

Sur B, Rout S, Singla S, Mandal R, Nath S, Maying B, Sadhu S, Chakraborty M, Hijam L, Debnath M K, Roy S K. Evaluation of mustard genotypes [*Brassica juncea* (L.) Czern and Coss] for quantitative traits and character association of seed yield and yield components at sub Himalayan region of West Bengal (India). Plant Science Today. 2023; 10(1): 166–178. <https://doi.org/10.14719/pst.1948>

Supplementary Table

Supplementary Table 1. Mean performance of the Indian mustard (*Brassica juncea*) genotypes and their ranking based on rescaled index value as suggested by Iyengar and Sudarshan (1982)

Sl.No.	Genotypes	PH		HFFB		FLOW		PBP		SBP		SP		SPS	
		x	Rescaled Index value (A) = (x - Min)/(Max - Min)	x	Rescaled Index value (B) = (x - Min)/(Max - Min)	x	Rescaled Index value (C) = (x - Min)/(Max - Min)	x	Rescaled Index value (D) = (x - Min)/(Max - Min)	x	Rescaled Index value (E) = (x - Min)/(Max - Min)	x	Rescaled Index value (F) = (x - Min)/(Max - Min)	x	Rescaled Index value (G) = (x - Min)/(Max - Min)
1	B-85(Seeta)	151.97	0.26	25.77	0.00	39.00	0.00	3.35	0.65	7.17	0.60	189.70	0.95	12.67	0.61
2	RW-351(Bhagarathi)	144.67	0.16	27.90	0.03	41.00	0.13	3.10	0.55	6.93	0.55	178.13	0.84	13.30	0.78
3	RW-85-59 (Sarna)	143.47	0.15	26.10	0.01	39.50	0.03	3.20	0.59	8.27	0.82	153.74	0.61	10.53	0.04
4	RW-4C-6-3(Sanjukta Asech)	172.33	0.53	40.97	0.23	41.50	0.17	3.20	0.59	8.03	0.77	170.60	0.77	12.43	0.55
5	NPJ-194	132.37	0.00	30.90	0.08	42.00	0.20	2.70	0.39	7.67	0.70	133.13	0.41	11.23	0.23
6	TM-276	185.07	0.70	79.83	0.82	45.50	0.43	2.95	0.49	6.13	0.39	137.13	0.45	12.80	0.65
7	Rohini (SC)	172.87	0.17	67.67	0.64	44.50	0.37	3.10	0.55	6.83	0.53	125.83	0.34	11.23	0.23
8	KMR-15-4	174.53	0.56	57.03	0.47	45.50	0.43	3.40	0.67	7.47	0.66	181.03	0.87	10.87	0.13
9	PR-2012-9	180.60	0.64	66.50	0.62	48.50	0.63	3.70	0.80	6.63	0.49	126.40	0.35	11.20	0.22
10	Divya-88	183.20	0.68	51.67	0.39	45.00	0.40	3.45	0.69	9.17	1.00	193.20	0.98	12.30	0.51
11	RL-JEB-52	193.83	0.82	72.10	0.70	47.50	0.57	3.20	0.59	7.27	0.62	194.80	1.00	11.90	0.41
12	Kranti-NC	196.57	0.86	76.53	0.77	48.50	0.63	3.50	0.71	7.40	0.65	159.63	0.66	10.40	0.00
13	DRMRIJ-15-85	193.63	0.82	78.43	0.80	49.50	0.70	3.05	0.53	7.40	0.65	157.43	0.64	11.43	0.28

