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. Growing season for teosinte is in the warmer, wetter, portion of the year. ***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 Matìas 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

Appendix S1

DIC-selected best models also included interaction terms between uninoculated sibling stem hairiness, source MAT, and sympatry (parameters $T_P \times Z$, $S \times Z$, and $T_S \times S \times Z$ in best models for macrohairs, Table 1, both pMCMC <.1). These interaction terms indicate several model predictions. First, plants from warm sites are expected to have no or few macrohairs when inoculated, even if uninoculated siblings are hairy (negative $T_P \times Z$). Also, plants from the least hairy families have the greatest increase in hair expression in sympatry (negative $S \times Z$ opposes positive S parameter), but only for colder-sourced teosinte (positive $T_S \times S \times Z$ exceeds negative $S \times Z$ for MAT > 14.5°C).

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 distilation

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: 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	PCA1 Soil	Precipitation
Biomass	1202.7	1296.3	1286.3	1293.4	1300.0	1256.7
Stem Hairs	1628.3	1633.1	1634.7	1631.2		1629.5

Table S4: 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

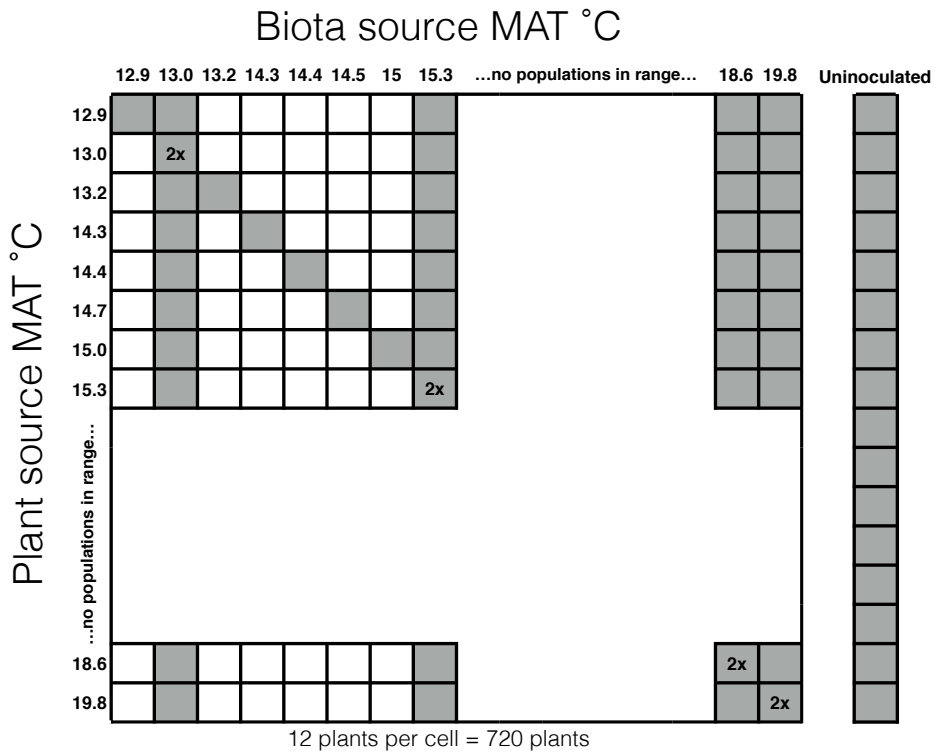

Figure S1: Schematic of experimental design. Outlined columns represent biota sources, outlined rows represent teosinte seed sources. MAT of the site of collection is given for each source. Blank areas represent a significant gap in MAT of sampled sources. Treatments included in the experiment are filled in grey squares and represent 12 pots (one pot per each maternal plant in the field from which seeds were collected), and "2x" denotes double the number of experimental pots (2 pots per field maternal plant, or 24 pots total). All plant populations were also grown uninoculated.

