

Supplementary Table 1 List of lentil genotypes used in the present study

S. no.	Genotype	S. no.	Genotype
1.	BARI MASOOR 4 (BM-4) {High yielding cultivar developed at Bangladesh Agricultural Research Institute (BARI)}	78.	L- RIL 74
2.	L-4602 (developed at Indian Agricultural Research Institute from the cross L-830 x Precoz)	79.	L- RIL 75
3.	DPL-62 (developed at Indian Agricultural Research Institute)	80.	L- RIL 76
4.	PDL-1 (developed at Indian Agricultural Research Institute)	81.	L- RIL 77
5.	L RIL- 1	82.	L RIL- 78
6.	L RIL- 2	83.	L RIL- 79
7.	L RIL- 3	84.	L RIL- 80
8.	L RIL- 4	85.	L RIL- 81
9.	L RIL- 5	86.	L RIL- 82
10.	L RIL- 6	87.	L RIL- 83
11.	L RIL- 7	88.	L RIL- 84
12.	L RIL- 8	89.	L RIL- 85
13.	L RIL- 9	90.	L RIL- 86
14.	L RIL- 10	91.	L RIL- 87
15.	L RIL- 11	92.	L RIL- 88
16.	L RIL- 12	93.	L RIL- 89
17.	L RIL- 13	94.	L RIL- 90
18.	L RIL- 14	95.	L RIL- 91
19.	L RIL- 15	96.	L RIL- 92
20.	L RIL- 16	97.	L RIL- 93
21.	L RIL- 17	98.	L RIL- 94
22.	L RIL- 18	99.	L RIL- 95
23.	L RIL- 19	100.	L RIL- 96
24.	L RIL- 20	101.	L RIL- 97

25.	L RIL- 21	102.	L RIL- 98
26.	L RIL- 22	103.	L RIL- 99
27.	L RIL- 23	104.	L RIL- 100
28.	L RIL- 24	105.	L RIL- 101
29.	L RIL- 25	106.	L RIL- 102
30.	L RIL- 26	107.	L RIL- 103
31.	L RIL- 27	108.	L RIL- 104
32.	L RIL- 28	109.	L RIL- 105
33.	L RIL- 29	110.	L RIL- 106
34.	L RIL- 30	111.	L RIL- 107
35.	L RIL- 31	112.	L RIL- 108
36.	L RIL- 32	113.	L RIL- 109
37.	L RIL- 33	114.	L RIL- 110
38.	L RIL- 34	115.	L RIL- 111
39.	L RIL- 35	116.	L RIL- 112
40.	L RIL- 36	117.	L RIL- 113
41.	L RIL- 37	118.	L RIL- 114
42.	L RIL- 38	119.	L RIL- 115
43.	L RIL- 39	120.	L RIL- 116
44.	L RIL- 40	121.	L RIL- 117
45.	L RIL- 41	122.	L RIL- 118
46.	L RIL- 42	123.	L RIL- 119
47.	L RIL- 43	124.	L RIL- 120
48.	L RIL- 44	125.	L RIL- 121
49.	L RIL- 45	126.	L RIL- 122
50.	L RIL- 46	127.	L RIL- 123
51.	L RIL- 47	128.	L RIL- 124
52.	L RIL- 48	129.	L RIL- 125
53.	L RIL- 49	130.	L RIL- 126
54.	L RIL- 50	131.	L RIL- 127
55.	L RIL- 51	132.	L RIL- 128
56.	L RIL- 52	133.	L RIL- 129

57.	L RIL- 53	134.	L RIL- 130
58.	L RIL- 54	135.	L RIL- 131
59.	L RIL- 55	136.	L RIL- 132
60.	L RIL- 56	137.	L RIL- 133
61.	L RIL- 57	138.	L RIL- 134
62.	L RIL- 58	139.	L RIL- 135
63.	L RIL- 59	140.	L RIL- 136
64.	L RIL- 60	141.	L RIL- 137
65.	L RIL- 61	142.	L RIL- 138
66.	L RIL- 62	143.	L RIL- 139
67.	L RIL- 63	144.	L RIL- 140
68.	L RIL- 64	145.	L RIL- 141
69.	L RIL- 65	146.	L RIL- 142
70.	L RIL- 66	147.	L RIL- 143
71.	L RIL- 67	148.	L RIL- 144
72.	L RIL- 68	149.	L RIL- 145
73.	L RIL- 69	150.	L RIL- 146
74.	L RIL- 70	151.	L RIL- 147
75.	L RIL- 71	152.	L RIL- 148
76.	L RIL- 72	153.	L RIL- 149
77.	L RIL- 73	154.	L RIL- 150

Supplementary Table 2 Status of soil in experimental fields of ICAR-NBPGR, CPGS-AS and ICAR Agro-forestry

