

Supplementary file:

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Floral traits of single cross hybrids of yellow maize in winter in subtropical Nepalese Himalayan foot plain.

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The file includes following tables:

Sup Table 1A : List of the abbreviations used for the floral, flowering and reproductive traits

Sup Table 1B : List of the abbreviations used for the floral, flowering and reproductive traits

Sup Table 2A: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2B: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2C: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2D: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2E: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2F: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 2G: Mean square values of flowering and reproductive traits of the hybrids

Sup Table 3: DMRT of floral traits of the maize hybrids grown in winter in subtropical Nepalese Himalayan foot plain.

Sup Table 1A : List of the abbreviations used for the floral, flowering and reproductive trait details

SN	Abbreviations	*Average days required for
1	TSS 5	*for tassel emergence of the randomly selected plants
2	TSS 25%	*for tassel emergence of the first earliest 25% PP ^{PP}
3	TSS 50%	*for tassel emergence of the second earliest 25% PP
4	TSS 75%	*for tassel emergence of the third earliest 25% PP
5	TSS 100%	*for tassel emergence of the terminal 25% PP
6	TSS 100-25	*from tassel emergence of 25 to 100% of the PP. (It is also active duration of the trait expression)
7	ANTH 5	*for anthesis of the randomly selected
8	ANTH 25%	*for anthesis of the first earliest 25% PP
9	ANTH 50%	*for anthesis of the second earliest 25% PP
10	ANTH 75%	*for anthesis of the third earliest 25% PP
11	ANTH 100%	*for anthesis of the terminal 25% PP. (It is also active duration of the trait expression)
12	ANTH 100-25	*from anthesis of 25 to 100%
13	SILK 5	*for silking of the randomly selected
14	SILK 25%	*for silking of the first earliest 25% PP
15	SILK 50%	*for silking of the second earliest 25% PP
16	SILK 75%	*for silking of the third earliest 25% PP
17	SILK 100%	*for silking of the terminal 25% PP
18	SILK 100-25	*from silking of 25 to 100% PP. (It is also active duration of the trait expression)
19	SILK ^{SN} SEN 5	*for silk senescence of the randomly selected
20	SILK SEN 25%	*for silk senescence of the first earliest 25% plant population
21	SILK SEN 50%	*for silk senescence of the second earliest 25% plant population
22	SILK SEN 75%	*for silk senescence of the third earliest 25% plant population
23	SILK SEN 100%	*for silk senescence of the terminal 25% plant population
24	SILK SEN 100-25	*from silk senescence of 25 to 100%. (It is also active duration of the trait expression)

^{PP}PP implies for plant population of the hybrid; ^{SN}SILK SEN or SILK SN carry identical meaning.

Sup Table 1B: List of the abbreviations used for the floral, flowering and reproductive traits

SN	Abbreviations	Average days required
25	TAI 5	*for tasseling-silking interval of the random plants
26	TAI 25%	*for tasseling-silking interval of the first earliest 25% PP
27	TAI 50%	*for tasseling-silking interval of the second earliest 25% PP
28	TAI 75%	*for tasseling-silking interval of the third earliest 25% PP
29	TAI 100%	*for tasseling-silking interval of the terminal 25% PP
30	ASI 5	*for anthesis-silking interval of the random plants
31	ASI 25%	*for anthesis-silking interval of the first earliest 25% PP
32	ASI 50%	*for anthesis-silking interval of the second earliest 25% PP
33	ASI 75%	*for anthesis-silking interval of the third earliest 25% PP
34	ASI 100%	*for anthesis-silking interval of the terminal 25% PP
35	SILK INI-S SEN 5	*for silking-silk senescence interval of the random plants
36	SILK INI-S SEN 25%	*for silking-silk senescence interval of the first earliest 25% PP
37	SILK INI-S SEN 50%	*for silking-silk senescence interval of the second earliest 25% PP
38	SILK INI-S SEN 75%	*for silking-silk senescence interval of the third earliest 25% PP
39	SILK INI-S SEN 100%	*for silking-silk senescence interval of the terminal 25% PP
40	Ear Nos	Average numbers of ears per plant
41	Sign Ears	Average numbers of significant ears per plant appeared before dehusking
42	E1 Rws	Average numbers of filled rows in the topmost cob
43	E1 Knls/row	Average numbers of kernels per row in the topmost cob
44	E1 Knels	Average numbers of kernels in the topmost cob
45	Tot Knls	Average numbers of kernels in the plants
46	EAR 1 LEN	Average length of the top most ear in randomly selected plants (cm)
47	COB 1 LEN	Average length of the top most ear in randomly selected plants (cm)
48	COB LEN/EAR LEN%	Percent of ear length that contained complete kernels
49	POP SEN100	* for senescence of 100% PP

