What is the role of policy?
Collections in Barbados

Major Germplasm Collections in Barbados

- Sugar cane
- Root crops
- Cotton
- Vegetables and Fruit trees
West Indies Central Sugar Cane Breeding Station

- Largest collection of germplasm in Barbados
- Over 2500 accessions of sugar cane largely *ex situ* (away from natural habitat)
Objectives of the collection

- To incorporate vigour
- To increase disease resistance
- To increase ratooning ability
- Increasing genetic variability
More recently, cane varieties have been developed to produce

- high levels of biomass and
- several ratoon crops
- with multi-purpose use
  - energy generation
  - ethanol production
  - other by-products
Some 60 lines of cotton germplasm generated from Breeding Programme started in early ‘90s.

Some of the promising lines include –

- B9144  B9108
- B9353  B94158
- B9128  B94120
- B9327  B94325
Objectives of the Collection

- To increase cotton variability
- To be used in the breeding programme
- To produce new varieties of cotton better than the existing commercial variety (MSI) in terms of:
  - Lint quality
  - Yield
  - Higher ginning percentages
  - More determinate and open-boll varieties
In controlled conditions of temperature and humidity

- Temperature range  12-20 °C

- Humidity 60-65% R.H.
Short term storage

Cotton seed in Seed Room
20C - R.H. 68%

Weighing area in Seed Room
Longer term storage

Chill Room -

Seed stored in drawers/shelves
Dehumidifier stabilises humidity
Root Crops
Sweet Potato *In vivo*

- Mature field of germplasm
- Newly planted germplasm plot
  - 20 varieties
Sweet Potato Varieties in tissue culture

16 Local accessions
24 varieties from CIP
Objectives of Sweet Potato Collections

- To help combat Scarabée problems
- To increase yield
- To facilitate processing for restaurants (non-sweet fries or chips)
- To combat the Sweet Potato Feathery Mottle Virus (SPFMV)
Climate Readiness
Food Security

- Tissue culture – protected environment
  - From adverse climatic conditions
  - Rapid recovery after climatic disasters

- Greenhouse - protected cultivation
1-2 Sweet potato varieties in tissue culture lab and 3. in weaning house 4. Typical bins in weaning house
Greenhouse

2,880 sq. ft capacity
Insect-proof
Some popular varieties

CBS 32
Cassava Collections

- 5 Local types *in vivo*
- 4 introduced varieties (1 *in vitro*)
Objectives of Cassava Collections

- To increase and evaluate more varieties for different types of production
- To have an alternative energy input into animal feed
- To reduce quantity of imported wheat flour by replacing some with cassava flour
- To have a significant cassava industry
Local Cassava variety #4

Local Cassava variety #5
Local Cassava Variety #1
Introduced Cassava Varieties

Introduced varieties

BRA-383
CM 6604-6
MCOL 22
Introduce Variety in Tissue Culture

- 330649/3CM from St. Vincent
Varieties locally available

- Crop Lisbon (White Lisbon)
- Oriental
- Plimbite
- Coconut Lisbon
- Welch
Objectives of Yam Collection

- Variability
- Extend harvesting season
- Increased production
- Reduce susceptibility to diseases
- Reduce food import bill
White Lisbon/Crop Lisbon
Hot Pepper
Hot Pepper Diversity

- (Centre of Biodiversity) Capsicum chinense is unique to the Caribbean region and the Americas
- CARDI – > 90 accessions
Objectives of Collection

- Germplasm conservation for future generations
- Conservation and Improvement for
  - Quality attributes
    - (aroma, flavour, pungency)
  - Pest and Disease resistance
  - Adaptability to Caribbean conditions
  - Yield factors
Hot Pepper seed Storage

18-20 deg C; RH 45-50%

CARDI Hot Pepper Seed Room

Cooler 4 deg. C

Short-term storage - Pepper (CARDI)
Endangered landraces

Garden Pumpkin

Bajan cucumber
Thank You for your time