured at the time of maturity in centimeters from the ground level upto the terminal spikelet, excluding the awns. Care should be taken to record the measurement from the most commonly representative plants in the plot.
4.	Lodging	It is visually determined in plots per replication and recorded in percentage when plants are bent at more than 30° angle.
5.	1000-grains weight	Bulk harvest of grains from a test entry should be utilized to draw sample(s) for counting grains (500 or 1000 in number) and their weight is recorded in grams using electronic balance. Grain counter may be used, wherever available, for increasing efficiency and precision.
6.	Grain yield per plot	The gross plot grain yield (g $plot^{-1}$) from all trials (NIVT/IVT/AVT/SPL) should be recorded using electronic balance.

Sowing Time Schedule of Coordinated Yield Trials

Trial Series	NHZ	NWPZ/ NEPZ	CZ/ PZ
AVTS/NIVTs/IVTs			
IR-TS-TAS: AVT/IVT	Nov. 1-15	-	-
RF-TS-TAS: AVT/IVT	Oct. 15-31	-	-
IR-TS-TAS: AVT/NIVT-1A/NIVT-1B	-	Nov. 1-15	-
IR-LS-TAS: AVT/NIVT-3A	-	Dec. 05-15	-
RI-TS-TAS: AVT/NIVT-5A	-	Oct.25-Nov.5	-
IR-TS-TAD: AVT/NIVT-2/NIVT-4	-	Nov. 1-15	Nov. 05-15
IR-LS-TAS: AVT/NIVT-3B			Dec. 5-15
RI-TS-TAD: AVT/NIVT-5B	-	-	Oct. 25 - Nov.05
Special Trials			
SPL-SAL/ALK	-	Nov. 1-15	**CZ**: Nov. 05-15
SPL-HYPT- IR-ES-TAS **NIVT-6-ES-IR**	-	**NWPZ** Oct. 25-Nov.5	**CZ** Nov. 1-10

Appendix-IV

Norms with respect respect to site mean for conduction of coordinated yield trials

Norms w.r.t site mean for conduction of coordinated yield trials

1. The name and parental details of NIVT/IVT and Special trial entries once submitted and finalized in the workshop will not be changed.
2. The test sites of all trials and entries including the checks finalized in the workshop should not be changed.
3. Date of sowing and agronomic practices should be strictly adhered to as given in the planting details supplied with the layout plan of different trials.
4. Seed rate and plot size should not be changed.
5. All rows of the trial entries should be harvested for reporting the gross plot yield.

Norms with respect to site mean and coefficient of variation (CV) for acceptance or rejection of coordinated yield trials

Minimum limit of site mean (Yield in q/ha)

Zone/Trial	Timely sown irrigated condition	Late sown irrigated condition	Timely sown restricted/ rainfed irrigated condition
NHZ	35	25	20
NWPZ	50	40	35
NEPZ	45	35	30
CZ	45	35	30
PZ	45	35	30
Salinity/ Alkalinity	25	-	-
NIVT-6/ HYPT-IR-ES NWPZ & CZ	NWPZ- 65 CZ- 55	-	-

Note:

1. Trial site means for the states of West Bengal and Assam will be 05q/ha less than the zonal mean under all production conditions.
2. Maximum and minimum CV values for trial reporting will be decided by the competent authority.
3. Due to weather constraints and depending upon limited number of centers, the lower site mean shall be accepted up to max 5q in each condition.

Appendix-V

Criteria for Promotion/Retention of Genotypes in the Coordinated Wheat Varietal Trials

Criteria for Promotion/Retention of Genotypes in the Coordinated Wheat Varietal Trials

The varieties qualifying for promotion/retention, besides being high yielding as compared to the best check varieties (including latest identified variety), should possess adequate degree of resistance to rusts and other diseases of regional importance and good nutritional and processing qualities. The following criteria are followed to achieve these objectives.

(I) Yield

Varieties which are significantly superior at 10% level of statistical significance to best performing check of the trial in AVT and best zonal check in NIVT/IVT will be considered for promotion/retention.

(II) Resistance to diseases

(A) Rusts

Varieties qualifying from yield point of view must have adequate degree of resistance to rusts under both natural as well as artificial conditions of infection. The average coefficient of infection (ACI) for each of the rusts of importance in the particular zones should be considered in respect of varieties qualifying in yield criteria. Important rusts in each zone are as follows:

NHZ & NWPZ : Yellow and Brown
NEPZ : Brown
CZ & PZ : Brown and Black

When data of rusts from centres is not sufficient to calculate ACI, the intensity of susceptibility to rusts should be considered.

Varieties having reaction marked with an asterisk should be given benefit of doubt for susceptibility to that particular rust and thus should be considered suitable for promotion/retention.

(i) Under natural conditions of rust infection (In coordinated varietal trials) and under artificial conditions of rust infection (in plant pathological screening nurseries)

a) ACI upto 20.0
b) If ACI could not be worked out, maximum susceptibility should not be more than 60S.
c) Varieties with higher susceptibility but marked with asterisk should be given benefit of doubt and therefore not to be rejected on this account.
d) For NEPZ, susceptibility to yellow rust is limited to 60S under natural condition and/ or ACI 20.0 in PPSN

Disease Criteria for Promotion/Retention of Varieties

Varieties qualifying for yield	Reaction to rusts of importance in the zone			
	ACI value available	ACI not available		Varieties having higher readings but marked with asterisk
	Natural / PPSN /IPPSN	Natural	PPSN	Natural conditions/ PPSN
Varieties significantly superior in yield to the best check	Upto 20.0	Upto 60S	May be ignored	To be retained/ promoted
Varieties at par in yield to the best check	Upto 15.0			

(B). Other diseases

Due weightage should be given to other diseases of regional importance such as *leaf blight for NEPZ and Karnal bunt for NWPZ* and varieties with extreme susceptibility shall be avoided from advancement/retention. Varieties at par in yield but showing resistance to wheat blast disease would be promoted/retained.

(III) Quality

Varieties qualifying for yield and disease resistance criteria should have at least 10% protein on dry matter basis. Any such variety having less than 10% protein should not be retained/promoted. Varieties having at par yield to the best check and possess at least two defined quality traits (as per benchmarks recommended by PI-Quality) shall be considered for promotion/ retention.

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63वीं अखिल भारतीय गेहूँ एवं जौ अनुसंधान कार्यकर्ता गोष्ठी-2024

आचार्य नरेन्द्र देव कृषि एवं प्रौद्योगिकी विश्वविद्यालय, अयोध्या (उत्तर प्रदेश)

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Acharya Narendra Deva University of Agriculture & Technology, Ayodhya (Uttar Pradesh)

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