



Oregon State University  
Oregon IPM Center

## Pest Management Training March 18-25

**Location:** Jamaica, Kingston

### Instructors

Silvia I. Rondon, Oregon IPM Center Director. Professor Extension Entomology Specialist.  
Jeremiah Dung, Plant Pathologist, Associate Professor and Director of Center Oregon Agricultural Research and Extension Center  
Surendra Dara, Entomologist, Professor and Director of North Willamette Research and Extension Center.

**Hosts:** Plant Protection Diagnostic Laboratories- Research and Development Division- Ministry of Agriculture and Fisheries.

The Plant Protection Diagnostic Laboratories operates under the Plant Protection Unit of the Ministry of Agriculture and Fisheries (MOAF). Research and diagnostic activities are done at Bodles Research Station in **Old Harbour, St. Catherine, Jamaica**. The Unit comprises three main diagnostic laboratories: **Entomology, Nematology, and Plant Pathology**.

The mandate is to mitigate against crop pests that threaten agricultural production and help to safeguard the nation's food security. Accurate and timely diagnosis is critical to achieving this mandate. The Laboratories not only work with **endemic pests** but also collaborates with other divisions within MOAF such as Plant Quarantine/Produce Inspection (PQ/PI) and Rural Agricultural Division Authority (RADA) among other institutions to mitigate the risk of invasive pest species to Jamaica's agricultural and ornamental subsectors.

Three major programs of the Plant Protection Diagnostic Laboratories are:

- a. **Diagnostic and Advisory Services:** Identification of plant pests and making recommendations based on good agricultural practices for management.
- b. **Pest Surveillance:** Collection and recording of data on pests of concern.
- c. **Pest Research:** Investigation into pest biology and management strategies

**Main Crops:** Pumpkin, Breadfruit, Sorrel, Pepper (Scotch bonnet, WI Red), Yam (Sweet, R/L, Yellow), Sweet potato, Soursop, Sweet sop, Mango, Dasheen, Scallion, Onion, Thyme, Cocoa, Banana, Sugarcane, Guinep, Ginger, Tumeric, Avocado.

**Main Pests: Hemiptera (Heteroptera, Homoptera):** Mealybugs, aphids, stink bugs, whitefly, scale insects, leafhoppers; **Lepidoptera (larvae):** Fall armyworm, beet armyworm, corn earworm,



melon worm etc.; **Coleoptera: Families like;** Curculionidae, Bostricidae,, Cerambycidae, Scolytidae, Chrysomelidae, Scarabaeidae, Buprestidae, Staphylinidae; **Thysanoptera:** Thrips palmi, Frankliniella spp. Other thrips of economic importance: **Diptera:** Fruit fly, leaf miner, fungus gnat.

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### Syllabus

#### Day 1 (March 18-Saturday)

Travel from OR to Jamaica

#### Day 2 (March 19-Sunday)

Meeting local arrangement groups

Setting up the meeting.

#### Day 3 (March 20)

8:00 AM- 8:30 AM Introductions. Brief Survey.

8:30 AM-9:30 AM Introduction to arthropods and basic morphology Rondon

Break

9:45 AM-10:45 AM Taxonomy and use of identification keys Dara

Break

11:00 AM-12:00 PM Orders of insects Rondon

12:00 PM-1:00 PM Lunch break

1:00 PM-3:45 PM Field Trip "How to collect insects in the field"

Break

4:00 PM-5:00 PM Continue order of insects Rondon

#### Day 4 (March 21)

8:30 AM-9:30 AM Biologicals in agriculture Dara



Break

9:45 AM-10:45 AM    How to preserve insects    Rondon-Dara

Break

11:00 AM-12:00 PM    How to create insect collections    Rondon-Dara

12:00 PM-12:30 PM    Lunch break

1:30 PM-3:30 PM    Continue how to create an insect collection    Rondon-Dara

Break

3:45 PM-4:45 PM    Plant diseases 101    Dara

### **Day 5 (March 22)**

8:30 AM-9:30 AM    Introduction to integrated pest management    Rondon-Dara

Break

9:45 AM-12:00 AM    Field trip: "How to recognize diseases in the field"

12:00 PM-1:30 PM    Lunch Break

1:30 PM-2:30 PM    Diseases 101: how to make a collection    Dung

Break

2:45 PM-3:45 PM    Data Collection and Analysis    Dung

Break

4:00 PM-5:00 PM    Molecular Techniques – Part I    Dung

### **Day 6 (March 23)**

8:30 AM-9:30 AM    Phenology models-Part I    Dara

Break

9:45 AM-10:45 AM    Phenology models-Part II    Rondon

Break

11:00 AM-12:00 PM    Action Thresholds    Rondon



12:00 PM-1:30 PM Lunch break

1:30 PM- 2:30 PM Invasive species

Dara

Break

2:45 PM-3:45 PM Epidemiology – Part I

Dung

Break

4:00 PM-5:00 PM Epidemiology – Part II

Dung

### **Day 7 (March 24)**

8:30 AM- 9:30 AM Pesticide information - Part I

Rondon

Break

9:45 AM-10:45 AM Pesticide information – Part II

Dara

Break

11:00 AM-12:00 PM Molecular Techniques – Part II

Dung

12:00 PM-1:30 PM Lunch break

1:30 PM-2:30 PM Molecular Techniques – Part III

Dung

Break

2:45 PM-3:45 PM Outreach and engagement

Dung-Rondon

Break

4:00 PM-5:00 PM Exit survey

### **Day 8 (March 25)**

Return – Jamaica – Oregon