Developing an Interactive Web-based Variety Selection Tool for Wheat
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Research Questions
Can a web-based variety selection tool assist growers in obtaining and summarizing variety trial information more efficiently than from current sources so that they can be more effective in selecting appropriate varieties.

Results
The basic framework for the selection tool has been developed which includes the format for adding variety trial data and the interface for obtaining summarizing these data. The interface allows the user to select a location by zip code and request an area around this location from which variety trial results will be provided. The tables generated by this query will produce a mean for varieties included in all locations polled and will calculate an appropriate LSD. There is still substantial work to be done to make the tool usable to the public and to populate the database.

Application/Use
This web-based tool will allow growers or crop consultants/extension educators to obtain variety trial information that is scalable and not restricted by political borders such as a state line; allow the user to create his/her own area of inference; and allow for meaningful means comparisons by applying the rigor of statistical analysis. The web-based database, for now, encompasses the spring wheat variety trials of Minnesota and North Dakota.

Materials and Methods
A computer programmer has been hired and the PIs have been working with him on a regular basis to allow for the development of this web-based tool along the lines envisioned by this project. In the near future, a series of meetings is planned with growers to ensure that the tool is relevant and usable.

Economic Benefit to a Typical 500 Acre Wheat Enterprise
Selecting an appropriate variety can have significant economic impact on a grower’s operation. A conservative estimate is that selecting the “best” variety for a farm will add two bu/acre to the yield. This will translate into a yield increase of 1,000 bushels on a 500 acre farm with a dollar value, depending on the market, of about $7,000.

Related Research
The PIs are not aware of any other research currently being done on this topic. There are several other web-based tools in other crops and regions of the USA that are being reviewed as this project’s tool is being developed.

Recommended Future Research
Complete the current phase of research, test it and advertise it widely. The development of an app that would run this tool from a smart phone should also be considered.

Publications