

Data Dictionary for: Leaf removal at six-leaf stage influences cowpea and common bean yield

Available at: <https://datashare.iastate.edu>

File names:

lowa_removedleafnutrient_data.csv

lowa_yieldcomponents_data.csv

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REFERENCES

These data support a published dissertation:

Bulyaba, Rosemary, "Limestone application on a Ferralsol soil and genotype by environment effects on yield and grain nutrient composition in common bean" (2019). *Graduate Theses and Dissertations*. 17651. <https://lib.dr.iastate.edu/etd/17651/>

DESCRIPTION

Leaf removal at six-leaf stage of two cowpea and two common bean varieties found differing nutritional value of removed leaves and effects on grain yield and yield components in Iowa. Using the databases, we report leaf removal affected common bean stand density, pod density, seed number per pod, individual seed weight, grain yield, bean biomass yield, bean height, pod harvest index, and grain Fe and Zn concentrations in two growing seasons.

The second year of the study failed to flooding of the plot site following extraordinarily intense and prolonged rainfall near Boone, Iowa.

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FUNDING

United States Agency for International Development (USAID), as part of Feed the Future, the U.S. Government's global hunger and food security initiative, under the terms of Cooperative Agreement No. EDH-A-00-07-00005.

USAID Feed the Future Legume Innovation Laboratory for Collaborative Research on Grain Legumes – project on 'Farmer Decision Making Strategies for Improved Soil Fertility Management in Maize-Bean Production Systems' (SO2.1) and Legume Scholars Program.

TIMELINE

Creation/Collection – November 2017

Last Update – 11 Dec 2019

Temporal Start – 1 November 2017

Temporal End – 1 September 2018

Embargo Request – six months

KEYWORDS

Common bean; Phaseolus vulgaris; Vigna unguiculata; grain legume yield; bean varieties; cowpea varieties; bean management systems; removed leaf elemental concentrations;

lowa_removedleafnutrient_data.csv

The data table contains 15 columns and 49 rows of information.

Name	Label	Type
c01	Plot number	Discrete
c02	Year	Discrete
c03	Replicate	Discrete
c04	Leaf removal (% of total leaves at six-leaf stage)	Discrete
c05	Variety	Discrete
c06	Leaf crude protein (g/kg)	Continuous
c07	Leaf nitrate (mg/kg)	Continuous
c08	Leaf P (phosphorus, mg/kg)	Continuous
c09	Leaf K (potassium, mg/kg)	Continuous
c10	Leaf Mg (magnesium, mg/kg)	Continuous
c11	Leaf Ca (calcium, mg/kg)	Continuous
c12	Leaf Mn (manganese, mg/kg)	Continuous
c13	Leaf Fe (iron, mg/kg)	Continuous
c14	Leaf Cu (copper, mg/kg)	Continuous
c15	Leaf Zn (zinc, mg/kg)	Continuous
c16	Leaf S (sulfur, mg/kg)	Continuous

The data were not included in the dissertation

lowa_yieldcomponents_data.csv

The data table contains 23 columns and 127 rows of information.

Name	Label	Type
d01	Plot number	Discrete
d02	Year	Discrete
d03	Replicate	Discrete
d04	Variety	Discrete
d05	Leaf removal (5)	Discrete
d06	Stand density (V2 stage, no./m ²)	Continuous
d07	Stand density (R6 stage, no./m ²)	Continuous
d08	Total nodules (no./m ²)	Continuous
d09	Red nodules (no./m ²)	Continuous
d10	Removed leaf weight (kg/ha ¹)	Continuous
d11	Crop aboveground biomass (kg/ha ¹)	Continuous
d12	Grain yield (kg/ha ¹)	Continuous
d13	Pods (no./m ²)	Continuous
d14	Pod and seed weight (kg/ha ¹)	Continuous
d15	Seeds per pod (no./pod ¹)	Continuous
d16	Seed number (no./m ²)	Continuous
d17	Seed weight (mg/seed)	Continuous

The data were not included in the dissertation