

Table 2.3. North Western Plain Zone		RIR-TS-TAS			Centrewise		Yield, q/ha			2022-23
Irrigation	Genotype	Agra	Delhi	Gurdaspur	Hisar	Jammu	Karnal	Ludhiana	Pantnagar	Zonal mean
Zero	HD 3369 (I) (C)	29.35	34.35	53.45	31.06	42.30	26.62	23.29	25.80	33.28
	DBW 296 (C)	28.32	34.52	53.78	34.56	42.14	25.19	24.28	29.19	34.00
	HI 1653 (I) (C)	29.92	29.29	54.33	36.34	43.50	30.79	22.06	27.23	34.18
	PBW 644 (C)	24.48	34.35	53.62	31.39	41.37	26.25	25.21	24.19	32.61
	WH 1402	27.14	32.24	53.32	39.21	44.64	25.46	21.39	31.78	34.40
	NIAW 3170 (C)	25.54	30.95	53.75	34.32	42.07	24.17	26.32	30.69	33.48
	HI 1654 (I) (C)	23.52	35.20	52.46	35.75	44.25	22.04	25.32	33.35	33.99
	Mean	26.90	32.99	53.53	34.66	42.89	25.79	23.98	28.89	33.70
One	HD 3369 (I) (C)	44.28	39.97	61.48	44.70	43.07	44.86	42.06	47.98	46.05
	DBW 296 (C)	42.67	39.29	57.69	43.03	42.43	43.33	44.24	48.16	45.10
	HI 1653 (I) (C)	46.23	41.19	60.32	46.94	44.72	44.44	41.57	45.42	46.36
	PBW 644 (C)	40.49	43.37	57.38	41.97	42.26	43.29	39.95	50.10	44.85
	WH 1402	41.80	42.86	58.77	46.46	46.17	44.26	42.52	50.35	46.65
	NIAW 3170 (C)	41.63	38.10	59.63	45.78	42.33	43.66	43.38	47.59	45.26
	HI 1654 (I) (C)	39.01	41.19	58.66	45.03	44.65	45.32	44.19	53.14	46.40
	Mean	42.30	40.85	59.13	44.85	43.66	44.17	42.56	48.96	45.81
Two	HD 3369 (I) (C)	51.58	53.91	59.61	49.63	44.01	48.43	48.73	51.80	50.96
	DBW 296 (C)	49.97	52.21	57.97	50.07	43.35	47.87	46.33	53.47	50.16
	HI 1653 (I) (C)	54.15	51.56	59.77	50.64	45.36	48.06	45.14	54.13	51.10
	PBW 644 (C)	45.93	45.07	58.98	47.62	44.06	46.46	46.04	51.09	48.16
	WH 1402	47.66	46.77	58.73	51.26	47.92	47.41	47.29	51.08	49.77
	NIAW 3170 (C)	46.24	48.30	58.31	50.34	43.10	48.47	48.50	50.70	49.24
	HI 1654 (I) (C)	45.05	50.00	59.70	48.71	46.46	48.33	47.23	54.62	50.01
	Mean	48.65	49.69	59.01	49.75	44.89	47.86	47.04	52.41	49.91
Mean	HD 3369 (I) (C)	41.74	42.74	58.18	41.80	43.13	39.97	38.02	41.86	43.43
	DBW 296 (C)	40.32	42.01	56.48	42.55	42.64	38.80	38.28	43.60	43.09
	HI 1653 (I) (C)	43.43	40.68	58.14	44.64	44.52	41.10	36.26	42.26	43.88
	PBW 644 (C)	36.97	40.93	56.66	40.33	42.56	38.67	37.07	41.79	41.87
	WH 1402	38.87	40.62	56.94	45.65	46.24	39.04	37.07	44.40	43.60
	NIAW 3170 (C)	37.80	39.12	57.23	43.48	42.50	38.77	39.40	42.99	42.66
	HI 1654 (I) (C)	35.86	42.13	56.94	43.16	45.12	38.56	38.91	47.04	43.47
	Mean	39.28	41.18	57.22	43.09	43.82	39.27	37.86	43.42	43.14
CD (0.05)		1.10	2.27	7.33	1.98	1.92	2.78	9.17	4.89	1.03
		1.35	NS	NS	1.83	2.75	NS	NS	2.73	1.04
		NS	NS	NS	NS	NS	NS	NS	NS	NS
		NS	NS	NS	NS	NS	NS	NS	Ns	NS
Date of Sowing:	05.11.2022	04.11.2022	05.11.2022	31.10.2022	27.10.2022	01.11.2022	28.10.2022	29.10.2022		
Date of Harvesting:	31.03.2023	27.03.2023	24.04.2023	04.04.2023	10.04.2023	18.04.2023	12.04.2023	08.04.2023		

Table 2.4. North Western Plain Zone			RIR-TS-TAS		Pooled		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	33.28	6	46.05	4	50.96	2	43.43	4
DBW 296 (C)	34.00	3	45.10	6	50.16	3	43.09	5
HI 1653 (I) (C)	34.18	2	46.36	3	51.10	1	43.88	1
PBW 644 (C)	32.61	7	44.85	7	48.16	7	41.87	7
WH 1402	34.40	1	46.65	1	49.77	5	43.60	2
NIAW 3170 (C)	33.48	5	45.26	5	49.24	6	42.66	6
HI 1654 (I) (C)	33.99	4	46.40	2	50.01	4	43.47	3
Mean	33.70		45.81		49.91		43.14	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	1.03		1.04		NS		NS	
Earhead/sq.m.								
