

AICRP on Wheat and Barley

Crop Improvement

Work Plan 2023-24

(Trials and Nurseries)

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

National Initial Varietal Trial
NIVT-1A-IR-TS-TAS, 2023-24

Conducting centres

Zone	No.	Centres
NWPZ	9	Delhi, Ludhiana, Gurdaspur, Hisar, Karnal, Pantnagar, Modipuram, Sriganaganagar, Durgapura
NEPZ	6	Kanpur, Ayodhya, Varanasi, Sabour, Ranchi, Coochbehar
Total	15	

Details of trial entries

SN	Contributing Centres	No. of Entries	Name of entries
1.	IARI, Delhi	5	HD3474, HD3475, HD3476, HD3477, HP1981
2.	IIWBR, Karnal	5	DBW446, DBW447, DBW448, DBW449, DBW450
3.	Ludhiana	5	PBW936, PBW937, PBW938, PBW939, PBW940
4.	Pantnagar	3	UP3140, UP3141, UP3142
5.	Durgapura	3	RAJ4584, RAJ4585, RAJ4586
6.	Hisar	2	WH1328, WH1329
7.	Ayodhya	1	NW8094
8.	Kanpur	1	K2301
9.	Varanasi	1	HUW858
10.	CSSRI, Karnal	1	KRL2202
11.	Jammu	1	JAUW723
12.	Nuziveedu Seeds	1	NWS2124
13.	Supreme Breeders	1	Supreme-1122
14.	Kalyani	1	BCW35
15.	Coochbehar	1	UBW 22
16.	Modipuram	1	SVPWL22-04
	Checks	3	DBW187, DBW222, HD3086
	Total	36(33+3)	

Experimental details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 150:60:40 (N:P:K)
Time of sowing	: November 1-15
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director.

National Initial Varietal Trial

NIVT-1B-IR-TS-TAS, 2023-24

Conducting centres

Zone	No.	Centres
NWPZ	8	Delhi, Ludhiana, Gurdaspur, Hisar, Karnal, Bulandshahr, Sriganaganagar, Durgapura
NEPZ	7	Kanpur, Ayodhya, Varanasi, Sabour, Prayagraj, Ranchi, Kalyani
Total	15	

Details of trial entries

SN	Contributing centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HD3478, HP1982, HD3479, HD3480
2.	IIWBR, Karnal	5	DBW451, DBW452, DBW453, DBW454, DBW455
3.	Ludhiana	5	PBW941, PBW942, PBW943, PBW944, PBW945
4.	Pantnagar	2	UP3143, UP3144
5.	Ayodhya	2	NW8089, NW8095
6.	Hisar	2	WH1330, WH1331
7.	Kanpur	2	K2303, K2304
8.	Sabour	2	BRW3964, BRW3967
9.	Durgapura	1	RAJ4587
10.	Ranchi	1	JKW317
11.	Varanasi	1	HUW859
12.	Nuziveedu Seeds	1	NWS2124
13.	Kalyani	1	BCW32
14.	Modipuram	1	SVPWL22-10
15.	RPCAU, Pusa	1	RAUW107
16.	CSSRI, Karnal	1	KRL2101
17.	Bioseeds	1	BW20R105
	Checks	3	DBW187, DBW222, HD3086
	Total	36 (33+3)	

Experimental details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 150:60:40 (N:P:K)
Time of sowing	: November 1-15
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

National Initial Varietal Trial
NIVT-2-IR-TS-TAS, 2023-24

Conducting centres

Zone	No.	Centres
CZ	10	Indore, Powarkheda, Jabalpur, Sagar, Gwalior, Bilaspur, Junagadh, Vijapur, SK Nagar, Udaipur
PZ	7	Niphad, Pune, Akola, Dhule, Parbhani, Dharwad, Nippani
Total	17	

Details of trial entries

SN	Contributing Centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HI1694, HI1695, HW3298-1, HD3481
2.	Pune	3	MACS6864, MACS6858, MACS6862
3.	Vijapur	3	GW559, GW560, GW561
4.	IIWBR, Karnal	2	DBW456, DBW457
5.	Dharwad	2	UAS3030, UAS3031
6.	Jabalpur	2	MP3583, MP3584
7.	Niphad	2	NIAW4516, NIAW4581
8.	Powarkheda	2	MP1400, MP1401
9.	Junagadh	2	GW565, GW566
10.	Udaipur	2	PWU13, PWU52
11.	Ludhiana	1	PBW946
12.	Durgapura	1	RAJ4590
13.	Bilaspur	1	CG1050
14.	Akola	1	AKAW4764
15.	Lok Bharti	1	LOK82
16.	Nuziveedu Seeds	1	NWS2237
17.	Hisar	1	WH1332
18.	Sagar	1	JWS1528
	Checks	4	GW322, DBW187, MACS6222, HI1650
Total entries		36 (32+4)	

Experimental Details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 120:60:40 (N:P:K)
Time of sowing	: November5-15
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

**National Initial Varietal Trial
NIVT-3A-IR-LS-TAS, 2023-24**

Conducting centres

Zone	No.	Centres
NWPZ	9	Delhi, Jammu, Ludhiana, Gurdaspur, Hisar, Karnal, Pantnagar, Durgapura, Modipuram
NEPZ	10	Kanpur, Ayodhya, Varanasi, Sabour, RPCAU-Pusa, Ranchi, Kalyani, Coochbehar, Burdwan, Shillongani
Total	19	