14	RH1202	196.97	0.86	82.00	0.85	48.50	0.63	3.15	0.57	7.57	0.68	182.89	0.89	12.37	0.53
15	NPJ-196	196.47	0.86	83.23	0.87	50.00	0.73	3.25	0.61	6.83	0.53	183.00	0.89	12.08	0.45
16	RMM-09-10	194.83	0.83	75.03	0.75	49.50	0.70	2.70	0.39	5.87	0.34	128.07	0.36	12.87	0.67
17	JMM-927-RC	178.93	0.62	64.30	0.58	48.00	0.60	2.80	0.43	6.37	0.44	163.90	0.71	14.10	1.00
18	RRN-871	183.27	0.68	64.47	0.59	48.00	0.60	2.05	0.12	6.63	0.49	160.33	0.67	13.33	0.79
19	KM-126	178.80	0.62	62.13	0.55	48.50	0.63	1.80	0.02	6.87	0.54	128.70	0.37	13.08	0.73
20	SKM-1313	181.77	0.66	73.40	0.72	48.50	0.63	1.85	0.04	7.73	0.71	157.57	0.65	12.13	0.47
21	RB-77	171.63	0.52	64.63	0.59	47.00	0.53	1.75	0.00	4.17	0.00	89.83	0.00	12.93	0.68
22	DRMR-15-5	173.97	0.56	65.33	0.60	47.00	0.53	2.15	0.16	7.07	0.58	134.23	0.42	12.30	0.51
23	KMR-53-3	172.77	0.54	58.37	0.49	46.50	0.50	2.20	0.18	7.63	0.69	145.10	0.53	12.37	0.53
24	RL-JEB-84	164.53	0.43	48.43	0.34	46.00	0.47	1.95	0.08	6.20	0.41	148.10	0.56	11.93	0.41
25	Ganga	186.40	0.72	75.47	0.75	50.00	0.73	2.50	0.31	8.10	0.79	150.03	0.57	12.03	0.44
26	RGN-73-JC	170.77	0.51	58.73	0.50	50.00	0.73	2.60	0.35	6.53	0.47	136.63	0.45	11.53	0.31
27	RH-1209	190.27	0.77	78.20	0.80	47.50	0.57	2.65	0.37	6.90	0.55	172.40	0.79	12.93	0.68
28	PR-2012-12	183.27	0.68	77.47	0.78	50.00	0.73	2.65	0.37	5.90	0.35	130.00	0.38	12.77	0.64

Table 1. Continued (Genotypes1 to28)

S.	Genotypes	SW		AC		PF		SY_P		Total of the rescaled values (L) L=(A+B+C+D+E+F+G+H+I+J+K)	Ranking based on the total rescaled value*
		x	Rescaled Index value (H)= (x-Min)/(Max-Min)	x	Rescaled Index value (I) = (Max-x)/(Max-Min)	x	Rescaled Index value (J) = (x-Min)/(Max-Min)	x	Rescaled Index value (K)= (x-Min)/(Max-Min)		
1	B-85(Seeta)	3.65	0.18	10.51	0.69	115.93	0.84	10.44	0.57	5.36	37
2	RW-351(Bhagarathi)	3.20	0.00	22.79	0.04	101.98	0.68	9.25	0.44	4.22	53
3	RW-85-59(Sarna)	3.83	0.25	16.87	0.36	95.08	0.60	7.01	0.19	3.64	56
4	RW-4C-6-3(Sanjukta Asech)	3.93	0.29	10.13	0.71	72.58	0.34	9.38	0.46	5.41	36
5	NPJ-194	4.73	0.61	23.34	0.01	108.38	0.75	9.49	0.47	3.84	54
6	TM-276	4.58	0.55	19.73	0.20	129.88	1.00	7.23	0.21	5.91	22
7	Rohini(SC)	4.68	0.59	16.75	0.36	69.83	0.30	8.39	0.34	4.42	51
8	KMR-15-4	4.07	0.34	14.98	0.46	76.98	0.39	8.61	0.37	5.35	39
9	PR-2012-9	3.98	0.31	8.95	0.78	66.28	0.26	7.40	0.23	5.33	41
10	Divya-88	4.35	0.45	8.03	0.83	74.68	0.36	6.55	0.14	6.44	10
11	RL-JEB-52	4.73	0.61	10.96	0.67	77.74	0.40	8.36	0.34	6.72	5
12	Kranti-NC	4.73	0.61	10.16	0.71	75.27	0.37	8.66	0.37	6.35	12
13	DRMRIJ-15-85	5.07	0.74	9.88	0.73	82.68	0.45	9.45	0.46	6.80	4
14	RH1202	4.28	0.43	7.94	0.83	72.49	0.33	9.03	0.42	7.03	1
15	NPJ-196	4.47	0.50	8.92	0.78	73.53	0.35	8.24	0.33	6.90	2
16	RMM-09-10	5.38	0.86	14.67	0.47	76.05	0.38	7.56	0.25	6.00	19
17	JMM-927-RC	5.62	0.96	10.37	0.70	81.57	0.44	8.76	0.39	6.86	3
18	RRN-871	4.32	0.44	11.24	0.66	64.37	0.24	10.44	0.58	5.86	25
19	KM-126	5.05	0.73	8.59	0.80	65.99	0.26	8.34	0.34	5.59	28

