

# UPDATE ON SPHI PROGRESS

## SPHI



Sweetpotato  
Profit and Health  
Initiative



Jan Low, SPHI Co-Leader  
Seed Systems SGA Community of Practice Meeting  
21 November 2017  
Nairobi, Kenya

# 2016, the Year of Sweetpotato



2016 World Food Prize Laureates



Dr. Maria Isabel Andrade (second right) receives the M.S. Swaminathan Award on 8 August 2017. Photo: Deepa Karthikeyan (RCME).

# AL-SUMAIT PRIZE

FOR AFRICAN DEVELOPMENT



# Twenty Speaking Events since the Prize & the 2017 WFP Laureate is a Biofortification Advocate



Lord Cameron hosted Laureates at All Party Parliamentary Group for Agriculture and Food for Development on 14<sup>th</sup> March 2017



HH Visakham Thirunal Endowment Lecture

Trivandrum, India







SASHA is the  
research &  
capacity  
strengthening  
support  
underpinning the  
broader SPHI

Year 3:  
16 SASHA briefs  
28 Other briefs  
*plus*  
Your Passport to  
Good Health



# Successful Exhibition at Mlimani Mall

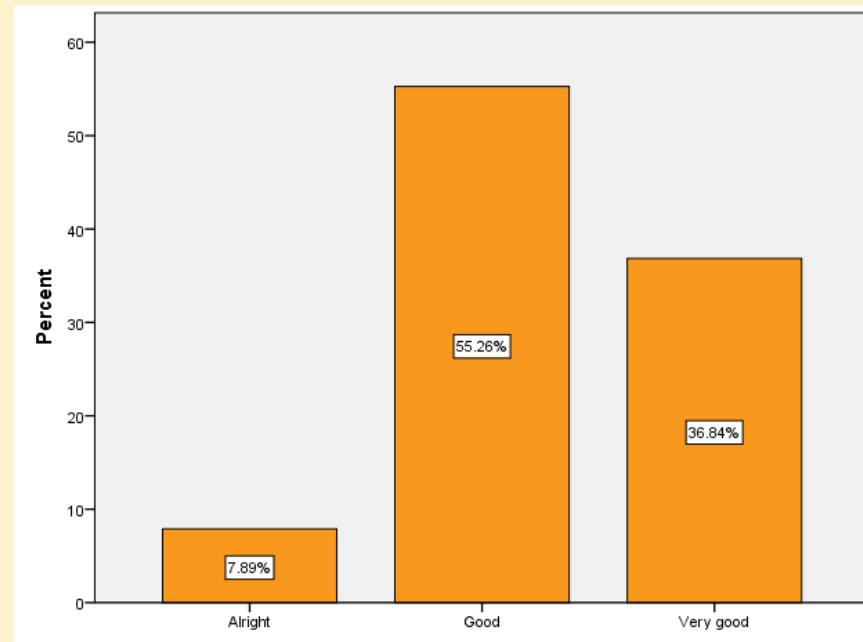
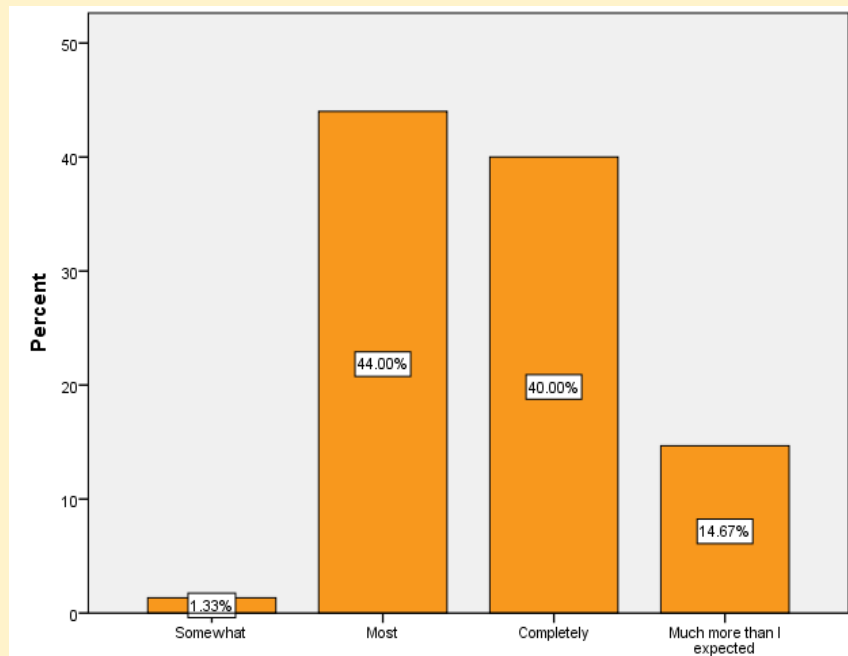


- 20 Booths
- 6 Private Companies
- 10 countries represented
- Press coverage
- Speech
- Skit & Song
- 500 visitors



# Successful SPHI Technical Meeting

Did the meeting meet your expectations?