HD 3369 (I) (C)	306.45	3	358.55	4	368.27	4	344.42	4
DBW 296 (C)	304.36	4	362.42	2	365.16	6	343.98	5
HI 1653 (I) (C)	317.93	1	361.86	3	362.91	7	347.57	3
PBW 644 (C)	294.60	7	340.01	7	367.39	5	334.00	7
WH 1402	307.48	2	353.73	5	391.15	2	350.79	2
NIAW 3170 (C)	297.55	5	350.59	6	377.61	3	341.92	6
HI 1654 (I) (C)	297.54	6	364.60	1	394.63	1	352.26	1
Mean	303.70		355.97		375.30		344.99	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	6.49		8.81		15.25		15.52	
Grains/earhead								
HD 3369 (I) (C)	28.15	6	31.90	4	33.89	1	31.31	2
DBW 296 (C)	28.35	5	31.02	6	33.59	2	30.99	3
HI 1653 (I) (C)	26.29	7	30.28	7	32.16	4	29.58	7
PBW 644 (C)	29.49	1	33.66	1	32.63	3	31.93	1
WH 1402	28.84	4	32.66	2	31.42	5	30.97	4
NIAW 3170 (C)	29.08	3	32.05	3	31.39	6	30.84	5
HI 1654 (I) (C)	29.34	2	31.31	5	30.54	7	30.40	6
Mean	28.50		31.84		32.23		30.86	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	0.98		NS		NS		NS	
1000 grains weight, g								
HD 3369 (I) (C)	39.38	6	41.98	2	42.30	5	41.22	6
DBW 296 (C)	40.12	2	41.13	6	42.72	3	41.32	4
HI 1653 (I) (C)	42.62	1	44.37	1	46.24	1	44.41	1
PBW 644 (C)	38.11	7	40.19	7	41.21	7	39.84	7
WH 1402	40.02	3	41.84	3	42.23	6	41.36	3
NIAW 3170 (C)	39.45	5	41.54	5	42.69	4	41.22	5
HI 1654 (I) (C)	39.54	4	41.72	4	42.92	2	41.40	2
Mean	39.89		41.82		42.90		41.54	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	0.57		0.62		NS		NS	

Centres: Agra, Delhi, Gurdaspur, Hisar, Jammu, Karnal, Ludhiana and Pantnagar

Table 2.4.1 North Western Plain Zone		RIR-TS-TAS				Agra		2022-23	
Genotype	Level of Irrigation						Mean	Rk	
	Zero	Rk	One	Rk	Two	Rk			
Yield, q/ha									
HD 3369 (I) (C)	29.35	2	44.28	2	51.58	2	41.74	2	
DBW 296 (C)	28.32	3	42.67	3	49.97	3	40.32	3	
HI 1653 (I) (C)	29.92	1	46.23	1	54.15	1	43.43	1	
PBW 644 (C)	24.48	6	40.49	6	45.93	6	36.97	6	
WH 1402	27.14	4	41.80	4	47.66	4	38.87	4	
NIAW 3170 (C)	25.54	5	41.63	5	46.24	5	37.80	5	
HI 1654 (I) (C)	23.52	7	39.01	7	45.05	7	35.86	7	
Mean	26.90		42.30		48.65		39.28		
	F. Test		SEm		CD (0.05)		CV (%)		
Irrigation (A)	**		0.28		1.10		3.26		
Genotype (B)	**		0.47		1.35		3.60		
B within A	N.S.		0.82		2.34				
A within B			0.81		2.31				
Earhead/sq.m.									
HD 3369 (I) (C)	336	2	353	2	364	2	351	2	
DBW 296 (C)	334	3	352	3	362	3	349	3	
HI 1653 (I) (C)	338	1	355	1	364	1	352	1	
PBW 644 (C)	323	6	349	6	359	6	344	6	
WH 1402	330	4	351	4	361	4	347	4	
NIAW 3170 (C)	326	5	350	5	359	5	345	5	
HI 1654 (I) (C)	321	7	346	7	357	7	342	7	
Mean	330		351		361		347		
	F. Test		SEm		CD (0.05)		CV (%)		
Irrigation (A)	**		0.67		2.64		0.89		
Genotype (B)	*		2.52		7.24		2.18		
B within A	N.S.		4.37		12.54				
A within B			4.10		11.77				
Grains/earhead									
HD 3369 (I) (C)	24.17	2	32.07	1	33.78	2	30.01	2	
DBW 296 (C)	23.56	3	31.13	3	33.29	3	29.33	3	
HI 1653 (I) (C)	24.34	1	32.00	2	34.56	1	30.30	1	
PBW 644 (C)	21.10	6	30.17	6	32.19	5	27.82	6	
WH 1402	22.70	4	30.77	5	32.80	4	28.76	4	
NIAW 3170 (C)	21.68	5	30.89	4	32.17	6	28.24	5	
HI 1654 (I) (C)	21.03	7	29.27	7	32.00	7	27.43	7	
Mean	22.65		30.90		32.97		28.84		
	F. Test		SEm		CD (0.05)		CV (%)		
Irrigation (A)	**		0.32		1.28		5.16		
Genotype (B)	**		0.51		1.46		5.28		
B within A	N.S.		0.88		2.52				
A within B			0.88		2.51				
1000 grains weight, g									
HD 3369 (I) (C)	36.19	3	39.09	2	42.01	2	39.10	2	
DBW 296 (C)	35.99	5	38.99	3	41.53	3	38.84	3	
HI 1653 (I) (C)	36.49	1	40.76	1	43.09	1	40.11	1	
