

Table 2.3. North Western Plain Zone		RIR-TS-TAS			Centrewise		Yield, q/ha			2021-22
Irrigation	Genotype	Delhi	Gurdaspur	Gwalior	Hisar	Jammu	Ludhiana	Pantnagar	Sriganganagar	Zonal mean
Zero	HI1654	37.65	56.59	41.37	36.26	41.78	34.76	43.68	23.40	39.44
	HI1653	36.60	51.73	36.05	37.07	40.18	48.57	41.60	26.22	39.75
	HD3043 (c)	32.72	51.60	34.83	35.48	38.54	33.68	37.65	23.20	35.96
	NIAW3170 (c)	31.93	52.32	35.10	42.86	37.30	37.73	39.00	29.49	38.22
	HD3369	31.00	54.26	38.78	39.42	37.21	40.46	47.55	23.03	38.96
	DBW296 (c)	34.08	55.50	33.98	38.71	37.13	42.70	41.66	15.10	37.36
	PBW644 (c)	32.74	55.70	32.99	36.22	38.98	36.77	42.72	22.55	37.33
	HI1628 (c)	33.57	49.84	31.29	42.28	39.54	40.35	43.75	19.35	37.50
	HUW838 (c)	34.93	51.55	38.27	41.50	38.68	45.34	45.65	22.55	39.81
	Mean	33.91	53.23	35.85	38.87	38.82	40.04	42.58	22.77	38.26
One	HI1654	40.37	57.53	42.82	40.20	41.39	47.33	50.77	43.81	45.53
	HI1653	39.34	55.74	37.09	43.61	38.96	55.71	51.51	43.27	45.65
	HD3043 (c)	36.87	54.62	36.26	41.50	38.41	46.70	41.24	28.67	40.53
	NIAW3170 (c)	35.05	53.61	38.21	47.48	38.66	50.53	46.54	47.59	44.71
	HD3369	35.27	59.34	41.13	47.69	39.05	46.75	51.85	39.86	45.12
	DBW296 (c)	36.43	56.06	38.10	42.11	37.47	50.06	50.18	44.63	44.38
	PBW644 (c)	35.72	61.57	38.10	40.71	37.17	41.88	45.87	39.56	42.57
	HI1628 (c)	37.07	59.61	34.35	45.17	40.22	49.31	45.18	34.42	43.17
	HUW838 (c)	38.02	63.33	43.82	51.02	38.21	49.55	51.36	40.78	47.01
	Mean	37.12	57.94	38.88	44.39	38.84	48.65	48.28	40.29	44.30
Two	HI1654	41.93	61.56	47.96	46.29	40.93	46.32	51.82	55.07	48.99
	HI1653	40.28	58.86	38.74	50.41	38.73	54.53	54.33	50.17	48.26
	HD3043 (c)	38.28	61.47	43.59	42.89	40.96	46.89	42.84	53.91	46.35
	NIAW3170 (c)	37.28	57.87	39.73	54.69	39.93	50.34	49.22	58.10	48.40
	HD3369	36.83	58.23	45.51	48.44	37.50	47.75	51.88	61.70	48.48
	DBW296 (c)	37.92	57.95	40.14	47.01	40.18	51.61	50.96	59.25	48.13
	PBW644 (c)	37.45	53.54	42.64	43.13	37.25	43.38	44.09	61.80	45.41
	HI1628 (c)	38.70	55.84	41.18	46.60	37.54	49.63	43.95	59.59	46.63
	HUW838 (c)	39.25	62.79	44.75	52.89	39.22	49.39	51.33	52.24	48.98
	Mean	38.66	58.68	42.69	48.04	39.14	48.87	48.94	56.87	47.74
Mean	HI1654	39.98	58.56	44.05	40.92	41.37	42.80	48.76	40.76	44.65
	HI1653	38.74	55.44	37.29	43.70	39.29	52.94	49.15	39.89	44.55
	HD3043 (c)	35.96	55.90	38.23	39.95	39.30	42.42	40.57	35.26	40.95
	NIAW3170 (c)	34.76	54.60	37.68	48.34	38.63	46.20	44.92	45.06	43.77
	HD3369	34.37	57.28	41.80	45.18	37.92	44.99	50.42	41.53	44.19
	DBW296 (c)	36.14	56.50	37.40	42.61	38.26	48.12	47.60	39.66	43.29
	PBW644 (c)	35.30	56.94	37.91	40.02	37.80	40.68	44.22	41.30	41.77
	HI1628 (c)	36.44	55.09	35.61	44.68	39.10	46.43	44.29	37.79	42.43
	HUW838 (c)	37.40	59.22	42.28	48.47	38.70	48.09	49.45	38.53	45.27
	Mean	36.57	56.62	39.14	43.76	38.93	45.85	46.60	39.97	43.43
CD (0.05)		1.07	2.46	1.66	2.30	NS	2.65	3.26	3.08	0.66
		0.79	2.21	1.77	1.94	1.24	1.85	1.92	3.42	0.70
		NS	3.82	NS	NS	NS	3.21	3.33	5.93	NS
		NS	4.09	NS	NS	NS	3.67	4.06	6.09	NS
Date of Sowing:		30.11.2021	02.11.2021	10.11.2021	26.10.2021	10.11.2021	25.10.2021	02.11.2021	05.11.2021	
Date of Harvesting:		22.03.2022	25.04.2022	10.04.2022	14.04.2022	28.04.2022	15.04.2022	07.04.2022	25.03.2022	