Location	pH (0–30 cm)	EC (dS/m ²)	Organic carbon (%)	N (total%)	Available P (kg/ha)	P (total %)	Available K (kg/ha)
ICAR- NBPGR, Umiam	4.64	0.27	1.53	0.27	82.4	0.14	68.12

	5.09	81.22	1.50	0.146	95.71	0.12	82.69
ICAR-NEHR, Meghalaya	4.48	36.48	0.81	0.078	61.05	0.08	73.22

ICAR-National Bureau of Plant Genetic Resources, Umiam, Meghalaya; CPGSAS, College of Post Graduate Studies in Agricultural Sciences (Central Agricultural University, Imphal, Manipur), Umiam, Meghalaya; ICAR-NEHR, ICAR-North-Eastern Hill Region, Meghalaya.

Supplementary Table 3 Estimates of mean, range, GCV%, PCV%, H^2_{bs} (%) and GA% for 154 genotypes of lentil grown in two locations

Character	Mean	Range	GCV%	PCV%	H^2_{bs} (%)	GA%
Days to 50% flowering	62.54	49.25–75.75	9.17	10.56	75.29	16.39
Days to maturity	115.74	108.75–126.75	3.94	4.16	90.18	7.72
Plant height	26.39	14.45–38.08	14.65	15.72	86.82	28.12
No. of primary branches/plant	5.14	2.22–10.02	20.51	22.72	81.52	38.15
No. of pods/plant	72.66	29.02–145.44	27.46	39.86	47.46	38.98
No. of seeds/pod	1.87	1.6–2.00	5.39	6.94	60.39	8.63
100 seed weight	3.00	2.17–4.96	16.59	20.24	67.20	28.03
Seed yield/plant	3.46	1.27–6.80	26.15	36.20	52.20	38.93

Biological yield/plant	6.46	2.10–11.12	20.52	28.66	51.21	30.24
Harvest index	0.54	0.31–0.74	15.60	41.17	14.36	12.18

GCV%, Genotypic coefficient of variation; PCV%, Phenotypic coefficient of variation; H^2_{bs} (%), Heritability; GA%, Genetic advance as percentage of mean.

Supplementary Table 4 Mean trait values for 10 agronomic parameters in 154 genotypes of lentil grown at two locations

Genotype	D50F	DM	PH	NPB	PPP	SPP	100SW	SYP	BYP	HI
BM- 4	60.50	111.17	27.17	5.50	72.56	1.90	3.25	3.68	8.20	0.44
DPL- 62	70.00	118.17	37.15	6.17	69.71	2.00	3.42	3.56	7.42	0.48
PDL- 1	71.83	116.33	38.08	6.67	89.48	2.00	3.48	4.68	8.15	0.56
L- 4602	57.50	109.50	33.67	6.00	90.47	1.90	3.67	4.98	7.38	0.66
L RIL- 1	69.25	120.08	30.24	5.92	89.07	1.87	3.53	4.74	8.11	0.60
L RIL- 2	67.50	119.50	29.52	3.52	70.65	1.73	3.31	3.56	6.84	0.59
L RIL- 3	62.75	116.50	26.48	3.35	73.82	1.80	3.94	4.34	6.90	0.61
L RIL- 4	65.00	123.50	25.86	5.63	112.07	1.85	2.62	4.31	7.22	0.56
L RIL- 5	70.25	122.50	30.51	4.85	56.17	1.63	3.12	2.63	5.95	0.52
L RIL- 6	70.00	121.00	30.47	5.00	43.80	1.67	3.01	1.96	5.34	0.36
L RIL- 7	57.00	115.50	22.48	4.83	92.94	1.90	3.27	4.54	6.60	0.69

L RIL- 8	56.00	121.00	18.45	4.13	44.57	1.67	3.13	2.08	4.03	0.52
L RIL- 9	58.00	118.50	20.97	4.42	48.14	1.73	2.88	1.98	3.83	0.51
L RIL- 10	70.25	122.50	24.78	5.11	70.22	2.00	4.36	4.63	7.08	0.65
L RIL- 11	62.50	121.50	28.87	5.48	50.50	1.95	4.96	3.72	9.17	0.41
L RIL- 12	57.00	118.50	28.43	5.42	59.88	1.90	3.59	3.16	7.85	0.40
L RIL- 13	71.75	126.75	31.88	4.17	78.85	1.97	3.60	4.25	6.65	0.63
L RIL- 14	67.83	115.75	27.77	3.90	101.56	1.83	2.47	3.74	7.73	0.51
L RIL- 15	60.75	119.25	29.05	3.35	70.85	1.73	2.71	2.85	5.07	0.56
L RIL- 16	69.75	121.75	25.90	6.36	87.78	1.97	3.19	4.17	8.67	0.49
L RIL- 17	65.50	116.75	37.78	5.86	36.92	1.77	3.87	2.11	4.92	0.44
L RIL- 18	66.25	114.25	26.35	5.60	84.88	2.00	4.07	5.23	11.12	0.47
L RIL- 19	65.25	116.75	31.83	6.06	45.69	1.80	3.07	2.06	4.30	0.51
L RIL- 20	68.50	119.75	29.38	4.32	103.68	1.82	2.67	4.16	6.38	0.65
L RIL- 21	66.00	121.75	24.88	5.82	52.93	1.90	3.88	3.11	8.25	0.38
L RIL- 22	69.00	121.75	27.75	5.52	145.44	1.97	2.50	5.95	8.45	0.71
L RIL- 23	59.50	116.25	29.47	4.65	86.25	1.90	2.80	4.14	5.73	0.72

