

Table S1: Climate data and elevation data downloaded from BioClim (Hijmans *et al.*, 2005) rasters and extracted for site using package raster in R (Hijmans, 2015) using the latitude and longitude of populations. T is short for temperature, P for precipitation, Wm for warmest, C for coldest, Wt for wettest, D for driest, M for month, and Q for quarter. T Seasonality is the St.Dev of temperature * 100. ***Greenhouse average temperature from first possible germination day to last harvest day was 23.8 °C, average night temperature for the same period was 19.4 °C, and relative humidity average was 61.7.

variable	Tepoztlán	San Francisco Pedregal	San Mateo Tezoquipan	Tenango Del Aire	San Matías Cuijingo	Malinalco	Toluca	Texcoco	Calimaya Low	Calimaya High
Latitude	18.976	19.212	19.212	19.146	19.077	18.954	19.260	19.505	19.151	19.161
Longitude	-99.070	-99.127	-98.809	-98.863	-98.843	-99.501	-99.722	-98.922	-99.616	-99.633
MAT	19.8	14.4	15	14.7	14.3	18.6	13	15.3	13.2	12.9
Mean T Wm Q	21.6	16.5	16.9	16.7	16.1	20.6	14.8	17.5	15.1	14.7
Mean T C Q	18.2	11.6	12.4	12.1	11.9	16.3	10.7	12.3	10.6	10.4
Annual P	966	935	730	817	926	928	836	585	828	857
P Wt M	207	195	153	169	178	189	171	116	172	175
P D M	3	7	6	7	8	5	8	5	7	8
P Seasonality	106	95	92	93	92	98	85	86	88	88
P Wt Q	595	556	431	482	526	558	459	325	469	481
P D Q	12	28	20	23	28	30	35	20	35	36
P Wm Q	271	274	232	253	285	272	240	185	241	250
P C Q	23	28	20	23	28	30	35	20	35	36
Diurnal T Range	15.8	16.7	17	16.6	16.1	14.9	14.2	18.1	14.6	14.4
T Isothermality	7.5	6.8	7	6.9	6.9	6.6	6.9	6.9	6.8	6.8
T Seasonality	130.1	194.7	179.7	179.2	166.3	163.9	156.7	209.4	175	170.6
Max T Wm M	30.4	25.7	26.3	25.9	25.2	29.6	22.7	27.2	23	22.6
Min T C M	9.5	1.3	2.1	2	2.1	7.3	2.2	1.2	1.7	1.7
Annual Range T	20.9	24.4	24.2	23.9	23.1	22.3	20.5	26	21.3	20.9
Mean T Wt Q	20.3	16	16.4	16.1	15.4	19.5	13.8	17.2	14.6	13.9
Mean T D Q	19.1	11.6	12.4	12.1	11.9	16.3	10.7	12.3	10.6	10.4
Elevation (masl)	1665	2507	2353	2408	2491.5	1881	2776	2253	2698	2792

Table S2: Soil data from site collections sent to INIFAP in Celaya, Gto, for testing. meq/L is saturated paste method. Cation exchange capacity is abbreviated as CEC, electrical conductivity as EC, exchangeable sodium as ES, sodium adsorption ration as SAR, and saturated extraction as SE. *Inorganic N is Kcl extraction with MgO distillation