Details of trial entries

SN	Contributing centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HD3482, HP1983, HD3483, HD3484
2.	IIWBR, Karnal	5	DBW458, DBW459, DBW460, DBW461, DBW462
3.	Ludhiana	5	PBW947, PBW948, PBW949, PBW950, PBW951
4.	Hisar	3	WH1335, WH1336, WH1337
5.	Kanpur	2	K2306, K2307
6.	Durgapura	2	RAJ4588, RAJ4589
7.	Ayodhya	2	NW8081, NW8084
8.	Pantnagar	2	UP3145, UP3146
9.	Ranchi	1	JKW319
10.	Sabour	1	BRW3954
11.	Varanasi	1	HUW860
12.	Kalyani	1	BCW31
13.	Coochbehar	1	UBW21
14.	Modipuram	1	SVPWL22-02
15.	RPCAU, Pusa	1	RAUW111
	Checks	4	PBW771, DBW173, HI1563, HI1621
Total entries		36 (32+4)	

Experimental Details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.08m (6 rows)
Fertilizer dose (kg/ha)	: 120:60:40 (N:P:K)
Time of sowing	: December5-15
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries, etc. will be invalid if not approved by the Director

National Initial Varietal Trial

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

Conducting centres

Zone	No.	Centres
CZ	9	Indore, Powarkheda, Jabalpur, Gwalior, Bilaspur, Junagadh, Vijapur, SK Nagar, Lok-Bharti
PZ	8	Dharwad, Niphad, Akola, Pune, Bagalkot, Dhule, Nippani, Parbhani
Total	17	

Details of trial entries

SN	Contributing centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HI1696, HI1697, HI1698, HI1699
2.	IWBR, Karnal	2	DBW463, DBW464
3.	Dharwad	2	UAS3032, UAS3033
4.	Jabalpur	2	MP3598, MP3599
5.	Niphad	2	NIAW4621, NIAW4624
6.	Pune	2	MACS6868, MACS6854
7.	Vijapur	1	GW562
8.	Akola	1	WSM141
9.	Bilaspur	1	CG1061
10.	Hisar	1	WH1338
11.	Junagadh	1	GW567
12.	Lok Bharti	1	LOK83
13.	Ludhiana	1	PBW952
14.	Powarkheda	1	MP1402
	Checks	3	HD2864, HD2932, HI1633
Total entries		25 (22+3)	

Experimental Details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.08m (6 rows)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: December 5-15
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries, etc. will be invalid if not approved by the Director

**National Initial Varietal Trial
NIVT-4-IR-TS-TDM, 2023-24**

Conducting Centres

Zone	No.	Centres
NWPZ	6	Delhi, Ludhiana, Hisar, Karnal, Pantnagar, Sriganganagar
CZ	7	Powarkheda, Indore, Junagadh, Gwalior, Vijapur, Udaipur, Dhandhuka
PZ	6	Dharwad, Bagalkot, Nippani, Niphad, Pune, Akola
Total	19	

Details of trial entries

SN	Contributing Centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HI8853, HI8854, HI8855, HI8858
2.	Niphad	2	NIDW1542, NIDW1557
3.	IIWBR, Karnal	3	DDW65, DDW66, DDW67
4.	Dharwad	2+2	UAS485, UAS486, DDK1066(Dic), DDK1067(Dic)
5.	Ludhiana	3	PDW366, PDW367, PDW368
6.	Powarkheda	2	MPO1403, MPO1404
7.	Pune	2+2	MACS4147, MACS4146, MACS5064(Dic), MACS5065(Dic)
8.	Vijapur	2	GW1369, GW1370
9.	Hisar	1	WHD969
10.	Udaipur	1	PWU8
11.	Junagadh	1	GW1371
12.	Parbhani	1	PBN1841
13.	Akola	1	AKDW5520
14.	IARI, Wellington	2	HW5305(Dic), HW5306(Dic)
	Checks	5	HI8713, HI8737, MACS3949, PDW314, DDK1029(Dic.C)
Total entries		36 (31+5)	

Experimental Details

Design	:	Simple Lattice
Replication	:	Two
Plot size	:	6 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	:	120:60:40 (N:P:K)
Time of sowing	:	November 5-15
Seed requirement	:	7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

**National Initial Varietal Trial
NIVT-5A-RI-TS-TAS, 2023-24**

Conducting centres

Zone	No.	Centres
NWPZ	10	Delhi, Jammu, Gurdaspur, Ludhiana, Hisar, Karnal, Sriganganagar, Modipuram, Bulandshahr, Durgapura
NEPZ	9	Kanpur, RPCAU-Pusa, Varanasi, Sabour, Ranchi, Kalyani, Coochbehar, Burdwan, Shillongani
Total	19	

Details of trial entries

SN	Contributing Centres	No. of Entries	Name of entries
1.	IARI, Delhi	4	HD3485, HD3486, HD3487, HD3488
2.	IIWBR, Karnal	4	DBW465, DBW466, DBW467, DBW468
3.	Ludhiana	4	PBW953, PBW954, PBW955, PBW956
4.	Pantnagar	1	UP3147
5.	Hisar	2	WH1339, WH1340
6.	Kanpur	1	K2310
7.	Varanasi	1	HUW861
8.	Ranchi	1	JKW320
9.	Sabour	1	BRW3959
10.	Jammu	1	JAUW719
11.	CSSRI, Karnal	1	KRL2203
	Checks	4	HI1612, K1317, PBW644, NIAW3170
Total entries		25(21+4)	

Experimental Details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.20m (6 rows)
Irrigations	: Two (pre-sowing & one irrigation at 45-50 DAS)
Fertilizer dose (kg/ha)	: 90:60:40(N:P:K)
Time of sowing	: Oct. 25 - Nov. 5
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