20	SKM-1313	4.42	0.48	7.85	0.84	77.49	0.39	8.96	0.41	6.00	20
21	RB-77	4.13	0.37	10.34	0.70	64.11	0.24	6.47	0.13	3.77	55
22	DRMR-15-5	5.20	0.79	8.25	0.81	69.94	0.31	6.49	0.13	5.41	35
23	KMR-53-3	5.25	0.81	8.79	0.79	75.09	0.36	8.51	0.36	5.79	27
24	RL-JEB-84	4.75	0.61	8.51	0.80	95.82	0.61	8.84	0.40	5.11	45
25	Ganga	4.93	0.69	7.91	0.83	69.11	0.30	6.21	0.10	6.23	15
26	RGN-73-JC	4.32	0.44	7.51	0.85	70.03	0.31	6.92	0.18	5.10	46
27	RH-1209	5.03	0.72	16.36	0.38	80.33	0.43	7.47	0.24	6.30	14
28	PR-2012-12	4.25	0.42	10.98	0.67	72.63	0.34	6.21	0.10	5.45	33

Table 1. Continued (Genotypes 29 to56)

Sl. No.	Genotypes	PH	HFFB	FLOW	PBP	SBP	SP	SPS							
		X	Rescaled Index value	x	Rescaled Index value	x	Rescaled Index value	x	Rescaled Index value	x	Rescaled Index value	x	Rescaled Index value	x	Rescaled Index value (G)= (x-Min)/(Max-Min)
			(A) =(x- Min)/(Max- Min)		(B) =(x- Min)/(Max- Min)		(C) =(x- Min)/(Max- Min)		(D)= (x-Min)/(Max- Min)		(E) =(x- Min)/(Max- Min)		(F) =(x- Min)/(Max- Min)		
29	RGN-385	180.33	0.64	81.07	0.84	48.50	0.63	2.45	0.29	6.37	0.44	139.67	0.47	14.00	0.97
30	NPJ-195	180.00	0.64	64.77	0.59	46.00	0.47	2.80	0.43	6.27	0.42	164.40	0.71	13.07	0.72
31	Maya-C	160.87	0.38	56.30	0.46	45.50	0.43	3.35	0.65	6.63	0.49	146.63	0.54	13.43	0.82
32	SKJM-05	158.03	0.34	52.10	0.40	46.50	0.50	3.40	0.67	6.93	0.55	165.14	0.72	12.57	0.59
33	SVJ-64	187.70	0.74	73.83	0.73	48.00	0.60	2.75	0.41	5.67	0.30	136.50	0.44	12.63	0.60
34	Sitara-Sreenagar	187.10	0.73	84.51	0.89	50.50	0.77	3.75	0.82	6.47	0.46	143.93	0.52	11.83	0.39
35	RH-0923	178.67	0.62	72.00	0.70	48.50	0.63	3.75	0.82	7.73	0.71	152.80	0.60	12.60	0.59
36	DRMR-15-16	163.00	0.41	57.17	0.48	44.00	0.33	2.65	0.37	7.10	0.59	142.63	0.50	13.03	0.71
37	NPJ-198	179.93	0.64	70.97	0.69	48.00	0.60	2.55	0.33	5.91	0.35	118.60	0.27	11.73	0.36