PBW 644 (C)	35.91	6	38.53	6	39.79	6	38.08	6	
WH 1402	36.35	2	38.69	4	40.29	4	38.44	4	
NIAW 3170 (C)	36.17	4	38.58	5	40.03	5	38.26	5	
HI 1654 (I) (C)	34.83	7	38.53	6	39.41	7	37.59	7	
Mean	35.99		39.02		40.88		38.63		
	F. Test		SEm		CD (0.05)		CV (%)		
Irrigation (A)	**		0.17		0.66		1.99		
Genotype (B)	**		0.36		1.03		2.79		
B within A	N.S.		0.62		1.78				
A within B			0.60		1.72				
Date of Sowing:	05.11.2022	Date of Harvesting:					31.03.2023		

Table 2.4.2 North Western Plain Zone			RIR-TS-TAS		Delhi		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	34.35	3	39.97	5	53.91	1	42.74	1
DBW 296 (C)	34.52	2	39.29	6	52.21	2	42.01	3
HI 1653 (I) (C)	29.29	7	41.19	3	51.56	3	40.68	5
PBW 644 (C)	34.35	3	43.37	1	45.07	7	40.93	4
WH 1402	32.24	5	42.86	2	46.77	6	40.62	6
NIAW 3170 (C)	30.95	6	38.10	7	48.30	5	39.12	7
HI 1654 (I) (C)	35.20	1	41.19	3	50.00	4	42.13	2
Mean	32.99		40.85		49.69		41.18	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.58		2.27		6.44	
Genotype (B)	N.S.		1.29		3.71		9.41	
B within A	N.S.		2.24		6.42			
A within B			2.15		6.17			
Earhead/sq.m.								
HD 3369 (I) (C)	290	3	337	5	355	7	327	5
DBW 296 (C)	291	2	342	4	363	5	332	3
HI 1653 (I) (C)	300	1	343	3	383	2	342	1
PBW 644 (C)	280	4	346	2	376	3	334	2
WH 1402	274	5	331	7	386	1	330	4
NIAW 3170 (C)	256	7	337	6	369	4	320	7
HI 1654 (I) (C)	259	6	352	1	362	6	324	6
Mean	279		341		371		330	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		9.09		35.67		12.61	
Genotype (B)	N.S.		8.89		25.52		8.08	
B within A	N.S.		15.40		44.20			
A within B			16.91		48.52			
Grains/earhead								
HD 3369 (I) (C)	34.65	4	30.20	4	37.04	1	33.96	1
DBW 296 (C)	33.54	5	30.38	3	34.60	2	32.84	3
HI 1653 (I) (C)	25.64	7	29.56	5	32.61	4	29.27	7
PBW 644 (C)	35.21	2	31.79	1	28.89	6	31.96	4
WH 1402	33.02	6	31.11	2	28.46	7	30.86	5
NIAW 3170 (C)	34.84	3	26.51	7	30.63	5	30.66	6
HI 1654 (I) (C)	38.99	1	27.78	6	33.09	3	33.28	2
Mean	33.70		29.62		32.19		31.83	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.16		4.55		16.67	
Genotype (B)	N.S.		1.85		5.30		17.42	
B within A	N.S.		3.20		9.19			
A within B			3.18		9.13			
1000 grains weight, g								
HD 3369 (I) (C)	34.65	7	39.32	6	41.24	7	38.40	7
DBW 296 (C)	36.21	4	38.35	7	42.04	4	38.86	6
HI 1653 (I) (C)	37.63	1	40.67	4	41.31	6	39.87	4
PBW 644 (C)	35.51	5	39.74	5	41.56	5	38.94	5
WH 1402	37.42	2	41.72	3	43.10	1	40.74	2
NIAW 3170 (C)	36.71	3	42.66	1	43.10	1	40.82	1
HI 1654 (I) (C)	35.15	6	42.37	2	42.10	3	39.87	3
Mean	36.18		40.69		42.06		39.64	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.19		0.73		2.14	
Genotype (B)	N.S.		0.85		2.42		6.39	
B within A	N.S.		1.46		4.20			
A within B			1.37		3.92			
Date of Sowing:	04.11.2022		Date of Harvesting:			27.03.2023		

Table 2.4.3 North Western Plain Zone			RIR-TS-TAS		Durgapura		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	21.57	4	20.90	6	29.01	1	23.63	4
DBW 296 (C)	22.67	3	21.00	5	25.88	6	23.18	6
HI 1653 (I) (C)	26.30	1	22.47	4	27.72	3	25.50	1
PBW 644 (C)	23.67	2	23.11	3	26.33	5	24.34	2
WH 1402	19.90	7	25.95	1	25.07	7	23.64	5
NIAW 3170 (C)	21.17	5	23.17	2	28.60	2	24.31	3
HI 1654 (I) (C)	20.61	6	20.15	7	27.47	4	22.97	7
Mean	22.27		22.49		27.14		23.97	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)			0.52		2.05		10.00	
Genotype (B)	N.S.		0.85		2.44		10.63	
B within A	N.S.		1.47		4.22			
A within B			1.46		4.19			
Earhead/sq.m.								