National Initial Varietal Trial
NIVT-5B-RI-TS-TAD, 2023-24

Conducting centres

Zone	No.	Centres
CZ	10	Indore, Sagar, Jabalpur, Bilaspur, Udaipur, Vijapur, SK Nagar, Junagadh, Dhandhuka, Powarkheda
PZ	7	Dharwad, Nippani, Niphad, Pune, Dhule, Akola, Parbhani
Total	17	

Details of trial entries

SN	Contributing Centres	No. of Entries	Name of entries
1.	Delhi	5	HI1700, HI1701, HI1702, HI8856(d), HI8857(d)
2.	IWBR, Karnal	3	DBW469, DBW470, DDW67(d)
3.	Dharwad	2	UAS487(d), UAS3034
4.	Niphad	2	NIAW4533, NIDW1561(d)
5.	Vijapur	2	GW563, GW1372(d)
6.	Akola	1	AKAW5441
7.	Bilaspur	1	CG1052
8.	Jabalpur	1	MP3601
9.	Powarkheda	1	MP1405
10.	Pune	2	MACS6850, MACS6851
11.	Parbhani	1	PBN2115
	Checks	4(2A+2D)	DBW110, HI1605, HI8627(d), UAS446(d)
Total entries		25 (21+4)	

Experimental Details

Design	: Simple Lattice
Replication	: Two
Plot size	: 6 x 1.20m (6 rows)
Irrigations	: Two (1 pre-sowing & one irrigation at 40-45 DAS) (Limit of 3 irrigations in Gujarat)
Fertilizer dose (kg/ha)	: 90:60:40(N:P:K)
Time of sowing	: Oct. 25 – Nov.05
Seed requirement	: 7.0 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

National Initial Varietal Trial
NIVT-6-ES-IR-NWPZ/CZ, 2023-24

Trial conducting centres

Zone	No.	Centres
NWPZ	7	Delhi, Ludhiana, Ladowal, Hisar, Karnal, Bulandshahr, Sriganaganagar
CZ	7	Indore, Powarkheda, Jabalpur, BISA-Jabalpur, Bilaspur, Junagadh, Vijapur
Total	14	

Details of test entries

Contributing Centres	No. of entries	Name of entries
Delhi/Indore	4	HD3489, HD3490, HD3491, HD3492
Ludhiana	5	PBW931, PBW932, PBW933, PBW934, PBW935
IWBR/BISA	5	DBW471, DBW472, DBW473, DBW474, DBW475
Hisar	2	WH1333, WH1334
Durgapura	1	RAJ4591
Pantnagar	1	UP3148
Vijapur	1	GW564
Junagadh	1	GW568
Powarkheda	1	MP1406
Checks	4	DBW327, DBW187, DBW303, GW322
Total	25 (21+4)	

Experimental details

Design	: Simple Lattice (5x5)
Replications	: Two
Plot size	: 6 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 150% RFD+ FYM15 t/ha+ Growth Regulators*
Time of sowing	: NWPZ :Oct. 25 – Nov.5; CZ : Nov 1-10
Seed requirement	: 7 Kg per entry

* **Note:** Two sprays as tank mix-Chlormequat chloride @ 0.2%+ tebuconazole @ 0.1% of commercial product dose at First Node and Flag leaf (Tank mix application). Use 400 l/ha of water for spraying.

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Northern Hills Zone
Initial Varietal Trial, 2023-24
IVT-RF-TS-TAS

Trial conducting centres

State	Centres	Name of the centres
Himachal Pradesh	3	Malan, Shimla, Bajaura
Uttarakhand	3	Almora, Majhera, Gaja
J&K	2	Khudwani, Wadura
Manipur	1	Imphal
Total	9	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Shimla	4	HS700, HS701, HD3493, HS702
CSKHPKV, Malan	4	HPW499, HPW500, HPW501, HPW502
VPKAS, Almora	4	VL2055, VL2056, VL2057, VL2058
SKUAST-K	1	SKW367
GBPUA&T, Pantnagar	1	UP3149
Checks	2	HS507, HS562
Total	16 (14+2)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 3.5 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 60:30:20 (N:P:K)
Time of sowing	: Oct. 15-31
Seed rate (kg/ha)	: 100
Seed requirement	: 4 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Northern Hills Zone
Advance Varietal Trial, 2023-24
AVT-RF-TS-TAS

Trial conducting centres

State	Centres	Name of the centres
Himachal Pradesh	3	Malan, Shimla, Bajaura
Uttarakhand	3	Almora, Majhera, Gaja
J&K	2	Khudwani, Wadura
Manipur	1	Imphal
Total	9	

Details of test entries

Contributing Centres	No. of entries	Name of entries
VPKAS, Almora	1	VL2059 ^M
Checks	4	VL907, HPW349, HS562, VL2041
Total	5 (1+4)	

Experimental details

Design	: R.B.D.
Replications	: Six
Plot size	: 3.5 x 1.20m (6 rows)
Fertilizer dose (kg/ha)	: 60:30:20 (N:P:K)
Time of sowing	: October 15-31
Seed rate (kg/ha)	: 100
Seed requirement	: 5 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Northern Hills Zone
Advance Varietal Trial, 2023-24
IVT/AVT-IR-LS-TAS

Trial conducting centres

State	Centres	Name of the centres
Himachal Pradesh	3	Shimla, Malan, Bajaura
Uttarakhand	3	Almora, Majhera, Gaja
Manipur	1	CAU-Imphal
Total	7	