Table 2.4. North Western Plain Zone		RIR-TS-TAS		Pooled		2021-22		
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	39.44	3	45.53	3	48.99	1	44.65	2
HI1653	39.75	2	45.65	2	48.26	5	44.55	3
HD3043 (c)	35.96	9	40.53	9	46.35	8	40.95	9
NIAW3170 (c)	38.22	5	44.71	5	48.40	4	43.77	5
HD3369	38.96	4	45.12	4	48.48	3	44.19	4
DBW296 (c)	37.36	7	44.38	6	48.13	6	43.29	6
PBW644 (c)	37.33	8	42.57	8	45.41	9	41.77	8
HI1628 (c)	37.50	6	43.17	7	46.63	7	42.43	7
HUW838 (c)	39.81	1	47.01	1	48.98	2	45.27	1
Mean	38.26		44.30		47.74		43.43	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	0.66		0.70		NS		NS	
Earhead/sq.m.								
HI1654	333	2	357	6	379	4	356	3
HI1653	302	9	337	9	350	9	329	9
HD3043 (c)	320	6	359	4	387	2	356	4
NIAW3170 (c)	331	3	377	1	393	1	367	1
HD3369	321	5	360	3	368	6	350	6
DBW296 (c)	325	4	363	2	372	5	353	5
PBW644 (c)	315	7	349	7	351	8	338	7
HI1628 (c)	313	8	343	8	351	7	336	8
HUW838 (c)	333	1	359	5	381	3	357	2
Mean	321		356		370		349	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	5.76		6.56		NS		NS	
1000 grains weight, g								
HI1654	35.37	5	37.05	7	38.36	8	36.93	6
HI1653	38.99	1	41.65	1	43.01	1	41.22	1
HD3043 (c)	31.55	9	33.61	9	35.08	9	33.41	9
NIAW3170 (c)	37.20	2	39.23	2	40.24	4	38.89	2
HD3369	36.59	3	38.34	3	40.76	3	38.56	3
DBW296 (c)	35.10	6	38.24	4	39.30	5	37.55	5
PBW644 (c)	34.49	8	36.25	8	38.45	7	36.40	8
HI1628 (c)	35.77	4	38.15	5	40.92	2	38.28	4
HUW838 (c)	34.70	7	37.38	6	38.61	6	36.90	7
Mean	35.53		37.77		39.41		37.57	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	0.46		0.61		NS		NS	
Grains/earhead								
HI1654	34.97	5	36.66	1	36.19	1	35.94	1
HI1653	34.93	6	33.95	7	33.70	7	34.20	6
HD3043 (c)	36.66	1	35.02	3	36.06	2	35.91	2
NIAW3170 (c)	32.90	9	32.11	9	32.80	9	32.61	9
HD3369	33.99	7	33.96	6	33.51	8	33.82	8
DBW296 (c)	33.96	8	33.37	8	34.51	5	33.95	7
PBW644 (c)	35.27	3	34.41	5	34.76	4	34.81	4
HI1628 (c)	35.03	4	34.66	4	34.39	6	34.69	5
HUW838 (c)	35.86	2	36.38	2	35.06	3	35.77	3
Mean	34.84		34.50		34.55		34.63	
	Irrigation (A)		Genotype (B)		B within A		A within B	
CD (0.05)	NS		1.09		NS		NS	

Centres: Delhi, Gurdaspur, Gwalior, Hisar, Jammu, Ludhiana, Pantnagar and Sriganaganagar

Genotype	North Western Plain Zone		RIR-TS-TAS		Delhi		Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	37.65	1	40.37	1	41.93	1	39.98	1
HI1653	36.60	2	39.34	2	40.28	2	38.74	2
HD3043 (c)	32.72	7	36.87	5	38.28	5	35.96	6
NIAW3170 (c)	31.93	8	35.05	9	37.28	8	34.76	8
HD3369	31.00	9	35.27	8	36.83	9	34.37	9
DBW296 (c)	34.08	4	36.43	6	37.92	6	36.14	5
PBW644 (c)	32.74	6	35.72	7	37.45	7	35.30	7
HI1628 (c)	33.57	5	37.07	4	38.70	4	36.44	4
HUW838 (c)	34.93	3	38.02	3	39.25	3	37.40	3
Mean	33.91		37.12		38.66		36.57	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.36		1.07		5.06	
Genotype (B)	**		0.33		0.79		2.74	
B within A	N.S.		0.58		1.37			
A within B			0.65		1.54			
Earhead/sq.m.								
HI1654	435	2	489	1	547	1	490	1
HI1653	291	9	335	9	383	8	336	8
HD3043 (c)	399	3	425	3	470	3	431	3
NIAW3170 (c)	436	1	483	2	534	2	484	2
HD3369	319	7	350	7	408	7	359	7
DBW296 (c)	385	5	412	5	457	5	418	5
PBW644 (c)	331	6	370	6	413	6	371	6
HI1628 (c)	309	8	342	8	355	9	335	9
HUW838 (c)	387	4	422	4	464	4	424	4
Mean	366		403		448		406	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		13.94		42.04		17.86	
Genotype (B)	**		14.69		34.83		10.86	
B within A	N.S.		25.44		60.33			
A within B			27.74		65.79			
1000 grains weight, g								
HI1654	38.30	6	39.33	5	40.77	4	39.47	4
HI1653	39.87	2	40.63	1	41.63	1	40.71	1
HD3043 (c)	36.67	9	37.82	9	38.69	9	37.72	9
NIAW3170 (c)	39.60	3	40.61	2	40.94	2	40.38	3
HD3369	38.31	5	39.29	6	40.26	6	39.29	6
DBW296 (c)	37.75	7	38.69	7	39.64	8	38.69	7
PBW644 (c)	38.45	4	39.41	4	40.41	5	39.42	5
HI1628 (c)	40.12	1	40.28	3	40.81	3	40.40	2
HUW838 (c)	37.69	8	38.61	8	39.69	7	38.66	8
Mean	38.53		39.41		40.32		39.42	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.10		0.29		1.26	
Genotype (B)	**		0.12		0.30		0.95	
B within A	N.S.		0.22		0.51			
A within B			0.23		0.53			

