PestSmart eLearning

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Member Countries Regional Consultation: Africa

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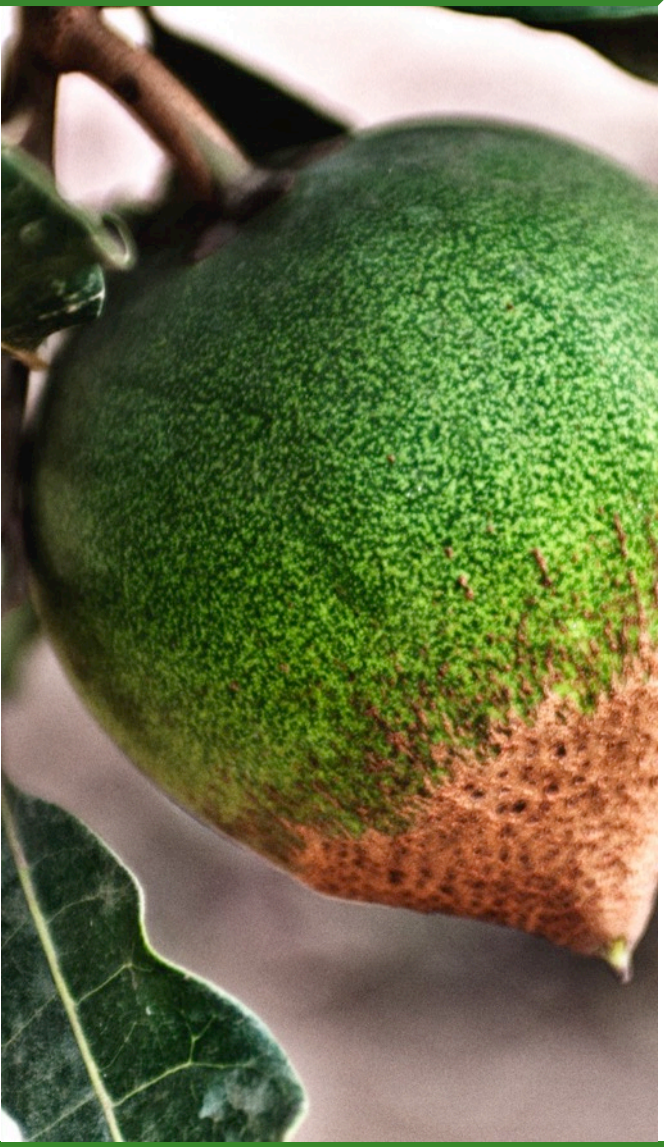
Introduction

PestSmart is an eLearning course teaching plant diagnostics

- Launched in October 2018
- Based on the award winning **Plantwise** programme training material
- The online course consists of **five modules** and includes videos, content and photos, as well as knowledge checks
- In addition, the package contains access to the:
  - Diagnostic Field Guide eBook
  - Plant Diagnostic Simulator App

