

# Sweetpotato Speed- breeding IS 2.0

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# Assessment of experience with Breeding/CloneSelector

- Experienced sweetpotato breeder or inexperienced?
- Received training on CloneSelector 1.0?
- Have used CloneSelector for at least one trial?
- Have used CloneSelector for multiple trials?
- Have own trial series to analyze?
- Have own trial series in CloneSelector?

# Objectives of SpeedBreeder

- Ensure efficient capture, management, and utilization of sweetpotato breeding data, information, and knowledge
  - Practical breeding
  - Documentation for publication
  - Standardize and share data
  - Cross trial analysis
  - Sharing of knowledge

# Components of Speedbreeder

- **CloneSelector**: Fieldbook and data analysis tool
- FieldLog: PocketPC data collection tool
- SweetMart: Central data deposit for trial data
- **Sweetpotato Knowledge forum**

# Considerations for strategy

- User knowledge of plant breeding, statistical concepts and Excel
- Limited institutional IT capacity (Internet, IT support, IT infrastructure, statistical expertise)
- Automate frequent and standardized processes (trials)
- Standardization of most traits measured (SP Protocol)
- Use existing (preferably free) software as basis for applications
- Quick solution to start collecting data in standardized format

# Trial workflow (individual trial) covered in CloneSelector

- 1. List of germplasm (clones to test)**
- 2. Design of trial**
- 3. Generation of field books**
- 4. Register metadata for trial**
- 5. Data collection in field and post harvest**
- 6. Enter collected data into field book**
- 7. Calculation of derived variables (yield/ha etc)**
- 8. Statistical analysis of trial (only RCB trial covered)**
- 9. Elaboration of consolidated result table for each trial**

# Trial work flow (Multi-environment trials) covered in CloneSelector

9. ***Consolidation of data across a trial series***
10. ***In-depth analysis of individual traits***
11. ***Elaboration of summary result table across environments***
12. ***Elaboration of selection indexes and evaluation of selection criteria***
13. ***Elaboration of list of selected material, and start of new trial series with this.***
14. **Incorporation of selected results in annual breeding report**

# Other new functions in CloneSelector

- Customize Trial template to your breeding programs needs
- Import data from existing trials via cData
- Fix hide column problem
- Reestablish Master Sheet formulas



# Agenda for work on Speedbreeder

- **Discussion of experiences with CloneSelector**
- Presentation of CloneSelector 2.0
- Workshop on Trial analysis in CloneSelector
  - Import existing trial series in CloneSelector
  - Analysis of individual trials
  - Multi-Environment Trial analysis
    - Create MET sheet
    - Analysis of individual traits and interpretation of outputs
    - MET summary sheet and selection index
  - Other CloneSelector functions

# Assessment of experience with Breeding/CloneSelector

- Option 1. Train everybody from 'scratch', but include import of own data
- Option 2. Create two groups:
  - Inexperienced start from scratch
  - Experienced analyze analytical outputs