Grains/earhead								
HI1654	22.90	7	21.08	8	18.81	8	20.93	8
HI1653	31.95	1	29.06	1	25.56	2	28.86	1
HD3043 (c)	22.77	8	22.99	7	21.07	6	22.28	7
NIAW3170 (c)	18.48	9	18.03	9	17.22	9	17.91	9
HD3369	26.75	3	26.51	3	22.62	3	25.29	3
DBW296 (c)	23.89	6	23.19	6	20.97	7	22.68	6
PBW644 (c)	26.70	4	25.10	4	22.56	4	24.79	4
HI1628 (c)	29.59	2	28.52	2	27.94	1	28.68	2
HUW838 (c)	24.32	5	23.66	5	21.35	5	23.11	5
Mean	25.26		24.24		22.01		23.84	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.08		3.25		23.53	
Genotype (B)	**		0.89		2.10		11.14	
B within A	N.S.		1.53		3.64			
A within B			1.80		4.28			
Date of Sowing:	30.11.2021		Date of Harvesting:				22.03.2022	

Table 2.4.2	Western Plain Zone		RIR-TS-TAS		Gurdaspur		2021-22	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	56.59	1	57.53	5	61.56	2	58.56	2
HI1653	51.73	6	55.74	7	58.86	4	55.44	7
HD3043 (c)	51.60	7	54.62	8	61.47	3	55.90	6
NIAW3170 (c)	52.32	5	53.61	9	57.87	7	54.60	9
HD3369	54.26	4	59.34	4	58.23	5	57.28	3
DBW296 (c)	55.50	3	56.06	6	57.95	6	56.50	5
PBW644 (c)	55.70	2	61.57	2	53.54	9	56.94	4
HI1628 (c)	49.84	9	59.61	3	55.84	8	55.09	8
HUW838 (c)	51.55	8	63.33	1	62.79	1	59.22	1
Mean	53.23		57.94		58.68		56.62	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		0.82		2.46		7.50	
Genotype (B)	**		0.93		2.21		4.93	
B within A	**		1.61		3.82			
A within B			1.73		4.09			
Earhead/sq.m.								
HI1654	347	3	355	5	373	3	358	3
HI1653	341	6	332	9	306	9	326	9
HD3043 (c)	345	5	338	8	406	1	363	1
NIAW3170 (c)	346	4	347	6	357	4	350	4
HD3369	359	2	359	4	329	6	349	5
DBW296 (c)	318	8	365	2	352	5	345	6
PBW644 (c)	303	9	361	3	329	6	331	8
HI1628 (c)	337	7	371	1	323	8	344	7
HUW838 (c)	364	1	342	7	377	2	361	2
Mean	340		352		350		347	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		2.29		6.90		3.42	
Genotype (B)	**		4.71		11.16		4.06	
B within A	**		8.15		19.33			
A within B			8.02		19.02			

1000 grains weight, g								
HI1654	35.81	6	37.90	7	37.70	8	37.13	7
HI1653	41.20	1	40.10	1	41.67	1	40.99	1
HD3043 (c)	34.21	9	35.03	9	36.75	9	35.33	9
NIAW3170 (c)	37.98	2	39.47	3	40.18	2	39.21	2
HD3369	37.07	4	39.15	4	39.65	4	38.62	4
DBW296 (c)	34.99	7	38.61	6	39.75	3	37.78	6
PBW644 (c)	37.69	3	37.75	8	39.62	5	38.35	5
HI1628 (c)	36.79	5	39.73	2	39.56	6	38.69	3
HUW838 (c)	34.23	8	38.98	5	38.10	7	37.10	8
Mean	36.66		38.52		39.22		38.14	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		0.40		1.21		5.45	
Genotype (B)	**		0.67		1.59		5.29	
B within A	N.S.		1.16		2.76			
A within B			1.17		2.77			
Grains/earhead								
HI1654	45.51	3	42.92	4	44.01	4	44.15	3
HI1653	37.00	9	41.83	6	46.28	1	41.70	7
HD3043 (c)	44.00	4	46.27	2	41.30	8	43.86	4
NIAW3170 (c)	39.96	8	39.27	9	40.42	9	39.88	9
HD3369	40.80	6	42.31	5	44.59	2	42.57	6
DBW296 (c)	50.12	1	39.79	8	41.44	6	43.78	5
PBW644 (c)	49.05	2	45.22	3	41.34	7	45.21	1
HI1628 (c)	40.17	7	40.39	7	43.76	5	41.44	8
HUW838 (c)	41.90	5	47.58	1	44.02	3	44.50	2
Mean	43.17		42.84		43.02		43.01	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.88		2.65		10.60	
Genotype (B)	*		1.08		2.56		7.54	
B within A	**		1.87		4.44			
A within B			1.97		4.67			
Date of Sowing:	02.11.2021		Date of Harvesting:				25.04.2022	