L RIL- 24	54. 25	113.2 5	22.17	4.76	56.09	1.70	2.21	1.83	3.28	0.53
L RIL- 25	55. 75	117.2 5	25.58	4.68	52.86	1.80	2.87	2.20	4.07	0.54
L RIL- 26	71. 00	123.7 5	27.77	4.65	106.9 0	2.00	2.43	3.87	6.91	0.57
L RIL- 27	66. 50	122.7 5	36.78	6.00	115.6 0	2.00	2.34	4.37	9.70	0.45
L RIL- 28	63. 25	115.2 5	26.37	5.28	77.81	1.87	2.86	3.21	7.65	0.43
L RIL- 29	58. 00	121.0 0	33.43	4.00	48.18	1.83	2.75	1.99	4.55	0.44
L RIL- 30	52. 75	113.0 0	22.25	5.02	84.22	1.93	2.37	2.92	5.62	0.51
L RIL- 31	57. 25	113.0 0	27.35	5.98	83.36	2.00	2.49	3.24	7.93	0.39
L RIL- 32	60. 25	114.5 0	29.60	5.37	90.68	2.00	2.74	4.04	7.15	0.57
L RIL- 33	63. 50	110.5 0	30.91	5.82	75.08	2.00	3.59	4.57	10.43	0.43
L RIL- 34	61. 00	113.5 0	27.63	5.32	78.06	1.90	3.09	4.08	6.75	0.60
L RIL- 35	60. 75	114.0 0	33.83	6.38	68.88	1.93	2.54	2.92	7.13	0.40
L RIL- 36	60. 50	109.0 0	24.25	4.98	82.39	1.73	2.37	3.18	7.22	0.45
L RIL- 37	67. 00	113.5 0	22.55	5.32	109.9 9	1.67	3.77	6.80	9.58	0.72
L RIL- 38	54. 75	115.0 0	30.92	5.52	69.99	2.00	3.41	3.96	6.60	0.59
L RIL- 39	50. 75	112.5 0	31.90	6.15	68.42	2.00	2.82	3.11	5.95	0.54

L RIL-40	57.50	112.50	25.25	4.98	57.79	1.77	3.37	3.14	6.37	0.50
L RIL-41	57.00	117.00	30.10	5.88	87.22	2.00	3.20	4.61	7.83	0.60
L RIL-42	68.25	113.50	21.75	5.28	80.53	1.90	2.73	3.63	5.61	0.65
L RIL-43	62.50	120.00	24.98	4.65	81.45	1.80	2.83	3.79	6.93	0.55
L RIL-44	67.00	112.50	14.45	3.15	60.24	1.80	2.76	2.71	5.13	0.57
L RIL-45	57.75	111.00	22.98	5.15	116.30	2.00	2.19	4.22	8.21	0.51
L RIL-46	52.25	114.00	26.13	4.32	41.04	1.73	3.60	2.42	4.82	0.51
L RIL-47	61.00	109.50	24.85	4.15	63.81	1.67	2.77	2.79	6.63	0.44
L RIL-48	54.00	115.00	26.30	4.98	113.70	2.00	2.48	4.59	8.17	0.56
L RIL-49	50.75	113.50	21.47	3.65	98.28	1.90	2.63	4.23	7.59	0.56
L RIL-50	54.00	118.00	21.23	5.15	57.67	1.70	3.56	3.41	4.93	0.69
L RIL-51	59.50	110.00	25.70	5.15	87.52	2.00	2.23	3.28	6.57	0.50
L RIL-52	54.75	111.00	18.83	5.63	53.87	1.77	2.46	2.28	4.28	0.52
L RIL-53	55.00	112.50	29.25	5.15	72.91	1.87	2.48	2.97	7.53	0.40
L RIL-54	63.25	110.50	23.06	5.48	46.24	1.73	2.68	2.08	5.22	0.42
L RIL-55	67.00	112.50	19.43	5.50	64.30	1.83	2.53	2.70	4.38	0.61