Details of test entries

Contributing Centres	No. of entries	Name of entries
CSKPHKV, Malan	3	HPW503, HPW504, HPW505
IARI, RS, Shimla	4	HS698, HS703, HS704, HS705
VPKAS, Almora	5	VL3031, VL3033, VL3034, VL3035, VL3036 ^M
Checks	2	VL892, HS490
Total	14 (12+2)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 3.5 x 1.08m (6 rows)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: December 1-15
Seed rate (kg/ha)	: 125
Seed requirement	: 4 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

North Western Plains Zone
Advance Varietal Trial, 2023-24
AVT-IR-TS-TAS

Trial conducting centres

State	No.	Centres
Punjab	2	Ludhiana, Gurdaspur
Haryana	3	Hisar, Karnal, Bawal
Rajasthan	2	Sriganganagar, Durgapura
Uttar Pradesh	3	Bulandshahr, Modipuram, Nagina
Uttarakhand	1	Pantnagar
J & K	1	Jammu
Delhi	1	Delhi
Total	13	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IWBR, Karnal	4	DBW386*, DBW417, DBW476 ^M , DBW477 ^M
IARI, Delhi	2	HD3471 ^{M*} , HD3494 ^M
IARI, Indore	1	HI1668*
PAU, Ludhiana	3	PBW916, PBW957 ^M , PBW958 ^M
Checks	8	HD2967, DBW88, HD3086, DBW187, DBW222, PBW826, PBW725, HD3386(I)
Total	18 (10+8)	

* denotes final year entry, ^M denotes MABB entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	: 150:60:40 (N:P:K)
Time of sowing	: November 1-15
Seed rate (kg/ha)	: 100
Seed requirement	: 18 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

North Western Plains Zone
Advance Varietal Trial, 2023-24
AVT-IR-LS-TAS

Trial conducting centres

State	No.	Centres
Punjab	2	Ludhiana, Gurdaspur
Haryana	3	Hisar, Bawal, Karnal
Rajasthan	1	Durgapura
Uttar Pradesh	3	Nagina, Bulandshahr, Modipuram
Uttarakhand	1	Pantnagar
J & K	1	Jammu
Delhi	1	Delhi
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Delhi	3	HD3428*, HD3455, HD3495 ^M
PAU, Ludhiana	1	PBW921
IWBR, Karnal	1	DBW422
CCSHAU, Hisar	1	WH1324
RARI, Durgapura	1	RAJ4581
NDUAT, Ayodhya	1	NW8071
Checks	4	HD3059, DBW173, PBW771, JKW261
Total	12 (8+4)	

* denotes final year entry, ^M denotes MABB entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.16m (12 rows)
Fertilizer dose (kg/ha)	: 120:60:40 (N:P:K)
Time of sowing	: December 5-15
Seed rate (kg/ha)	: 125
Seed requirement	: 15 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

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

Trial conducting centres

State	No.	Centres
Punjab	2	Ludhiana, Gurdaspur
Haryana	3	Hisar, Karnal, Bawal
Uttar Pradesh	3	Modipuram, Nagina, Bulandshahr
Rajasthan	2	Sriganganagar, Durgapura
Uttarakhand	1	Pantnagar
J&K	1	Jammu
Delhi	1	Delhi
Total	13	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Delhi	1	HD3468
PAU, Ludhiana	1	PBW927
HAU, Hisar	1	WH1326
BAU, Ranchi	1	JKW304
Checks	6	PBW644, NIAW3170, DBW296, HI1653, HD3369, WH1402(I)
Total	10 (4+6)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Irrigations	: Two (pre-sowing & one irrigation at 45-50 DAS)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Oct. 25 – Nov. 5
Seed rate (kg/ha)	: 100
Seed requirement	: 18 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

**North Eastern Plains Zone
Advance Varietal Trial, 2023-24
AVT-IR-TS-TAS**

Trial conducting centres

State	No.	Centres
Uttar Pradesh	4	Kanpur, Prayagraj, Ayodhya, Varanasi
Bihar	2	Sabour, RPCAU-Pusa
West Bengal	3	Coochbehar, Kalyani, Burdwan
Jharkhand	2	Ranchi, Dumka
Assam	1	Shillongani
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IWBR, Karnal	1	DBW386*
IARI, Delhi	3	HD3447, HD3467, HP1978
PAU, Ludhiana	3	PBW908, PBW913, PBW915
GBUAT, Pantnagar	2	UP3123, UP3124
CSSRI, Karnal	1	KRL2106
BCKV, Kalyani	2	BCW28, BCW29
Checks	5	HD3249, DBW187, DBW222, PBW826, HD3388(I)
Total	17 (12+5)	

* denotes final year entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	: 150:60:40 (N:P:K)
Time of sowing	: November 1-15
Seed rate (kg/ha)	: 100
Seed requirement	: 18 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

**North Eastern Plains Zone
Advance Varietal Trial, 2023-24
AVT-IR-LS-TAS**

Trial conducting centres

State	No.	Centres
Uttar Pradesh	4	Kanpur, Prayagraj, Ayodhya, Varanasi
Bihar	2	Sabour, RPCAU-Pusa
West Bengal	4	Coochbehar, Kalyani, Burdwan, Manikchak
Jharkhand	1	Ranchi
Assam	1	Shillongani
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
CCSHAU, Hisar	2	WH1323, WH1324
RARI, Durgapura	1	RAJ4581
Checks	5	HI1563, DBW107, HD3118, HI1621, PBW833
Total	8 (3+5)	

