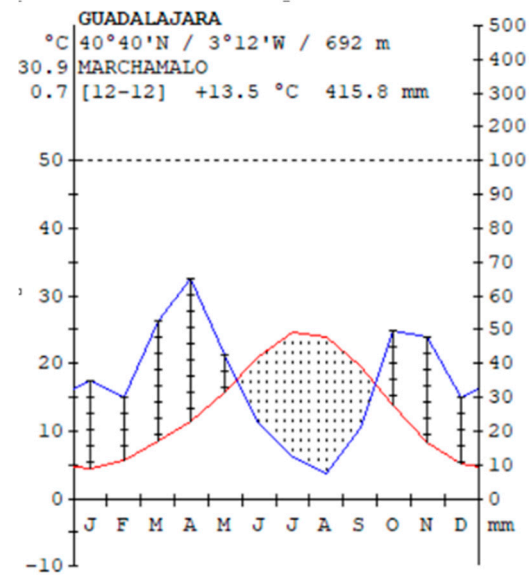


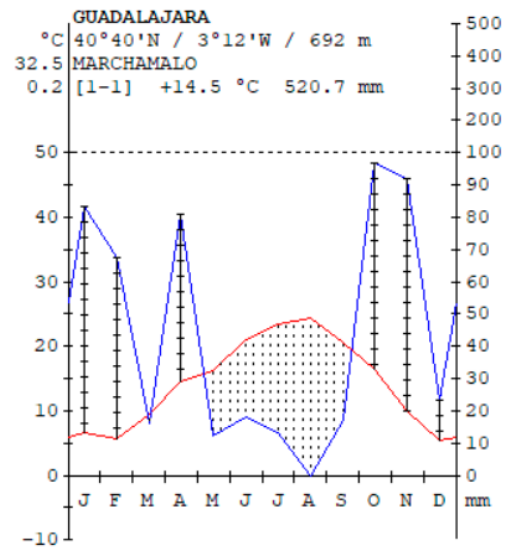
Supplementary information

Table S1 Soil characteristics of experimental plots (mean \pm sd, n= 3).

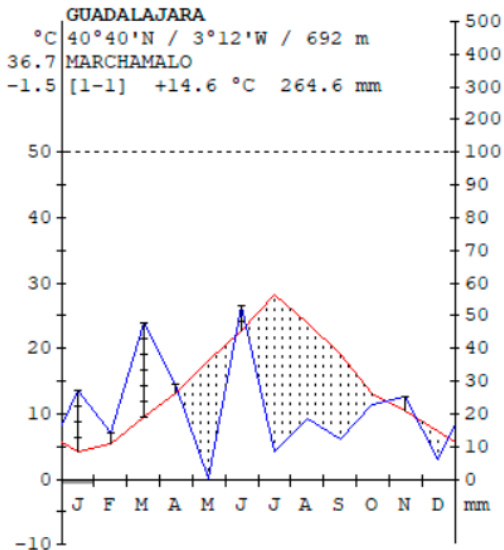
Parameters	Control plot	TMX plot
Date of sampling	October 2014	October 2014
Sample depth (cm)	0-20	0-20
Code.	Cerro	Pinos
USDA texture classification	Clay	Clay loam
% sand (>0.05 mm)	31.350 \pm 1.250	37.600 \pm 2.500
% silt (0.05-0.002 mm)	25.000 \pm 2.887	26.250 \pm 2.394
% clay (< 0.002 mm)	43.650 \pm 3.750	36.150 \pm 3.146
Organic Matter (%)	0.990 \pm 0.027	1.168 \pm 0.086
soil water content (% g/gdried soil)	8.780 \pm 0.944	14.570 \pm 0.755
pH (H ₂ O)	6.320 \pm 0.096	6.765 \pm 0.473
EC (dS m ⁻¹)	0.075 \pm 0.011	0.073 \pm 0.012
Carbonates (% CaCO ₃)	0.697 \pm 0.094	0.585 \pm 0.399
F ⁻ (mg kg ⁻¹)	0.000 \pm 0.000	1.235 \pm 1.235
Cl ⁻ (mg kg ⁻¹)	11.292 \pm 2.183	10.815 \pm 1.262
NO ₂ ⁻ (mg kg ⁻¹)	0.349 \pm 0.124	0.442 \pm 0.048
NO ₃ ⁻ (mg kg ⁻¹)	123.821 \pm 20.666	59.649 \pm 13.204
PO ₄ ³⁻ (mg kg ⁻¹)	1.134 \pm 0.248	3.081 \pm 1.928
SO ₄ ²⁻ (mg kg ⁻¹)	12.481 \pm 0.413	8.727 \pm 1.083
K ⁺ (mg kg ⁻¹)	6.373 \pm 0.953	6.408 \pm 1.629
Na ⁺ (mg kg ⁻¹)	11.262 \pm 1.839	7.856 \pm 0.892
Ca ²⁺ (mg kg ⁻¹)	1324.575 \pm 1266.033	63.584 \pm 18.549
Mg ²⁺ (mg kg ⁻¹)	16.622 \pm 13.668	3.598 \pm 1.302



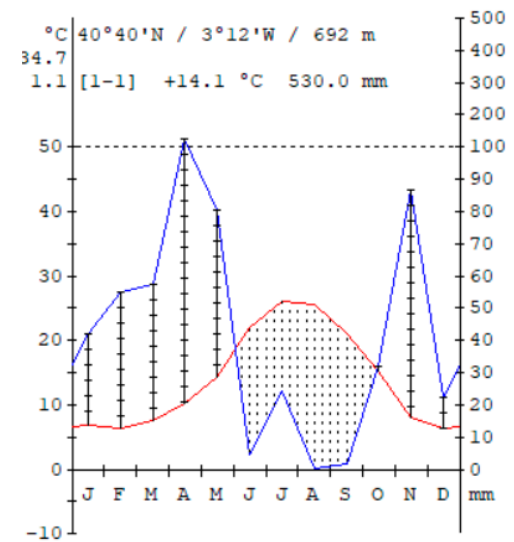
(a)



(b)



(c)



(d)

Figure S1 Walter-Lieth diagrams for 2010-2021 period (a), 2014 (b), 2015 (c) and 2016 (d) from Marchamalo meteorological station (40° 40' N 3° 12'W).

— mean mensual temperature ($^{\circ}\text{C}$); — mensual precipitation (mm)