Strategic Collation of Evaluation Data for Priority Trait Screening

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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.

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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.