38	JMM-927-RC	185.90	0.71	69.87	0.67	48.50	0.63	3.00	0.51	5.80	0.33	127.07	0.35	12.17	0.48
39	DRMR-15-47	186.97	0.73	74.00	0.73	47.50	0.57	2.65	0.37	5.93	0.35	138.13	0.46	13.17	0.75
40	RGN-389	203.37	0.95	80.40	0.83	49.00	0.67	2.95	0.49	6.87	0.54	133.53	0.42	11.97	0.42
41	RAURD-214	196.53	0.86	75.13	0.75	49.00	0.67	2.65	0.37	6.07	0.38	133.63	0.42	12.17	0.48
42	DRMR-15-14	207.25	1.00	91.67	1.00	47.50	0.57	2.65	0.37	5.43	0.25	160.10	0.67	12.37	0.53
43	DRMR-4001	175.13	0.57	78.57	0.80	43.50	0.30	3.70	0.80	7.33	0.63	121.93	0.31	11.50	0.30
44	RGN-384	186.03	0.72	74.33	0.74	48.00	0.60	3.65	0.78	6.93	0.55	140.57	0.48	12.30	0.51
45	NPJ-197	186.83	0.73	74.67	0.74	48.00	0.60	3.50	0.71	7.03	0.57	120.83	0.30	12.40	0.54
46	RB-81	180.03	0.64	72.63	0.71	44.00	0.33	3.35	0.65	6.23	0.41	111.50	0.21	12.77	0.64
47	NPJ-200	154.97	0.30	35.63	0.15	41.00	0.13	3.50	0.71	7.50	0.67	106.70	0.16	13.30	0.78
48	DRMR-15-9	172.20	0.53	56.00	0.46	42.50	0.23	3.40	0.67	7.73	0.71	136.97	0.45	13.37	0.80

49	KMR-L-15-6	180.57	0.64	61.33	0.54	44.00	0.33	3.20	0.59	7.37	0.64	161.93	0.69	11.83	0.39
50	PRD-2013-9	188.07	0.74	82.57	0.86	49.00	0.67	4.20	1.00	9.17	1.00	140.98	0.49	11.97	0.42
51	DRMRIJ-15-66	178.33	0.61	63.43	0.57	48.50	0.63	3.10	0.55	5.33	0.23	138.30	0.46	12.53	0.58
52	RH-1368	182.93	0.68	51.47	0.39	43.00	0.27	3.15	0.57	7.03	0.57	138.87	0.47	12.67	0.61
53	RH-1325	191.08	0.78	69.40	0.66	52.00	0.87	3.45	0.69	6.50	0.47	121.33	0.30	12.30	0.51
54	RGN-386	191.47	0.79	59.20	0.51	54.00	1.00	3.05	0.53	7.20	0.61	136.58	0.45	12.17	0.48
55	RNWR-09-3	181.57	0.66	71.13	0.69	52.00	0.87	2.85	0.45	7.00	0.57	136.63	0.45	12.43	0.55
56	PRD-2013-2	172.93	0.54	65.70	0.61	46.50	0.50	3.10	0.55	5.27	0.22	161.00	0.68	13.07	0.72

Table 1. Continued (Genotypes 29 to 56)