variable	Tepoztlán	San Francisco Pedregal	San Mateo Tezoquipan	Tenango Del Aire	San Matías Cuijingo	Malinalco	Toluca	Texcoco	Calimaya Low	Calimaya High
P (Bray) ppm	33.3	44.3	68.5	48.3	27.1	223	29.7	175	39.2	71.1
Inorganic N ppm*	12	13.4	12	15.5	12.7	16.9	17.6	13.4	14.1	16.2
Sand %	61.12	71.2	61.12	63.12	65.12	63.12	57.12	35.12	92.56	84.5
Clay %	11.6	7.6	11.6	11.6	7.6	9.6	19.6	19.6	3.8	4.8
Silt %	27.28	21.28	27.28	25.28	27.28	27.28	23.28	45.28	3.64	10.64
Saturation point %	40	45	41	37	44	74	44	54	29	31
Field capacity %	30	33.8	30.8	27.8	33	55.5	33	40.5	21.8	23.3
Wilting point %	15.8	17.7	16.1	14.6	17.3	29.1	17.3	21.3	11.4	12.2
Apparent density	1.44	1.3	1.35	1.4	1.24	0.88	1.38	1.18	1.43	1.44
pH 1:2 in water	5.9	6.18	6.33	6.18	5.85	6.14	6.17	7.27	6.59	6.07
pH SE	6.64	7.05	7.3	7.42	6.34	7.23	7.41	7.87	7.68	7.35
Total carbonates %	0.01	0.01	0.01	0.1	0.01	0.01	0.01	1.45	0.01	0.01
Organic matter %	2.15	1.97	2.11	1.4	1.96	10.6	2.48	2.84	0.67	1.25
K ppm	428	498	315	189	261	827	143	1055	96.3	142
Ca ppm	915	966	1575	757	1034	4076	1181	2710	354	749
Mg ppm	290	167	227	240	170	527	286	660	55.5	26.2
Na ppm	28.2	27.5	14.8	10.7	10.3	31.5	34.3	419	26.4	25.9
Fe ppm	58.6	34.5	53.8	56	64.8	81.8	176	29.6	25.9	31.8
Zn ppm	1.94	2.63	7.17	1.81	1.24	48.7	3.25	10.5	0.39	0.67
Mn ppm	15.7	2.51	6.02	5.94	5.95	20.5	75	6.28	2.23	4.63
Cu ppm	1	1.07	1.4	0.88	0.97	0.96	1.49	2.12	0.23	0.38
EC dS/m	0.3	0.28	0.48	0.38	0.28	0.52	0.41	1.11	0.23	0.28
SAR	1.15	1.16	0.49	0.48	0.42	0.66	1.27	10.2	1.84	1.32
ES %	1.47	1.58	0.57	0.79	0.55	0.52	1.71	7.74	4.26	2.48
CEC	8.17	7.59	10.6	6.29	7.27	26	8.77	23.5	2.58	4.43
Ca++ meq/L	0.76	0.56	2	1.2	0.84	2.96	1.4	3.16	0.84	0.9
Mg++ meq/L	0.64	0.44	1.84	1.26	0.8	1.92	1.36	0.56	0.7	0.86
Na+ meq/L	0.65	0.78	1	1	0.82	0.56	1.08	4.78	0.82	0.6
K+ meq/L	0.23	0.29	0.2	0.17	0.11	0.44	0.08	0.44	0.07	0.08
CO3- meq/L	0.01	0.48	0.56	0.64	0.01	0.56	0.52	0.8	0.56	0.48
HCO3- meq/L	1.6	1	2.72	1.16	1.04	3.3	1.02	3.2	0.34	0.56
Cl- meq/L	0.7	0.51	1.38	1.01	0.76	1.47	1.18	3.05	0.85	1.5
SO4- meq/L	0.69	0.83	0.18	1.03	1.01	0.01	1.34	4.08	0.52	0.26

Table S3: Using raw data reported in Piperno et. al 2015, and provided by Dolores Piperno, we asked if vegetative biomass at flowering (excluding seeds), is correlated to seed mass and number. We used linear models fit with MCMCglmm (as elsewhere in this paper), including parameters for seed source population and year random effects, as well as for fixed effects for the CO₂ treatments. Both seed mass and number were significantly positively correlated to non-seed biomass. ($Y = \alpha + \beta ppm + \beta biomass + \alpha year + \alpha population$)

parameter	estimate	lower 95% CI	upper 95% CI	pMCMC
Seed Mass				
Intercept	1.92	-4.54	8.55	0.58
Non-seed biomass	0.030	0.011	0.050	0.010
CO2 ppm	0.024	0.0015	0.050	0.038
Seed Number				
Intercept	74.07	-76.78	219.87	0.29
Non-seed biomass	0.70	0.31	1.13	<0.001 ***
CO2 ppm	0.37	-0.086	0.85	0.14

Table S4: DIC results of best models (MAT), compared to DIC values of best models where soil nutrient variables for plant and biota sources are used instead of MAT.

