What breeding innovations can be expected as a result of the cassava genebank sequencing work?

**Theme 2: Omics - CASSAVA**

- 183 Cassava Landraces selected at random
- 109 Cassava Landraces exploited for breeding in the past 40 years

**Theme 2: Genomics - CASSAVA**

- 292 LAC Landraces analyzed
- Mutation in restriction sites and current analytical approaches cause a Reduction in estimates of observed heterozygocity. RAD at currently may only be suitable to establish shallow relationships in population genetics studies

**Theme 2: Genomics - CASSAVA**

- Top 7 LAC landraces used by CIAT breeding program
- 292 Cassava Landraces used for population genetics study

**Metabolomics - CASSAVA**

- Two independent experiments with 450 treatments
What will be the first three traits for routine application of molecular markers in breeding? What is progress to date?

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Whiteflies have been called “The pest of 21st Century”

What will be the first three traits for routine application of molecular markers in breeding? What is progress to date?

Whitefly resistance

- Whitefly control: a durable solution to cassava disease pandemics (Africa and Asia)
- Whitefly molecular identification
- Greenhouse phenotyping

Assessed Genotypes
- Family CM8996 (240 individuals)
- Family GM8586 (200 individuals)
- Parentals: ECU72 (R) x MCOL2246 (S) y ECU72 (R) x TMS60444 (S)
- Susceptible Check: COL1468 (CMC40)
- Others genotypes: TM3, Secundina, Nataima31, PER410, PER535, Fis21, Fis61, Fis19.

Total: 452 x 4 rep = 1808 plants x 2 leaves = 3616 evaluated leaves
Acknowledgements

THANK YOU