Sl.No.	Genotypes	SW		AC		PF		SY_P		Total of the rescaled values (L) L=(A+B+C+D+E+F+G+H+I+J+K)	Ranking based on the total rescaled value*
		x	Rescaled Index value (H)= (x-Min)/(Max-Min)	x	Rescaled Index value (I) = (Max-x)/(Max-Min)	x	Rescaled Index value (J)= (x-Min)/(Max-Min)	x	Rescaled Index value (K)= (x-Min)/(Max-Min)		
29	RGN-385	4.65	0.57	4.76	1.00	76.66	0.38	7.95	0.30	6.54	7
30	NPJ-195	4.65	0.57	9.73	0.74	66.84	0.27	8.36	0.34	5.89	23
31	Maya-C	4.70	0.59	10.89	0.67	76.08	0.38	6.57	0.14	5.57	30
32	SKJM-05	4.37	0.46	6.62	0.90	68.68	0.29	9.36	0.45	5.88	24
33	SVJ-64	3.73	0.21	9.81	0.73	72.43	0.33	8.07	0.31	5.41	34
34	Sitara-Sreenagar	4.57	0.54	12.19	0.61	63.54	0.23	7.56	0.25	6.20	16
35	RH-0923	5.23	0.80	11.90	0.62	59.23	0.18	8.21	0.33	6.61	6
36	DRMR-15-16	4.40	0.47	10.72	0.68	83.77	0.47	14.22	1.00	6.01	18
37	NPJ-198	5.73	1.00	9.04	0.77	66.38	0.26	8.12	0.31	5.58	29
38	JMM-927-RC	4.98	0.70	13.71	0.52	55.18	0.13	7.98	0.30	5.35	38
39	DRMR-15-47	5.22	0.80	8.74	0.79	86.33	0.50	9.28	0.45	6.48	8
40	RGN-389	5.25	0.81	10.77	0.68	57.75	0.16	9.03	0.42	6.38	11
41	RAURD-214	4.98	0.70	8.70	0.79	69.51	0.30	9.52	0.47	6.18	17
42	DRMR-15-14	4.58	0.55	7.32	0.86	77.98	0.40	6.61	0.15	6.34	13
43	DRMR-4001	4.40	0.47	20.95	0.14	80.69	0.43	5.32	0.00	4.75	48
44	RGN-384	5.18	0.78	18.17	0.29	65.33	0.25	7.63	0.26	5.96	21
45	NPJ-197	3.73	0.21	16.15	0.39	57.92	0.17	8.48	0.36	5.32	42
46	RB-81	4.70	0.59	23.58	0.00	47.98	0.05	6.84	0.17	4.41	52
47	NPJ-200	4.33	0.45	19.93	0.19	85.49	0.49	9.45	0.46	4.50	50
48	DRMR-15-9	4.45	0.49	17.42	0.33	98.19	0.63	7.00	0.19	5.50	31
49	KMR-L-15-6	5.40	0.87	21.83	0.09	52.72	0.11	9.27	0.44	5.33	39

50	PRD-2013-9	4.65	0.57	13.42	0.54	46.53	0.03	6.54	0.14	6.47	9
51	DRMRIJ-15-66	3.97	0.30	15.92	0.41	62.43	0.22	6.22	0.10	4.67	49
52	RH-1368	4.13	0.37	15.57	0.43	55.21	0.13	10.33	0.56	5.05	47
53	RH-1325	5.12	0.76	16.26	0.39	49.35	0.07	8.11	0.31	5.81	26
54	RGN-386	4.90	0.67	18.31	0.28	43.63	0.00	6.98	0.19	5.49	32
55	RNWR-09-3	4.50	0.51	20.99	0.14	47.41	0.04	7.00	0.19	5.11	44
56	PRD-2013-2	4.25	0.42	23.08	0.03	79.13	0.41	10.19	0.55	5.22	43

x=Mean performance of the trait; *Ranking has been done in descending order taking the highest rescaled value as 1 (first rank) followed by other lower rescaled values from rank 2 onwards. The formulas for the index value (rescaled value) are the same for all the traits except in the case of "Aphid Count" where this trait was negatively associated with yield.