Sup Table 2A: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	Grain yield	Ear length	TSS	ANTH-TSS	ASI Anth-S	Ear Nos	Sign ears
REP	2	20.606	60.48	0.87	0.18	12.23	0.06	0.40
HYBRIDS	14	6.664*	344.62**	41.447**	4.0455**	21.948**	0.29689**	0.19898*
RESIDUAL	28	3.133	51.28	5.99	0.71	2.99	0.04	0.08

Sup Table 2B: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	E1Rws	E1Knl/row	E1Kernls	TotKenls	Ear1Len	CobLen1	Cob/ Ear%
REP	2	0.33	27.38	5440.00	58582.00	1.18	1.39	14.83
HYBRIDS	14	1.5634*	34.374**	9134**	24138**	44.229**	8.282**	36.71*
RESIDUAL	28	0.67	7.98	2343.00	5455.00	7.87	3.09	16.01

Sup Table 2C: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	ANTH	ANTH25	ANTH50	ANTH75	ANTH100	ANTH100-25
REP	2	0.50	14.16	2.16	0.42	0.82	21.07
HYBRIDS	14	50.243**	29.975**	34.213**	35.832**	54.84**	12.276 ns
RESIDUAL	28	8.24	3.37	3.16	4.09	10.97	7.83

Sup Table 2D: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	SILKI	SILK25	SILK50	SILK75	SILK100	SILK 100-25	SILK-ANTH	ASI 25-25
REP	2	11.49	4.07	5.96	0.07	1.76	1.69	12.23	3.36
HYBRIDS	14	53.25**	22.571**	22.898**	30.105**	99.09**	39.57*	21.948**	13.975**
RESIDUAL	28	12.49	3.21	4.93	6.19	22.07	17.52	2.99	3.52

Sup Table 2E: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	ASI 50-50	ASI 75-75	SAI100-100	SILKSN	SIKSN25	SIKSN50	SIKSN75	SILKSN100	SILKSN100-25
REP	2	1.76	0.29	3.09	48.80	66.47	76.29	39.76	32.47	106.40
HYBRIDS	14	11.756**	17.422*	46.33**	120.83**	106.33**	163.28**	123.4**	142.68**	22.91ns
RESIDUAL	28	2.18	5.10	12.73	22.10	10.73	13.84	17.42	38.01	33.90

Sup Table 2F: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	S SN-S INI 25%	S SN-S INI 50%	S SN-S INI 75%	S SN-S INI 100%	PopSen 100%	Ears/ 100 plants	F-ears/ 100 plants	Pop senes 100%
REP	2	51.47	77.27	39.02	49.16	9.49	3608.00	2752.00	9.49
HYBRIDS	14	40.43**	68.524**	38.28**	40.79*	12.022**	7379*	3704ns	12.022**
RESIDUAL	28	10.40	9.01	10.07	17.20	3.35	2848.00	2624.00	3.35

Sup Table 2G: Mean square values of flowering and reproductive traits of the hybrids in trial A1