L RIL-56	58.00	110.75	23.69	4.82	65.78	2.00	2.72	2.96	5.17	0.57
L RIL-57	52.50	110.75	22.25	4.68	75.02	1.87	2.95	3.55	5.95	0.61
L RIL-58	50.25	112.25	19.93	5.82	60.76	1.63	2.55	2.56	6.75	0.39
L RIL-59	52.50	109.75	20.03	5.82	103.87	1.87	2.85	4.81	7.57	0.63
L RIL-60	50.75	112.75	22.10	4.30	41.84	1.67	2.81	2.01	3.53	0.55
L RIL-61	55.00	111.25	28.11	4.65	55.55	1.90	2.61	2.33	4.91	0.47
L RIL-62	52.75	112.25	22.60	7.15	62.78	1.83	2.87	2.83	5.69	0.50
L RIL-63	61.00	113.25	26.78	10.02	85.05	1.60	3.61	5.16	9.94	0.51
L RIL-64	57.75	114.75	32.45	5.61	54.01	1.70	3.75	3.58	7.42	0.43
L RIL-65	66.25	114.25	28.67	4.48	37.42	1.70	2.60	1.57	3.65	0.43
L RIL-66	68.25	118.25	27.17	4.68	48.08	1.80	2.69	2.18	4.39	0.49
L RIL-67	62.50	116.75	25.35	6.48	82.06	1.97	3.04	4.11	7.60	0.56
L RIL-68	53.25	110.25	24.05	6.65	104.72	2.00	3.37	5.89	8.40	0.69
L RIL-69	49.25	111.75	27.62	4.48	107.43	2.00	2.39	4.22	7.24	0.57
L RIL-70	61.75	116.75	24.74	4.18	78.05	1.80	2.67	3.40	5.70	0.60
L RIL-71	60.00	111.25	26.90	5.82	57.10	1.80	2.65	2.45	5.75	0.44

L RIL-72	67.50	119.75	24.54	4.82	61.76	2.00	3.00	3.11	8.15	0.37
L RIL-73	69.75	122.75	27.19	5.32	62.93	1.80	2.57	2.63	6.80	0.40
L RIL-74	71.00	125.75	26.10	6.96	64.80	1.90	3.66	3.97	8.48	0.46
L RIL-75	74.25	125.25	25.17	7.15	106.57	2.00	2.88	4.89	8.37	0.60
L RIL-76	69.50	123.75	23.42	4.18	77.57	1.87	2.65	3.36	5.69	0.59
L RIL-77	70.50	123.25	30.75	4.47	92.67	1.93	2.70	3.92	6.35	0.61
L RIL-78	71.75	121.25	29.20	6.82	87.94	1.92	3.15	4.69	7.29	0.64
L RIL-79	71.00	117.75	30.97	3.65	80.60	1.87	2.60	3.29	7.05	0.47
L RIL-80	63.00	110.25	28.28	6.08	122.14	2.00	2.40	4.79	8.51	0.57
L RIL-81	61.50	114.75	27.22	4.15	78.56	1.90	3.55	4.46	7.93	0.58
L RIL-82	65.50	111.75	30.32	3.82	50.02	1.83	2.67	2.23	5.19	0.41
L RIL-83	75.75	119.75	24.30	5.15	55.81	1.77	2.78	2.54	5.12	0.49
L RIL-84	63.00	114.75	23.47	4.67	82.89	1.88	3.10	4.25	7.02	0.61
L RIL-85	69.50	123.75	23.96	5.67	42.55	1.83	3.25	2.30	5.05	0.46
L RIL-86	68.50	113.75	21.13	4.70	75.72	1.93	3.11	3.89	7.02	0.56
L RIL-87	69.00	125.25	28.29	4.98	59.18	1.90	2.50	2.42	5.27	0.47

L RIL-88	60.00	110.25	21.10	3.94	36.63	1.77	3.07	1.93	4.27	0.44
L RIL-89	69.50	114.25	26.94	4.86	48.14	1.90	3.55	2.78	5.67	0.49
L RIL-90	69.75	114.25	18.70	3.35	34.11	1.83	3.64	2.05	4.57	0.47
L RIL-91	67.25	111.75	24.25	5.18	51.41	1.90	2.73	2.31	5.91	0.38
L RIL-92	70.50	114.25	29.30	6.15	113.22	2.00	2.42	5.11	8.57	0.56
L RIL-93	71.25	117.25	30.16	4.13	55.77	1.80	2.36	2.15	5.32	0.41
L RIL-94	58.25	123.75	23.56	2.22	29.02	1.60	2.69	1.27	3.23	0.40
L RIL-95	70.00	109.75	30.55	4.15	104.96	2.00	2.52	4.34	6.75	0.65
L RIL-96	62.50	111.75	24.33	5.48	72.71	2.00	4.80	5.71	8.36	0.69
L RIL-97	67.25	124.25	31.29	4.98	114.57	1.97	2.99	5.38	9.91	0.55
L RIL-98	68.25	110.75	25.24	5.45	77.21	1.87	2.85	3.51	6.19	0.56
L RIL-99	68.25	120.25	32.81	3.38	98.11	1.95	2.83	4.34	6.75	0.65
L RIL-100	64.50	108.75	25.47	5.42	86.41	1.80	2.64	3.77	5.78	0.65
L RIL-101	65.50	111.25	26.11	3.98	82.72	2.00	2.74	3.79	6.29	0.60
L RIL-102	55.75	120.25	25.99	5.45	57.87	1.67	2.51	2.41	4.70	0.53
L RIL-103	57.75	116.25	25.85	4.65	50.46	1.77	2.69	2.23	4.88	0.46

