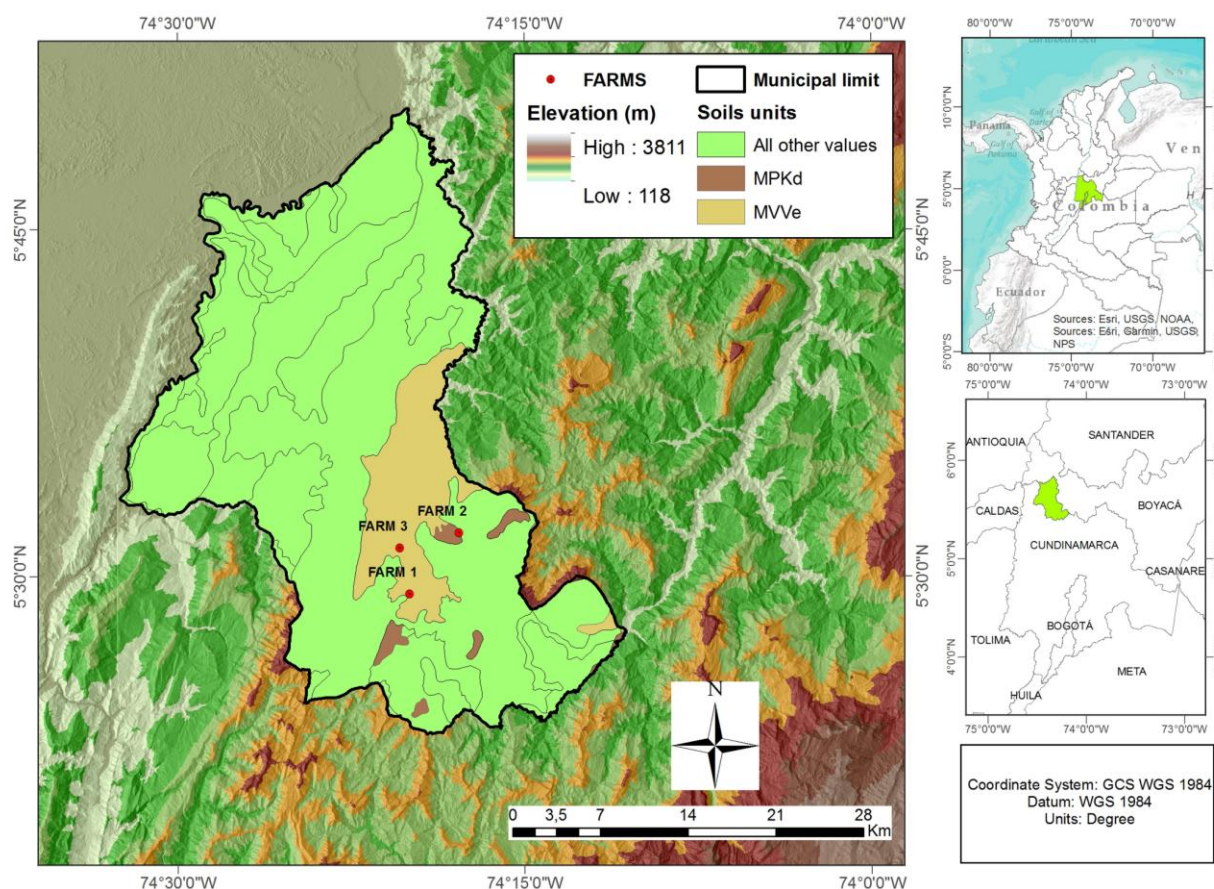


SUPPLEMENTARY DATA

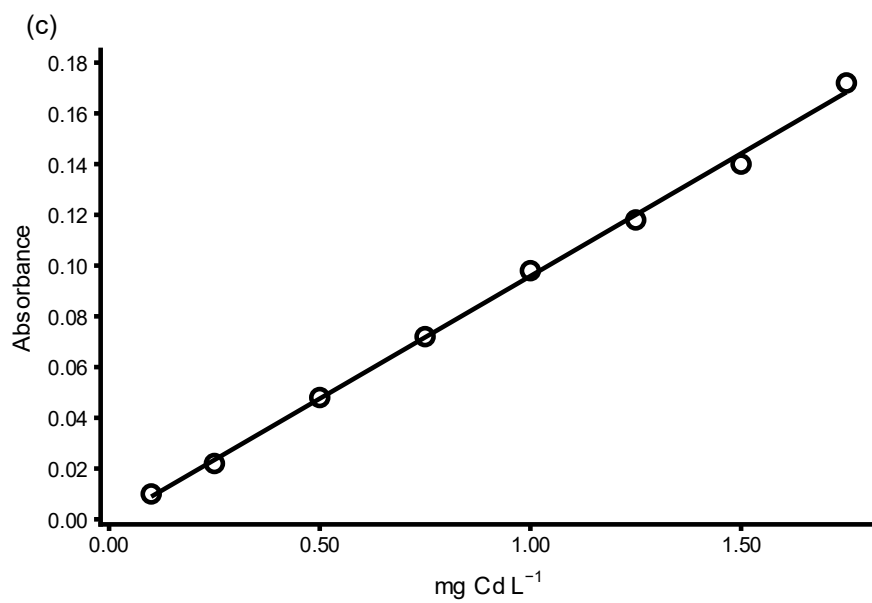
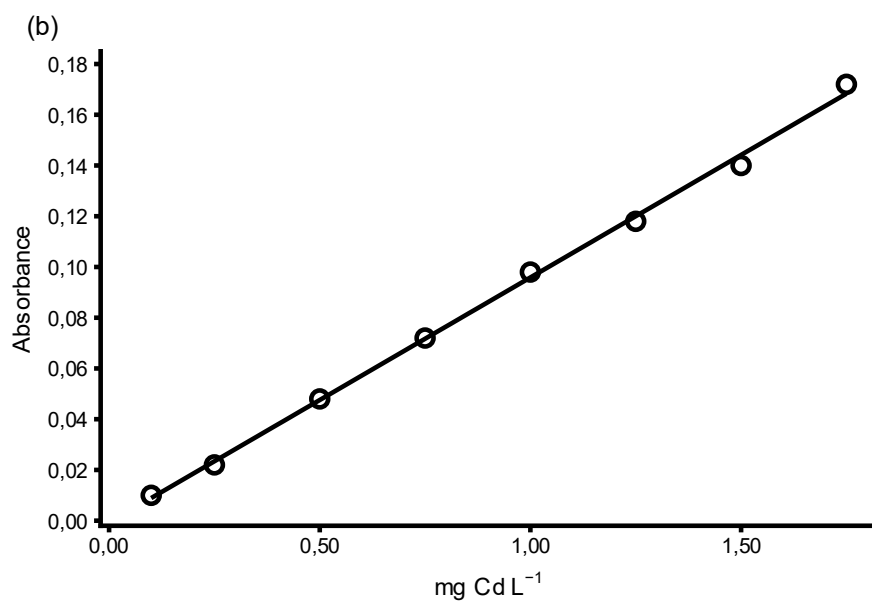
