AGRICULTURAL RESEARCH SCIENCE INITIATIVE – contribution to climate change adaptation and mitigation

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PRESENTATION OUTLINE

- 1. Introduction
- 2. Crop science initiative
- 3. Pest and diseases management
- 4. National Agricultural laboratories
- 5. Other science

One of the pillars of the DSIP

Research and technology development

Onset of rains for March, April and May (MAM) season over Ugada



Withdrawal of rains for March, April, May (MAM season) over Uganda



Onset of october, November December season (OND) over Uganda



Withdrawal of October, November and December (OND) Season Over Uganda





Annual length of the growing period over Uganda

1. Drought and heat tolerant varieties

Cassava

Beans

Fruit trees

Millet

Sorghum

Cowpeas

banana

- 2. Short duration crops
- Beans (60 days)
- Potatoes (60-90 days)
- Assorted vegetables under the horticulture Research
- sorghum
- 3. increased pests and diseases
- Breeding for tolerance
- Improved management







Banana hybrids developed and promoted

Options for BBW control promoted in main banana growing areas

M19 (12603S-1)



Attributes

•Black Sigatoka resistant

• Yields =26.5 ton/ ha/ yr

M20 (12571S-15)



Attributes

•Black Sigatoka resistant

•Yields= 28.1 ton/ ha/ yr

Local variety Mbwazirume



Attributes •Susceptible to Black Sigatoka •Yields=11.9 ton/ha/yr Laboratories

- Under agricultural engineering
- Development of agricultural labor saving machines (reducing drudgery in farm practices)
- ploughs, planters, choppers
- Development of post harvest handling machines
- Maize shelling
- Cassava chipper
- Rice shelling

- Water delivery systems
- -Ram pump
- Assorted water harvesting and delivery

systems

Energy efficient systems research

- Fireless cooker
- Wind energy







Post harvesting technology development

- Management of post harvest pests and diseases research
- Agribusiness for enterprise diversification
- business incubation of generated research technologies and innovations

food bio-sciences

-Food safety - during periods of extreme humidity and technologies to improve Safety -Development of protocepts



VAC Incubatee products

Sustainable land and water management

- Restoration of degraded lands and watershed management technologies
- Soil information system
 - soil map,
 - nutrient distribution
- Soil and water conservation
 - technologies that reduce soil erosion,
 - soil and nutrient loss including conservation agriculture



Soil fertility management

- Developed fertilizer optimization tool
- Developing substitution ratios for organic to
- inorganic fertilizers

Mean upland rice response to Integrated Soil Fertility Management Technologies

Sites:

- Semuto & Kapeka
 SC(Nakaseke District)
- Ivukula, Nsinze and Namutumba SC (Namutumba District)





Farmers Practice

+(50 kg N + 15kg P)/ha

Climate change adaptation and mitigation

- Data management
- Crop yield monitoring and yield projections
- Crop suitability mapping
- Information packaging and dissemination (cropping calendars)

close association between soil productivity and current banana growing areas.

Two degree increase in temperature will result in the disappearance of the highly





The climatically suitable areas shown in deep green (excellent (100%, light (suitable 80%) and lighter (60% suitable).











- Conservation of at least 700 new accessions characterisation of 20 core collections and enhanced management for sustainable utilization of selected Plant Genetic Resources
- biotechnology systems, diagnostics and processes developed for improved productivity of selected crops

Forestry and agroforestry research

- Carbon stocks in divers tree species
- Shed systems in coffee systems
- Soil improving tree species

Fisheries research Capture fisheries as diversification options

LIVESTOCK

- Breeding for hardy indigenous types
- Dry season feeding technologies