



# Knowledge Management and Digital Development

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MD of Publishing & Head of Product Development

KNOWLEDGE FOR LIFE

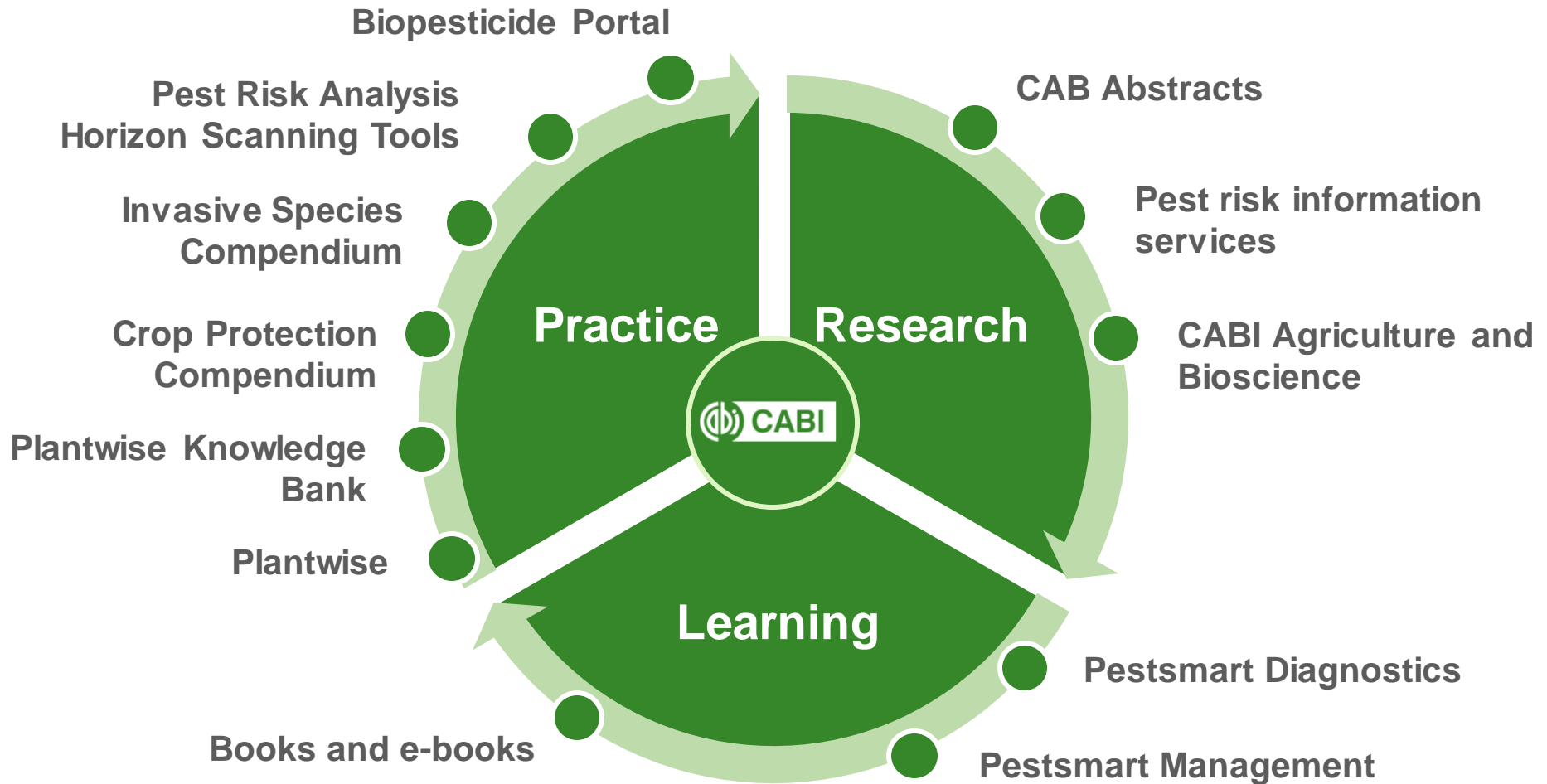




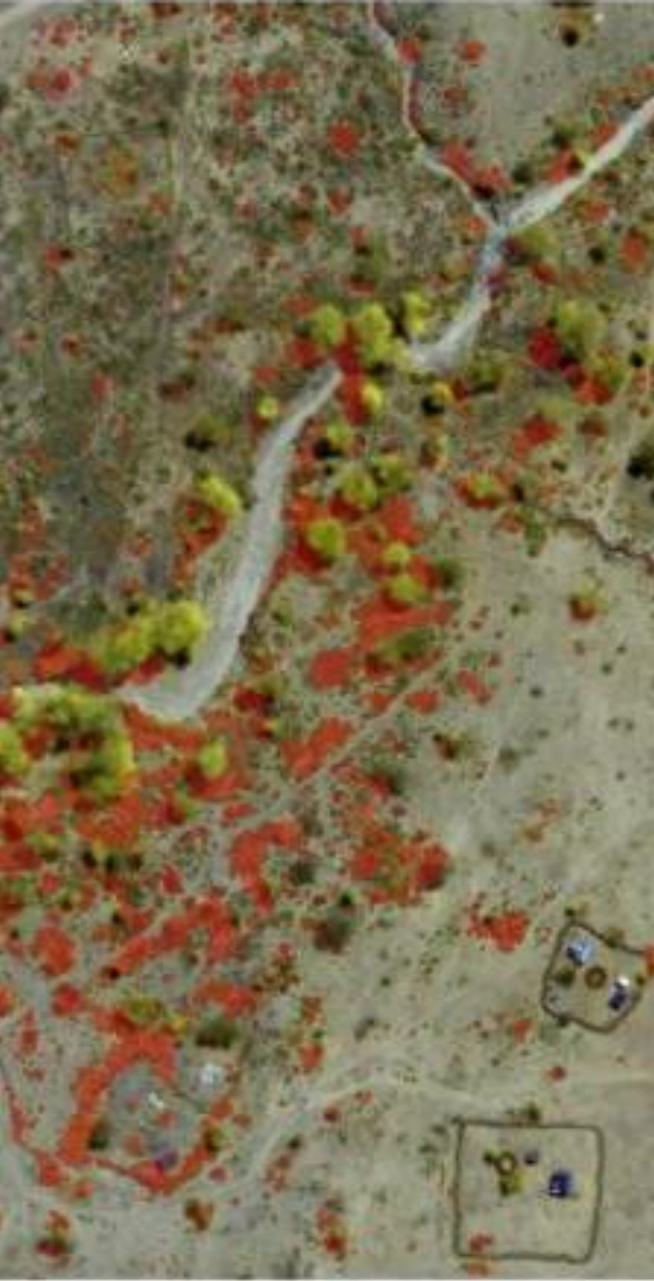
# Publishing

- Our publishing and knowledge management is borne out of a 100-year **history of scientific research**
- CABI supports study, practice and development across the **life sciences** with:
  - CAB Abstracts and Global Health
  - Books and eBooks
  - Compendia
  - E-Learning
  - Online resources
- As a not-for-profit, we **reinvest** our publishing profits into our international development activities

# Overview of Knowledge Business Activities







# PRISE

A five year project (2017-2021), funded by the UK Space Agency's International Partnerships Programme

Combining:

- Earth Observation technology
- Plant health modelling, and
- Real-time field observations

PRISE will improve the livelihoods of smallholder farmers by reducing crop losses caused by pests across five sub-Saharan African countries (Kenya, Ghana, Zambia, Rwanda and Malawi)

[\\designstudio\CABI-Videos\PRISE](#)

# Open access journal: **CABI Agriculture and Bioscience**

- Open Access publication in agriculture is growing at 8.7% ~10,000 articles p.a.
- Funding agencies are pushing for Gold OA in pure OA journals
- Providing free access to research that will drive better decision-making and foster innovation in agriculture

# About the journal

- **Aims:** improve people's lives by publishing research and data to solve global problems in agriculture and the environment