HD 3369 (I) (C)	237	5	235	5	274	1	249	5
DBW 296 (C)	243	3	235	5	260	6	246	6
HI 1653 (I) (C)	260	1	244	4	268	3	257	1
PBW 644 (C)	251	2	245	3	261	5	252	3
WH 1402	232	7	260	1	259	7	250	4
NIAW 3170 (C)	238	4	248	2	273	2	253	2
HI 1654 (I) (C)	234	6	235	5	267	4	245	7
Mean	242		243		266		250	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		2.04		8.01		3.73	
Genotype (B)	N.S.		3.95		11.34		4.73	
B within A	N.S.		6.84		19.64			
A within B			6.66		19.10			
Grains/earhead								
HD 3369 (I) (C)	26.06	6	23.68	6	28.63	3	26.12	5
DBW 296 (C)	27.12	3	23.43	7	26.81	6	25.78	6
HI 1653 (I) (C)	27.34	2	24.65	5	28.03	4	26.67	4
PBW 644 (C)	28.17	1	26.69	1	28.00	5	27.62	1
WH 1402	22.50	7	24.93	4	23.91	7	23.78	7
NIAW 3170 (C)	27.09	4	26.14	2	29.03	2	27.42	2
HI 1654 (I) (C)	26.94	5	25.78	3	29.44	1	27.38	3
Mean	26.46		25.04		27.69		26.40	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.31		1.21		5.35	
Genotype (B)	**		0.63		1.81		7.16	
B within A	N.S.		1.09		3.13			
A within B			1.06		3.03			
1000 grains weight, g								
HD 3369 (I) (C)	34.92	3	37.60	3	36.74	4	36.42	4
DBW 296 (C)	34.46	4	38.17	2	37.14	2	36.59	3
HI 1653 (I) (C)	36.75	2	37.38	4	36.89	3	37.01	2
PBW 644 (C)	33.51	5	35.27	6	35.76	6	34.85	6
WH 1402	38.10	1	40.08	1	40.47	1	39.55	1
NIAW 3170 (C)	33.00	6	35.75	5	36.08	5	34.94	5
HI 1654 (I) (C)	32.70	7	34.35	7	34.90	7	33.98	7
Mean	34.78		36.94		36.85		36.19	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.19		0.76		2.45	
Genotype (B)	**		0.55		1.58		4.56	
B within A	N.S.		0.95		2.73			
A within B			0.90		2.59			
Date of Sowing:	17.11.2022		Date of Harvesting:		21.03.2023			

Table 2.4.4 North Western Plain Zone			RIR-TS-TAS		Gurdaspur		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	53.45	5	61.48	1	59.61	3	58.18	1
DBW 296 (C)	53.78	2	57.69	6	57.97	7	56.48	7
HI 1653 (I) (C)	54.33	1	60.32	2	59.77	1	58.14	2
PBW 644 (C)	53.62	4	57.38	7	58.98	4	56.66	6
WH 1402	53.32	6	58.77	4	58.73	5	56.94	4
NIAW 3170 (C)	53.75	3	59.63	3	58.31	6	57.23	3
HI 1654 (I) (C)	52.46	7	58.66	5	59.70	2	56.94	5
Mean	53.53		59.13		59.01		57.22	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.87		7.33		14.96	
Genotype (B)	N.S.		2.11		6.06		11.08	
B within A	N.S.		3.66		10.50			
A within B			3.87		11.10			
Earhead/sq.m.								
HD 3369 (I) (C)	343	5	373	1	361	5	359	1
DBW 296 (C)	348	2	359	5	363	4	357	5
HI 1653 (I) (C)	353	1	353	7	350	7	352	7
PBW 644 (C)	348	3	369	2	354	6	357	4
WH 1402	343	4	361	4	369	2	358	3
NIAW 3170 (C)	338	7	364	3	373	1	358	2
HI 1654 (I) (C)	341	6	355	6	363	3	353	6
Mean	345		362		362		356	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		4.29		16.83		5.52	
Genotype (B)	N.S.		6.28		18.01		5.29	
B within A	N.S.		10.87		31.19			
A within B			10.94		31.39			
Grains/earhead								
HD 3369 (I) (C)	42.74	3	43.61	2	41.35	4	42.57	1
DBW 296 (C)	41.85	5	41.83	3	40.35	5	41.34	5
HI 1653 (I) (C)	41.44	7	43.68	1	42.29	1	42.47	2
PBW 644 (C)	41.75	6	39.47	7	42.10	2	41.11	7
WH 1402	42.76	2	41.18	5	40.05	6	41.33	6
NIAW 3170 (C)	43.61	1	41.51	4	40.04	7	41.72	3
HI 1654 (I) (C)	42.18	4	41.05	6	41.64	3	41.62	4
Mean	42.33		41.76		41.12		41.74	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.33		5.23		14.64	
Genotype (B)	N.S.		1.73		4.97		12.45	
B within A	N.S.		3.00		8.61			
A within B			3.08		8.84			
1000 grains weight, g								
HD 3369 (I) (C)	36.56	6	38.18	7	39.88	3	38.21	7
DBW 296 (C)	36.94	2	38.70	6	39.63	4	38.42	6
HI 1653 (I) (C)	37.26	1	39.25	5	40.52	1	39.01	1
PBW 644 (C)	36.86	3	39.49	4	39.57	5	38.64	4
WH 1402	36.69	4	39.54	3	40.01	2	38.75	3
NIAW 3170 (C)	36.58	5	39.61	2	39.13	7	38.44	5
HI 1654 (I) (C)	36.47	7	40.24	1	39.57	6	38.76	2
Mean	36.76		39.29		39.76		38.60	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.18		0.69		2.09	
Genotype (B)	N.S.		0.23		0.67		1.82	
B within A	N.S.		0.41		1.16			
A within B			0.42		1.19			
Date of Sowing:	05.11.2022		Date of Harvesting:			24.04.2023		

Table 2.4.5 North Western Plain Zone			RIR-TS-TAS		Hisar		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	31.06	7	44.70	5	49.63	5	41.80	6
DBW 296 (C)	34.56	4	43.03	6	50.07	4	42.55	5
HI 1653 (I) (C)	36.34	2	46.94	1	50.64	2	44.64	2
PBW 644 (C)	31.39	6	41.97	7	47.62	7	40.33	7
WH 1402	39.21	1	46.46	2	51.26	1	45.65	1
NIAW 3170 (C)	34.32	5	45.78	3	50.34	3	43.48	3
HI 1654 (I) (C)	35.75	3	45.03	4	48.71	6	43.16	4
Mean	34.66		44.85		49.75		43.09	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.51		1.98		5.38	
Genotype (B)	**		0.64		1.83		4.45	
B within A	N.S.		1.11		3.18			
A within B			1.14		3.28			
Earhead/sq.m.								
