Demand Led Plant variety Design Workshop

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14-15 May 2014, Winsor Hotel, Nairobi

SANBio – Platform for SADC countries networking in bioscience to solve Health and Nutrition challenges

- A network of 12 countries in the SADC region (Except Tanzania)
- A component of African biosciences Initiative (ABI) - an AU/NEPAD Initiative under S&T consolidated Plan of Action (CPA)
- SANBio Agenda is driven by National priorities, SADC STI policies and NEPAD STI policies (STISA)

What and Whose Problem?

- Customers, owners, stakeholders and Users' needs and deliverables to meet these are seldom obvious

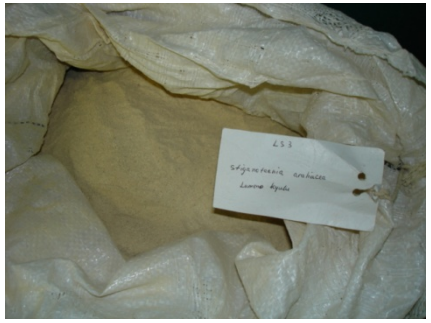
User Requirements (Needs)

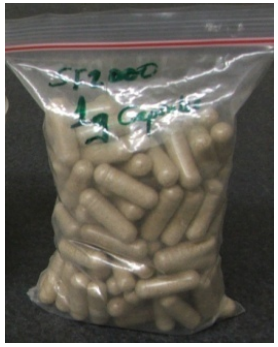
Vs

Functional Requirements (breeding Traits)

Priorities: Human Health

- Bioprospecting for remedies
- Diagnostics, e.g. point-of-care or surveillance
- Food drug interactions
- Food allergies
- Genomics, e.g. host-pathogen interactions





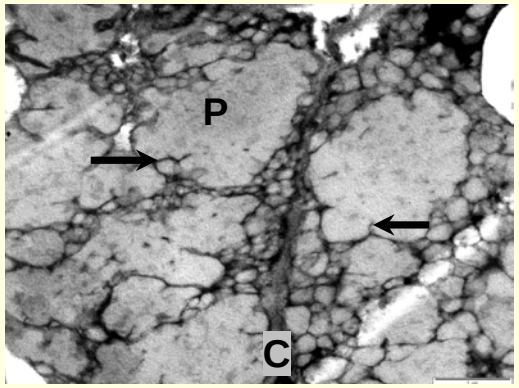
Priorities in Nutrition

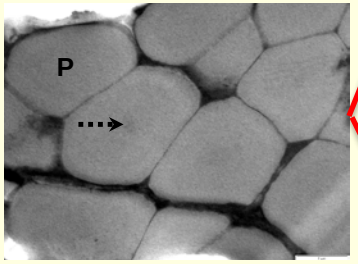
- Alternative sources of proteins, micronutrients & carbohydrates, e.g., promotion of nutrient-rich foods targeting women & children
- Food processing,
  - e.g. improved handling and storage,
  - technologies to ensure availability throughout the year
- Value addition of indigenous foods and neglected foods
- Indigenous coping strategies to natural and man-made disasters – climate change, HIV/AIDS
- Nutrition education

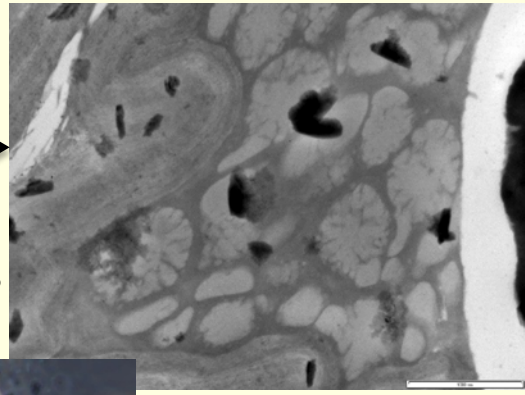
DEMAND-LED CROP TRAIT DEVELOPMENT USING NON-GMO TECHNOLOGIES – EXAMPLES ON SORGHUM

Versatile technology for Manipulation of any trait

Digestible Sorghum via GMO

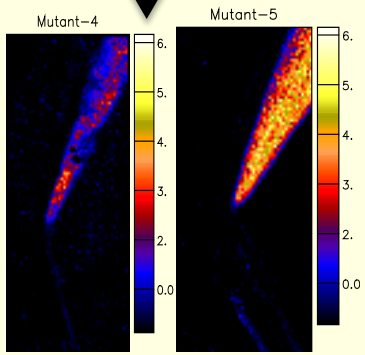




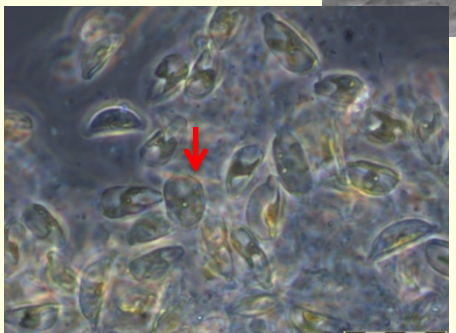


Digestible sorghum via mutation breeding

Mutation breeding in sorghum for phtochemicals promoting health - anthocyanins



Increased micronutrients (Fe) via mutation breeding



Mutation breeding of micro algae: nutrition, food, bioactives, biofuels

Involve Users in the design

Involve Stakeholders

User Needs

Good yields

Low price of seed

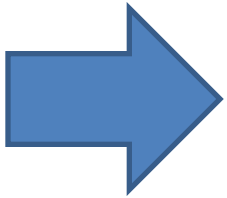
Good nutrition value

Tastes good

Appeal to whole family

Drought tolerant

Convenient serving



Functional Requirements

Cost of seed per unit

% protein content

Less than 120 days to maturity

High water user efficiency

Thank you