L RIL-104	67.00	119.75	25.15	6.48	48.03	1.83	3.21	2.61	5.70	0.44
L RIL-105	67.25	120.25	28.85	4.69	45.50	1.93	3.52	2.59	4.53	0.54
L RIL-106	63.00	112.75	27.88	4.63	58.49	2.00	3.61	3.75	6.43	0.52
L RIL-107	58.75	111.75	23.22	5.60	57.85	1.90	2.78	2.63	5.78	0.43
L RIL-108	58.25	113.25	24.47	7.35	105.22	1.83	2.78	4.99	6.78	0.74
L RIL-109	59.75	123.25	23.58	4.98	120.05	1.87	2.75	5.08	7.48	0.68
L RIL-110	58.00	110.75	28.23	3.32	54.21	2.00	2.49	2.80	5.13	0.48
L RIL-111	67.25	113.75	25.77	4.32	67.10	1.87	2.42	2.69	4.95	0.55
L RIL-112	65.00	113.25	27.23	5.38	74.84	2.00	3.51	4.35	5.97	0.74
L RIL-113	57.50	114.25	27.33	4.32	100.20	1.87	2.87	4.70	7.23	0.65
L RIL-114	70.00	112.75	26.38	6.19	80.22	1.90	2.70	3.63	7.63	0.45
L RIL-115	67.25	114.25	23.83	4.68	103.13	1.80	2.69	4.47	7.25	0.62
L RIL-116	57.75	114.25	25.49	4.28	69.48	2.00	3.49	4.04	5.98	0.67
L RIL-117	52.50	117.25	24.53	5.67	63.29	1.80	2.68	2.90	5.27	0.54
L RIL-118	58.00	119.25	24.60	4.65	89.74	2.00	2.97	4.38	6.18	0.71
L RIL-119	61.00	109.25	25.50	4.13	55.44	1.83	2.48	2.26	4.52	0.47

L RIL-120	61.75	108.75	23.03	5.47	58.23	1.80	2.91	2.70	5.75	0.47
L RIL-121	67.00	113.25	25.18	4.20	40.86	1.90	3.65	2.53	6.23	0.39
L RIL-122	65.75	122.75	28.40	6.48	78.48	2.00	2.53	3.43	6.83	0.49
L RIL-123	61.00	116.25	29.55	6.15	31.39	1.93	3.03	1.63	6.23	0.31
L RIL-124	63.25	117.75	27.72	5.13	33.15	1.80	3.65	2.03	4.97	0.40
L RIL-125	63.75	114.75	26.13	5.12	46.05	1.87	4.02	3.11	5.89	0.52
L RIL-126	50.75	115.25	27.67	4.94	74.03	1.90	3.54	4.36	6.81	0.64
L RIL-127	60.50	116.25	22.07	4.84	93.77	1.90	2.78	4.17	7.95	0.53
L RIL-128	52.75	122.25	24.28	4.76	51.26	1.87	3.36	2.90	5.73	0.50
L RIL-129	61.50	112.25	24.57	4.69	39.21	1.83	3.89	2.61	5.50	0.48
L RIL-130	57.50	110.25	26.27	5.15	95.65	1.83	2.77	4.34	6.83	0.64
L RIL-131	58.00	113.50	28.09	4.78	92.70	1.98	2.58	3.91	7.15	0.55
L RIL-132	60.75	114.00	26.76	4.18	42.51	1.87	4.08	2.98	4.78	0.61
L RIL-133	60.25	114.00	23.25	4.76	72.07	1.97	3.75	4.44	6.92	0.64
L RIL-134	57.50	113.50	26.75	4.36	46.08	1.90	3.47	2.66	4.86	0.55
L RIL-135	58.25	111.00	21.65	4.69	89.45	2.00	3.30	4.96	7.12	0.69