Table 2.4.3	Western Plain Zone		RIR-TS-TAS		Gwalior		2021-22	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	41.37	1	42.82	2	47.96	1	44.05	1
HI1653	36.05	4	37.09	7	38.74	9	37.29	8
HD3043 (c)	34.83	6	36.26	8	43.59	4	38.23	4
NIAW3170 (c)	35.10	5	38.21	4	39.73	8	37.68	6
HD3369	38.78	2	41.13	3	45.51	2	41.80	3
DBW296 (c)	33.98	7	38.10	6	40.14	7	37.40	7
PBW644 (c)	32.99	8	38.10	5	42.64	5	37.91	5
HI1628 (c)	31.29	9	34.35	9	41.18	6	35.61	9
HUW838 (c)	38.27	3	43.82	1	44.75	3	42.28	2
Mean	35.85		38.88		42.69		39.14	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.55		1.66		7.29	
Genotype (B)	**		0.75		1.77		5.72	
B within A	N.S.		1.29		3.06			
A within B			1.34		3.17			

Earhead/sq.m.								
HI1654	365	1	369	2	378	2	371	1
HI1653	330	7	328	7	346	8	335	8
HD3043 (c)	341	3	355	4	375	3	357	4
NIAW3170 (c)	345	2	340	6	342	9	342	6
HD3369	320	8	350	5	365	5	345	5
DBW296 (c)	310	9	320	8	350	7	327	9
PBW644 (c)	340	4	362	3	372	4	358	3
HI1628 (c)	335	6	320	8	365	5	340	7
HUW838 (c)	340	4	370	1	380	1	363	2
Mean	336		346		364		349	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		2.23		6.73		3.33	
Genotype (B)	**		2.89		6.86		2.49	
B within A	**		5.01		11.88			
A within B			5.22		12.39			
1000 grains weight, g								
HI1654	39.20	2	41.00	2	43.00	2	41.07	2
HI1653	39.00	3	40.00	4	41.00	4	40.00	3
HD3043 (c)	34.00	9	35.00	9	38.00	9	35.67	9
NIAW3170 (c)	35.00	6	39.00	6	41.00	4	38.33	6
HD3369	40.00	1	42.67	1	46.30	1	42.99	1
DBW296 (c)	37.00	5	40.04	3	41.00	6	39.35	5
PBW644 (c)	34.91	7	36.64	8	39.67	8	37.07	8
HI1628 (c)	34.00	8	37.62	7	42.00	3	37.87	7
HUW838 (c)	38.00	4	40.00	4	41.00	6	39.67	4
Mean	36.79		39.11		41.44		39.11	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.29		0.88		3.86	
Genotype (B)	**		0.48		1.14		3.68	
B within A	N.S.		0.83		1.97			
A within B			0.84		1.98			
Grains/earhead								
HI1654	28.97	6	28.34	8	29.50	2	28.94	4
HI1653	28.10	7	28.35	7	27.32	7	27.92	8
HD3043 (c)	30.04	2	29.16	3	30.61	1	29.94	1
NIAW3170 (c)	29.04	5	28.87	4	28.39	5	28.76	5
HD3369	30.30	1	27.57	9	26.92	8	28.26	7
DBW296 (c)	29.64	4	29.80	1	28.01	6	29.15	3
PBW644 (c)	27.79	8	28.73	5	28.90	3	28.47	6
HI1628 (c)	27.49	9	28.60	6	26.89	9	27.66	9
HUW838 (c)	29.66	3	29.68	2	28.73	4	29.36	2
Mean	29.00		28.79		28.36		28.72	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.51		1.55		9.31	
Genotype (B)	N.S.		0.57		1.35		5.96	
B within A	N.S.		0.99		2.34			
A within B			1.06		2.52			
Date of Sowing:	10.11.2021		Date of Harvesting:				10.04.2022	

Genotype	Western Plain Zone		RIR-TS-TAS		Hisar		2021-22	
	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	36.26	7	40.20	9	46.29	7	40.92	7
HI1653	37.07	6	43.61	5	50.41	3	43.70	5
HD3043 (c)	35.48	9	41.50	7	42.89	9	39.95	9
NIAW3170 (c)	42.86	1	47.48	3	54.69	1	48.34	2
HD3369	39.42	4	47.69	2	48.44	4	45.18	3
DBW296 (c)	38.71	5	42.11	6	47.01	5	42.61	6
PBW644 (c)	36.22	8	40.71	8	43.13	8	40.02	8
HI1628 (c)	42.28	2	45.17	4	46.60	6	44.68	4
HUW838 (c)	41.50	3	51.02	1	52.89	2	48.47	1
Mean	38.87		44.39		48.04		43.76	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.76		2.30		9.07	
Genotype (B)	**		0.82		1.94		5.61	
B within A	N.S.		1.42		3.36			
A within B			1.54		3.65			
Earhead/sq.m.								
HI1654	335	6	349	9	379	7	355	8
HI1653	333	7	370	6	415	4	373	6
HD3043 (c)	328	8	360	7	377	8	355	7
NIAW3170 (c)	376	1	415	1	432	1	407	1
HD3369	362	4	403	3	416	3	394	3
DBW296 (c)	356	5	378	5	396	6	377	5
PBW644 (c)	327	9	352	8	367	9	349	9
HI1628 (c)	368	3	387	4	398	5	384	4
HUW838 (c)	370	2	415	1	430	2	405	2
Mean	351		381		401		378	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		3.30		9.94		4.54	
Genotype (B)	**		10.54		25.00		8.38	
B within A	N.S.		18.26		43.30			
A within B			17.52		41.56			
1000 grains weight, g								
HI1654	43.97	5	44.09	6	44.58	6	44.21	6
HI1653	43.24	6	52.80	1	53.68	1	49.91	1
HD3043 (c)	32.86	9	36.98	9	38.55	9	36.13	9
NIAW3170 (c)	50.87	1	48.85	3	48.93	3	49.55	2
HD3369	45.55	3	48.11	4	48.37	4	47.35	4
DBW296 (c)	44.58	4	45.57	5	44.60	5	44.92	5
PBW644 (c)	40.79	7	40.83	8	42.84	7	41.49	7
HI1628 (c)	47.52	2	49.87	2	50.95	2	49.45	3
HUW838 (c)	40.14	8	41.66	7	42.07	8	41.29	8
Mean	43.28		45.42		46.06		44.92	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		0.45		1.37		5.25	
Genotype (B)	**		0.43		1.03		2.90	
B within A	**		0.75		1.79			
A within B			0.84		2.00			

