

Strategic Collation of Evaluation Data for Priority Trait Screening



Bob Redden, Ranjan Balachandra,
Kevin Murray, Selwyn Ellis.

Web Search Engine

- ◆ A web-based search engine prototype for multiple trait searching on crop germplasm and retrieval of matching accessions, was evaluated by breeders (January 2005) and feedback was collated.
- ◆ Iterative interrogation using multiple trait search parameters.
- ◆ Use of the open source technology (e.g. Java programming language, MySQL) for application development.
 - In line with ICIS' technological direction.

Web Search Engine

- ◆ Key functionalities:
 - Filtering by trait values (e.g. good disease resistance).
 - Filtering by site means (e.g. lines from high-yielding sites).
 - Discretization of quantitative data (1-9 scale, normalisation).
 - Graphical display of trait value distributions.
 - Achieve a shortlist of accessions matching key trait values.
 - Request lines of interest online from the ATFCC and overseas.

Web Search Engine Operation

- ◆ Java application.
- ◆ Server functions
 - Apache and Tomcat servers
- ◆ Database
 - MySQL ICIS database with additional data warehouse table.
 - Data warehouse constructed by a series of SQL statements.
 - Main denormalised data table (350k records) takes 80 sec.
 - Other information directly from ICIS tables.

Demo

Database demonstration



Web Search Engine Future

- ◆ Improve the interface.
- ◆ Add comparison with check varieties
- ◆ Add display of pedigree tree.
- ◆ Add ability display data for ancestors / descendents.
- ◆ Improve data drill down displays and functionality.
- ◆ Add data output functions (Excel etc).
- ◆ Add links to images.
- ◆ etc ad infinitum.