

Supplementary Material

Does tillering affect the grain yield of maize (*Zea mays*)? A quantitative review

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Supplementary Materials for Manuscript: Does tillering affect the grain yield of maize?

A quantitative review

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Supplementary Table S1. Database used for the quantitative review of the effect of tillers on maize grain yield. For each entry (line), the source (referred to the number of the source in Table 1 in the main body of the manuscript), experimental condition (site x season x genotype x fertilization level), hybrid code name, plant density, tiller presence or removal treatment, the final number of tillers per plant (if available) and the grain yield per unit area are shown. Values of tillers per plant and grain yield per unit area are the average of all repetitions in each case (calculated or reported in the source of the data). The table with the database continues in the following pages.

Source	Experimental condition	Water condition	Hybrid	Density (pl m ⁻²)	Tillers (Treatment)	Tillers per plant	Grain yield (kg ha ⁻¹)
1	5	Dryland	B	0.8	Present	2.5	5919
1	6	Dryland	B	0.8	Present	1.5	4976
2	8	Dryland	F	0.22	Present	NO DATA	814
3	36	Irrigated	P	0.88	Present	NO DATA	2737
3	37	Irrigated	P	0.88	Present	NO DATA	3661
3	38	Irrigated	P	0.88	Present	NO DATA	3142
3	39	Irrigated	P	0.88	Present	NO DATA	1258
3	40	Irrigated	P	0.88	Present	NO DATA	1795
4	7	Dryland	C	3.3	Present	1.0	7800
4	7	Dryland	C	1.6	Present	1.4	6426
4	7	Dryland	D	3.3	Present	1.5	8888
4	7	Dryland	D	1.6	Present	2.3	6066
4	7	Dryland	E	1.6	Present	1.4	7098
5	35	Dryland	O	3	Present	0.3	4620
6	9	Dryland	A	7	Present	NO DATA	11581
6	9	Dryland	A	4	Present	NO DATA	10665
6	9	Dryland	G	7	Present	NO DATA	9597
6	9	Dryland	G	4	Present	NO DATA	8665
6	9	Dryland	H	7	Present	NO DATA	11788
6	9	Dryland	H	4	Present	NO DATA	9629
7	34	Irrigated	N	0.3	Present	NO DATA	2400
8	1	Dryland	A	5.5	Present	1.7	10989
8	2	Dryland	A	5.5	Present	0.7	12199
8	3	Dryland	A	5.5	Present	1.3	12048
8	4	Dryland	A	5.5	Present	0.9	9594
9	25	Irrigated	L,M	4.2	Present	0.4	10087
9	25	Irrigated	L,M	2.5	Present	0.9	9415
9	26	Irrigated	L,M	4.2	Present	0.5	12777
9	26	Irrigated	L,M	2.5	Present	1.5	11634
9	27	Dryland	L,M	6.0	Present	0.3	11432
9	27	Dryland	L,M	4.2	Present	1.0	10424
9	27	Dryland	L,M	2.5	Present	1.3	10155

9	28	Dryland	L	6.0	Present	0.1	13921
9	28	Dryland	L	4.2	Present	0.5	11769
9	28	Dryland	L	2.5	Present	2.1	7935
9	28	Dryland	M	6.0	Present	0.1	13921
9	28	Dryland	M	4.2	Present	0.5	11567
9	28	Dryland	M	2.5	Present	2.1	9280
9	29	Irrigated	L,M	6.0	Present	0.6	14593
9	29	Irrigated	L,M	4.2	Present	1.5	14055
9	29	Irrigated	L,M	2.5	Present	1.7	12912
9	30	Irrigated	L,M	6.0	Present	0.7	14324
9	30	Irrigated	L,M	4.2	Present	1.4	12508
9	30	Irrigated	L,M	2.5	Present	1.9	12576
10	31	Dryland	I	4	Present	0.8	4161
10	31	Dryland	I	2	Present	1.2	3301
11	14	Dryland	I,K	2.6	Present	1.1	10271
11	15	Dryland	I	2.5	Present	1.7	9937
11	16	Dryland	I	2.6	Present	0.6	3158
11	17	Dryland	I	2.1	Present	1.5	10460
11	18	Dryland	I,K	2.4	Present	1.2	7002
11	19	Dryland	K	3	Present	0.8	9557
11	20	Dryland	I	2	Present	2.3	5111
11	21	Dryland	I	2	Present	1.5	4095
11	22	Dryland	I	2	Present	1.4	5360
11	23	Dryland	I	2	Present	1.1	4006
11	24	Dryland	I	2	Present	3.1	11944
12	10	Irrigated	I	2	Present	1.8	9020
12	10	Irrigated	J	2	Present	1.4	8400
12	11	Irrigated	I	2	Present	2.0	9170
12	11	Irrigated	J	2	Present	1.3	8670
12	12	Irrigated	I	2	Present	0.3	6180
12	13	Irrigated	I	2	Present	0.9	8130
13	32	Dryland	I	4	Present	1.5	4920
13	32	Dryland	I	2.4	Present	2.5	4332
13	33	Dryland	I	4.2	Present	0.7	5418
13	33	Dryland	I	2.5	Present	1.2	5279
13	41	Dryland	Q	2.5	Present	2.1	5672
13	41	Dryland	Q	4.3	Present	0.8	6910
13	42	Dryland	Q	2.5	Present	1.1	3744
13	42	Dryland	Q	4.3	Present	1.1	3152
1	5	Dryland	B	0.8	Removed	-	4573
1	6	Dryland	B	0.8	Removed	-	4035
2	8	Dryland	F	0.22	Removed	-	733
3	36	Irrigated	P	0.88	Removed	-	2191
3	37	Irrigated	P	0.88	Removed	-	2174
3	38	Irrigated	P	0.88	Removed	-	1954
3	39	Irrigated	P	0.88	Removed	-	1223