Grains/earhead								
HI1654	24.67	5	26.54	4	27.49	3	26.23	4
HI1653	25.92	4	22.34	9	22.67	9	23.64	9
HD3043 (c)	33.39	1	31.29	1	29.70	1	31.46	1
NIAW3170 (c)	22.51	9	23.52	8	26.08	6	24.04	7
HD3369	23.94	8	24.57	6	24.16	7	24.22	6
DBW296 (c)	24.48	6	24.71	5	26.83	5	25.34	5
PBW644 (c)	27.33	3	28.41	3	27.45	4	27.73	3
HI1628 (c)	24.27	7	23.75	7	23.10	8	23.71	8
HUW838 (c)	28.08	2	29.63	2	29.26	2	28.99	2
Mean	26.06		26.08		26.30		26.15	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.43		1.30		8.59	
Genotype (B)	**		0.98		2.32		11.21	
B within A	N.S.		1.69		4.01			
A within B			1.65		3.92			
Date of Sowing:	26.10.2021		Date of Harvesting:				14.04.2022	

Table 2.4.5	Western Plain Zone		RIR-TS-TAS		Jammu		2021-22	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	41.78	1	41.39	1	40.93	2	41.37	1
HI1653	40.18	2	38.96	4	38.73	6	39.29	3
HD3043 (c)	38.54	6	38.41	6	40.96	1	39.30	2
NIAW3170 (c)	37.30	7	38.66	5	39.93	4	38.63	6
HD3369	37.21	8	39.05	3	37.50	8	37.92	8
DBW296 (c)	37.13	9	37.47	8	40.18	3	38.26	7
PBW644 (c)	38.98	4	37.17	9	37.25	9	37.80	9
HI1628 (c)	39.54	3	40.22	2	37.54	7	39.10	4
HUW838 (c)	38.68	5	38.21	7	39.22	5	38.70	5
Mean	38.82		38.84		39.14		38.93	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.44		1.32		5.86	
Genotype (B)	**		0.52		1.24		4.04	
B within A	N.S.		0.91		2.16			
A within B			0.96		2.28			
Earhead/sq.m.								
HI1654	327	5	346	8	342	6	338	7
HI1653	325	6	361	3	346	5	344	4
HD3043 (c)	312	7	346	8	358	3	339	6
NIAW3170 (c)	302	9	348	7	349	4	333	9
HD3369	309	8	372	1	361	1	347	2
DBW296 (c)	380	1	370	2	361	1	370	1
PBW644 (c)	353	3	361	4	301	9	338	8
HI1628 (c)	359	2	355	5	309	8	341	5
HUW838 (c)	347	4	353	6	333	7	344	3
Mean	335		357		340		344	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		5.85		17.63		8.83	
Genotype (B)	*		7.41		17.58		6.47	
B within A	**		12.84		30.46			
A within B			13.45		31.89			

1000 grains weight, g								
HI1654	26.23	9	25.60	9	26.26	8	26.03	9
HI1653	27.65	8	27.52	5	27.57	5	27.58	7
HD3043 (c)	28.22	5	29.02	2	26.76	6	28.00	4
NIAW3170 (c)	28.08	7	30.41	1	25.95	9	28.15	2
HD3369	28.64	2	25.93	7	28.32	3	27.63	5
DBW296 (c)	28.83	1	27.37	6	26.64	7	27.61	6
PBW644 (c)	28.25	4	27.65	4	29.82	1	28.57	1
HI1628 (c)	28.28	3	25.82	8	28.46	2	27.52	8
HUW838 (c)	28.14	6	27.88	3	28.24	4	28.09	3
Mean	28.04		27.47		27.56		27.69	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.63		1.89		11.76	
Genotype (B)	N.S.		0.95		2.25		10.28	
B within A	N.S.		1.64		3.90			
A within B			1.67		3.96			
Grains/earhead								
HI1654	49.69	1	47.10	1	47.11	1	47.97	1
HI1653	45.90	2	39.45	4	41.30	8	42.21	4
HD3043 (c)	44.39	3	39.42	5	43.13	3	42.31	2
NIAW3170 (c)	44.05	4	36.65	9	44.52	2	41.74	5
HD3369	43.00	5	40.76	3	36.70	9	40.15	7
DBW296 (c)	34.36	9	37.15	8	42.21	7	37.90	9
PBW644 (c)	39.78	7	37.37	7	42.31	6	39.82	8
HI1628 (c)	39.37	8	44.35	2	43.04	4	42.25	3
HUW838 (c)	39.82	6	38.98	6	42.73	5	40.51	6
Mean	42.26		40.14		42.56		41.65	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.54		4.63		19.17	
Genotype (B)	N.S.		1.98		4.70		14.27	
B within A	N.S.		3.43		8.14			
A within B			3.58		8.50			
Date of Sowing:	10.11.2021		Date of Harvesting:				28.04.2022	

