Optimizing quinoa production systems for Ontario - A physiology-based approach to improved agronomics

A Data Management Plan created using DMP Assistant

Creator: Hugh Earl

Principal Investigator: Hugh Earl

Data Manager: Hugh Earl

Affiliation: University of Guelph

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Project abstract:
Quinoa is a pseudo-cereal crop known for its high protein content and other health-promoting nutritional properties. Canada imports about $70 million worth of quinoa annually. Over the past six years, Katan Kitchens has invested significant resources in developing quinoa as a new crop for Ontario. While progress has been made, there are still important questions to be answered. Specifically: 1) There is a substantial yield gap between the best recent quinoa crops produced in Alberta under irrigation (approx. 3000 kg / ha) and typical Ontario yields (600 – 1100 kg / ha); 2) Quinoa appears to be susceptible to near-barrenness (low harvest index) under certain environmental conditions, producing a lot of total crop biomass but with little grain; and 3) Quinoa crops are often observed to suffer a period of apparent nutrient deficiency during early grain filling, exhibiting yellowing (chlorosis) of the leaf canopy. The proposed work will build our understanding of the physiological basis of yield determination in this new crop, to inform development of improved agronomic recommendations suitable for the Ontario growing environment. This represents one part of an established collaborative effort between agronomists, geneticists and breeders to develop quinoa as a viable alternative crop for Ontario.

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Data collection

Provide an overview of the data that will be generated, collected or acquired to support this project. If data will be acquired from a third party, specify the source.

Question not answered.

What method(s) of data collection will be employed?

Question not answered.

What types of data will be included?

Question not answered.

What software or digital formats will be used to collect, manage and analyze the data?

Question not answered.

Provide an indication of the scope of the data?

Question not answered.

Data storage

Estimate the size of data storage that will be required.

Question not answered.

Where will your data be stored during the collection, collation and analysis phases of the project?

Question not answered.

What backup strategy will be employed?

Question not answered.
How will your data files be organized? What file naming conventions will you use? A brief overview or example would be adequate.

Question not answered.

What metadata will be developed for your data? Will there be supplemental documentation prepared to assist with the interpretation and analysis of your data?

Question not answered.

**Data archiving and preservation**

Will you deposit your data in the UG data repository or an external data repository? If you are opting to not archive your data in a repository, where will your data be housed after completion of your project?

Question not answered.

Discuss any data transformations that will be needed so your data is preserved in appropriate, non-proprietary formats.

Question not answered.

If some of your data will not be preserved, how long will you retain it? Will the non-preserved data be destroyed?

Question not answered.

**Sharing and reuse**

Will the data that you archive in a data repository be made available for sharing and reuse by other researchers?

Question not answered.

Explain which version of your data or subset of your data will be shared.

Question not answered.

When will your data be available for discovery by other researchers? Will you impose an embargo on publication of your data? If so, please provide details on the duration of the embargo.

Question not answered.
Will you limit who can access your data? If so, who will that be and why are you limiting the data’s reuse?

Question not answered.

Are there specific license terms you will assign to users of your data?

Question not answered.

**Restrictions/limitations**

Are there limitations or constraints on how you manage your data resulting from legal, ethical or intellectual property concerns?

Question not answered.

Would your data need to be anonymized or de-identified before being shared with others?

Question not answered.

**Confidential information**

What information do you want to include in your DMP that should not be publicly shared?

Question not answered.