3	40	Irrigated	P	0.88	Removed	-	1311
4	7	Dryland	C	3.3	Removed	-	7265
4	7	Dryland	C	1.6	Removed	-	5037
4	7	Dryland	D	3.3	Removed	-	6969
4	7	Dryland	D	1.6	Removed	-	3980
4	7	Dryland	E	1.6	Removed	-	5214
5	35	Dryland	O	3	Removed	-	4620
6	9	Dryland	A	7	Removed	-	10989
6	9	Dryland	A	4	Removed	-	9205
6	9	Dryland	G	7	Removed	-	7731
6	9	Dryland	G	4	Removed	-	7906
6	9	Dryland	H	7	Removed	-	11492
6	9	Dryland	H	4	Removed	-	8248
7	34	Irrigated	N	0.3	Removed	-	1650
8	1	Dryland	A	5.5	Removed	-	10832
8	2	Dryland	A	5.5	Removed	-	12110
8	3	Dryland	A	5.5	Removed	-	11538
8	4	Dryland	A	5.5	Removed	-	6998
9	25	Irrigated	L,M	4.2	Removed	-	10760
9	25	Irrigated	L,M	2.5	Removed	-	9684
9	26	Irrigated	L,M	4.2	Removed	-	12508
9	26	Irrigated	L,M	2.5	Removed	-	10222
9	27	Dryland	L,M	6.0	Removed	-	11365
9	27	Dryland	L,M	4.2	Removed	-	10424
9	27	Dryland	L,M	2.5	Removed	-	7061
9	28	Dryland	L	6.0	Removed	-	13315
9	28	Dryland	L	4.2	Removed	-	11500
9	28	Dryland	L	2.5	Removed	-	8608
9	28	Dryland	M	6.0	Removed	-	13315
9	28	Dryland	M	4.2	Removed	-	11634
9	28	Dryland	M	2.5	Removed	-	7935
9	29	Irrigated	L,M	6.0	Removed	-	15198
9	29	Irrigated	L,M	4.2	Removed	-	12777
9	29	Irrigated	L,M	2.5	Removed	-	7935
9	30	Irrigated	L,M	6.0	Removed	-	13921
9	30	Irrigated	L,M	4.2	Removed	-	12038
9	30	Irrigated	L,M	2.5	Removed	-	9146
10	31	Dryland	I	4	Removed	-	4290
10	31	Dryland	I	2	Removed	-	3513
11	14	Dryland	I,K	2.6	Removed	-	8888
11	15	Dryland	I	2.5	Removed	-	6333
11	16	Dryland	I	2.6	Removed	-	2738
11	17	Dryland	I	2.1	Removed	-	7524
11	18	Dryland	I,K	2.4	Removed	-	6516
11	19	Dryland	K	3	Removed	-	8582
11	20	Dryland	I	2	Removed	-	4710

11	21	Dryland	I	2	Removed	-	4905
11	22	Dryland	I	2	Removed	-	4765
11	23	Dryland	I	2	Removed	-	4676
11	24	Dryland	I	2	Removed	-	8065
12	10	Irrigated	I	2	Removed	-	7370
12	10	Irrigated	J	2	Removed	-	7050
12	11	Irrigated	I	2	Removed	-	7670
12	11	Irrigated	J	2	Removed	-	6980
12	12	Irrigated	I	2	Removed	-	6780
12	13	Irrigated	I	2	Removed	-	7640
13	32	Dryland	I	4	Removed	-	6457
13	32	Dryland	I	2.4	Removed	-	4793
13	33	Dryland	I	4.2	Removed	-	5979
13	33	Dryland	I	2.5	Removed	-	5757
13	41	Dryland	Q	2.5	Removed	-	5087
13	41	Dryland	Q	4.3	Removed	-	6587
13	42	Dryland	Q	2.5	Removed	-	3588
13	42	Dryland	Q	4.3	Removed	-	3062

Supplementary Figure S1. Tillers per plant regressed against plant density for maize crops in the experiments shown in Table 1 in the main body of the manuscript that informed the final number of tillers per plant. Each data point corresponds to the average of all the replications in each experiment condition (season x fertilization x genotype x plant density). The values of the parameters, coefficient of determination and results of the extra sum-of-squares F test for the slope (null hypothesis = slope equal to 0) and the intercept (null hypothesis = intercept equal to 0) are presented. Each symbol x color combination represents data points from an individual source (see Table 1 in the main body of the manuscript). Symbols with black dots inside correspond to data from the Argentinean Pampas.

