BAHFSA
THE BAHAMAS AGRICULTURAL HEALTH & FOOD SAFETY AUTHORITY

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February, 2026

The Plant Protection Unit

Plant Health Mobile Laboratory

www.bahfsabahamas.com

PestWatch
REPORT-A-PEST PROGRAM

Plant Pest ID
Handbooks

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WELCOME MESSAGE

"The Plant Protection Unit of the Bahamas Agricultural Health & Food Safety Authority is pleased to highlight our state of the art Mobile Plant Health Diagnostic Laboratory, the first of its kind in the region. "

This innovative, scalable, and cost-effective unit marks a major advancement in plant health for The Bahamas. Designed for our archipelagic nation, it brings rapid, on-site diagnostics directly to agricultural communities across the Family Islands, eliminating the need to send samples abroad while strengthening national surveillance and biosecurity. We are proud to share this achievement and remain committed to protecting our nation's plant resources.

Yasmin Johnson

Director

The Plant Protection Unit

ABOUT THE LABORATORY

PestWatch
REPORT-A-PEST PROGRAM

The Plant Health Laboratory is the national diagnostic facility responsible for identifying plant pests, pathogens, and invasive species that may threaten agriculture, trade, or the environment.

The laboratory supports national plant protection programmes by providing:

- **Scientific diagnostic services**
- **Technical verification for inspections**
- **Evidence for regulatory decisions**
- **Surveillance data for pest monitoring**

The lab serves government agencies, inspectors, farmers, importers, exporters, landscapers, and research partners.

MISSION, VISION & VALUES

Our Mission

To deliver accurate, timely, and science-based plant health diagnostics that protect agriculture, trade, and biodiversity.

Our Vision:

A resilient national plant health system supported by world-class diagnostic capability.

Core Value

- Scientific integrity
- Accuracy
- Timeliness
- Professionalism
- Transparency
- Service excellence

CORE FUNCTIONS

Image above highlights an example of Citrus Greening, a devastating disease that affects all cultivated citrus. This disease is a major threat to local citrus farms and backyard trees.

Bringing Phytosanitary Capacity to the Field

The Plant Health Mobile Laboratory provides technical and scientific support across multiple areas:

- Identification of plant pests and diseases
- Confirmation of suspected quarantine organisms
- Analysis of inspection and surveillance samples
- Diagnostic support for outbreaks
- Evidence for regulatory enforcement
- Technical advisory support for inspectors

"Timely laboratory diagnosis can prevent widespread crop loss by identifying pests before they spread. Accurate diagnosis enables farmers to apply correct treatments and avoid unnecessary chemical use."

Dr. Ezra Bartholomew

Lab Manager (Ag.)

DIAGNOSTIC SERVICES

The Plant Health Mobile Laboratory provides **diagnostic services** for plant health problems affecting crops and plants grown in The Bahamas; problems that may include:

- **Plant Disease Diagnostics ;**
  - Fungal pathogens
  - Bacterial infections
  - Viral diseases
  - Unknown plant disorders
- **Insect Identification**
  - Agricultural pests
  - Stored product insects
  - Intercepted organisms from imports
- **Soil & Root Pest Detection**

  Soil testing is limited to pH readings, electrical conductivity (EC) readings, and nematode identification.

The Plant Health Mobile Laboratory also supports **plant-related research**:

- Developing and validating new tests or methods; and
- Performing at-cost testing for research projects that address plant health threats.

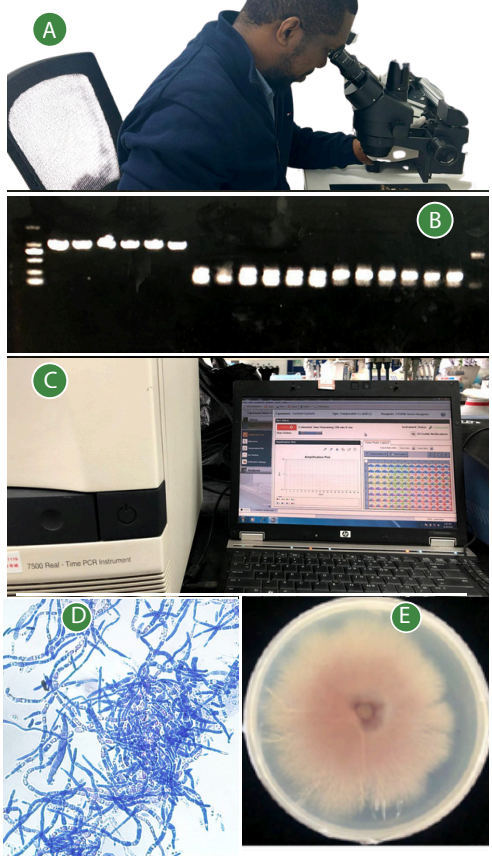
Please Note:
We do not provide nutrient analysis, chemical residue analysis, and mushroom identifications.