In detail

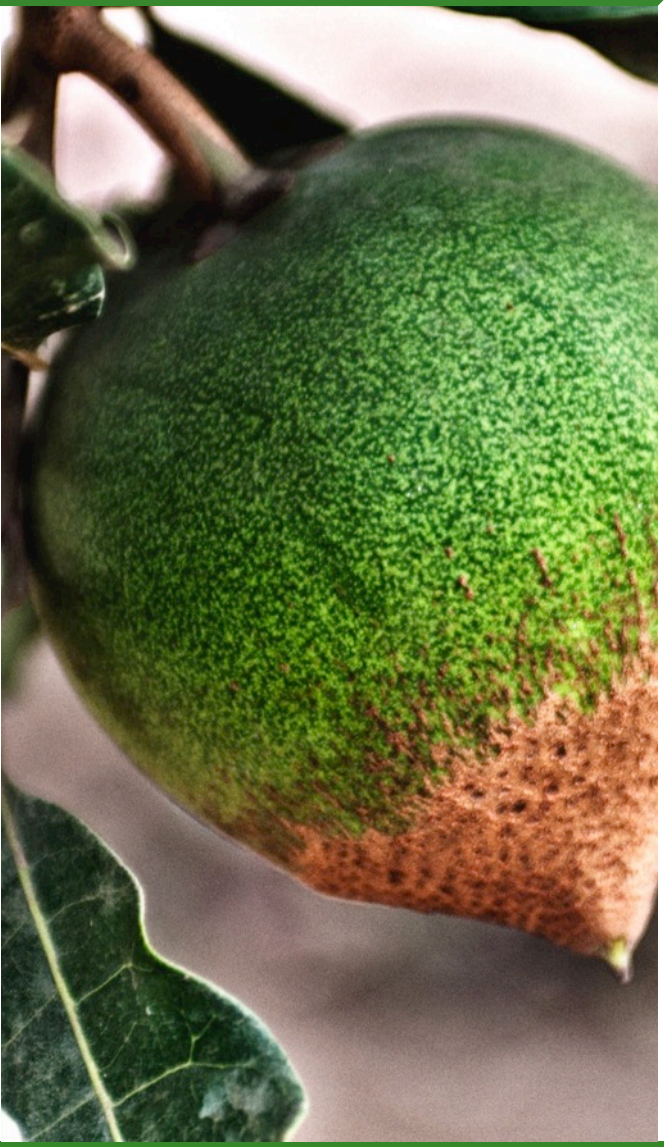


The PestSmart course

- **The five learning modules** cover: symptoms, insects and mites, causes, nutrient deficiencies, and finally diagnostics

- **Diagnostic Field Guide** supports diagnostic decisions by showing relationships between common symptoms and causes on plants

- **Simulator app.** supports and reinforces investigation and diagnosis skills through engaging gameplay and real time feedback to build confidence and competence in plant pest and disease diagnosis



PestSmart in numbers

The course contains:

- Over 15 hours of training, broken up into manageable 30 minute lessons
- More than 1000 high-quality photos - most exclusive to CABI
- Over 400 knowledge check questions
- Five modules and 22 lessons

The accompany e-book contains:

- 100 pages of learning material
- Over 400 images and reference tables

The app contains:

- Four crop simulation and diagnostic scenarios
- Over 20 scenarios

Target audience

Early market reaction has been very positive

- Course can be used both as a teaching aid and accessed by students in own time
- Customers: Universities, Research Institutes, Governments and NGOs across the Globe
- Users: students studying Biology, Crop Science, Horticulture, Plant Health sciences
- Sales already made in Turkey, Jamaica, Malaysia and the UK