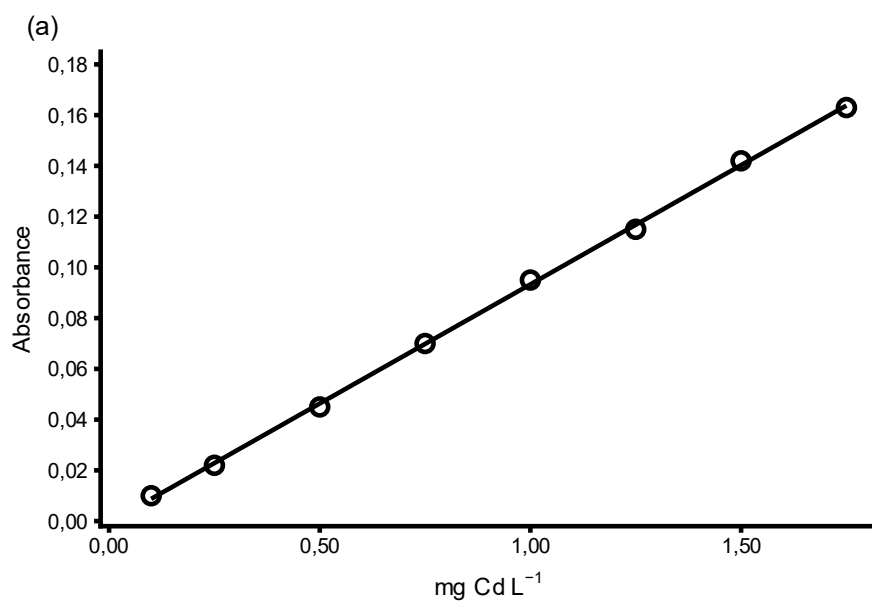
Supplementary Figure 1: Soil map of Yacopí-Cundinamarca, Colombia. Source IGAC (2000), edited by the author.



