**Table S1.** Physical and chemical properties in two soil types in Nariño, Colombia (IGAC, 2004)

| Property | Range Vitric Haplustands | Range Acrudoxic Hapludands |
|---|---|---|
| BD ($Mg.m^{-3}$) | 0.78 | 0.82 |
| Sand (%) | 54 | 60 |
| Silt (%) | 34 | 32 |
| Clay (%) | 12 | 8 |
| Texture | Sandy loam | Sandy loam |
| pH | 5.0 | 5.8 |
| OC (%) | 7.55 | 5.22 |
| CEC ($cmol_{+}kg^{-1}$) | 43.9 | 26.3 |
| ECEC ($cmol_{+}kg^{-1}$) | 11.3 | 1.5 |
| Ca ($cmol_{+}kg^{-1}$) | 7.0 | 0.4 |
| Mg ($cmol_{+}kg^{-1}$) | 1.7 | 0.2 |
| K ($cmol_{+}kg^{-1}$) | 1.8 | 0.8 |
| Na ($cmol_{+}kg^{-1}$) | 0.2 | 0.1 |
| P ($cmol_{+}kg^{-1}$) | 2 | 3 |
| Al ($cmol_{+}kg^{-1}$) | - | - |
| Base saturation (%) | 24.4 | 5.7 |

**Table S2.** Physical and chemical variables measured to soil samples in the study area. * Variable directly measured at the laboratory; ** Variable computed with an equation; † Variable not directly included in statistical analyzes

| Variable | Unit | Method or Instrument |
|---|---|---|
| *Soil pH | | Potentiometer soil: water (1:1) NTC 5264 |
| *Cation Exchange Capacity (CEC) | $cmol_{+} \cdot kg^{-1}$ | Ammonium acetate 1N pH 7.0 NTC 5268 |
| *Exchangeable Calcium (Ca), *Magnesium (Mg) and *Potassium (K) | | Ammonium acetate 1.0N pH 7.0-E.A.A. NTC 5349 |
| *Soil Organic Carbon (OC) | $mg.g^{-1}$ | Walkley-Black (colorimetric) NTC 5403 |
| †*True Density (TD) | $Mg \cdot m^{-3}$ | Pycnometer |
| *Bulk Density (BD) | $Mg \cdot m^{-3}$ | Cylinder, gravimetric |
| *Clay (CLA) | % | Bouyoucos |
| †*Water Retention Curve at Wilting Point (WRC-WP) and †*Field Capacity (WRC-FC) | % | Tension table and pressure membrane |
| *Infiltration (INF) | $cm \cdot h^{-1}$ | Double ring infiltrometer |
| **Porosity (POR) | % | POR = 1 - [BD/TD]*100 |
| **Available Water Capacity (AWC) | % | AWC = WRC-FC – WRC-WP |
| **Base Saturation (BS) | % | BS = ((Ca+Mg+K)/CEC)*100 |