A Tutorial on CycDesigN 3.0

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CycDesigN 3.0 is a computer package for the generation of optimal or near-optimal experimental designs. It comprises two modules:

> **CycDesigN** provides a comprehensive design generation module for experimenters; particularly those involved in plant breeding, horticulture, agriculture, forestry and market research and for all field, glasshouse and laboratory trials.

> **CycXOver** provides a wide choice of designs for experiments that involve sequences of treatments (such as stimuli, diets or drugs) applied to subjects over successive time periods. Known as crossover (or changeover) experiments, they are used in such areas as clinical trials, sensory perception experiments, psychological testing and dietary experiments.

In this tutorial I will concentrate on demonstrating the features of the CycDesigN module and in particular the construction of experimental designs for field trials, for example:

- Resolvable block (one-dimensional) and row-column (two-dimensional) designs
- Designs with single, nested or factorial treatment structure
- Latinized, t-latinized and partially-latinized designs
- Unreplicated designs
- Spatial designs, using one of three alternative correlation structures

Apart from the wide range of design types on offer in **CycDesig**N, there are many other options and facilities such as the specification of new levels for the entries in the design layout and randomization procedures appropriate to each design type.