Experimental details

Design	:	R.B.D.
Replications	:	Four
Plot size	:	6 x 2.16m (12 rows)
Fertilizer dose (kg/ha)	:	120:60:40 (N:P:K)
Time of sowing	:	December 5-15
Seed rate (kg/ha)	:	125
Seed requirement	:	22 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

**North Eastern Plains Zone
Advance Varietal Trial, 2023-24
AVT-RI-TS-TAS**

Trial conducting centres

State	No.	Centres
Uttar Pradesh	4	Kanpur, Prayagraj, Ayodhya, Varanasi
Bihar	2	Sabour, RPCAU-Pusa
West Bengal	3	Coochbehar, Kalyani, Burdwan
Jharkhand	2	Ranchi, Dumka
Assam	1	Shillongani
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Delhi	1	HD3460
BAU, Ranchi	1	JKW304
Checks	5	HI1612, K1317, HD3171, HD3293, DBW252
Total	7 (2+5)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Irrigation	: Two (pre-sowing & one irrigation at 45-50 DAS)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Oct. 25 – Nov.5
Seed rate (kg/ha)	: 100
Seed requirement	: 15 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Central Zone
Advance Varietal Trial, 2023-24
AVT-IR-TS-TAD

Trial conducting centres

State	No.	Centres
Gujarat	5	Vijapur, SK Nagar, Junagadh, Anand, Dhandhuka
Madhya Pradesh	6	Jabalpur, Sagar, Gwalior, Powarkheda, Indore, Jhansi
Chhattisgarh	2	Bilaspur, Raipur
Rajasthan	1	Udaipur
UP	1	Banda
Total	15	

Details of test entries

Contributing Centres	No. of entries	Name of entries
ARI, Pune	3	MACS6837, MACS4125(d), MACS4135(d)
IARI, Indore	6	HI1669*, HI1683, HI1684, HI8848(d), HI8849(d), HI8850(d)
JAU, Junagadh	2	GW554, GW555
JNKVV, Jabalpur	1	MP3570
JNKVV, Powarkheda	1	MPO1395
Checks	6	GW322, MACS6768, HI1650, GW547(l), HI8737(d), HI8713(d)
Total	19 (13+6)	

* denotes final year entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	: 120:60:40 (N:P:K)
Time of sowing	: November5-15
Seed rate (kg/ha)	: 100
Seed requirement	: 18 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Central Zone
Advance Varietal Trial, 2023-24
AVT-IR-LS-TAS

Trial conducting centres

State	No.	Centres
Gujarat	5	Vijapur, SK Nagar, Junagadh, Anand, Lok-Bharti
Madhya Pradesh	4	Jabalpur, Gwalior, Powarkheda, Indore
Chhattisgarh	2	Bilaspur, Raipur
UP	1	Banda
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Indore	2	HI1674*, HI1687
PDKV, Akola	1	WSM138
ARI, Pune	1	MACS6830
IWBR, Karnal	1	DBW425
JAU, Junagadh	1	GW556
Checks	4	HD2932, MP4010, HI1634, CG1029
Total	10 (6+4)	

* denotes final year entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6m x 2.16m (12 rows)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Dec. 5-15
Seed rate (kg/ha)	: 125
Seed requirement	: 15 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Central Zone
Advance Varietal Trial, 2023-24
AVT-RI-TS-TAS

Trial conducting centres

State	No.	Centres
Gujarat	5	Vijapur, SK Nagar, Dhandhuka, Junagadh, Anand
Madhya Pradesh	5	Powarkheda, Jabalpur, Sagar, Indore, Jhansi
Chhattisgarh	2	Bilaspur, Raipur
Rajasthan	1	Udaipur
UP	1	Banda
Total	14	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IWBR, Karnal	3	DBW441 ^{M*} , DBW428, DBW432
UAS, Dharwad	2	UAS3029, UAS484(d)
ARS, Niphad	1	NIAW4267
IARI, Indore	2	HI8851(d), HI8852(d)
ARI, Pune	1	MACS4131(d)
JNKVV, Powarkheda	1	MPO1398(d)
Checks	7	DBW110, CG1036, HI1655, HI8627(d), HI8823(d), DBW359(I), CG1040(I)
Total	17(10+7)	

* denotes final year entry, ^M denotes MABB entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Irrigations	: Two (pre-sowing & one irrigation at 40-45 DAS (Limit of 3 Irrig. in Gujarat)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Oct. 25 – Nov. 05
Seed rate (kg/ha)	: 100
Seed requirement	: 18 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Peninsular Zone
Advance Varietal Trial, 2023-24
AVT-IR-TS-TAD

Trial conducting centres

State	No.	Centres
Maharashtra	7	Niphad, Pune, Dhule, Akola, Parbhani, Nashik, Karad
Karnataka	4	Dharwad, Ugar-Khurd, Kalloli, Nippani
Total	11	

Details of test entries

Contributing Centres	No. of entries	Name of entries
ARI, Pune	5	MACS6837, MACS6842, MACS6844, MACS4125(d), MACS4135(d)
ARS, Niphad	1	NIAW4364
JNKV, Jabalpur	1	MP3570
PAU, Ludhiana	1	PBW891*
IWBR, Karnal	2	DBW443*, DDW62(d)
PDKV, Akola	1	AKAW5100*
IARI, Indore	3	HI8848(d), HI8849(d), HI8850(d)
CCSHAU, Hisar	1	WH1306*
Nuziveedu Seeds	1	NWS2222*
UAS, Dharwad	1	UAS3026
IGKV, Bilaspur	1	CG1045
JNKVV, Powarkheda	1	MPO1395(d)
Checks	5	MACS6222, GW322, MP1378(I), MACS3949(d), HI8737(d)
Total	24 (19+5)	