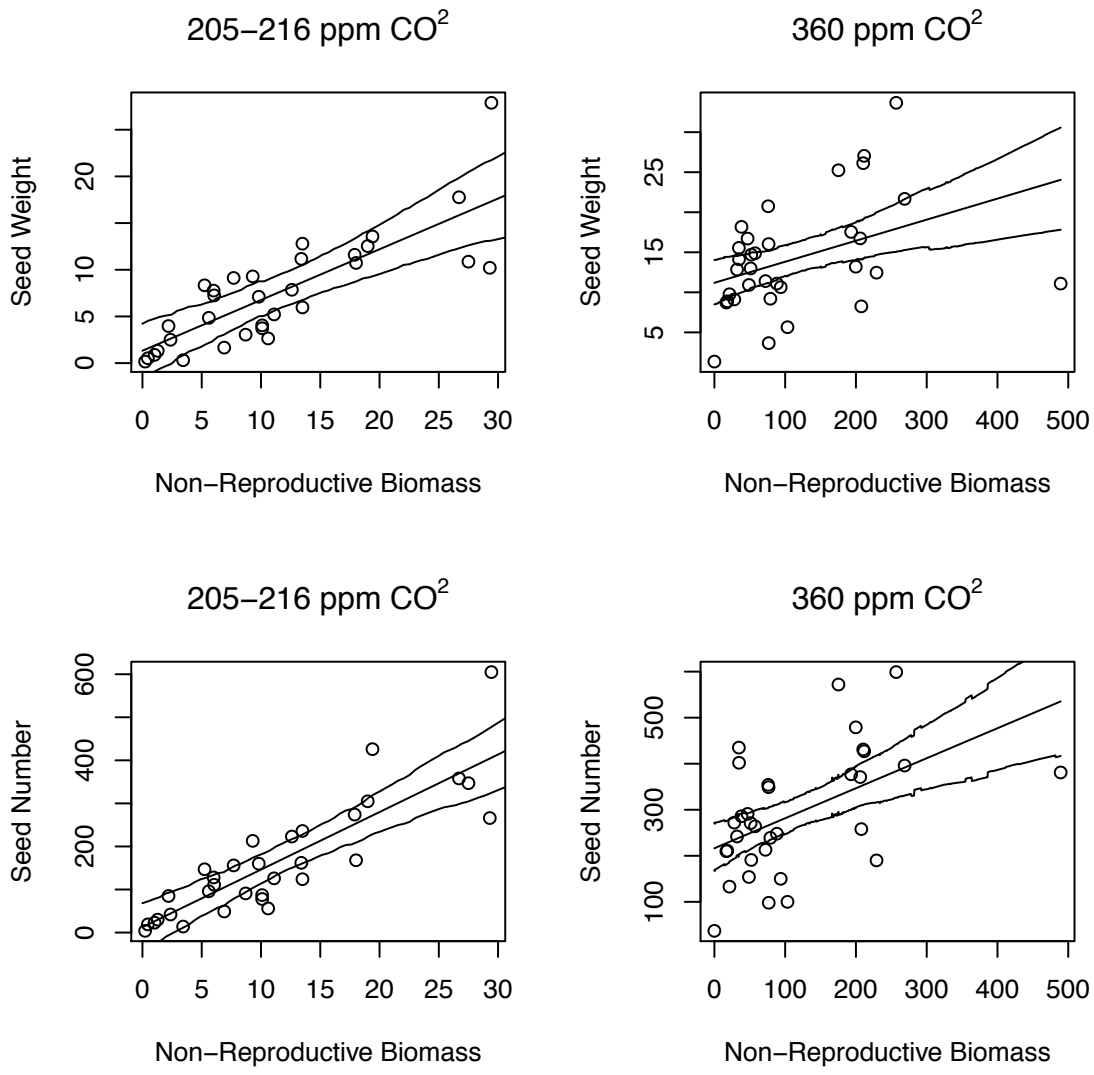

Figure S2: Using raw data reported in Piperno et. al 2015, and provided by Dolores Piperno, we asked if vegetative biomass at flowering (excluding seeds), is correlated to seed mass and number. We used linear models fit with MCMCglmm (as elsewhere in this paper), including parameters for seed source population and year random effects, as well as for fixed and interaction effects for the CO_2 treatments. Both seed mass and number were significantly positively correlated to non-seed biomass. ($Y \sim \alpha + \alpha year + \alpha population + \beta ppm + \beta biomass + \beta biomass \times ppm$) Model predictions are plotted as mean lines surrounded by 95% HPDI intervals. Data is plotted as points. All fitted parameters are significant at pMCMC <0.001