Table 2.4.6 Western Plain Zone RIR-TS-TAS Karnal 2021-22

Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	32.94	2	34.75	2	35.37	5	34.31	3
HI1653	34.04	1	38.16	1	35.63	4	35.94	1
HD3043 (c)	28.70	6	31.45	8	32.19	7	30.78	7
NIAW3170 (c)	26.62	9	31.56	7	32.49	6	30.22	8
HD3369	30.18	4	32.43	5	31.74	2	33.45	4
DBW296 (c)	28.86	5	31.71	6	36.86	3	32.48	5
PBW644 (c)	28.16	7	33.03	4	31.44	8	30.88	6
HI1628 (c)	27.19	8	31.43	9	29.82	9	29.16	9
HUW838 (c)	30.42	3	33.95	3	38.97	1	34.44	2
Mean	29.68		33.06		34.50		32.41	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.44		1.32		7.01	
Genotype (B)	**		0.68		1.60		6.26	
B within A	*		1.17		2.78			
A within B			1.19		2.82			

Not included in pooled due to low mean yield

Earhead/sq.m.								
HI1654	398	1	388	9	383	8	389	6
HI1653	336	8	442	1	373	9	383	8
HD3043 (c)	356	7	408	6	457	1	407	1
NIAW3170 (c)	304	9	408	5	427	2	380	9
HD3369	383	2	402	7	404	5	396	5
DBW296 (c)	378	3	420	4	408	4	402	3
PBW644 (c)	368	4	438	2	399	6	402	2
HI1628 (c)	368	4	402	7	385	7	385	7
HUW838 (c)	357	6	422	3	424	3	401	4
Mean	361		414		406		394	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		15.15		45.69		19.99	
Genotype (B)	N.S.		16.69		39.59		12.71	
B within A	N.S.		28.91		68.57			
A within B			31.19		73.96			
1000 grains weight, g								
HI1654	30.01	4	30.19	5	33.27	7	31.16	5
HI1653	34.12	1	31.98	4	43.98	1	36.69	1
HD3043 (c)	24.64	9	24.09	9	28.10	9	25.61	9
NIAW3170 (c)	32.26	2	32.59	2	40.08	2	34.97	2
HD3369	31.49	3	32.79	1	34.97	3	33.08	3
DBW296 (c)	28.89	6	31.99	3	34.57	4	31.82	4
PBW644 (c)	29.99	5	29.38	6	33.52	6	30.97	6
HI1628 (c)	26.92	7	26.43	7	33.61	5	28.99	7
HUW838 (c)	26.77	8	25.04	8	31.71	8	27.84	8
Mean	29.45		29.39		34.87		31.24	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.66		2.00		11.06	
Genotype (B)	**		0.67		1.59		6.44	
B within A	**		1.16		2.75			
A within B			1.28		3.04			
Grains/earhead								
HI1654	27.90	5	29.81	3	28.31	2	28.67	3
HI1653	30.21	3	27.17	5	21.79	8	26.39	5
HD3043 (c)	33.99	2	32.42	1	25.46	5	30.63	2
NIAW3170 (c)	27.44	6	23.76	8	19.29	9	23.50	9
HD3369	26.07	9	24.74	7	26.86	3	25.89	7
DBW296 (c)	26.96	7	23.65	9	26.25	4	25.62	8
PBW644 (c)	26.21	8	26.91	6	25.22	6	26.11	6
HI1628 (c)	27.93	4	29.10	4	23.18	7	26.74	4
HUW838 (c)	34.22	1	32.18	2	29.06	1	31.82	1
Mean	28.99		27.75		25.05		27.26	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.92		5.78		36.51	
Genotype (B)	**		1.57		3.73		17.29	
B within A	N.S.		2.72		6.45			
A within B			3.20		7.59			
Date of Sowing:	16.11.2021		Date of Harvesting:		28.03.2022			

