MRA 5-Soybean Utilization for Human Nutrition

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Overall Objectives

• Empower local businesses and organizations to operate self sustaining enterprises (value chain) - soy dairy systems
• Promote uses of soybeans for human nutrition
  – Increase access to high quality protein in foods
  – Expand use of locally produced foods
  – Increase demand for soybeans for human nutrition
NSRL Activities

• Soy Dairy
  • Ghana (3) and Mozambique (2)

• Soy at Home Processing - Mozambique
  • a.k.a. soy small scale processing
  • a.k.a. village trainings

• Low TI bean processing & analysis
Soy Dairy-Ghana

– Accra, Tamale, Agona
  • Installed March 2015
  • NSRL visits at installation
  • Data collection delay until November 30 on Ghana IRB approval
Soy Dairy-Ghana

- Ghana soy dairy near term to-do list
  - Reconnect with all sites and request updates on production data statistics
  - Solicit responses for management interviews

- Ghana soy dairy by year 3 end
  - Monthly status and production updates
  - Six month management interviews completed
  - Comparisons of production data over time
Soy Dairy-Mozambique

- Namaacha and Macuba
  - Installed April 2015
  - NSRL visits October
  - Mozambique IRB submission to be done
Soy Dairy-Mozambique

– Mozambique soy dairy near term to-do list
  • ID local entity for IRB submission and gain approval
  • Support management reorganization at Namaacha
  • Solicit Macuba location data collection sheets
  • Ensure Namaacha site has refresher training

– Mozambique soy dairy by year 3 end
  • Final local IRB approval and sites in production
  • Baseline and monthly status and production updates
  • Six month management interviews completed
  • Comparisons of production data over time
Soy Dairy Measurements

• What is success?
  – Product Volume, Product Portfolio, Profitability, Community Benefits….

• What are key management inputs?
  – Oversight, Staffing Decisions, Marketing Implementation, Customer Identification….

• What are necessary supports?
  – Training (Repair, Maintenance, Employee, Management), Education, Literacy, Product Use….
Soy at Home Processing

• **Increase Soy Use and Integration in Household Diets**
  
  Evaluate how training in handling, processing, and use of soybean within local recipes in the household affects the sustainability of human soy consumption.

  Provide education on the nutritional benefits of soybeans and soy-enhanced local foods to increase nutritional knowledge awareness and improve household nutritional status.
Soy at Home Processing

• Three Mozambique villages with 150 homes each
  • -Using SIL locations of interest
• Low technology soy ingredient processing
  • Soymilk
  • Soy flour
  • Tofu
  • Roasted & cooked whole soybeans
Soy at Home Processing

- Identify the level of training needed to allow adoption of soy processing....
  - To promote improved protein access in the home
  - To promote small scale village product markets
- Small group trainings on processing soybeans
  - Soy, protein and nutrition education
  - Education, processing and cooking instruction
  - Education, instructions, and hands-on work
Soy at Home Processing

- Partner with IITA
- Identification of the sites
- Material development
- Survey development
- Trainings
- Surveys pre-training
- Semi-annual to annual surveys post-training
Low Trypsin Inhibitor (TI) Beans

• Conduct research to evaluate heating time for low processing soybean variety from Kristin

• Research question: Will low TI beans allow for shorter cooking times for soybeans in foods?
Low TI Beans Analysis

- Collaborating with Luis Contreras
- NSRL processed low TI and regular soybeans into cooked whole soybeans, soymilk, soy flour and tofu
- Raw beans and processed products analyzed for levels of TI at 5 minute stepped cooking times
Low TI Beans Analysis

• Deliverables
  – Journal article
    • Methods for producing soy products
    • Lab work completed January through May
    • TI analysis methods and results
  – Preliminary results - minimum, inconsistent time savings
Research, Outreach and Education Supporting Soybean Production and Nutrition