HD 3369 (I) (C)	292	7	370	5	392	6	351	6
DBW 296 (C)	312	5	362	7	400	4	358	5
HI 1653 (I) (C)	347	2	397	2	413	1	386	2
PBW 644 (C)	305	6	363	6	385	7	351	7
WH 1402	352	1	408	1	410	2	390	1
NIAW 3170 (C)	313	4	378	4	408	3	367	4
HI 1654 (I) (C)	333	3	383	3	400	4	372	3
Mean	322		380		401		368	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		3.94		15.48		4.91	
Genotype (B)	**		5.59		16.04		4.56	
B within A	N.S.		9.68		27.79			
A within B			9.79		28.11			
Grains/earhead								
HD 3369 (I) (C)	23.64	5	27.52	4	28.95	2	26.70	4
DBW 296 (C)	24.08	2	28.05	3	28.90	3	27.01	3
HI 1653 (I) (C)	18.08	7	24.08	7	22.89	7	21.69	7
PBW 644 (C)	23.32	6	29.19	1	30.58	1	27.70	1
WH 1402	23.96	3	24.25	6	25.78	6	24.66	6
NIAW 3170 (C)	25.75	1	28.52	2	27.63	4	27.30	2
HI 1654 (I) (C)	23.82	4	26.77	5	27.34	5	25.97	5
Mean	23.24		26.91		27.44		25.86	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		0.68		2.66		12.01	
Genotype (B)	**		0.63		1.81		7.30	
B within A	N.S.		1.09		3.13			
A within B			1.22		3.49			
1000 grains weight, g								
HD 3369 (I) (C)	45.13	5	43.97	4	43.85	5	44.32	4
DBW 296 (C)	46.26	3	42.52	6	43.35	6	44.04	5
HI 1653 (I) (C)	58.12	1	49.22	1	53.66	1	53.66	1
PBW 644 (C)	44.17	6	39.84	7	40.48	7	41.50	7
WH 1402	46.89	2	47.09	2	48.59	2	47.52	2
NIAW 3170 (C)	42.76	7	42.63	5	44.71	3	43.37	6
HI 1654 (I) (C)	45.21	4	44.12	3	44.52	4	44.62	3
Mean	46.93		44.20		45.59		45.58	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.26		1.01		2.58	
Genotype (B)	**		0.51		1.46		3.34	
B within A	**		0.88		2.52			
A within B			0.85		2.45			
Date of Sowing:	31.10.2022		Date of Harvesting:			04.04.2023		

Table 2.4.6 North Western Plain Zone			RIR-TS-TAS		Jammu		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	42.30	4	43.07	4	44.01	5	43.13	4
DBW 296 (C)	42.14	5	42.43	5	43.35	6	42.64	5
HI 1653 (I) (C)	43.50	3	44.72	2	45.36	3	44.52	3
PBW 644 (C)	41.37	7	42.26	7	44.06	4	42.56	6
WH 1402	44.64	1	46.17	1	47.92	1	46.24	1
NIAW 3170 (C)	42.07	6	42.33	6	43.10	7	42.50	7
HI 1654 (I) (C)	44.25	2	44.65	3	46.46	2	45.12	2
Mean	42.89		43.66		44.89		43.82	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		0.49		1.92		5.11	
Genotype (B)	*		0.96		2.75		6.57	
B within A	N.S.		1.66		4.77			
A within B			1.61		4.63			
Earhead/sq.m.								