* denotes final year entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	: 120:60:40 (N:P:K)
Time of sowing	: November 5-15
Seed rate (kg/ha)	: 100 kg/ha
Seed requirement	: 15kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Peninsular Zone
Advance Varietal Trial, 2023-24
AVT-IR-LS-TAS

Trial conducting centres

State	No.	Centres
Maharashtra	7	Niphad, Pune, Nashik, Akola, Dhule, Karad, Parbhani
Karnataka	5	Dharwad, Ugar-Khurd, Bagalkot, Kalloli, Nippani
Total	12	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IARI, Indore	2	HI1674*, HI1687
IWBR, Karnal	2	DBW425, DBW426
ARI, Pune	2	MACS6829, MACS6830
ARS, Niphad	3	NIAW4114*, NIAW4120*, NIAW4432
UAS, Dharwad	1	UAS3027
Lok Bharti	1	LOK79*
Checks	4	RAJ4083, HD2932, HD3090, HI1633
Total	15 (11+4)	

* denotes final year entry

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6m x 2.16m (12 rows)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Dec.5-15
Seed rate (kg/ha)	: 125
Seed requirement	: 15 kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Peninsular Zone
Advance Varietal Trial, 2023-24
AVT-RI-TS-TAD

Trial conducting centres

State	No.	Centres
Maharashtra	6	Akola, Pune, Niphad, Nashik, Parbhani, Karad
Karnataka	5	Dharwad, Nippani, Bagalkot, Ugar-Khurd, Kalloli
Total	11	

Details of test entries

Contributing Centres	No. of entries	Name of entries
ARS, Niphad	1	NIAW4267
ARI, Pune	1	MACS4131(d)
IGKV, Bilaspur	1	CG1047
IARI, Indore	2	HI8851(d), HI8852(d)
UAS Dharwad	1	UAS484(d)
JAU, Junagadh	1	GW1368(d)
JNKVV, Powerkheda	1	MPO1398(d)
Checks	7	HI1605, NIAW3170, UAS446(d), NIDW1149(d), DBW359(I), HI1665(I), UAS478(d)(I)
Total	15 (8+7)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Irrigations	: Two (pre-sowing & one irrigation at 40-45 DAS)
Fertilizer dose (kg/ha)	: 90:60:40 (N:P:K)
Time of sowing	: Oct. 25 – Nov. 5
Seed rate (kg/ha)	: 100
Seed requirement	: 15kg per entry

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

SPL - HYPT, 2023-24
(IR-ES-TAS-NWPZ)

Trial conducting centres

Zone	No.	Centres
NWPZ	7	Delhi, Ludhiana, Ladowal, Hisar, Karnal, Modipuram, Sriganganagar
Total	7	

Details of test entries

Contributing Centres	No. of entries	Name of entries
IWBR, Karnal	1	DBW438
Checks	5	DBW187, DBW327, DBW371, DBW372, PBW872
Total	6 (1+5)	

Experimental details

Design	: R.B.D.
Replications	: Four
Plot size	: 6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	: 150% RFD+ FYM15 t/ha+ Growth Regulators*
Time of sowing	: Oct. 25– Nov. 5
Seed rate (kg/ha)	: 100
Seed requirement	: 8 Kg per entry

* **Note:** Two sprays as tank mix-Chlormequat chloride @ 0.2%+ tebuconazole @ 0.1% of commercial product dose at First Node and Flag leaf (Tank mix application). Use 400L/ha of water for spraying

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

SPL – HYPT, 2023-24
(IR-ES-TAS-CZ)

Trial conducting centres

Zone	No.	Centres
CZ	7	Indore, Powarkheda, BISA-Jabalpur, JNKVV-Jabalpur, Bilaspur, Junagadh, Vijapur
Total	7	

Details of test entries

Contributing Centres	No. of entries	Name of entries
SDAU, Vijapur	1	GW543*
IGKV, Bilaspur	1	CG1044*
IWBR, Karnal	3	DBW434, DBW436, DBW445
JNKVV, Powarkheda	1	MP1399
CCSHAU, Hisar	1	WH1320
IARI, Delhi	2	HD3461, HD3463
PAU, Ludhiana	2	PBW906, PBW929
Checks	5	DBW187, DBW303, DBW327(I), DBW377(I), GW322
Total	16 (11+5)	

Experimental details

Design	:	R.B.D.
Replications	:	Four
Plot size	:	6 x 2.40m (12 rows)
Fertilizer dose (kg/ha)	:	150% RFD+ FYM15 t/ha+ Growth Regulators*
Time of sowing	:	1-10 November
Seed rate (kg/ha)	:	100
Seed requirement	:	8 Kg per entry + *Agronomy 16kg

* **Note:** Two sprays as tank mix-Chlormequat chloride @ 0.2%+ tebuconazole @ 0.1% of commercial product dose at First Node and Flag leaf (Tank mix application). Use 400L/ha of water for spraying

Note: Change in test sites, date of sowing, trial entries etc. will be invalid if not approved by the Director

Heat & Drought Tolerance Screening Trial (HDTST),2023-24

Conducting centres

Zone	No.	Centres
NWPZ	3	Hisar, Karnal, Ludhiana
NEPZ	3	Ranchi, Sabour, RPCAU-Pusa
CZ	3	Junagadh, Indore, Vijapur
PZ	3	Pune, Dharwad, Niphad
Total	12	