Variable name	MAT	Inorganic N ppm	P ppm (Bray)	K ppm	Precipitation
Biomass	1202.7	1296.3	1286.3	1293.4	1256.7
Stem Hairs	1628.3	1633.1	1634.7	1631.2	1629.5
Germination Probability	1849.4	1855.1	1851.0	1858.0	1855.7

Table S5: Biomass of B73 growing in biota sources is not explained by biota source variables. Plants were grown at an earlier time when the greenhouse was cooler at night (by 1.5 °C). No variable is well correlated to B73 biomass across treatments

Biota Source Variable	MAT	Inorganic N ppm	P ppm (Bray)	K ppm	Precipitation
Correlation to B73 Biomass	-0.087	0.079	-0.012	0.007	0.067

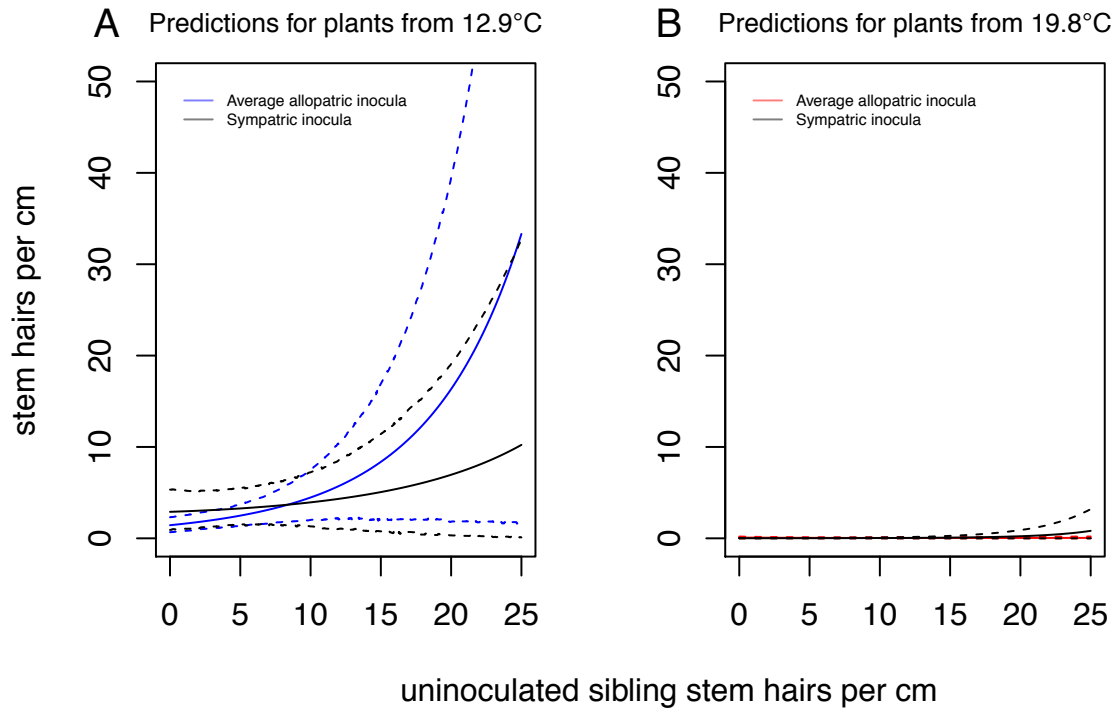


Figure S1: Sympatric biota increase stem hairs for cold-sourced teosinte when uninoculated siblings are least hairy. Model predictions for average stem hairs per centimeter for teosinte from cold (12.9 °C MAT) or warm (19.8 °C MAT) sites, panels A and B respectively. Predictions and 95% HDPI are shown for allopatric combinations (blue or red in A and B respectively) or black for sympatric combinations.