L RIL-136	60.50	112.00	22.70	5.38	75.58	1.90	3.06	3.73	6.43	0.60
L RIL-137	56.50	113.00	22.23	4.82	65.73	1.80	3.09	3.19	6.13	0.53
L RIL-138	68.50	108.75	20.28	4.48	42.40	1.80	3.33	2.39	5.23	0.44
L RIL-139	59.00	110.25	24.58	4.18	128.86	1.98	2.17	4.49	7.76	0.58
L RIL-140	58.00	108.75	28.93	7.15	71.47	2.00	3.58	4.24	7.25	0.58
L RIL-141	64.25	110.25	23.30	4.48	29.04	1.73	3.81	1.90	4.32	0.43
L RIL-142	59.00	113.25	20.10	3.73	53.17	1.80	2.60	2.25	5.48	0.40
L RIL-143	68.25	111.75	36.21	6.65	113.76	1.70	2.20	4.09	7.39	0.59
L RIL-144	73.50	123.75	26.17	6.15	110.57	1.87	2.96	5.38	9.02	0.59
L RIL-145	69.00	112.75	27.75	4.32	79.19	2.00	2.90	3.67	6.67	0.56
L RIL-146	66.75	124.25	26.65	6.15	69.29	1.87	2.82	3.11	5.73	0.54
L RIL-147	65.50	119.25	24.22	5.32	58.63	1.73	2.52	2.42	4.82	0.51
L RIL-148	66.00	120.25	28.72	9.48	118.86	2.00	2.40	4.69	8.58	0.54
L RIL-149	66.75	120.25	27.47	7.08	65.16	1.97	2.84	3.11	6.29	0.48
L RIL-150	68.50	119.50	30.17	5.78	74.73	2.00	3.14	3.90	7.95	0.50
Mean	62.52	115.74	26.39	5.14	72.66	1.87	3.00	3.46	6.46	0.54

SE (5%)	1.6 6	1.40	1.12	0.46	11.25	0.06	0.26	0.40	0.67	0.04
CD (<i>P</i> =0.05)	3.2 6	2.74	2.18	0.90	22.05	0.13	0.52	0.79	1.32	0.08

D50F, Days to 50% flowering; DM, Days to maturity; PH, Plant height; NPB, Number of primary branches; PPP, Number of pods/plant; SPP, Number of seeds/pod; 100 SW, 100 seed weight; SYP, Seed yield/plant; BYP, Biological yield/plant; HI, Harvest index

Supplementary Table 5 Mean scores of haematoxylin stain score and RRG for 154 lentil genotypes under hydroponics assay

Genotype	Stain score (0, No staining; 1, Partial staining; 2, Moderate staining; 3, Deep staining)	RRG (<0.5, Sensitive; 0.5–1, Moderately tolerant; >1, Tolerant)	
BM- 4	3.00	0.27	SENSITIVE
L- 4602	2.33	2.20	TOLERANT
DPL- 62	2.50	0.77	MODERATELY TOLERANT
PDL- 1	2.33	1.10	TOLERANT
L RIL- 1	1.67	1.33	TOLERANT
L RIL- 2	1.67	1.32	TOLERANT
L RIL- 3	1.67	1.35	TOLERANT
L RIL- 4	1.67	1.17	TOLERANT
L RIL- 5	2.55	0.75	MODERATELY TOLERANT
L RIL- 6	2.17	0.37	SENSITIVE
L RIL- 7	1.83	1.30	TOLERANT

L RIL- 8	2.83	0.14	SENSITIVE
L RIL- 9	2.17	0.32	SENSITIVE
L RIL- 10	1.67	1.40	TOLERANT
L RIL- 11	2.00	1.30	TOLERANT
L RIL- 12	2.83	0.63	MODERATEL Y TOLERANT
L RIL- 13	1.67	1.44	TOLERANT
L RIL- 14	2.33	0.63	MODERATEL Y TOLERANT
L RIL- 15	2.17	0.66	MODERATEL Y TOLERANT
L RIL- 16	2.00	1.64	TOLERANT
L RIL- 17	2.33	0.60	MODERATEL Y TOLERANT
L RIL- 18	1.83	1.41	TOLERANT
L RIL- 19	2.83	0.28	SENSITIVE
L RIL- 20	1.67	1.30	TOLERANT
L RIL- 21	2.00	0.58	MODERATEL Y TOLERANT
L RIL- 22	1.67	1.48	TOLERANT
L RIL- 23	1.83	1.12	TOLERANT
L RIL- 24	2.83	0.30	SENSITIVE
L RIL- 25	2.67	0.26	SENSITIVE
L RIL- 26	2.00	0.72	MODERATEL Y TOLERANT
L RIL- 27	1.67	1.41	TOLERANT
L RIL- 28	3.00	0.60	MODERATEL Y TOLERANT
L RIL- 29	2.67	0.27	SENSITIVE
L RIL- 30	2.83	0.41	SENSITIVE
L RIL- 31	2.83	0.63	MODERATEL Y TOLERANT
L RIL- 32	1.83	1.33	TOLERANT