Details of trial entries

SN	Contributing centres	No. of Entries	Name of entries
18.	IIWBR, Karnal	4	DBW386, DBW441, DBW443, DDW55(d)
19.	Indore	3	HI1668, HI1669, HI1674
20.	PAU, Ludhiana	1	PBW891
21.	IARI, New Delhi	2	HD3471, HD3428,
22.	Hisar	1	WH1306
23.	Bilaspur	1	CG1044
24.	Nujewed seeds	1	NWS2222
25.	Akola	1	AKAW5100
26.	Niphad	2	NIAW4114, NIAW4120
27.	Lokbharti	1	LOK79
28.	Vijapur	1	GW543
	Checks	7	DBW187, PBW826, WH730, HI1633, GW322, DBW110, NIDW1149(d)
Total entries		25 (18+7)	

Experimental details

Design	:	Simple lattice
Replications	:	Two
Plot size	:	6 rows of 3m length spaced 20cm apart (3.6m ²)
Treatments	:	3 (timely and late sown with minimum 21 days and maximum 1 month difference between the two sowings and one rainfed condition)
Time of sowing	:	NWPZ&NEPZ:TS:Nov.1-15 LS:Minimum 21 days and maximum 1 month difference between two sowings, RF-Oct.25-Nov.5th CZ&PZ:TS:Nov.5-15LS:Minimum 21 days and maximum 1 month difference between two sowings, RF-Oct.25-Nov.5th
Fertilizer dose (Kg/ha)	:	As per the recommendation of the zones
Seed rate (kg/ha)	:	TS:100, LS:125, RF:125
Seed requirement	:	5kg. per entry

Observations to be recorded: Germination%, Days to heading, Days to anthesis, Days to maturity, Plant height (cm), Total biomass of each net plot at harvest (g), Productive tillers of one full row length, Grain yield of each gross plot (g), 1000-grains weight (g), Grain number per spike, Grain weight per spike. Two recordings of NDVI at 15 days after sowing and again at 21 days after anthesis. Canopy temperature at 15 days and 21 days after anthesis, Chlorophyll content at 15 days and 21 days after anthesis.

Special Trial for Lodging Tolerance (STLT) 2023-24

Conducting centres

Zone	No.	Centres
NWPZ	5	Hisar, Delhi, Karnal, Ludhiana, Pantnagar
NEPZ	3	Faizabad, Sabour, Allahabad (Prayagraj)
Total	8	

Details of entries

Contributing Centres	No. of Entries	Name of entries
Karnal	4	DBW187, DBW222, DBW327, DBW372
Delhi	1	HD3226
Ludhiana	1	PBW826
Total	6	

Experimental details

Design	: Simple Lattice
Replication	: Two+
Plot size	: 6 x 1.20m (6 Rows)
Treatments	: 3 (Control, Spray with lihocin, and Spray with IARI chemical)
Time of sowing	: November 1-15
Fertilizer dose (Kg/ha)	: 150:60:40 (N:P:K)
Seed rate (kg/ha)	: 100 kg/ha
Seed requirement	: 5.0 kg per entry

Observations to be recorded: Days to heading, Days to maturity, Plant height (cm), Internode length of last three internodes separately from the base of the plant (cm), Peduncle length, Culm diameter of second basal internode (mm), Total biomass/ plot at harvest (g), Length of spike (cm), Lodging (%), Lodging angle, Grain yield/plot (g), 1000-grains weight (g).

NATIONAL GENETIC STOCK NURSERY (NGSN) [Suggested Crossing Block]

Conducting Centres

Zone	No	Centres
NHZ	3	Almora, Malan, Khudwani
NWPZ	7	IIWBR-Karnal, CSSRI-Karnal, Jammu, Hisar, Pantnagar, Ludhiana, Durgapura
NEPZ	8	Ayodhya, Kanpur, Sabour, RPCAU-Pusa, Ranchi, Coochbehar, Kalyani, IARI-Hazaribagh
CZ	11	Indore, Gwalior, Jabalpur, Udaipur, Vijapur, Bilaspur, Junagadh, Lok-Bharti, Powarkheda, Mandor, Sagar
PZ	5	Pune, Dharwad, Akola, Niphad, Parbhani
Total	34	

Details of entries & Checks

NGSN consists latest released/identified varieties, genetic stocks, confirmed elite lines from national nurseries, proven elite lines (with 3 years testing and/or published information)	
Contributing Centres	Dharwad, IARI-New-Delhi, IIWBR-Karnal, PAU-Ludhiana, CCHAU-Hisar, Vijapur, BARC, Pantnagar, NBPGR-New-Delhi
Checks	Total=04: Sonalika, HD 2967, DBW 187, HI 8713 (d)
Total	100 (96+4)

Experimental details

Design	: Augmented Block Design
Plot size	: 02 row plot of 2.5m length spaced at 20cm apart (1.0 m ²)
Fertilizer dose	: As recommended
Time of sowing	: NWPZ/NEPZ : November 1-15; CZ / PZ : November 5-20
Seed requirement	: 750g seed each entry; 2.0 kg check varieties

Observations: Grain yield/plot (g), days to heading, days to maturity, plant height, tillers/m row, 1000 grains weight, rusts, leaf blight, powdery mildew, loose smut, other diseases (artificial epiphytotic conditions)

Utilization report: 1. As donor in hybridization 2. Direct selection 3. Germplasm enrichment (trait)

27th SEGREGATING STOCK NURSERY (SSN)

Conducting Centres

Zone	No.	Centres
NHZ	3	Khudwani, Wadura, Almora
NWPZ	4	Jammu, Hisar, Pantnagar, Durgapura
NEPZ	4	Ayodhya, Kalyani, Ranchi, Sabour,
CZ	9	Bilaspur, Durgapura, Jabalpur, Udaipur, Lok-Bharati, Junagadh, Powarkheda, Mandor, Sagar
PZ	5	Akola, Parbhani, Pune, Dharwad, Niphad
Total	25	