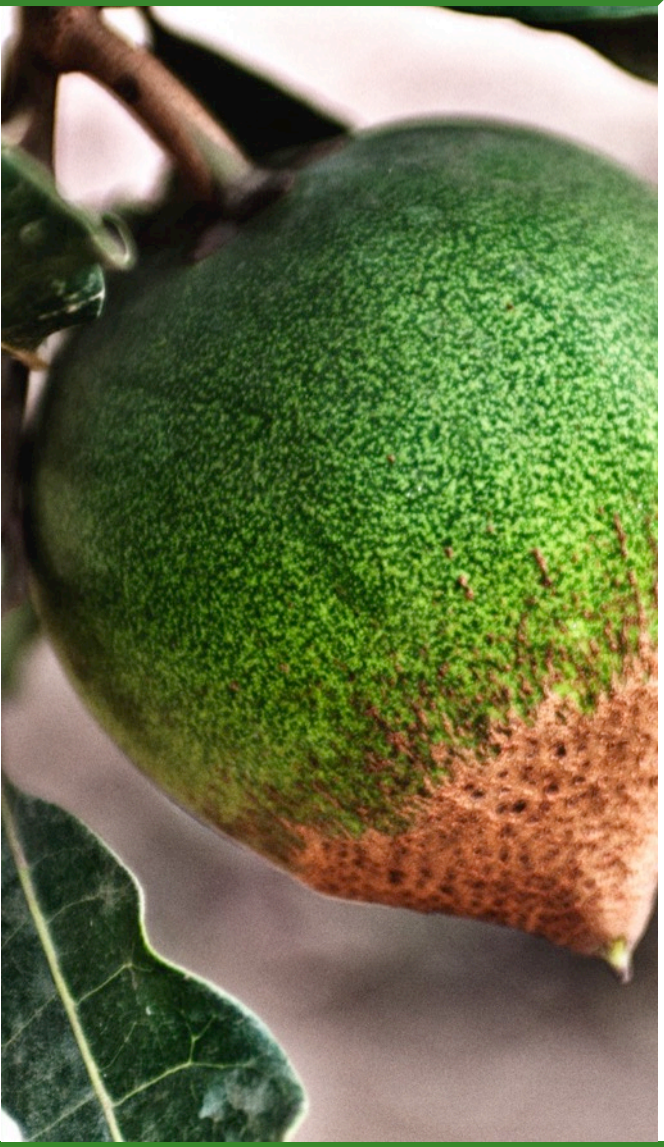
Key Benefits

Users

- A practical course enabling learners to go directly out into the field and apply their learning
- The course is tried and tested – CABI has taught this course face-to-face for many years
- The knowledge checks in the course enable the learner to assess their own progress as they go