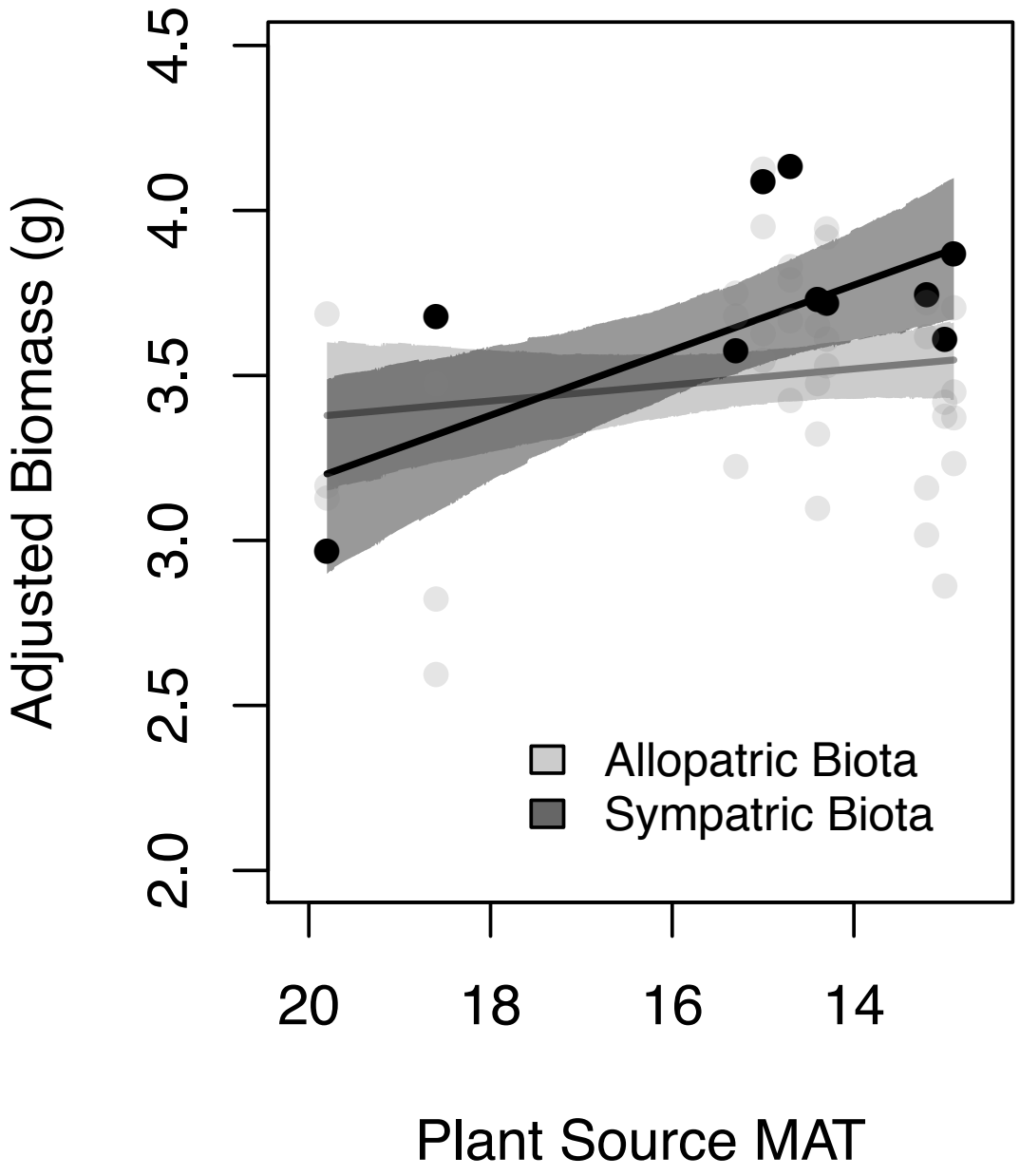

Figure S3: Adjusted observations and model predictions (lines for predicted mean and shaded polygons for 95% HPDI of the means) for biomass in sympatric (black) and allopatric (gray) biota plotted by source MAT of plants. Observations and predictions are all adjusted for effects of MAT of biota source, using the slope parameter estimated for T_I in the model.

