

4. Tissue Culture Laboratory

This lab was designed to clean, and multiply crops with desired traits by the agricultural sector. Crops currently undergoing production in the tissue culture lab include ginger, cassava, Irish potato, sweet potato and sweet yam.

The introduction of new accessions into the country are screened by PEQ and, in some cases, foundation material is produced for use by the sector.

This lab has the potential to be a major asset to the agricultural sector by providing clean material. A majority of the activities within this lab contribute to the National Clean Seed programme.



Observation of tissue culture plants in the growth room at PEQ



Sub-culturing activity in the tissue culture transfer room at the PEQ



Under the **National Food and Nutrition Security and Safety Programmes**, PEQ strives to provide **quality service through the screening of plants and planting material, both locally and imported**, to ensure that the material released for planting within the agricultural sector is free from the major pests and diseases that would cause economic losses.

***“Grow what you eat.
Eat what you grow”***

Cost of Services

Germination evaluation - \$1,250/sample
Emergence evaluation - \$1,250/sample
Hot-water Treatment of Seeds - \$1,500/sample
****General Screening - \$1,500/sample***
****Tissue Culture Plantlets - depends on crop***
Tissue Culture Hardening- \$59/plant
Citrus budeyes - \$15/eye (JCPA-PQ)
****Seed Purity testing - depends on crop***

**Client contract forms for more details*

Post Entry Quarantine

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POST ENTRY QUARANTINE (PEQ)

Enhancing Food Security

Through certification of local and imported germplasm, pest surveillance and management



Introduction:

The PEQ falls under the Plant Protection Unit in the Research & Development Division of the MOAF and has two main mandates: 1) Assist in the introduction of clean (disease-free) new varieties and species of crops and plants into the agricultural system, and 2) Production of clean material under the National Clean Seed Programme. Both mandates are achieved through collaborations with local industries, entities and Academic institutions, as well as Divisions within the Ministry, such as the Plant Quarantine Produce Inspection Branch. Many of PEQ's core functions directly relate to the Ministry's priority programmes under Vision 2030.

Mission:

To facilitate the introduction of clean planting material within an internationally certified/accredited system which contributes to improved food security and safety and contributes to sustainable development of natural resources and productivity.

Responsibilities

The primary responsibilities of the Post Entry Quarantine (PEQ) are screening of imported planting material for economically important plant pathogens, and the production of clean planting material for crops under the Clean Seed Programme.

PEQ consists of four main areas:

1. Seed Health Laboratory

The lab receives upwards of 500 samples of various crops of both imported and local plant samples each year for screening for specific pests and pathogens of importance.

Other activities include hot water treatment of seeds, purity testing, and germination and emergence evaluation of seeds.



Sweet pepper seedlings in potting mix after 19 days

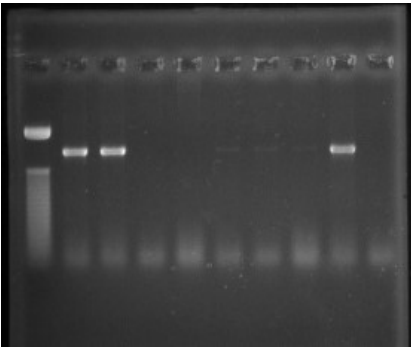
2. Diagnostic Laboratory

This lab is primarily responsible for the screening of viral diseases as well as the use of molecular techniques for diagnosis. These include a number of citrus and solanaceous (pepper/tomato/potato) diseases.

The lab is currently exploring the expansion of its services to include a number of other pathogens based on private and public needs.



Screening for specific pests/pathogens using lab testing (above) and biological indexing (right)



Molecular detection of citrus greening bacteria (*Candidatus Liberibacter asiaticus*)

3. Horticulture Unit

The Horticulture Unit is primarily responsible for the Citrus Certification programme. In collaboration with the Citrus industry and the Jamaica Citrus Protection Agency (JCPA), PEQ introduces new, exotic citrus varieties based on the needs of the industry and the Jamaican market. Currently PEQ maintains representatives of 54 citrus varieties in a disease-free state. The programme exists to provide the industry with varieties in the event of catastrophes such as disease epidemics, as in the case with citrus greening.

The Budwood Facility provides budeyes from clean trees which are monitored. There are currently 17 varieties available to approved nurseries and cover sweet orange, grapefruit, lemons and limes, and tangelos to name a few groups.



Monitoring and maintenance of citrus germplasm at PEQ. There are currently 54 varieties across the various groups of Citrus



Harvesting of budwood (each containing between 8-10 budeyes)