HD 3369 (I) (C)	397	3	401	4	411	5	403	4
DBW 296 (C)	396	4	400	5	407	6	401	5
HI 1653 (I) (C)	408	2	415	2	417	3	413	2
PBW 644 (C)	381	7	380	7	412	4	391	7
WH 1402	413	1	426	1	432	1	424	1
NIAW 3170 (C)	386	5	398	6	403	7	396	6
HI 1654 (I) (C)	384	6	413	3	427	2	408	3
Mean	395		405		415		405	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		3.78		14.84		4.28	
Genotype (B)	**		5.98		17.16		4.43	
B within A	N.S.		10.36		29.71			
A within B			10.31		29.57			
Grains/earhead								
HD 3369 (I) (C)	26.19	4	26.00	6	26.91	3	26.37	4
DBW 296 (C)	26.21	3	26.09	5	26.91	4	26.40	3
HI 1653 (I) (C)	25.78	5	26.22	4	26.54	5	26.18	5
PBW 644 (C)	25.20	6	25.98	7	25.15	7	25.44	7
WH 1402	26.82	2	28.52	1	30.62	1	28.65	1
NIAW 3170 (C)	25.00	7	26.44	3	26.43	6	25.96	6
HI 1654 (I) (C)	27.72	1	27.24	2	27.94	2	27.64	2
Mean	26.13		26.64		27.21		26.66	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.82		3.23		14.13	
Genotype (B)	N.S.		0.90		2.58		10.11	
B within A	N.S.		1.56		4.46			
A within B			1.66		4.76			
1000 grains weight, g								
HD 3369 (I) (C)	40.78	6	41.51	2	40.72	4	41.00	4
DBW 296 (C)	40.56	7	40.74	4	40.11	5	40.47	5
HI 1653 (I) (C)	41.84	3	41.08	3	41.29	2	41.41	3
PBW 644 (C)	43.58	2	43.71	1	42.70	1	43.33	1
WH 1402	40.85	5	38.57	7	36.70	7	38.70	7
NIAW 3170 (C)	43.88	1	40.35	5	41.18	3	41.80	2
HI 1654 (I) (C)	41.62	4	39.66	6	39.36	6	40.22	6
Mean	41.87		40.80		40.29		40.99	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.33		5.22		14.88	
Genotype (B)	N.S.		1.65		4.73		12.07	
B within A	N.S.		2.86		8.19			
A within B			2.96		8.49			
Date of Sowing:	27.10.2022		Date of Harvesting:			10.04.2023		

Table 2.4.7 North Western Plain Zone			RIR-TS-TAS		Karnal		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	26.62	2	44.86	2	48.43	2	39.97	2
DBW 296 (C)	25.19	5	43.33	6	47.87	5	38.80	4
HI 1653 (I) (C)	30.79	1	44.44	3	48.06	4	41.10	1
PBW 644 (C)	26.25	3	43.29	7	46.46	7	38.67	6
WH 1402	25.46	4	44.26	4	47.41	6	39.04	3
NIAW 3170 (C)	24.17	6	43.66	5	48.47	1	38.77	5
HI 1654 (I) (C)	22.04	7	45.32	1	48.33	3	38.56	7
Mean	25.79		44.17		47.86		39.27	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.71		2.78		8.27	
Genotype (B)	N.S.		1.13		3.24		8.63	
B within A	N.S.		1.96		5.62			
A within B			1.95		5.58			
Earhead/sq.m.								
HD 3369 (I) (C)	329	2	491	1	456	4	425	1
DBW 296 (C)	303	4	457	3	481	2	413	3
HI 1653 (I) (C)	343	1	478	2	453	5	425	2
PBW 644 (C)	256	6	373	7	444	7	358	7
WH 1402	308	3	384	6	463	3	385	5
NIAW 3170 (C)	262	5	428	5	451	6	380	6
HI 1654 (I) (C)	249	7	454	4	493	1	399	4
Mean	293		438		463		398	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		15.98		62.72		18.40	
Genotype (B)	N.S.		23.03		66.07		17.36	
B within A	N.S.		39.88		114.43			
A within B			40.23		115.44			
Grains/earhead								
HD 3369 (I) (C)	21.04	5	21.86	6	23.84	3	22.25	5
DBW 296 (C)	19.80	7	22.52	5	22.90	5	21.74	6
HI 1653 (I) (C)	23.04	3	20.38	7	20.50	7	21.31	7
PBW 644 (C)	28.55	1	30.20	1	26.45	1	28.40	1
WH 1402	20.40	6	29.98	2	23.40	4	24.59	3
NIAW 3170 (C)	23.83	2	26.63	3	26.45	2	25.63	2
HI 1654 (I) (C)	23.00	4	25.15	4	21.60	6	23.25	4
Mean	22.81		25.25		23.59		23.88	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.11		4.35		21.26	
Genotype (B)	N.S.		1.96		5.63		24.66	
B within A	N.S.		3.40		9.76			
A within B			3.34		9.58			
1000 grains weight, g								
HD 3369 (I) (C)	41.76	4	43.58	2	44.66	3	43.33	3
DBW 296 (C)	43.11	1	42.60	3	44.44	4	43.38	2
HI 1653 (I) (C)	42.48	2	47.11	1	51.89	1	47.16	1
PBW 644 (C)	37.46	7	38.93	7	40.24	7	38.88	7
WH 1402	42.11	3	41.73	4	44.35	5	42.73	4
NIAW 3170 (C)	39.72	6	40.70	6	42.28	6	40.90	6
HI 1654 (I) (C)	40.01	5	40.93	5	45.65	2	42.20	5
Mean	40.95		42.23		44.79		42.65	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.23		0.92		2.51	
Genotype (B)	**		0.60		1.71		4.20	
B within A	*		1.03		2.97			
A within B			0.98		2.83			
Date of Sowing:	01.11.2022		Date of Harvesting:			18.04.2023		

Table 2.4.8 North Western Plain Zone			RIR-TS-TAS		Ludhiana		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	23.29	5	42.06	5	48.73	1	38.02	4
DBW 296 (C)	24.28	4	44.24	1	46.33	5	38.28	3
HI 1653 (I) (C)	22.06	6	41.57	6	45.14	7	36.26	7
PBW 644 (C)	25.21	3	39.95	7	46.04	6	37.07	5
WH 1402	21.39	7	42.52	4	47.29	3	37.07	5
NIAW 3170 (C)	26.32	1	43.38	3	48.50	2	39.40	1
HI 1654 (I) (C)	25.32	2	44.19	2	47.23	4	38.91	2
Mean	23.98		42.56		47.04		37.86	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		2.34		9.17		28.28	
Genotype (B)	N.S.		1.69		4.85		13.39	
B within A	N.S.		2.93		8.40			
A within B			3.58		10.26			
Earhead/sq.m.								
