
dry bean agronomy and pest management

A Data Management Plan created using DMP Assistant

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Project abstract:

Develop new pest management strategies for dry beans for fungal, bacterial and insect pests. Develop new agronomic information for growers to incorporate into their commercial production of dry beans.

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Data Collection

What types of data will you collect, create, link to, acquire and/or record?

Data is collected by hand or using a handheld tablet and then entered into ARM software.

What file formats will your data be collected in? Will these formats allow for data re-use, sharing and long-term access to the data?

Data files in ARM can be exported to Excel spreadsheets.

What conventions and procedures will you use to structure, name and version-control your files to help you and others better understand how your data are organized?

Each experiment is given an 8 digit code which identifies the year, crop and experiment number

Documentation and Metadata

What documentation will be needed for the data to be read and interpreted correctly in the future?

Data files are organized into columns in ARM. The column header has a great deal of information including experiment title, rating type, scale, date, person rating, number of decimals, subsampling number etc. The left side columns are reserved to identify the plot number, replicate, treatment number, data type (numeric, percentage), block number etc. The column headers should be sufficient to interpret the data in the future.

How will you make sure that documentation is created or captured consistently throughout your project?

Data collection schedule is produced by the PI and discussed with staff on a weekly basis. Field research technicians collect the data directly or by summer students under the direct supervision of research technicians. Data is collected on paper or a tablet and then entered into the correct ARM file on a data entry computer in the lab. The research technician will run a quick analysis of the data to identify outliers, so that new observations can be collected on suspect plots, if possible.

If you are using a metadata standard and/or tools to document and describe your data, please list here.

We use ARM (Agricultural Research Manager) and Excel spreadsheets to document and organize our data.

Storage and Backup

What are the anticipated storage requirements for your project, in terms of storage space (in megabytes, gigabytes, terabytes, etc.) and the length of time you will be storing it?

Files are mostly txt files and size is small (<1 MB). All files are stored indefinitely.

How and where will your data be stored and backed up during your research project?

Data is stored in three locations. It is stored on a shared on-line drive for the program. This drive is backed up weekly by a campus server. The data is stored on this drive indefinitely. Data files are also stored on the lead technicians computer hard drive. A separate copy is stored on a USB drive and stored at the lead technicians home.

How will the research team and other collaborators access, modify, and contribute data throughout the project?

Technicians access, modify and contribute data to shared files on the on line drive. Copies on our desktop computers are updated automatically every week.

Preservation

Where will you deposit your data for long-term preservation and access at the end of your research project?

Data is stored on the on line drive for permanent storage at the end of a project.

Indicate how you will ensure your data is preservation ready. Consider preservation-friendly file formats, ensuring file integrity, anonymization and de-identification, inclusion of supporting

documentation.

The ARM files are equivalent to txt files, which can be accessed by Excel spreadsheet software.

Sharing and Reuse

What data will you be sharing and in what form? (e.g. raw, processed, analyzed, final).

Typically we only share analyzed summaries with the funding agency. We have shared raw data with specific agencies in the past, upon request.

Have you considered what type of end-user license to include with your data?

There is no intellectual property licensing associated with this data.

What steps will be taken to help the research community know that your data exists?

We produce an research report each year which is made available to growers and industry personnel using hard copies at meetings as well as on line versions on an industry driven website. We publish in several journals including the Canadian Journal of Plant Science and Crop Protection, which assign DOIs to the data.

Responsibilities and Resources

Identify who will be responsible for managing this project's data during and after the project and the major data management tasks for which they will be responsible.

The research technician is responsible for managing the project data during the project. At the end of each year, the technician provides the raw data and a summary to the PI, who double checks the data for accuracy and then creates a research report for the year. With our current back up system in place, we have never lost data.

How will responsibilities for managing data activities be handled if substantive changes happen in the personnel overseeing the project's data, including a change of Principal Investigator?

The research technician and the PI work closely together to manage data activities. If one person changes, the other person can continue the data activities without interruption.

What resources will you require to implement your data management plan? What do you estimate the overall cost for data management to be?

We manage the plan ourselves, with a total cost of approximately \$500 per year in licencing fees.

Ethics and Legal Compliance

If your research project includes sensitive data, how will you ensure that it is securely managed and accessible only to approved members of the project?

Our research project does not include sensitive data.

If applicable, what strategies will you undertake to address secondary uses of sensitive data?

Not applicable.

How will you manage legal, ethical, and intellectual property issues?

Our projects do not involve intellectual property.