

**BIOTECHNOLOGY and Biodiversity ...**

**IN VITRO CONSERVATION of asexually propagated crops**

➤ Maintenance of plant genetic resources in culture bottles under controlled environment

- ❑ medium term- < 1year
- ❑ long term- indefinite



➤ Back-up to field conservation

**Advantages of *in vitro* conservation**

1. Plants are kept free from pest and diseases
2. Plants are not exposed to natural calamities such as drought, typhoon, flooding, etc
3. Space requirement is relatively small
4. Less labor for maintenance
5. Materials are readily available for multiplication and distribution any time of year
6. Germplasm exchange is easy and with limited quarantine restrictions

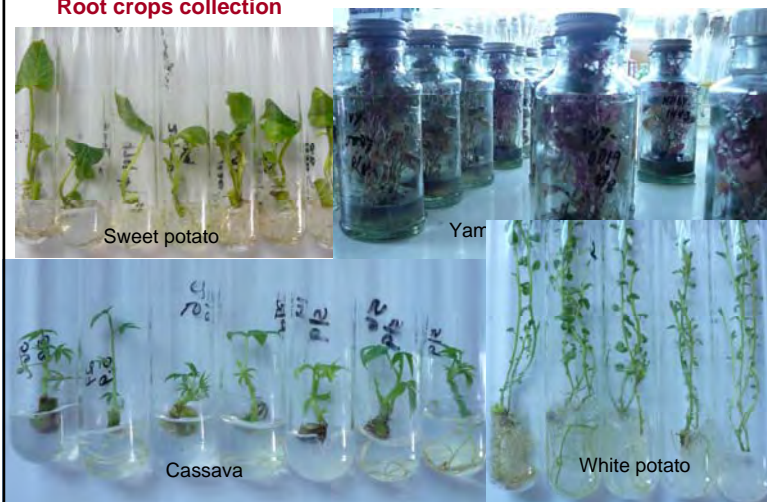
**BIOTECHNOLOGY and Biodiversity ...**

**In vitro conservation of priority crops**

Crop	Number of accessions maintained
Edible Banana	143
Local	124
Foreign	23
Wild Banana	24
Abaca	26
Root crops	249
Sweet Potato	130
Taro	37
Yam	19
Cassava	63
<b>TOTAL</b>	<b>442</b>
	<b>(2,700 culture bottles)</b>

*Safekeeping Crop Diversity at the National Germplasm Repository (PCARD funded)*

**Root crops collection**



*Musa* collection (edible and wild bananas and abaca)



**BIOTECHNOLOGY and Biodiversity ...**

Introduction, Evaluation and Adoption of Improved and Superior Landraces of Banana for Food and Income Alleviation.  
**Establishment of a National Repository and Dissemination Center at the Institute of Plant Breeding, UPLos Banos (DA-BAR/INIBAP)**



**Micropropagation and dissemination**

- ❑ introduced bananas (South America, Africa, Taiwan, Australia)
- ❑ local bananas (Lakatan, Saba, Latundan, etc.)

**Beneficiaries:**

Farmers, interested growers, government agencies, NGOs

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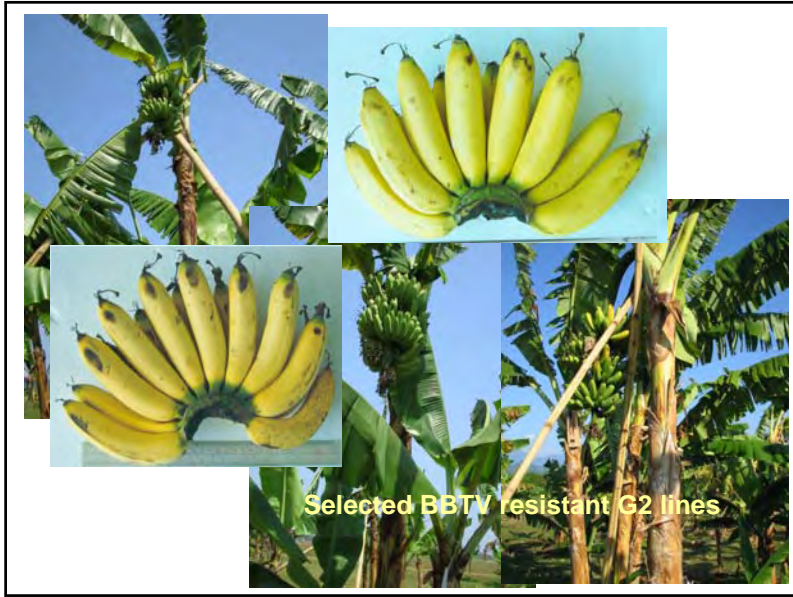
**Collection, Conservation, Regeneration and Re-introduction of Indigenous Orchids in Selected Natural Habitat**



**BIOTECHNOLOGY and Biodiversity ...Development of new varieties**

**Biotechnology Assisted Development of Bunchy Top Virus Resistance in Lakatan Banana by Mutation Breeding.**  
**Phase 2. Multi location field evaluation and characterization of BBTV resistant mutant lines (PCARRD funded)**

- ❑ Generated BBTV resistant plants using radiation and *in vitro* induced mutation
- ❑ Selected five promising lines with lower BBTV incidence (less than 50%) under high disease pressure
- ❑ Yield and fruit characteristics of selected improved resistant lines were comparable to or even better than TC control plants



Selected BBTV resistant G2 lines