Data Dictionary for: Uganda_Fertilizers_RowCrops data

This data dictionary refers to the files:

- Uganda_Fertilizers_RowCrops_cropdata.csv
- Uganda_Fertilizers_RowCrops_soilsdata.csv

These data can obtained from: http://dx.doi.org/10.25380/iastate.8214428

These data support published journal articles in African Journal of Agricultural Research.

> Goettsch, LH, AW Lenssen, RS Yost, ES Luvaga, O Semalulu, M Tenywa, RE Mazur. 2016. Improved production systems for common bean on Phaeozem soil in South-Central Uganda. *African Journal of Agricultural Research* Vol. 11(46), pp. 4796-4809, 17 November 2016. Doi: 10.5897/AJAR2016.11760
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> Goettsch, LH, AW Lenssen, RS Yost, ES Luvaga, O Semalulu, M Tenywa, R Miiro, RE Mazur. 2017. Improved production systems for common bean on Ferralsol soil in South-Central Uganda. *African Journal of Agricultural Research* Vol. 12(23), pp. 1959-1969, 8 June 2017. Doi: 10.5897/AJAR2017.12122

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ABOUT

Improved production systems for common bean in Uganda was compiled to test whether improved farming systems can increase yield of common bean on red and black soil in Masaka, Uganda. Using the databases, we report how NPKCaMgZnFe fertilizers and row planting affected bean stand density, pod density, seed number per pod, individual seed weight, grain yield, bean biomass yield, bean height, and pod harvest index in two growing season. Usage of this dataset has no copyright or propriety restrictions other than citation of the appropriate manuscript.

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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).

TIMELINE

Creation/Collection – August 2014
Last Update – 11 Dec 2017
Temporal Start – 1 July 2014
Temporal End – 30 June 2015

REFERENCES

- https://academicjournals.org/journal/AJAR/article-abstract/D456CDA61727
- https://academicjournals.org/journal/AJAR/article-abstract/F035C1564646

KEYWORDS

Common bean; Phaseolus vulgaris; Phaeozem; Ferralsol; bean growth, development, and yield; bean varieties; bean management systems; soil type; soil fertility; nutrient availability;

Uganda_Fertilizers_RowCrops_cropdata.csv

The data table contains 28 columns and 187 rows of information.

Name	Label	Type
i01	Plot number	Continuous
i02	Year	Continuous
i03	Location (Bk = black, Rd = Red)	Discrete
i04	Block	Discrete
i05	System	Discrete
i06	Variety	Discrete
i07	Final plants (m^2)	Discrete
i08	Pods (m^2)	Discrete
i09	Seeds pod	Discrete
i10	Mg seed	Discrete
i11	Seeds (m^2)	Discrete
i12	Grain (kg/ha)	Discrete
i13	crop biomass	Discrete
i14	Stand pct	Discrete
i15	V2 stand (m^2)	Discrete
i16	height (cm)	Discrete
i17	PHI	Discrete
i18	Fresh biomass weight of 5 plants (grams)	Discrete
i19	Dry biomass net weight of 5 plant (grams)	Discrete
i20	Plants per 2m^2	Discrete
i21	Pods per plant	Discrete
i22	Number of seeds per 2m^2	Discrete
i23	Dry weight of seed (g)	Discrete
i24	Dry weight of pod (g)	Discrete
i25	100 seed weight (g)	Discrete
i26	Grain yield (kg/ac)	Discrete
i27	Grain yield (lbs/ac)	Discrete
i28	Grain yield (bu/ac) 60 lbs	Discrete

The data included in columns were used in two journal publications

Example	Source Type	Description
Goettsch et al. 2016	A published journal article	Goettsch, LH, AW Lenssen, RS Yost, ES Luvaga, O Semalulu, M Tenywa, RE Mazur. 2016. Improved production systems for common bean on Phaeozem soil in South-Central Uganda. African Journal of Agricultural Research Vol. 11(46), pp. 4796-4809, 17 November 2016. Doi: 10.5897/AJAR2016.11760

Goettsch et al. 2017	A published journal article	Goettsch, LH, AW Lenssen, RS Yost, ES Luvaga, O Semalulu, M Tenywa, R Miiro, RE Mazur. 2017. Improved production systems for common bean on Ferralsol soil in South-Central Uganda. African Journal of Agricultural Research Vol. 12(23), pp. 1959-1969, 8 June 2017. Doi: 10.5897/AJAR2017.12122

Uganda_Fertilizers_RowCrops_soilsdata.csv

The data table contains 28 columns and 48 rows of information.

Name	Label	Type
i01	Year	Continuous
i02	Location (Bk = black, Rd = Red)	Discrete
i03	Plot number	Continuous
i04	System	Discrete
i05	Block	Discrete
i06	pH	Continuous
i07	P (phosphorus, Mehlich-3 extraction, ppm)	Continuous
i08	K (potassium, Mehlich-3 extraction, ppm)	Continuous
i09	Ca (calcium, Mehlich-3 extraction, ppm)	Continuous
i10	Mg (magnesium, Mehlich-3 extraction, ppm)	Continuous
i11	S (sulfur, Mehlich-3 extraction, ppm)	Continuous
i12	Al (aluminum, Mehlich-3 extraction, ppm)	Continuous
i13	Fe (iron, Mehlich-3 extraction, ppm)	Continuous
i14	Mn (managanese, Mehlich-3 extraction, ppm)	Continuous
i15	Cu (copper, Mehlich-3 extraction, ppm)	Continuous
i16	B (boron, Mehlich-3 extraction, ppm)	Continuous
i17	Zn (zinc, Mehlich-3 extraction, ppm)	Continuous
i18	Na (sodium, Mehlich-3 extraction, ppm)	Continuous
i19	CEC (cation exchange capacity, meq/100g)	Continuous
i20	N (nitrogen, ppm	Continuous
i21	EC (exchange capacity, uS/cm	Continuous
i22	OM (organic matter, Walkley-Black, %)	Continuous
i23	C:N (ratio)	Continuous
i24	Exch. Al (meq/100g)	Continuous
i25	Base saturation [(Ca+Mg+K+Na)/CEC]x100	Continuous
i26	Soil texture (sand, %)	Continuous
i27	Soil texture (silt, %)	Continuous
i28	Soil texture (clay, %)	Continuous

The data included in columns were used in two journal publications

Example	Source Type	Description
Goettsch et al. 2016	A published journal article	Goettsch, LH, AW Lenssen, RS Yost, ES Luvaga, O Semalulu, M Tenywa, RE Mazur. 2016. Improved production systems for common bean on Phaeozem soil in South-Central Uganda. African Journal of Agricultural Research Vol. 11(46), pp. 4796-4809, 17 November 2016. Doi: 10.5897/AJAR2016.11760
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