Genotype	Western Plain Zone		RIR-TS-TAS		Ludhiana		2021-22	
	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	34.76	8	47.33	6	46.32	8	42.80	7
HI1653	48.57	1	55.71	1	54.53	1	52.94	1
HD3043 (c)	33.68	9	46.70	8	46.89	7	42.42	8
NIAW3170 (c)	37.73	6	50.53	2	50.34	3	46.20	5
HD3369	40.46	4	46.75	7	47.75	6	44.99	6
DBW296 (c)	42.70	3	50.06	3	51.61	2	48.12	2
PBW644 (c)	36.77	7	41.88	9	43.38	9	40.68	9
HI1628 (c)	40.35	5	49.31	5	49.63	4	46.43	4
HUW838 (c)	45.34	2	49.55	4	49.39	5	48.09	3
Mean	40.04		48.65		48.87		45.85	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.88		2.65		9.94	
Genotype (B)	**		0.78		1.85		5.11	
B within A	*		1.35		3.21			
A within B			1.55		3.67			
Earhead/sq.m.								
HI1654	239	8	250	7	250	7	246	7
HI1653	244	6	257	6	258	6	253	6
HD3043 (c)	245	5	268	1	265	1	259	3
NIAW3170 (c)	258	1	264	2	264	2	262	1
HD3369	257	2	263	3	262	3	261	2
DBW296 (c)	246	4	260	4	261	5	256	5
PBW644 (c)	255	3	259	5	262	4	258	4
HI1628 (c)	234	9	244	9	247	8	242	9
HUW838 (c)	244	7	247	8	246	9	246	8
Mean	247		257		257		254	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.99		5.99		4.07	
Genotype (B)	**		3.50		8.31		4.14	
B within A	N.S.		6.07		14.39			
A within B			6.06		14.36			
1000 grains weight, g								
HI1654	34.14	4	37.11	8	38.49	7	36.58	7
HI1653	46.69	1	53.53	1	50.48	1	50.24	1
HD3043 (c)	28.12	9	32.65	9	30.51	9	30.43	9
NIAW3170 (c)	37.58	2	44.78	2	44.90	2	42.42	2
HD3369	36.41	3	42.69	4	42.06	5	40.39	3
DBW296 (c)	31.37	7	42.82	3	42.41	4	38.87	4
PBW644 (c)	31.26	8	37.73	7	38.15	8	35.71	8
HI1628 (c)	32.20	6	41.31	6	42.49	3	38.67	6
HUW838 (c)	32.60	5	41.86	5	41.72	6	38.73	5
Mean	34.49		41.61		41.25		39.11	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.43		1.30		5.73	
Genotype (B)	**		1.31		3.10		10.03	
B within A	N.S.		2.26		5.37			
A within B			2.18		5.17			

Grains/earhead								
HI1654	42.65	8	51.00	2	48.15	3	47.27	5
HI1653	44.04	6	40.87	9	42.41	9	42.44	8
HD3043 (c)	48.88	4	53.92	1	58.40	1	53.73	1
NIAW3170 (c)	39.01	9	42.75	7	43.45	7	41.74	9
HD3369	43.51	7	41.75	8	43.32	8	42.86	7
DBW296 (c)	55.96	2	45.01	5	46.83	5	49.27	4
PBW644 (c)	46.27	5	42.87	6	43.55	6	44.23	6
HI1628 (c)	53.53	3	48.72	3	48.03	4	50.09	3
HUW838 (c)	58.49	1	48.12	4	48.47	2	51.69	2
Mean	48.04		46.11		46.96		47.04	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		0.39		1.18		4.32	
Genotype (B)	**		1.84		4.36		11.73	
B within A	N.S.		3.19		7.56			
A within B			3.03		7.19			
Date of Sowing:	25.10.2021		Date of Harvesting:				15.04.2022	

Table 2.4.8	Western Plain Zone		RIR-TS-TAS		Pantnagar		2021-22	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	43.68	4	50.77	4	51.82	3	48.76	4
HI1653	41.60	7	51.51	2	54.33	1	49.15	3
HD3043 (c)	37.65	9	41.24	9	42.84	9	40.57	9
NIAW3170 (c)	39.00	8	46.54	6	49.22	6	44.92	6
HD3369	47.55	1	51.85	1	51.88	2	50.42	1
DBW296 (c)	41.66	6	50.18	5	50.96	5	47.60	5
PBW644 (c)	42.72	5	45.87	7	44.09	7	44.22	8
HI1628 (c)	43.75	3	45.18	8	43.95	8	44.29	7
HUW838 (c)	45.65	2	51.36	3	51.33	4	49.45	2
Mean	42.58		48.28		48.94		46.60	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.08		3.26		12.07	
Genotype (B)	**		0.81		1.92		5.22	
B within A	**		1.41		3.33			
A within B			1.71		4.06			
Earhead/sq.m.								
HI1654	325	2	344	9	366	7	345	7
HI1653	270	8	360	7	353	9	328	9
HD3043 (c)	295	6	419	3	442	2	385	2
NIAW3170 (c)	283	7	450	1	459	1	397	1
HD3369	338	1	411	4	388	6	379	4
DBW296 (c)	316	4	442	2	398	5	385	3
PBW644 (c)	308	5	362	6	354	8	341	8
HI1628 (c)	265	9	364	5	406	4	345	6
HUW838 (c)	317	3	356	8	409	3	361	5
Mean	302		390		397		363	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		9.33		28.12		13.35	
Genotype (B)	**		8.87		21.03		7.33	
B within A	**		15.36		36.43			
A within B			17.22		40.85			