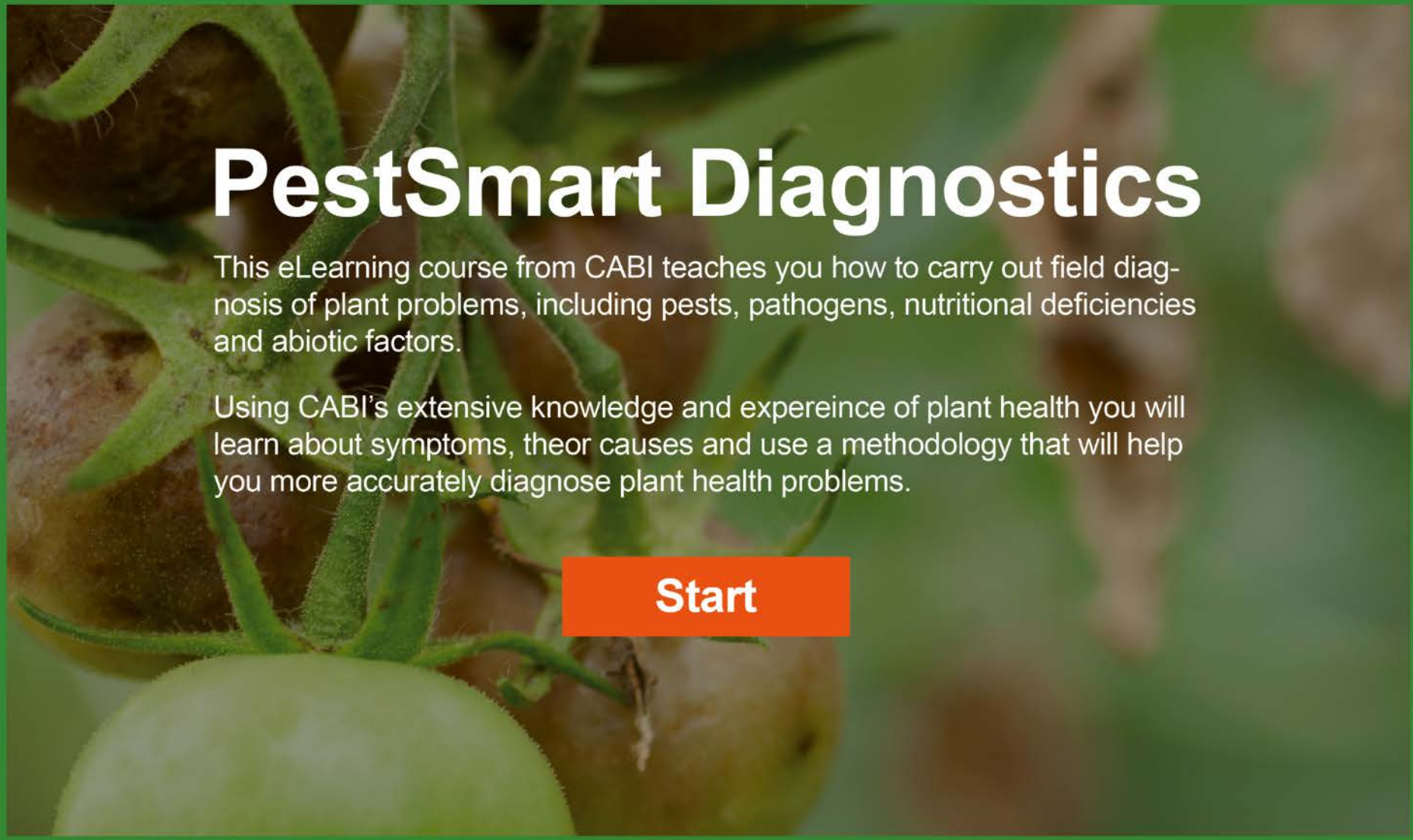
Institutions

- The growing seasons may not fit well with the teaching curriculum. PestSmart can be taught at any time of year and can compliment the time your students spend in the class
- The course extends the teaching specialisms that faculty are able to offer



CABI and eLearning

- A Spanish version of **PestSmart Diagnostics** is planned for 2019
- Initial work being done on a sequel course on **PestSmart Management**
- **Sci-Dev.net,** CABI's independent news network is already developing courses
- Macro analysis of eLearning, the trends and the competitor landscape is currently be explored
- Other topic areas are being considered



PestSmart Diagnostics

This eLearning course from CABI teaches you how to carry out field diagnosis of plant problems, including pests, pathogens, nutritional deficiencies and abiotic factors.

Using CABI's extensive knowledge and expereince of plant health you will learn about symptoms, theor causes and use a methodology that will help you more accurately diagnose plant health problems.

Start

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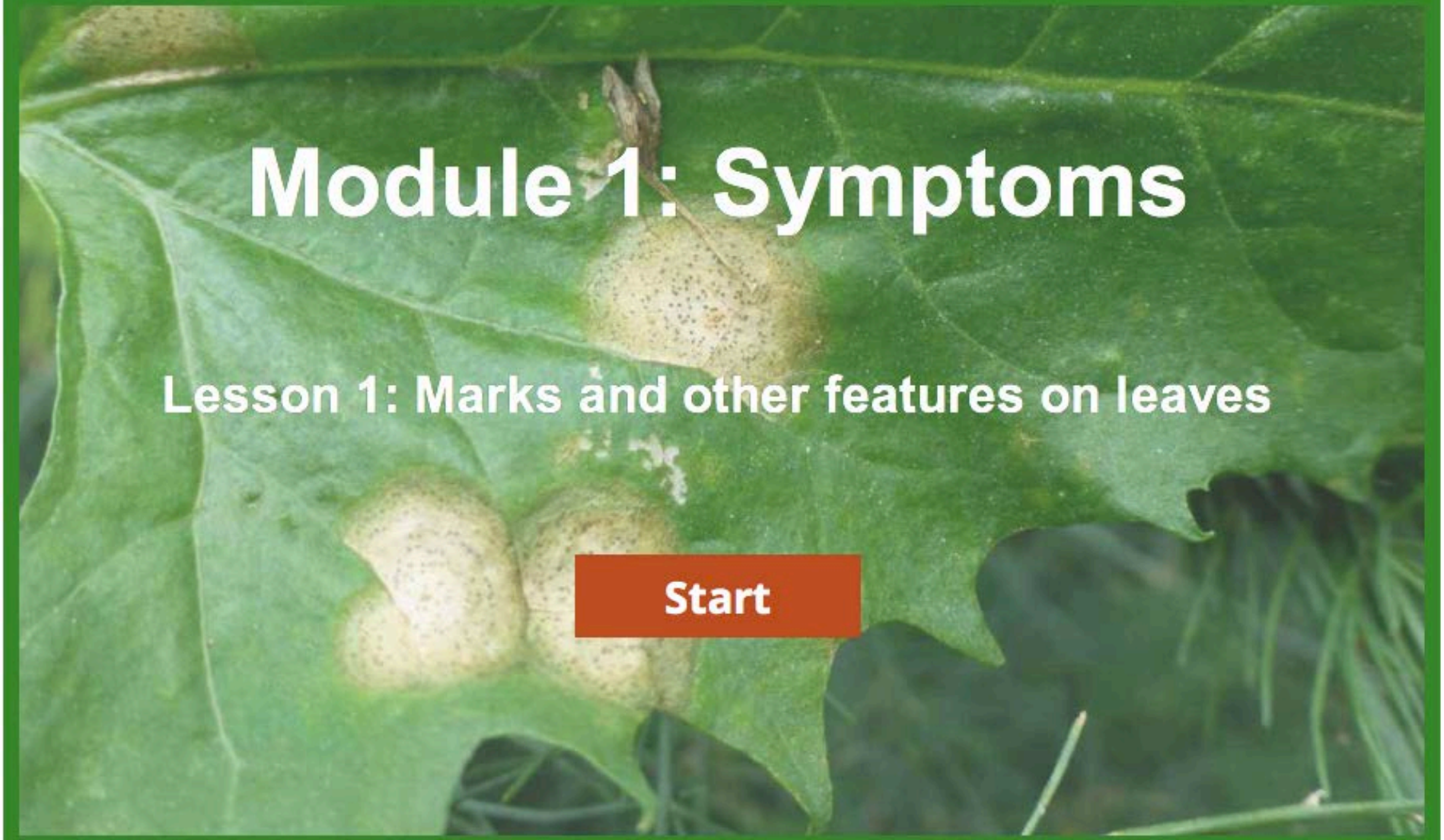

