TropSOC Database

3.1.1. Cropland – Biomass & management – Biomass yield based on plot data

When using these data, please cite the database and the key publication in ESSD:

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Introduction

The dataset comprises a unique plot identifier and 6 variables that provide information regarding the biomass harvested at all cropland plots during the 2018/2019 harvest season in the study region. Apart from a unique plot identifier the data set comprises 1 variable that gives the sampling area and 4 variables regarding the biomass of different sampled plant organs.

Data structure

No.	Variable	Explanation	Unit
1	plotID	unique identifier of each plot and point where data were collected	-
2	sample_date	date of sampling	dd.mm.yyyy
3	area	sampling area	m^2
4	stem_weight	dry weight of stems	$g\ m^{-2}$
5	leaf_weight	dry weight of leaves	$g\ m^{-2}$
6	tuberous_roots_weight	dry weight of tuberous roots	$g\ m^{-2}$
7	biomass_tot_weight	total dry weight of above-ground biomass	$g\ m^{-2}$

Methods

As part of the regional stratified random sampling campaign on cropland (see general sampling design), biomass from different cassava varieties across 65 out of 100 soil-sampled cropland plots was sampled. Biomass was sampled at harvest time, which is the time of the plant tuber's maximum development. The timing of harvest differed between 12 - 24 months after planting depending on the variety and season. Within each plot a 3 m x 3 m sampling area was chosen and all cassava plants in this area were counted and harvested. The biomass of all plants was separated into leaves, stems, and tubes. These parts were then weighed separately and individually at the time of sampling (i.e. in a field moist state). For each plot a 50 g composite subsample of the sampled plants (whilst keeping individual components separated) was oven-dried at 40 °C for 72 hours and then weighed (dry weight). Based on the relation between the dry and wet weight of plant organs over all subsamples, with a value of

0.374 ± 0.05 (mean ± standard deviation with n = 40), the biomass of different plant organs was calculated and extrapolated to the plot level. Dried plant organs from the composite were milled and kept for later chemical analysis as composites per plot, keeping tuberous roots, stems and leaves separated.

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