L RIL- 33	2.00	1.29	TOLERANT
L RIL- 34	1.67	1.40	TOLERANT
L RIL- 35	2.67	0.69	MODERATEL Y TOLERANT
L RIL- 36	2.17	0.64	MODERATEL Y TOLERANT
L RIL- 37	1.67	2.08	TOLERANT
L RIL- 38	1.83	1.51	TOLERANT
L RIL- 39	2.67	0.81	MODERATEL Y TOLERANT
L RIL- 40	2.67	0.63	MODERATEL Y TOLERANT
L RIL- 41	2.67	0.59	MODERATEL Y TOLERANT
L RIL- 42	1.67	1.18	TOLERANT
L RIL- 43	2.00	1.23	TOLERANT
L RIL- 44	1.67	0.63	MODERATEL Y TOLERANT
L RIL- 45	2.00	0.67	MODERATEL Y TOLERANT
L RIL- 46	2.67	0.67	MODERATEL Y TOLERANT
L RIL- 47	2.33	0.60	MODERATEL Y TOLERANT
L RIL- 48	1.83	2.18	TOLERANT
L RIL- 49	1.67	1.29	TOLERANT
L RIL- 50	2.33	0.67	MODERATEL Y TOLERANT
L RIL- 51	2.83	0.71	MODERATEL Y TOLERANT
L RIL- 52	3.00	0.57	MODERATEL Y TOLERANT

L RIL- 53	2.00	0.60	MODERATEL Y TOLERANT
L RIL- 54	2.67	0.28	SENSITIVE
L RIL- 55	2.00	0.38	SENSITIVE
L RIL- 56	2.67	0.76	MODERATEL Y TOLERANT
L RIL- 57	2.83	0.63	MODERATEL Y TOLERANT
L RIL- 58	2.17	0.66	MODERATEL Y TOLERANT
L RIL- 59	2.00	1.19	TOLERANT
L RIL- 60	2.33	0.67	MODERATEL Y TOLERANT
L RIL- 61	2.00	0.71	MODERATEL Y TOLERANT
L RIL- 62	3.00	0.67	MODERATEL Y TOLERANT
L RIL- 63	1.67	1.36	TOLERANT
L RIL- 64	2.67	0.90	MODERATEL Y TOLERANT
L RIL- 65	3.00	0.39	SENSITIVE
L RIL- 66	2.17	0.70	MODERATEL Y TOLERANT
L RIL- 67	2.67	0.68	MODERATEL Y TOLERANT
L RIL- 68	1.67	1.31	TOLERANT
L RIL- 69	1.67	1.14	TOLERANT
L RIL- 70	2.33	0.61	MODERATEL Y TOLERANT
L RIL- 71	2.00	0.25	SENSITIVE
L RIL- 72	2.17	0.59	MODERATEL Y TOLERANT
L RIL- 73	2.00	0.25	SENSITIVE

L RIL- 74	2.00	0.84	MODERATEL Y TOLERANT
L RIL- 75	1.83	1.28	TOLERANT
L RIL- 76	2.83	0.55	MODERATEL Y TOLERANT
L RIL- 77	2.33	0.88	MODERATEL Y TOLERANT
L RIL- 78	2.17	0.70	MODERATEL Y TOLERANT
L RIL- 79	2.00	0.36	SENSITIVE
L RIL- 80	2.00	1.32	TOLERANT
L RIL- 81	1.67	1.52	TOLERANT
L RIL- 82	2.67	0.30	SENSITIVE
L RIL- 83	2.00	0.69	MODERATEL Y TOLERANT
L RIL- 84	1.83	0.81	MODERATEL Y TOLERANT
L RIL- 85	2.67	0.75	MODERATEL Y TOLERANT
L RIL- 86	1.67	1.28	TOLERANT
L RIL- 87	2.33	0.72	MODERATEL Y TOLERANT
L RIL- 88	3.00	0.62	MODERATEL Y TOLERANT
L RIL- 89	2.33	0.58	MODERATEL Y TOLERANT
L RIL- 90	2.67	0.13	SENSITIVE
L RIL- 91	2.67	0.72	MODERATEL Y TOLERANT
L RIL- 92	1.67	0.74	MODERATEL Y TOLERANT
L RIL- 93	3.00	0.14	SENSITIVE
L RIL- 94	2.67	0.17	SENSITIVE