Module 1: Symptoms

Lesson 1: Marks and other features on leaves

Start

Introduction

Welcome to Module 1 Lesson 1: Marks and other features on leaves.

Unlike insect pests, that are generally large enough to be seen, pathogens are usually identified by the symptoms they produce on the host plant. Hence, it is very important to recognize symptoms and to name them correctly. It is also important to know which symptoms generally have common cause (as it very unusual to find a plant with symptoms from only one cause) and to develop the ability to dismiss irrelevant symptoms.

In this lesson, we will look at the marks and other features that can appear on leaves as a result of pathogens. By studying this lesson you will:

- View images of marks on leaves and surface growth on leaves
- Understand the concept of a leaf spot, that it is not just a mark on a leaf
- View various examples of microorganisms growing over leaves and bursting out from within leaves (pustules)
- Learn about the concept of leaf edge scorch

Leaf spot

The term "leaf spot" is a tricky one, as it can mean different things to different people. A spot on a leaf does not necessarily make it a leaf spot. There are many definitions of leaf spots, but in this course we have taken a very general view and consider it to be a brown area on a leaf with a dead area within it. However, even this definition can be challenged − for example should insect chewing be considered as leaf spots? In this course we suggest not.

Select each image to view in more detail.

Symptom: leaf spot on taro.

Close up of a leaf spot. Note the rings of structure within the leaf spot and the dark (almost black) ring just inside the diffuse yellow halo which surrounds the spot.

Knowledge Check: Question 1

Which of these are considered to be a leaf spot?
Choose one, then **submit**.

Correct.

A is correct. This is a classic leaf spot; there is a dead centre and a clear border.

The following answers are not correct:
B: The material (dusty and white) is growing on the surface of the leaves.
C: The dusty orange pustules are bursting out from within the plant.
D: The crusty black growth is over the surface of these leaves.

PestSmart Diagnostic Course

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Module 5 Lesson 1: Easy Diagnosis Exercises

Start

Easy Diagnosis: Question 5

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Choose the most appropriate diagnosis, then select submit.

Select image to view in more detail.

Discrete brown spots of dead areas on the leaf. This symptom is best described as 'leaf spot'.