Details of cross combinations

Contributing Centres	No. of crosses	Priority trait(s)
IWBR Karnal		Yellow rust, spot blotch, quality, abiotic stress, pre-breeding
IARI, Delhi		Yield, adaptation, pre-breeding, quality, leaf rust, stem rust
Ludhiana		Yellow rust, quality, adaptation, KB, pre-breeding
Hisar		Leaf rust, drought, heat, adaptation
Pantnagar		Yellow rust, leaf rust, heat, KB, quality
Almora		Winter x spring
Pune		Stem rust, quality, heat, drought, pre-breeding
Vijapur		Heat, short duration, bold grain, quality
Total		

Experimental details

Design	: Augmented Block Design
Plot size	: 4 row plot of 2.5 m length spaced at 20cm apart
Fertilizer dose	: As recommended for the centre
Time of sowing	: NHZ / NWPZ / NEPZ (November 1-15); CZ / PZ (November 5-20);
Seed requirement	: 250g seed for each cross combination

Utilization Report: No. of cross combinations / plants selected (Selected / preferred traits).

Drought and Heat Tolerance Screening Nursery (DHTSN), 2023-24

Conducting centres

Zone	No.	Centres
NWPZ	2	Hisar, Karnal
NEPZ	2	RPCAU-Pusa, Sabour
CZ	2	Junagadh, Indore
PZ	2	Pune, Dharwad
Total	8	

Contributing Centres: Indore, Niphad, Vijapur, Dharwad, Pune, IARI, Hisar, Ludhiana, Karnal

No. of Entries: 5 to 7 promising entries/ centre

Checks: C306, MP3288, K1317, DBW110, NI5439 **Registered Genetic Stocks:** WH730, DBW150

Experimental details

Design: Augmented/Alpha lattice

Plot size: 1.5m length x 3rows (spaced 20cm apart)

Agronomy: As per the package of practices

Seed requirement: 1.5 kg.per entry

Observations to be recorded:

Agromorphological observations: Germination percentage, Days to heading, Days to anthesis, Days to maturity, Plant height (cm), Total biomass at harvest (g), Productive tillers of one full row length, Grain yield / plot (g), 1000-grain weight (g), Grain number/spike, Grain weight/spike.

Physiological parameters: Two recordings of NDVI (one month after sowing & 21 days after anthesis), Canopy temperature, Chlorophyll fluorescence and Chlorophyll content (15 days & 21 days after anthesis), respectively.

Salinity/Alkalinity Tolerance Screening Nursery 2023-24

Conducting centres

Zone	Number of Centres	Conducting Centres
Haryana	3	ICAR-CSSRI-Karnal, ICAR-IIWBR-Hisar, HAU-Hisar
Punjab	2	Muktsar, Bathinda
UP	3	ICAR-CSSRI-Lucknow, Daleep Nagar, Ayodhya
Gujarat	2	ICAR-CSSRI-Bharuch, Vijapur
Total	10	

***These centers are tentative and all possibilities will be explored for trial conductance**

Details of trial entries

SN	Cooperating Centre	Entries
1	CSSRI Karnal	8
2	IIWBR Karnal	6
3	CCSHAU Hisar	3
4	PAU Ludhiana	3
5	CSAUAT Kanpur	2
6	NDUAT Faizabad	2
7	Vijapur	2
	Checks	4 (Kh65, KRL210, DBW 187, GW 322)
	Total	30 (26 entries + 4 checks)

Experimental Details

Design	: Augmented Design	
Replication/Sets	: Two	
Plot size	: 5 x 0.60m (3 rows) : (3m ²)	
Fertilizer dose (kg/ha)	: : 120:60:40 (N:P:K)	
Time of sowing	: HAR/PUN: Nov. 5-20;	UP/GUJ: 10-25 Nov
Seed requirement	: Entries: 900 gm	
	Checks: 3Kg	

Quality Component Wheat Biofortification Nursery

Nursery Conducting Centers

Zone	Number	Centers
NWPZ	4	Ludhiana, Karnal, New Delhi, Pantnagar
NEPZ	2	Kanpur, Varanasi, Ranchi
CZ	4	Indore, Vijapur, Powarkheda, Junagadh
PZ	3	Dharwad , Pune, Niphad
Total	13	

Details of Test Entries

Contributing Center	No. of Entries	Name of Entries
IARI Delhi	3	
IIWBR Karnal	3	
PAU Ludhiana	3	
Hisar	2	
Pantnagar	2	
Kanpur	2	
Varanasi	2	
IARI Indore	2	
Vijapur	2	
Powarkheda	2	
Junagadh	1	
Dharwad	2	
Niphad	2	
Pune	2	
Ranchi	1	
Checks	5	DBW187, DBW327, GW322, HD3386, MACS6222
Total	31+5	

Experimental details

Design	:	Simple Lattice (6x6)
Replications	:	2
Plot size	:	Gross: 4X0.8(4 rows)
Fertilizer dose (kg/ha)	:	NW/NE: 150:60:40 (N:P:K) CZ/PZ:120:60:40
Time of Sowing	:	05-20 Nov
Seed rate	:	100kg/ha
Seed requirement	:	2.500 Kg

Samples will be analysed at ICAR-IIWBR, Karnal for grain appearance score, test weight, protein content, grain hardness index, sedimentation value, Fe and Zn content. Hand threshed samples using cloth should be provided for Fe and Zn analysis separately.