

(ZB/24/014)Acid-weathered soils as a basis for slow-release nitrate fertilizers to enhance the nitrogen use efficiency in tropical crop production systems

Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset name / ID	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
		Indicate: N(ew data) or E(xisting data)	Indicate: D(igital) or P(hysical)	Indicate: Audiovisual Images Sound Numerical Textual Model SOftware Other (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
Soil and LDH characterization data	Data generated from lab analysis using equipment e.g. skalar, ICP-OES, pH meter and X-ray diffraction	New	Digital	Numerical	.xlsx	< 1 GB	
Plant growth analysis	Measurements of the growth parameters of the plants grown in the greenhouse e.g. plant height, leaf size, fresh and dry weights	New	Digital	Numerical	.xlsx	< 1 GB	
Plant samples analysis results	From the analysis of the nutrient contents of the plant shoots to assess nutrient uptake.	New	Digital	Numerical	.xlsx	< 1 GB	

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

N/A

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- No

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, ...)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

#### Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, codebook.tsv etc. where this information is recorded).

The methods used in preparing the LDH's, data collection in the greenhouse and all the procedures carried out will be documented in a paper write up

All the lab analysis procedures are carried out using the documented lab protocols that are stored in a shared folder.

The division of Soil and water management have a standard protocol of data management. The readme files are used to explain the data (which experiment, occasion and situation), explain how the experiment was performed and who did what in the experiment. This will be followed when carrying out the project.

Will a metadata standard be used to make it easier to find and reuse the data ?

If so, please specify which metadata standard will be used.

If not, please specify which metadata will be created to make the data easier to find and reuse.

- No

#### Data Storage & Back-up during the Research Project

Where will the data be stored?

- OneDrive (KU Leuven)

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons? By use of user rights, only the people involved in the project to be allowed to modify the data.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

Since the data will be stored in one drive, there will be no additional costs involved.

Data Preservation after the end of the Research Project

Which data will be retained for 10 years (or longer, in agreement with other retention policies that are applicable) after the end of the project?

In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

- All data will be preserved for 10 years according to KU Leuven RDM policy

Where will these data be archived (stored and curated for the long-term)?

- Shared network drive (J-drive)

What are the expected costs for data preservation during the expected retention period? How will these costs be covered? No large datasets are expected hence no additional costs when stored in the J drive.

Data Sharing and Reuse

Will the data (or part of the data) be made available for reuse after/during the project?  
Please explain per dataset or data type which data will be made available.

- Yes, as restricted data (upon approval, or institutional access only)

If data is asked during the publication, it will be provided. Otherwise it will be kept internally but still made available upon reasonable request.

If access is restricted, please specify who will be able to access the data and under what conditions. After completion of the project the data will be managed by Prof. Maarten Everaert.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

Please explain per dataset or data type where appropriate.

- No

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- KU Leuven RDR (Research Data Repository)

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- CC-BY 4.0 (data)

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- No

What are the expected costs for data sharing? How will these costs be covered?

No additional costs

Responsibilities

Who will manage data documentation and metadata during the research project?

The PhD student

Who will manage data storage and backup during the research project?

The PhD student

Who will manage data preservation and sharing?

The Student and the Supervisor

Who will update and implement this DMP?

The Student with the help of the Supervisor.