Quality of the Technical Presentations

# Breeding *in Africa for Africa*

## Greatest Achievements

- New Methods and their application
  - Accelerated breeding
    - 2 rounds in Mozambique
    - 7 countries in SSA
- Proof-of-Concept for exploiting heterosis
- Measurement of genetic gains  
0.3 tons/year/root yield
- Establishment of 3 Sweetpotato Support Platforms (SSPs)
  - Recognition that “Africa” is not a single entity
  - Population development programs, each focused on a few major traits
  - Quality laboratories using Near-infrared Spectrometers
  - Backstopping sweetpotato breeders in the region





# Strengthening of the *Speedbreeders*



## Greatest Achievements

- Common protocols and tools for data collection and analysis
  - Phase 1: CloneSelector
  - Phase 2: HIDAP & SweetpotatoBase (GT4SP)
- Increased use of barcoding & digital tools
- Integration with genomics project
  - Concept of “Renaissance” breeders
- Due to AGRA collaboration, number of countries now breeding is 13
- Uganda and Mozambique producing large amounts of seed that has been shared
- Spillovers to Ivory Coast, DR Congo





# Breaking the Seed Systems Bottleneck: Technologies

## Greatest Achievements

- Consolidated findings on net tunnels
  - Revised net tunnel brochure
  - In use in 10 countries
  - Adapted to different conditions

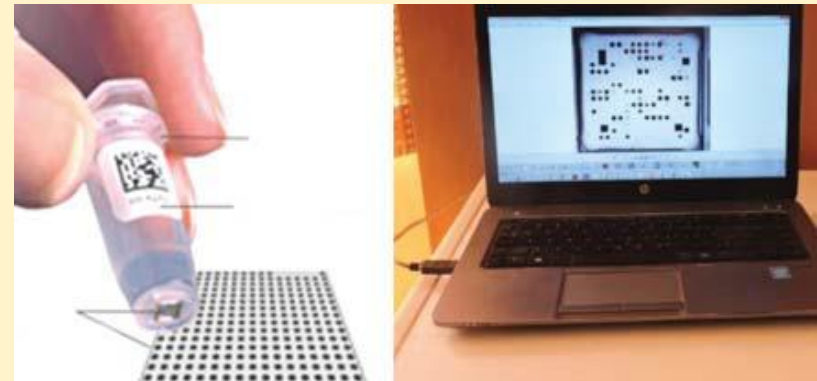


- Consolidated Triple S experience in 8 countries
  - Triple S extension materials (NRI support)
    - Flipcharts
    - Training Manual
    - Farmer Handouts
  - Uptake research continues
  - RTB: Scaling-out proposal

# Breaking the Seed Systems Bottleneck

## Other Research on Technologies to Accelerate Pre-Basic Seed Production in Final Phase

- 4<sup>th</sup> iteration of ClonDiag for detecting viruses
  - 21 viruses for one array: \$70 & 2 days
  - vs. 10 viruses with Elisa: \$130 for 6-12 months
  - Currently under validation
- LAMP: Portable tool for detecting SPFM & SPCSV behind schedule...
  - Problem with reagent stability
  - Now validating field use
  - Envision use by seed inspectors
- Sandponics research delayed by staff turnover; new leader now in place
  - Focus on Kenya & Uganda
- Drip-irrigation research
  - Data collection completed
  - Analysis under way



ClonDiag microarray tube with 21 probes on array chip (left) and Array tube reader connected onto a computer analyzing virus spots (right)



# Seed Systems & Crop Management CoP One of Most Effective



- 1 meeting per year focused on Pre-Basic Seed  
6-8 December 2016  
*Nairobi, Kenya*

1 meeting for whole CoP with  
“learning journeys”  
13-14 June 2017  
Mukono, Uganda  
12<sup>th</sup> June:  
EGS Sub-grant group



# Post-harvest Progress

- Critical and Promising Area of Research
  - Research aligned with development projects (SUSTAIN)
  - Shelf-storable purée for 3-4 months at ambient temperatures
    - Uses affordable locally available preservatives
    - Use of preservatives requires recipe adjustments
    - High fiber version retains skin (dietary fiber & minerals)
  - FANEL analytic services on track with good capacity strengthening efforts & backstopping product development
- 
- Storage
    - Results from evaporative cooling trials
      - Well-run study; well-documented
      - Method just can't get temperature low enough





