Studies of genotype x environment x management (GXEM) interactions commonly use Crop Simulation Models (CSM). Each model requires reliable minimum datasets (MD) for its successful implementation [1][3]. These MD are collected separately and can be multi-scale, multi-species, multi-disciplinary (agronomy, entomology, phytopathology, weed science, etc.). Data manipulation is tedious and difficult to automate for modelling. All these problems can be solved using database technology [2].

DAPHNE is a performant optimized database that improves analysis and facilitates access to data for CSM. Genericism of database schema can allow intercomparison of CSM (AgMIP) that require the same datasets with no common data structure. DAPHNE has a wide application in pest management, plant disease and ecophysiological experiments on sugarcane, cotton and sorghum in Africa and Central America.

The advantages of this methodology:
- The database schema doesn’t require to be modified.
- Number of tables, columns and empty cells is minimized.
- Improve database query performance for data mining.

The relational data model includes:
- The environmental conditions of the experiment, 
- The cropping practices, 
- The agronomic measurements.

Conclusion

References