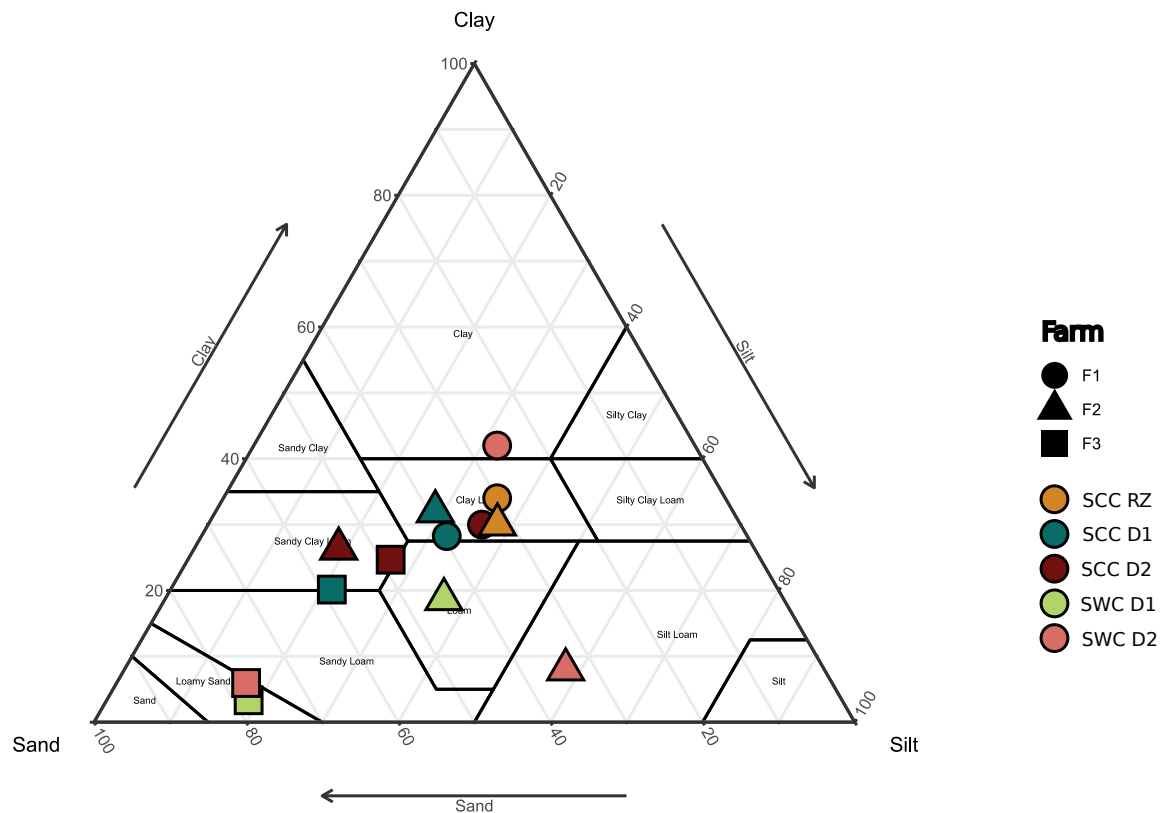
Supplementary Figure 2. Calibration curves for Cd determination in soil and cacao tissue samples.