L RIL- 95	1.67	1.40	TOLERANT
L RIL- 96	1.67	1.34	TOLERANT
L RIL- 97	1.83	2.38	TOLERANT
L RIL- 98	2.67	0.71	MODERATEL Y TOLERANT
L RIL- 99	2.33	1.15	TOLERANT
L RIL- 100	2.67	0.68	MODERATEL Y TOLERANT
L RIL- 101	2.83	0.79	MODERATEL Y TOLERANT
L RIL- 102	3.00	0.63	MODERATEL Y TOLERANT
L RIL- 103	2.50	0.46	SENSITIVE
L RIL- 104	2.00	0.73	MODERATEL Y TOLERANT
L RIL- 105	2.33	0.67	MODERATEL Y TOLERANT
L RIL- 106	2.00	0.85	MODERATEL Y TOLERANT
L RIL- 107	2.00	0.77	MODERATEL Y TOLERANT
L RIL- 108	1.67	1.64	TOLERANT
L RIL- 109	1.83	1.33	TOLERANT
L RIL- 110	2.50	0.15	SENSITIVE
L RIL- 111	2.00	0.75	MODERATEL Y TOLERANT
L RIL- 112	1.67	1.39	TOLERANT
L RIL- 113	1.67	1.54	TOLERANT
L RIL- 114	2.00	0.73	MODERATEL Y TOLERANT
L RIL- 115	2.00	1.50	TOLERANT
L RIL- 116	2.00	1.80	TOLERANT

L RIL- 117	2.67	0.60	MODERATEL Y TOLERANT
L RIL- 118	1.67	1.40	TOLERANT
L RIL- 119	2.67	0.70	MODERATEL Y TOLERANT
L RIL- 120	2.00	0.13	SENSITIVE
L RIL- 121	2.83	0.33	SENSITIVE
L RIL- 122	2.33	0.71	MODERATEL Y TOLERANT
L RIL- 123	2.33	0.47	SENSITIVE
L RIL- 124	2.67	0.75	MODERATEL Y TOLERANT
L RIL- 125	1.83	1.67	SENSITIVE
L RIL- 126	2.83	0.14	TOLERANT
L RIL- 127	1.67	1.28	TOLERANT
L RIL- 128	2.33	0.74	MODERATEL Y TOLERANT
L RIL- 129	2.17	0.64	MODERATEL Y TOLERANT
L RIL- 130	1.67	2.04	TOLERANT
L RIL- 131	1.67	1.58	TOLERANT
L RIL- 132	2.33	0.67	MODERATEL Y TOLERANT
L RIL- 133	1.67	1.61	TOLERANT
L RIL- 134	2.50	0.20	SENSITIVE
L RIL- 135	1.67	1.19	TOLERANT
L RIL- 136	1.67	2.26	TOLERANT
L RIL- 137	2.67	0.19	SENSITIVE
L RIL- 138	2.67	0.61	MODERATEL Y TOLERANT
L RIL- 139	2.00	1.65	TOLERANT
L RIL- 140	2.67	1.41	TOLERANT

L RIL- 141	2.83	0.57	MODERATELY TOLERANT
L RIL- 142	2.33	0.60	MODERATELY TOLERANT
L RIL- 143	2.17	2.00	TOLERANT
L RIL- 144	1.67	1.38	TOLERANT
L RIL- 145	2.50	0.74	MODERATELY TOLERANT
L RIL- 146	2.33	0.73	MODERATELY TOLERANT
L RIL- 147	2.33	0.13	SENSITIVE
L RIL- 148	1.67	1.88	TOLERANT
L RIL- 149	2.83	0.80	MODERATELY TOLERANT
L RIL- 150	2.33	0.81	MODERATELY TOLERANT

RRG, Root regrowth

Supplementary Table 6 Mean trait values of high yielding genotypes for seed yield/plant with corresponding haematoxylin stain scores and root regrowth estimates

Genotype	SYP (g)	Stain score (<0.5, Sensitive; 0.5–1, Moderately tolerant; >1, Tolerant)	RRG (cm) (<0.5, Sensitive; 0.5–1, Moderately tolerant; >1, Tolerant)
L RIL- 37	6.8	1.67	2.08
L RIL- 22	5.95	1.67	1.48
L RIL- 68	5.89	1.67	1.31
L RIL- 96	5.71	1.67	1.34
L RIL- 97	5.38	1.83	2.38

L RIL- 144	5.38	1.67	1.38
L RIL- 18	5.23	1.83	1.41
L RIL- 63	5.16	1.67	1.36
L RIL- 92	5.11	1.67	0.74
L RIL- 109	5.08	1.83	1.33
BM- 4 (sensitive parent)	3.68	3	0.27
L- 4602 (tolerant parent)	4.98	2.33	2.2
PDL- 1 (check 1)	4.68	2.33	1.1
DPL- 62 (check 2)	3.56	2.5	0.77

SYP, Seed yield/plant; RRG, Root regrowth.