LABORATORY TECHNOLOGY

We use **modern diagnostic methods** to provide timely and accurate diagnoses, including:

- Culturing and light microscopy;
- Enzyme-Linked Immunosorbent Assay (ELISA) testing;
- Polymerase Chain Reaction (PCR);
- Real-time PCR and DNA fingerprinting;
- Insect Identification;
- Nematode extraction and identification;
- Soil pH and EC testing.

These tools support accurate identification and scientific validation.



A) Examining a sample under the light microscope;
B) Gel image of the results of a conventional PCR;
C) Real-Time in action with qPCR graph;
D) Stained image of plant fungus picture; and
E) Fungal isolate.

SUBMITTING SAMPLES

To provide you with the most accurate diagnosis, samples should be:

- Representative of the range of symptoms;
- As fresh as possible and not completely dead;
- Packaged securely, with burlap or plastic wrap around any root balls;
- Avoid excess moisture;
- Kept at a stable temperature to avoid heating and/or freezing the specimen;
- Collected prior to pesticide application; and
- Please contact the Plant Protection Unit: **ppu@bahfsabahamas.com** for a sample submission form. This form should be completed with as much detail as possible.

For more details on submission guidelines, fees and available services please contact us using the contact details on the back of this Booklet.

Submit Digital Samples

SCAN ME

The Plant Protection Unit

Established under the Plant Protection Act 2016, the Unit aims to prevent the introduction and spread of plant pests and invasive species.

MEET THE TEAM

YASMIN JOHNSON
Director of Plant Protection Unit

DR. EZRA BARTHOLOMEW
Inspection Program Coordinator
Laboratory Manager (Ag.)
Nematologist/ Plant Pathology Specialist

TAMICO NELSON
Surveillance Program Coordinator

SURVEILLANCE & EMERGENCY RESPONSE

The laboratory plays a key role in national pest surveillance and emergency response by:

- Testing samples from monitoring programmes
- Confirming suspected outbreaks
- Supporting rapid response decisions
- Providing scientific evidence during pest incidents

Rapid diagnostics allow authorities to act quickly to contain threats.

QUALITY ASSURANCE

The Plant Health Laboratory follows structured procedures to ensure credibility and consistency:

- Standardized diagnostic protocols
- Documented procedures (SOPs)
- Sample tracking and recordkeeping
- Quality review before report release
- Secure data management

These practices ensure diagnostic results are reliable and defensible.

WORKFLOW: FROM SAMPLE TO REPORT

Sample Received & Logged

Sample is submitted, inspected for condition, and recorded in the laboratory system.

Reference Number Assigned

A unique laboratory ID is generated for tracking and traceability.

Diagnostic Testing

Scientific analysis is conducted using appropriate diagnostic methods.

Validated by Specialist

Findings are checked for accuracy and validated by subject matter specialists

Official Report Issued

Final diagnostic report is prepared and released to the client or authority.

FREQUENTLY ASKED QUESTIONS

How long does diagnosis take?

Turnaround depends on test type and complexity. Typically 2-4 hours for rapid diagnostic tests, 72 hours for Insect Identification, and 1-2 weeks for microbiological and molecular testing, respectively.

Is there a cost?

Fees may apply depending on service category. Identification of regulated pests are typically free. Registered farmer will also benefit from free or reduced cost.

Can farmers submit samples directly?

Yes, with required submission information. Alternately, BAHFSA can be contacted for sampling services.

What types of samples are accepted?

Plants, leaves, stems, soil, insects, and seeds depending on diagnostic need.

WHY THE LAB MATTERS

The Laboratory protects The Bahamas by:

- Preventing entry of destructive invasive pests
- Protecting farmers' livelihoods
- Supporting safe trade and exports
- Preserving natural ecosystems
- Reducing economic losses from crop damage

Early detection is the most powerful tool in plant protection. Accurate diagnosis allows authorities to respond quickly before pests spread.

ROLE IN TRADE & EXPORT SUPPORT

The laboratory supports safe and compliant trade by:

- Confirming pest status of export commodities
- Providing technical verification for certification decisions
- Supporting compliance with international phytosanitary standards
- Assisting inspectors with import clearance determinations

Reliable diagnostics strengthen confidence in the country's agricultural system and international reputation.

BAHFSA
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Protecting plant health is protecting our food, economy, and environment.

The Plant Health Mobile Laboratory remains committed to scientific excellence in safeguarding the nation's agriculture and natural resources.

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