1000 grains weight, g								
HI1654	38.26	6	40.55	3	35.86	6	38.22	6
HI1653	46.48	1	47.10	1	47.39	1	46.99	1
HD3043 (c)	31.56	9	32.21	9	31.65	9	31.81	9
NIAW3170 (c)	41.39	2	39.17	5	39.50	5	40.02	3
HD3369	39.51	3	38.62	6	41.20	3	39.78	5
DBW296 (c)	38.59	5	41.10	2	39.79	4	39.83	4
PBW644 (c)	34.75	8	35.58	8	33.60	8	34.64	8
HI1628 (c)	39.46	4	39.33	4	42.50	2	40.43	2
HUW838 (c)	36.96	7	37.21	7	35.55	7	36.57	7
Mean	38.55		38.99		38.56		38.70	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.13		3.39		15.11	
Genotype (B)	**		0.98		2.32		7.58	
B within A	N.S.		1.69		4.02			
A within B			1.95		4.63			
Grains/earhead								
HI1654	35.22	6	36.50	2	40.11	1	37.28	3
HI1653	33.14	9	30.50	7	32.56	5	32.07	7
HD3043 (c)	40.56	2	30.99	6	30.95	7	34.17	4
NIAW3170 (c)	33.61	8	26.60	9	27.15	8	29.12	9
HD3369	35.89	5	32.88	4	32.56	6	33.77	5
DBW296 (c)	34.40	7	27.81	8	33.20	4	31.80	8
PBW644 (c)	39.84	3	36.20	3	37.11	2	37.72	2
HI1628 (c)	42.34	1	32.56	5	26.16	9	33.69	6
HUW838 (c)	39.23	4	39.27	1	35.59	3	38.03	1
Mean	37.14		32.59		32.82		34.18	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	N.S.		1.15		3.48		17.54	
Genotype (B)	**		1.47		3.48		12.87	
B within A	N.S.		2.54		6.02			
A within B			2.66		6.30			
Date of Sowing:	02.11.2021		Date of Harvesting:				07.04.2022	

Table 2.4.9	Western Plain Zone		RIR-TS-TAS		Sriganganagar		2021-22	
Genotype	Level of Irrigation						Mean	Rk
	Zero	Rk	One	Rk	Two	Rk		
Yield, q/ha								
HI1654	23.40	3	43.81	3	55.07	6	40.76	4
HI1653	26.22	2	43.27	4	50.17	9	39.89	5
HD3043 (c)	23.20	4	28.67	9	53.91	7	35.26	9
NIAW3170 (c)	29.49	1	47.59	1	58.10	5	45.06	1
HD3369	23.03	5	39.86	6	61.70	2	41.53	2
DBW296 (c)	15.10	9	44.63	2	59.25	4	39.66	6
PBW644 (c)	22.55	6	39.56	7	61.80	1	41.30	3
HI1628 (c)	19.35	8	34.42	8	59.59	3	37.79	8
HUW838 (c)	22.55	6	40.78	5	52.24	8	38.53	7
Mean	22.77		40.29		56.87		39.97	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		1.02		3.08		13.27	
Genotype (B)	**		1.44		3.42		10.83	
B within A	**		2.50		5.93			
A within B			2.57		6.09			

Earhead/sq.m.								
HI1654	290	8	356	8	398	8	348	8
HI1653	283	9	349	9	391	9	341	9
HD3043 (c)	299	4	365	4	407	4	357	4
NIAW3170 (c)	299	3	365	3	408	3	357	3
HD3369	307	1	373	1	415	1	365	1
DBW296 (c)	291	7	357	7	399	7	349	7
PBW644 (c)	300	2	366	2	409	2	358	2
HI1628 (c)	297	6	363	6	405	6	355	6
HUW838 (c)	297	5	363	5	406	5	355	5
Mean	296		362		404		354	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		5.37		16.20		7.89	
Genotype (B)	**		2.56		6.06		2.17	
B within A	N.S.		4.43		10.50			
A within B			6.80		16.13			
1000 grains weight, g								
HI1654	27.01	8	30.85	7	40.26	7	32.71	7
HI1653	27.82	3	31.53	5	40.65	3	33.33	3
HD3043 (c)	26.74	9	30.15	9	39.74	9	32.21	9
NIAW3170 (c)	27.12	7	31.59	4	40.49	6	33.07	6
HD3369	27.18	6	30.24	8	39.94	8	32.45	8
DBW296 (c)	27.67	5	31.74	3	40.55	5	33.32	4
PBW644 (c)	29.85	1	34.42	1	43.46	1	35.91	1
HI1628 (c)	27.77	4	31.26	6	40.59	4	33.20	5
HUW838 (c)	29.81	2	32.84	2	42.51	2	35.05	2
Mean	27.89		31.62		40.91		33.47	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	**		0.08		0.23		1.17	
Genotype (B)	**		0.12		0.29		1.08	
B within A	*		0.21		0.50			
A within B			0.21		0.50			
Grains/earhead								
HI1654	30.13	3	39.80	2	34.35	6	34.76	2
HI1653	33.40	2	39.23	4	31.53	8	34.72	3
HD3043 (c)	29.25	4	26.13	9	33.35	7	29.58	9
NIAW3170 (c)	36.58	1	41.23	1	35.19	4	37.67	1
HD3369	27.72	5	35.36	5	37.20	1	33.43	4
DBW296 (c)	18.82	9	39.55	3	36.62	2	31.66	5
PBW644 (c)	25.41	6	31.36	7	34.82	5	30.53	6
HI1628 (c)	23.43	8	30.35	8	36.20	3	30.00	7
HUW838 (c)	25.40	7	34.11	6	30.31	9	29.94	8
Mean	27.79		35.24		34.40		32.48	
	F. Test		SEm		CD (0.05)		CV (%)	
Irrigation (A)	*		1.23		3.71		19.68	
Genotype (B)	**		1.21		2.87		11.17	
B within A	**		2.09		4.97			
A within B			2.33		5.52			
Date of Sowing:	05.11.2021		Date of Harvesting:				25.03.2022	