SOV	DF	TSS25	TSS50	TSS75	TSS100	TSS100 -25	TAI	TAI 50	TAI 75	TAI- 100
REPLICA	2	7.222	5.356	0.067	5.756	24.089	1.267	0.867	0.622	2.289
HYBRIDS	14	34.413**	49.279**	56.295**	47.47**	10.517*	4.467**	6.676**	10.022**	8.756*
ERROR	28	2.27	3.308	4.805	8.422	5.041	1.505	1.7	2.67	3.456

Sup Table: 3: DMRT of floral traits of the maize hybrids grown in winter in subtropical Nepalese Himalayan foot plain.

Entry	Grain yield (t/ha)		Ear Nos plant ⁻¹		Sign ears plant ⁻¹		E1Kernls nos plant ⁻¹		Tot Knls nos plant ⁻¹		Ear1Len cm		CobLen1 cm		Cob/ear %	
8	12.54	A	2.33	AB	2.00	A	383.73	A-D	721.20	A	35.40	CDE	14.87	BCD	42.00	AB
12	11.80	A	2.47	A	1.73	ABC	350.93	CDE	542.40	BCD	37.40	BCD	15.30	A-D	40.91	ABC
11	11.55	A	1.33	F	1.27	CD	467.33	A	524.93	BCD	40.00	ABC	18.70	A	46.75	A
13	11.31	AB	1.80	E	1.40	BCD	366.93	BCD	488.80	B-E	42.53	AB	17.33	ABC	40.75	ABC
5	11.05	AB	2.27	ABC	1.87	AB	380.40	A-D	599.87	AB	41.07	AB	17.63	ABC	42.94	AB
6	11.02	AB	1.80	E	1.53	A-D	439.07	ABC	571.20	BC	39.67	ABC	16.03	A-D	40.42	ABC
10	9.78	ABC	1.87	DE	1.20	CD	454.40	AB	517.33	BCD	43.00	A	17.70	ABC	41.16	ABC
1	9.75	ABC	2.00	B-E	1.40	BCD	344.27	DE	431.47	CDE	37.33	BCD	15.76	A-D	42.21	AB
7	9.70	ABC	1.93	CDE	1.67	ABC	334.00	DE	536.13	BCD	32.13	DE	13.27	D	41.29	ABC
14	9.64	ABC	1.80	E	1.13	D	353.73	CDE	454.13	CDE	32.73	DE	14.50	CD	44.30	AB
2	9.47	ABC	2.53	A	1.73	ABC	301.07	DE	452.93	CDE	42.13	AB	16.03	A-D	38.05	BC
9	9.30	ABC	2.00	B-E	1.60	A-D	388.67	A-D	513.73	BCD	41.80	AB	18.13	AB	43.38	AB
15	9.17	ABC	1.87	D-E	1.20	CD	334.40	DE	440.13	CDE	31.67	E	15.23	BCD	48.11	A
4	7.87	BC	2.27	ABC	1.60	A-D	261.33	E	348.93	E	39.93	ABC	13.67	D	34.22	C
3	7.03	C	2.20	A-D	1.60	A-D	353.33	CDE	404.80	DE	37.20	BCD	17.43	ABC	46.86	A
Mean	10.07		2.03		1.53		367.57		503.20		38.27		16.11		42.22	

¹Average numbers per plant out of the fifteen hybrids. Here, ear length and cob length are for the topmost ear. Cob/ear is percent of cob length to ear length. Maize hybrids and their entries are RML-19/NML-2 (1), RL-137/RL-168 (2), RML-55/RL-29 (3), RL-99/RL-161 (4), RML-6/RML-19 (5), RL-111/RL-189 (6), RML-95/RML-96 (7), RML-86/RML-96 (8), RL-36/RL-197 (9), RL-180/RML-5 (10), RML-57/RML-6 (11), RL-170/RL-111 (12), RL-154/RL-111 (13), RML-4/NML-2 (14) and Gaurav (15).