HD 3369 (I) (C)	223	5	276	3	282	3	260	4
DBW 296 (C)	227	3	275	4	280	4	261	3
HI 1653 (I) (C)	205	7	274	5	278	5	252	7
PBW 644 (C)	228	2	263	7	271	7	254	5
WH 1402	217	6	268	6	275	6	253	6
NIAW 3170 (C)	223	4	292	1	301	1	272	1
HI 1654 (I) (C)	238	1	282	2	289	2	270	2
Mean	223		276		282		260	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		2.79		10.94		4.91	
Genotype (B)	*		4.88		14.02		5.63	
B within A	N.S.		8.46		24.27			
A within B			8.31		23.86			
Grains/earhead								
HD 3369 (I) (C)	28.52	6	34.86	6	42.82	2	35.40	3
DBW 296 (C)	28.93	5	36.66	3	35.01	6	33.53	5
HI 1653 (I) (C)	30.54	3	36.62	4	37.16	4	34.78	4
PBW 644 (C)	34.09	1	38.63	1	39.70	3	37.47	1
WH 1402	29.39	4	36.90	2	44.65	1	36.98	2
NIAW 3170 (C)	31.43	2	34.54	7	34.07	7	33.35	6
HI 1654 (I) (C)	28.22	7	35.50	5	35.16	5	32.96	7
Mean	30.16		36.24		38.37		34.92	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.98		7.78		25.99	
Genotype (B)	N.S.		1.80		5.18		15.50	
B within A	N.S.		3.13		8.97			
A within B			3.51		10.06			
1000 grains weight, g								
HD 3369 (I) (C)	35.93	4	44.09	2	40.62	6	40.21	4
DBW 296 (C)	36.62	3	43.90	3	47.26	2	42.59	3
HI 1653 (I) (C)	34.86	6	41.49	6	43.53	4	39.96	5
PBW 644 (C)	32.55	7	39.27	7	42.72	5	38.18	7
WH 1402	35.00	5	43.36	4	38.42	7	38.93	6
NIAW 3170 (C)	37.48	2	43.03	5	47.32	1	42.61	2
HI 1654 (I) (C)	38.18	1	44.39	1	46.55	3	43.04	1
Mean	35.80		42.79		43.78		40.79	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.48		1.90		5.45	
Genotype (B)	**		0.86		2.46		6.30	
B within A	N.S.		1.48		4.26			
A within B			1.46		4.18			
Date of Sowing:	28.10.2022		Date of Harvesting:			12.04.2023		

Table 2.4.9 North Western Plain Zone			RIR-TS-TAS		Pantnagar		2022-23	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HD 3369 (I) (C)	25.80	6	47.98	5	51.80	4	41.86	6
DBW 296 (C)	29.19	4	48.16	4	53.47	3	43.60	3
HI 1653 (I) (C)	27.23	5	45.42	7	54.13	2	42.26	5
PBW 644 (C)	24.19	7	50.10	3	51.09	5	41.79	7
WH 1402	31.78	2	50.35	2	51.08	6	44.40	2
NIAW 3170 (C)	30.69	3	47.59	6	50.70	7	42.99	4
HI 1654 (I) (C)	33.35	1	53.14	1	54.62	1	47.04	1
Mean	28.89		48.96		52.41		43.42	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		1.25		4.89		13.15	
Genotype (B)	**		0.95		2.73		6.57	
B within A	N.S.		1.65		4.73			
A within B			1.97		5.65			
Earhead/sq.m.								