# Next Steps to Address Challenges

## Cooling units (coolbot) in container based storage

- High upfront capital costs; still solar powered
- But gets down to 15°C (no sprouting or weevils)
- Selling point: low maintenance costs
- Western Kenya: NRI new ag engineer Marcelo De Mello Precoppe: Trial now underway
- Mozambique: South African firm Ecotech



## For purée:

- Hot fill dosing unit plus aseptic packaging
- No preservatives needed
- Direct sales for consumption not just as ingredient



# Marketing, Processing & Utilization CoP is Quite Diverse



Marketing, Processing & Utilization  
1-3 March 2017  
Kisumu, Kenya



Keynote speaker: Prof. Xie Jiang  
Field Trip to Storage & Purée Processing  
at Organi Ltd





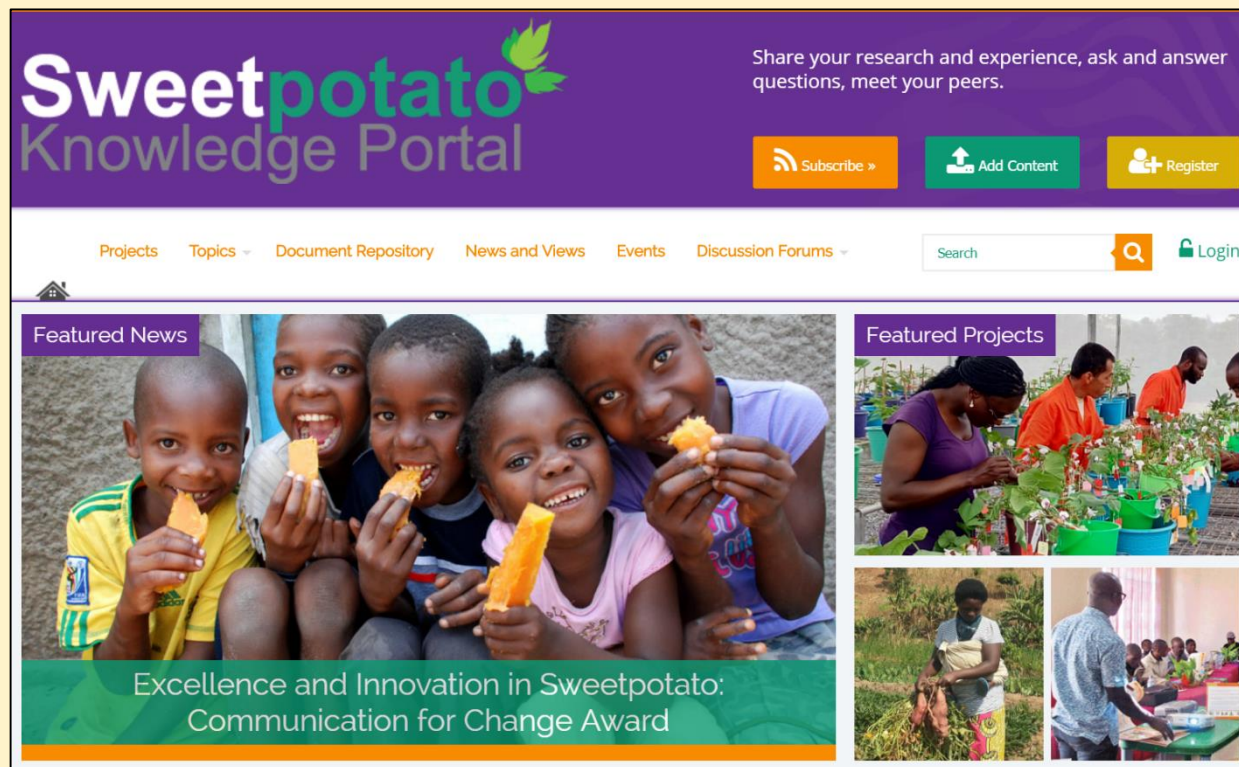
# RP5 Team Continues to Support MLE CoP, Meetings, and Tool Development



## Greatest Achievements

- MLE manual
  - 9 core modules
  - Data entry programs
  - STATA analysis programs
- Annual Status of Sweetpotato in SSA report
  - DVM mapping
  - Dissemination statistics
- Open Access, CSPro, Stata training, MLE CoP support
- Annual briefs, exhibition participation, advocacy
- Annual meeting

# Sweetpotato Knowledge Portal



The Sweetpotato Knowledge Portal ([www.sweetpotatoknowledge.org](http://www.sweetpotatoknowledge.org)) provides a venue for sweetpotato scientists, practitioners, and farmers to share, discuss, and generate new knowledge.