The leaf spots appear to be spreading from the edge of the leaf. This means the most likely cause of the symptom is:

- Mites
- Fungi
- Bacteria
- Nematodes

Submit

PestSmart Diagnostic Course

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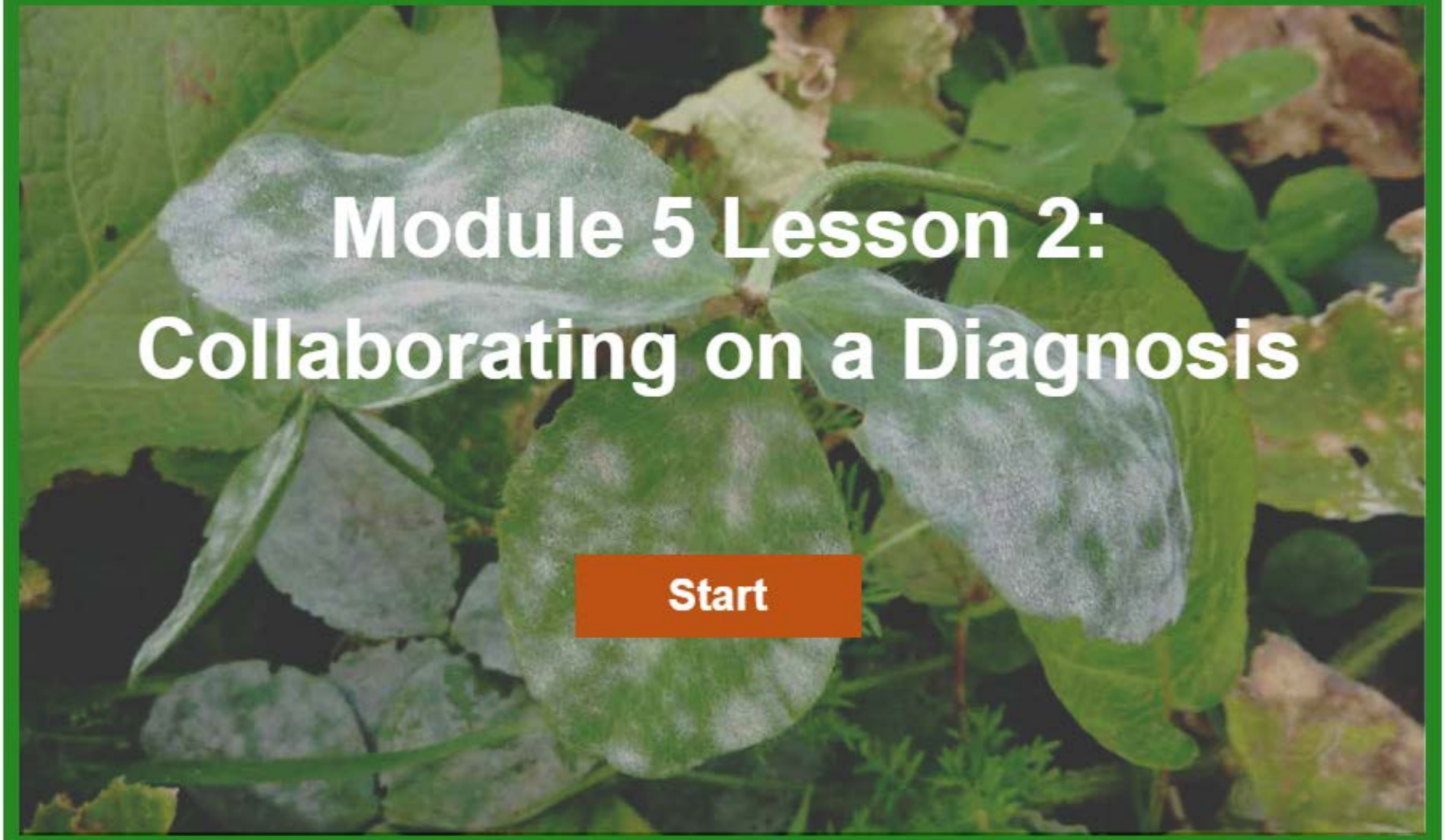

Module 5 Lesson 2: Collaborating on a Diagnosis

Start

Collaborating: Question 1

Choose the most appropriate option, then select submit.

On inspection of this photograph one of your colleagues has provided a diagnosis of 'fungal leaf spot'.

Select the image to view it in more detail.

Which of the statements below do you most agree with?

- Agree with the diagnosis that the cause is definitely fungal
- Agree that the cause is probably fungal
- Whilst it is possible, it is unlikely that the cause is fungal
- The diagnosis is clearly incorrect and fungi could not cause these symptoms

Submit

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