

## Organic matter cycling along geochemical, geomorphic and disturbance gradients in vegetation and soils of African tropical forests and cropland - Project TropSOC DATABASE\_v1.0

### 3. Cropland

When using these data, please cite the original publication:

Doetterl S., Asifiwe R.K., Baert G., Bamba F., Bauters M., Boeckx P., Bukombe B., Cadisch G., Cizungu L.N., Cooper M., Hoyt A., Kabaseke C., Kalbitz K., Kidinda L., Maier A., Mainka M., Mayrock J., Muhindo D., Mujinya B.B., Mukotanyi, S.M., Nabahungu L., Reichenbach M., Rewald B., Six J., Stegmann A., Summerauer L., Unseld R., Vanlauwe B., Van Oost K., Verheyen K. Vogel C., Wilken F., Fiener P. Organic matter cycling along geochemical, geomorphic and disturbance gradients in forests and cropland of the African Tropics - Project TropSOC Database Version 1.0. *Earth System Science Data* XXX, DOI XXX, 2021.

#### Description:

TropSOC's cropland data consists of the following seven parts:

**Part 1** – Biomass and management data acquired in 65 and respectively 87 out of 100 cropland plots comprising 2 datasets: *311\_biomass.csv/pdf* and *312\_management.csv/pdf*.

**Part 2** – Data on mineral soil layers was acquired in 2018 for 100 cropland plots and comprising 3 datasets: *321\_soil\_carbon.csv/pdf*; *322\_soil\_phy\_chem.csv/pdf*; *323\_soil\_spec.csv/pdf*

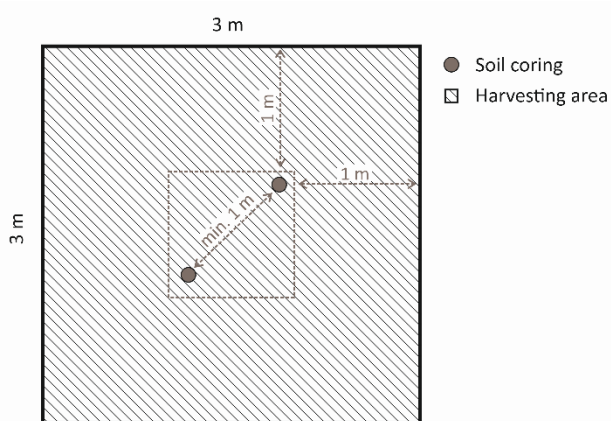
**Part 3** – Pu soil inventory carried out in 2018. In contrast to part 1 and 2 of the cropland data, Pu data represents individual points and not plots and was sampled across several catchments. *331\_pu\_inventory.csv/pdf*

**Part 4** – Soil experiments. This part of the database comprises 2 datasets with results from laboratory experiments and additional data from soil sample analyses.

*341\_incubation.csv/pdf* and *342\_c14.csv/pdf*

#### Location of test sites and plot design

The locations and characteristics of the test sites are described in the introduction to the database (*0\_intro\_structure.pdf*). Management data were acquired at the field level (part 1). Biomass (part 1), mineral soil properties (part 2) as well as soils for experimental analysis (part 4) were collected at the plot level. Pu inventory data were collected at the catchment level. Placement of plots followed a stratified random approach using the same slope classification (plateau [slope < 5 %], sloping [slope 6-60%] and valleys [slope < 5%]) and selection criteria as for forest sites. However, in contrast to forest plots, cropland plots were not connected along a hillslope catena and smaller in size. In total 100 plots were established. Cropland plots had a dimension of 3 m x 3 m in which the entire above and belowground biomass was sampled at the point of harvest and two soil cores in each plot taken in a distance of 1 m



**Figure 1.** Schematic overview of sampling and monitoring scheme for cropland plots (87 plots, distributed over 3 geochemical regions and 4 topographic positions).

from plot boundary and with 1 m distance between each other. Sampled soil material from soil cores was combined to create depth-explicit composite samples in 10 cm increments for 0-100 cm soil depth.

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