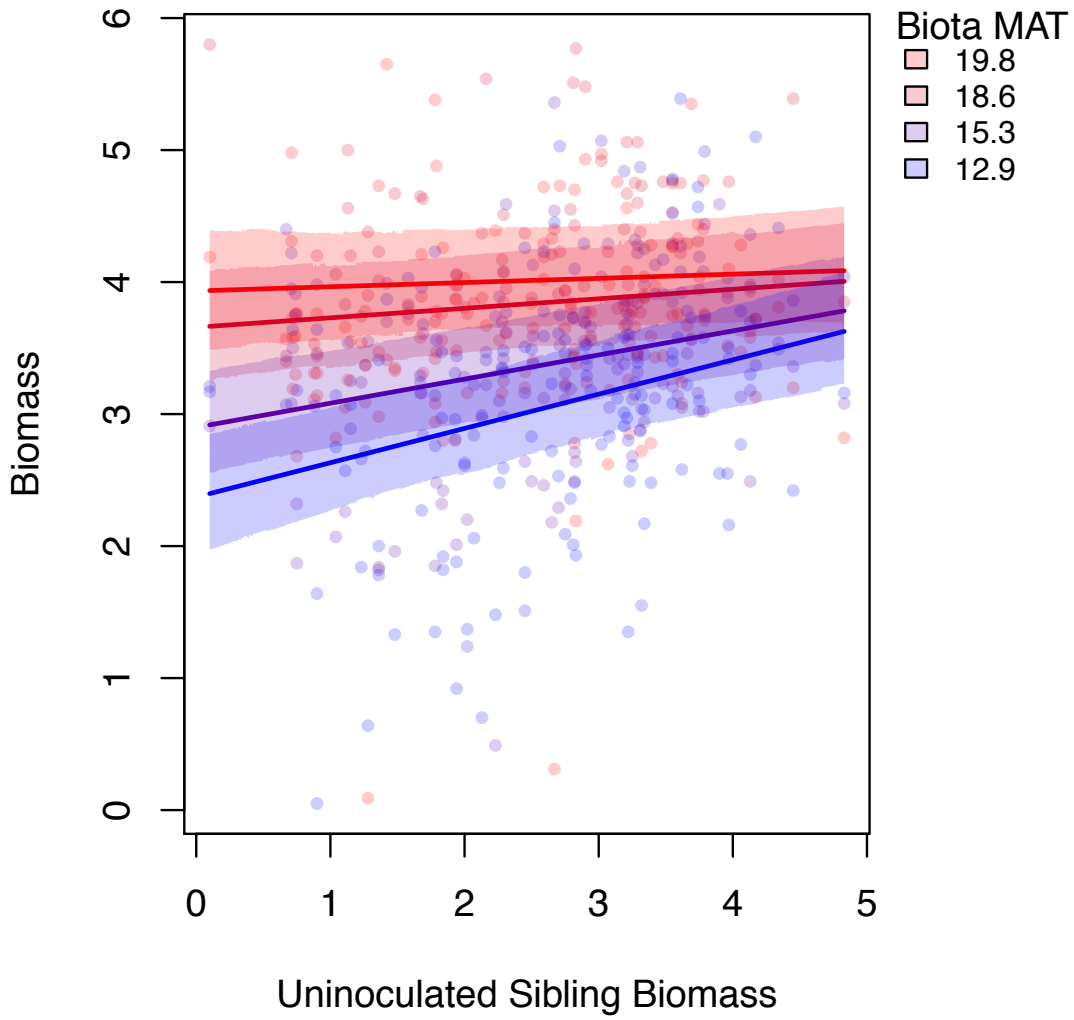

Figure S4: In warmer-sourced biota, inoculated and uninoculated siblings are less correlated in biomass attained (interaction effect of rhizosphere biota source MAT and sibling biomass, $T_I \times Z$). Biomass of inoculated plants is plotted against uninoculated sibling biomass, and colored according to the biota source MAT it was inoculated with for both data (points), and model predictions (lines for predicted mean and filled polygons for 95% HPDI of the mean).

Table S5: Compared to uninoculated plants, plants grew larger when inoculated with biota, regardless of biota source. Average plant biomass and standard error across maternal plants in each soil treatment are reported for each main rhizosphere biota treatment, without respect to sympatric or allopatric combinations.

Biota Source MAT	Mean Biomass	Std.Error
Uninoculated	2.59	0.10
13.0	3.04	0.087
15.3	3.22	0.069
18.6	4.02	0.063
19.8	3.78	0.078