On-farm Experimentation during sweetpotato breeding

Discussion

Objectives?

- Introduce the varieties to users – step to technology transfer
- Test performance of promising materials under farm & farmer conditions
- Test farmers' acceptability/preferences of the varieties
- Feedback to breeders
- Farmers learn --- varieties, experimentation

Farmer selection – key step 1

Exploratory visits – with a local partner

- Obtain secondary information (rain, soil etc)
- Interact with key people in villages
- Build a community rapport
- Importance of the technology to people
- Initiate relationship
- Schedule for a meeting for many people

NB: NGO/CBO partners have been useful

Farmer selection – key step 2

Planning Meeting

- Clarify the objectives – underlying activities
- Allow farmers to freely give their ideas; – helps to understand farmer expectations
- Adjust research agenda to allow farmers' input
- Have a feel of readiness for activity uptake
- Build consensus on the criteria for farmer selection
- Process should be participatory
- Develop a plan of action up to planting date

Farmer selection criteria – issues

- Interest of farmers
- Land availability for experiments
- Farmers in different agro-ecologies
- Gender
- Organized groups (FFS) vs individuals
- Relationship with the community
- No to politics
- Avoid biases – (community or logistical)

Planting trial & design – key step 3

- Together with farmers agree on the design – as you explain the design & trial objectives
- Plot size: min- 24m^2; Spacing: 1m x 0.3 m
- 3 – 5 new varieties + a standard check
- Mound planting – 3 vines
- Ridge planting – possible to plant in lines
- Guide and let farmers do it their own way
- Replicate by planting with more farmers (2-4) depending on the no. of groups
- Forecast future activities & who is involved

Evaluations – key step 4

1. Assessment by farmers – observations made on;

- ✓ Establishment rate
- ✓ Plant vigour
- ✓ Weed management
- ✓ Maturity time
- ✓ Resistance to disease, drought and pests

Evaluations – key step 4 cont.

2. Monitoring

- ✓ Done by researchers
- ✓ Obtain farmers' observations
- ✓ Record disease and pest problems
- ✓ Forecast with farmers date of harvest

Final evaluations – key step 4 cont.

- **Field evaluations**

  Foliage

  Diseases (virus) resist..

  Pests (weevils) resist..

  Drought tolerance

  Root yields

  Root shape

  Root skin colour

  Root flesh colour

  Overall acceptability

- **Palatability evaluations**

  Appearance

  Taste

  Starchiness

  Fibrousness

  Overall acceptability

How is it done?

- ≥ 20 farmers (Men and Women)
- Prepare many cards of each of 3 colours;

  Green Yellow Red

  Green = better than the local check

  Yellow = comparable to the local check

  Red = Poor than the local check
- Card for Men are labeled ‘M’
- For @ attribute @ farmer gives a card in a labeled bag
- Data tallied in a prepared sheet

Field performance Variety assessment

Name of Trial: ……

Location: ……..

Date of evaluation: …….

Total No. of participants:……

No. of male participants:…… No. of female participants:……

Attribute: Root yield performance

Variety	Replication	No. of males that assigned			No. of females assigned		
		Red cards	Yellow cards	Green cards	Red cards	Yellow cards	Green cards
A	I						
A	II						
B	I						
B	II						
C	I						
C	II						

NB: Calculate the frequencies

Variety assessment for consumer acceptability

Name of Trial: …… Location: ……

Date of evaluation: ……. Total No. of participants:……

No. of male participants:…… No. of female participants:……

Attribute: Appearance of the cooked roots

Variety	No. of males that assigned			No. of females that assigned		
	Red cards	Yellow cards	Green cards	Red cards	Yellow cards	Green cards
A						
B						
C						
D						

NB: Calculate the Frequencies