(a). Pseudo-total cadmium curve was performed by aqua regia (HCl: HNO₃-3:1) extraction. LOD: 0,10 mg/L. LOQ: 0,30 mg/L. Lineal range: 0,10 – 1,75 mg/L. (b). Potentially available Cd was performed by DPTA extraction. LOD: 0,11 mg/L. LOQ: 0,35 mg/L. Lineal range: 0,10 – 2,00 mg/L. C. Cd curve for cacao leaves. LOD: 0,10 mg/L. LOQ: 0,30 mg/L. Lineal range: 0,10 – 1,75 mg/L. All the calibration curves showed linear regression, with a zero intercept and no deviation from linearity at 95% confidence level.

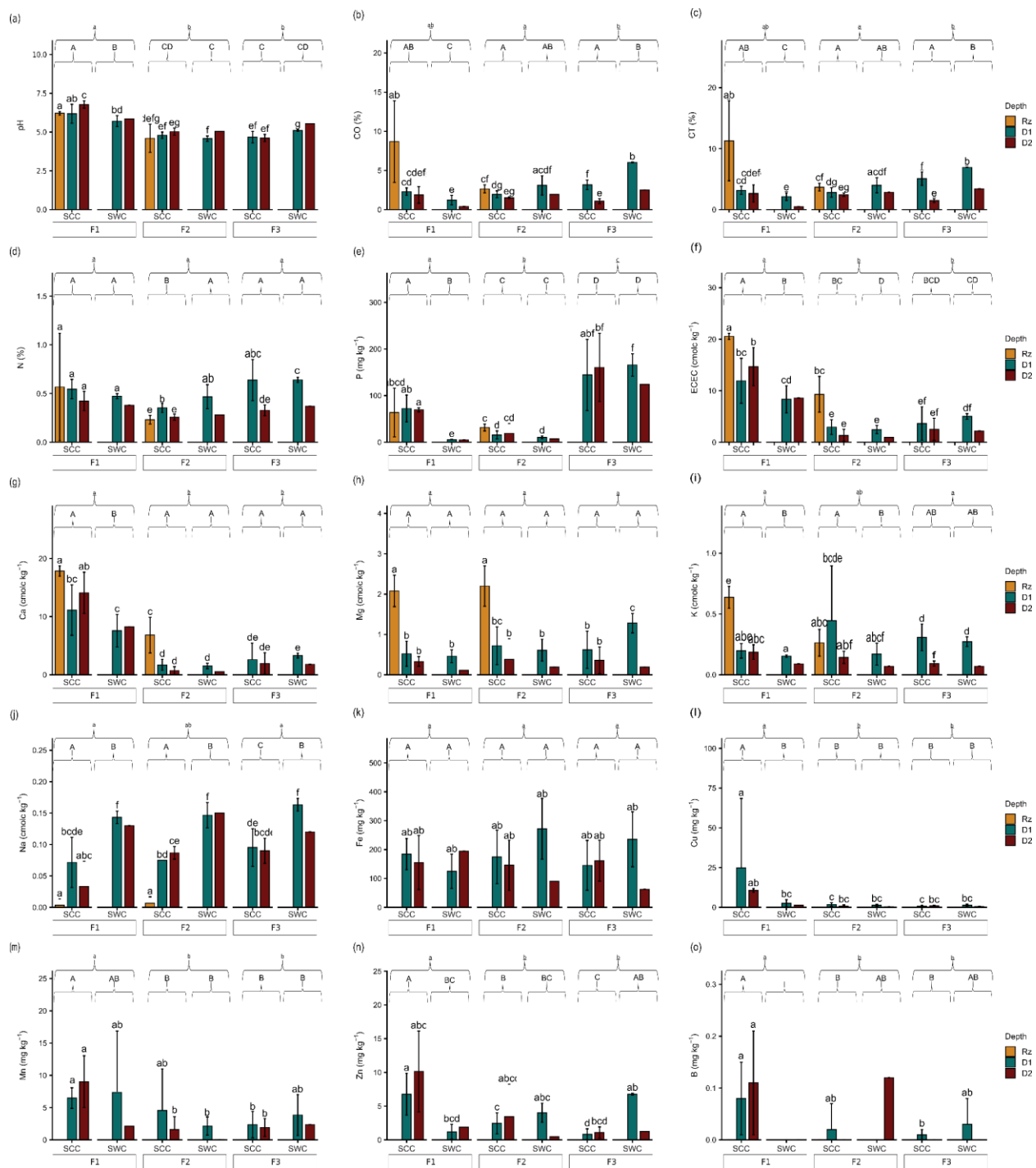
The R² values were between 0.999 to 0.997. Determinations were performed using an atomic absorption spectrophotometer, PE AAnalyst 300 FAAS (Perkin Elmer, DK).



Supplementary Figure 3: Soil texture. USDA classification textural triangle. Sand: Sands, Clay: Clays, Silt: Silt. Figures represent farms: circle (●): F1, triangle (▲): F2, square (■): F3; colors represent type and layer: Red: soil with cacao crop (SCC) + Rhizosphere (Rz), Yellow: SCC + 0-30 cm (D1), Green: SCC + 31-100 cm (D2), Blue: soil without cacao (SWC) + D1, Purple: SWC + D2).



Supplementary Figure 4: Soil chemical properties. (a). pH, (b). Organic Carbon (OC %), (c). Total Carbon (TC %), (d). Nitrogen (N %), (e). Phosphorus (P (mg g⁻¹)), (f). Effective Cation Exchange Capacity (ECEC (meq 100g⁻¹)), (g). Calcium (Ca (meq 100g⁻¹)), (h). Magnesium (Mg (meq 100g⁻¹)), (i). Potassium (K (meq 100g⁻¹)), (j). Sodium (Na (meq 100g⁻¹)), (k). Iron (Fe (Fe (100g⁻¹)), (l). Copper (Cu (meq 100g⁻¹)), (m). Manganese (Mn (meq 100g⁻¹)), (n). Zinc (Zn (meq 100g⁻¹)), (o). Boron (B (meq 100g⁻¹)) In relation to farm (F1, F2 and F3), type soil (cacao crop: SCC and without cacao: SWC) and layer (Rhizosphere: Rz, 0.00-0.30 m: D1 and 0.31-1.00 m: D2). Bars indicate error. Different lowercase underline letters indicate statistically significant differences between farms (F1, F2 and F3). Different capital letters indicate differences between SCC and SWC. Different letters indicate significant differences between Rz, D1 and D2. Differences between samples given according to Wilcoxon test with $P < 0.05$



Supplementary Figure 5: (a). Dendrogram showing relationships based on the potentially available Cd (Cda) of soil with cacao (SCC) samples at a layer 0.00-0.30 m (D1). The trees were constructed by using principal components analysis and Manhattan clustering method **with the first two components** to identify distance between the samples analyzed. (b). Spearman correlations between available Cadmium (Cda), total Cadmium (Cdt) and soil characteristics at a layer of 0.00-0.30 m (D1). (a) correlation of F1 samples, (b) correlation of F2+F3 samples. Red circles indicate positive correlations, and blue circles indicate negative correlations. Circle size indicates higher coefficient of determination.