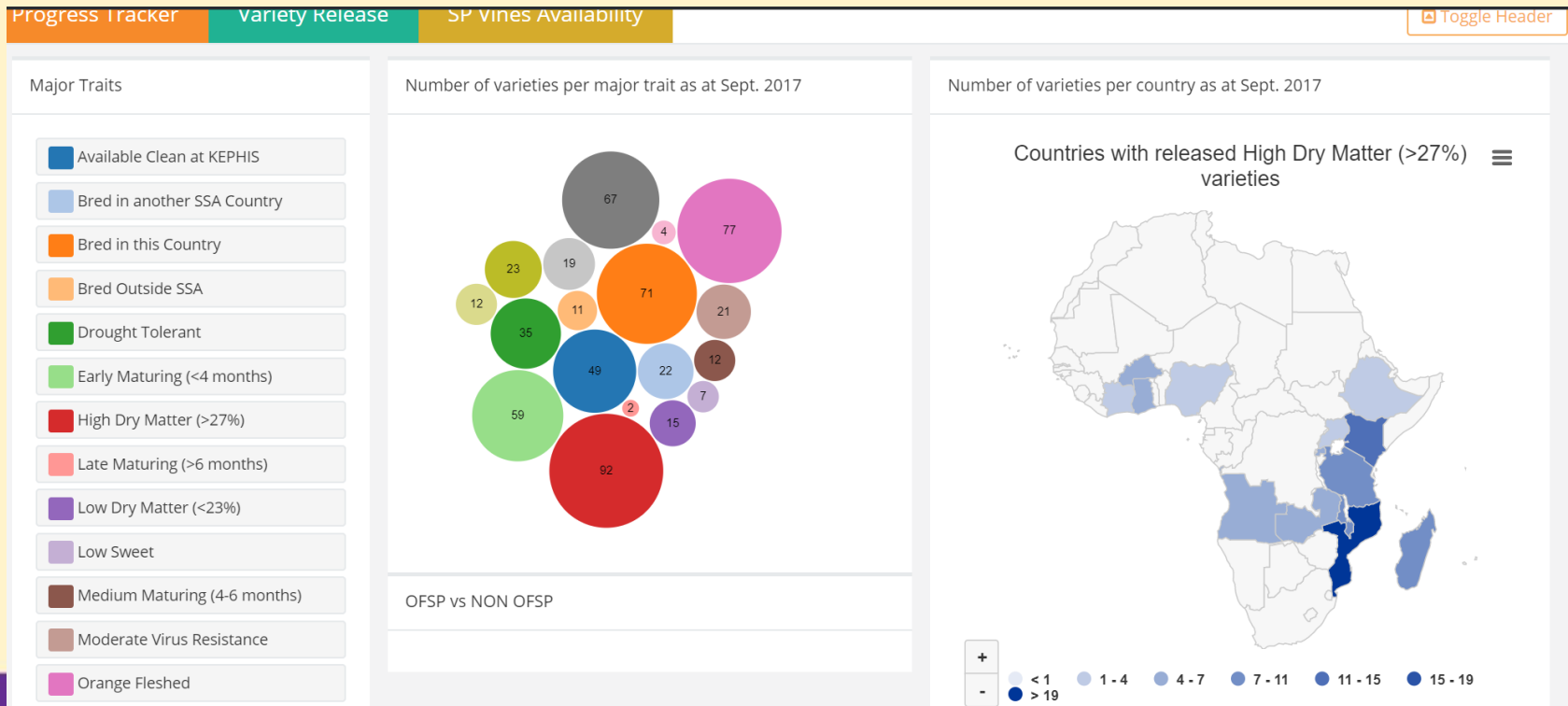
- Finally through the transition from Plone to Word Press
- # of registered users: 371 in July 2016; 530 in Sept 2017
- 2,097 published files
- 242 published stories
- 48 published projects
- 7 E-digests sent out in 2017. You can subscribe on portal!
- 215 Facebook likes + 388 Twitter followers



# Status of Sweetpotato in SSA Dashboard



The dashboard is being built into the Sweetpotato Portal ([www.sweetpotatoknowledge.org](http://www.sweetpotatoknowledge.org)) and will provide an easy and fun way for the sweetpotato research community to keep track of key progress



**There is just no end to  
Creative Uses of  
Sweetpotato**