HD 3369 (I) (C)	243	4	268	6	327	5	279	6
DBW 296 (C)	224	6	354	1	266	6	281	5
HI 1653 (I) (C)	249	3	279	4	245	7	258	7
PBW 644 (C)	236	5	277	5	338	4	283	4
WH 1402	224	6	299	3	435	2	320	2
NIAW 3170 (C)	276	1	259	7	357	3	297	3
HI 1654 (I) (C)	254	2	332	2	464	1	350	1
Mean	244		295		347		295	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		8.70		34.14		13.49	
Genotype (B)	**		13.10		37.59		13.30	
B within A	**		22.69		65.11			
A within B			22.74		65.24			
Grains/earhead								
HD 3369 (I) (C)	24.22	6	39.04	3	36.40	3	33.22	4
DBW 296 (C)	28.82	3	31.50	6	46.75	1	35.69	1
HI 1653 (I) (C)	21.45	7	29.69	7	40.76	2	30.63	7
PBW 644 (C)	26.71	4	43.89	1	35.98	4	35.52	2
WH 1402	31.66	1	38.54	4	25.60	6	31.93	5
NIAW 3170 (C)	26.50	5	41.34	2	33.74	5	33.86	3
HI 1654 (I) (C)	29.74	2	37.72	5	25.59	7	31.02	6
Mean	27.01		37.39		34.97		33.12	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		1.09		4.29		15.13	
Genotype (B)	N.S.		1.85		5.32		16.79	
B within A	**		3.21		9.22			
A within B			3.17		9.09			
1000 grains weight, g								
HD 3369 (I) (C)	44.02	5	46.07	2	45.45	4	45.18	2
DBW 296 (C)	45.24	2	43.23	6	43.42	6	43.96	5
HI 1653 (I) (C)	52.30	1	55.39	1	54.63	1	54.11	1
PBW 644 (C)	38.86	7	42.04	7	42.61	7	41.17	7
WH 1402	44.86	4	43.99	4	46.37	2	45.08	3
NIAW 3170 (C)	42.27	6	44.75	3	43.73	5	43.59	6
HI 1654 (I) (C)	44.87	3	43.53	5	46.21	3	44.87	4
Mean	44.63		45.57		46.06		45.42	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.16		4.56		11.71	
Genotype (B)	**		0.62		1.77		4.08	
B within A	N.S.		1.07		3.07			
A within B			1.53		4.38			
Date of Sowing:	29.10.2022		Date of Harvesting:			08.04.2023		

Table 2.4.10 North Western Plain Zone		RIR-TS-TAS		Sriganganagar		2022-23	
Genotype	Level of Irrigation					Mean	Rk
	Zero	Rk	One	Two	Rk		
Yield, q/ha							
HD 3369 (I) (C)	35.48	4	42.93	7	67.99	3	48.80
DBW 296 (C)	36.27	3	43.75	6	59.47	6	46.49
HI 1653 (I) (C)	32.70	5	45.51	4	73.11	7	50.44
PBW 644 (C)	31.90	6	48.23	2	55.69	7	45.27
WH 1402	37.48	2	45.25	5	70.89	1	53.20
NIAW 3170 (C)	39.00	1	48.02	8	66.95	4	51.32
HI 1654 (I) (C)	31.34	7	48.96	1	61.79	5	47.36
Mean	34.88		46.69		65.98		48.98
	F. Test		SEm		CD (0.05)		CV (%)
Irrigation (A)	**		0.04		0.18		0.42
Genotype (B)			0.34		0.97		2.06
B within A	**		0.58		1.67		
A within B			0.54		1.55		
Earhead/sq.m.							
HD 3369 (I) (C)	349	6	373	6	424	3	382
DBW 296 (C)	357	4	385	4	414	4	385
HI 1653 (I) (C)	327	7	354	7	383	7	355
PBW 644 (C)	360	3	388	3	413	5	387
WH 1402	350	5	377	5	409	6	379
NIAW 3170 (C)	371	2	401	2	434	2	402
HI 1654 (I) (C)	379	1	409	1	437	1	408
Mean	356		384		416		385
	F. Test		SEm		CD (0.05)		CV (%)
Irrigation (A)	**		0.60		2.36		0.72
Genotype (B)	**		2.17		6.24		1.69
B within A	N.S.		3.76		10.80		
A within B			3.54		10.15		
Grains/earhead							
HD 3369 (I) (C)	26.06	4	26.73	7	36.67	3	29.82
DBW 296 (C)	26.44	3	26.77	6	33.25	5	28.82
HI 1653 (I) (C)	29.38	1	33.78	1	49.16	1	37.44
PBW 644 (C)	23.09	6	29.29	2	31.24	7	27.87
WH 1402	28.09	2	28.50	3	43.93	2	33.51
NIAW 3170 (C)	25.94	5	26.91	5	34.07	4	28.97
HI 1654 (I) (C)	20.82	7	27.33	4	31.76	6	26.64
Mean	25.69		28.47		37.16		30.44
	F. Test		SEm		CD (0.05)		CV (%)
Irrigation (A)	**		0.05		0.21		0.81
Genotype (B)	**		0.39		1.12		3.84
B within A	**		0.68		1.94		
A within B			0.63		1.80		
1000 grains weight, g							
HD 3369 (I) (C)	39.03	3	43.03	3	43.79	3	41.95
DBW 296 (C)	38.46	4	42.47	4	43.22	4	41.38
HI 1653 (I) (C)	34.07	7	38.07	7	38.83	7	36.99
PBW 644 (C)	38.41	5	42.41	5	43.17	5	41.33
WH 1402	38.08	6	42.08	6	42.84	6	41.00
NIAW 3170 (C)	40.59	1	44.59	1	45.35	1	43.51
HI 1654 (I) (C)	39.76	2	43.76	2	44.52	2	42.68
Mean	38.34		42.34		43.10		41.26
	F. Test		SEm		CD (0.05)		CV (%)
Irrigation (A)	#DIV/0!		0.00		0.00		0.00
Genotype (B)	**		0.25		0.71		1.79
B within A	N.S.		0.43		1.23		
A within B			0.40		1.14		
Date of Sowing:	05.11.2022	Date of Harvesting:					20.04.2023