- **Broad scope:** agriculture, animal science, horticulture, crop science, invasive species, plant pathology, pest management, soil and environmental science
- **Interdisciplinary:** social sciences, climate, technology
- **Global editorial board**
- **Fast publication:** 15 days from acceptance



# Pestsmart Diagnostics eLearning



Based on the **Plantwise** training courses

- The online course consists of **5 modules** and includes videos, content and photos, as well as knowledge checks.
- Plus access to the:
  - **Diagnostic Field Guide eBook**
  - **Plant Diagnostic Simulator App**

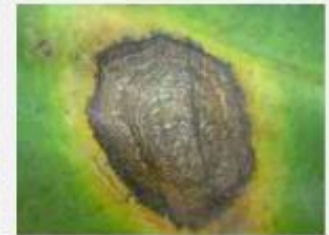


## Leaf spot



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.





## Easy Diagnosis: Question 1



Choose the most appropriate diagnosis, then select submit.



Select image to view in more detail.

Green and yellow pattern on a leaf surface with very clear lines between the two colours. This symptom is best described as a 'mosaic'.

The mosaic on the leaf has very clear boundaries, and the pattern it makes on the leaf is not symmetrical. This combination of symptoms points us to the cause being:

- ☐ Viral
- ☐ Water moulds
- ☐ Insects
- ☐ Nutrient deficiency

Submit





# PestSmart Management

- Provides a grounding in the **principles of pest management**, covering: **Bacteria, Oomycetes, Fungi, Insects & Mites, Viruses** and **Economic** considerations.
- It has embedded **scenario-based training**, demonstrating the effects of any action taken.
- It takes an **IPM approach**, so it excludes the use of the most hazardous chemicals.
- Users will benefit from CABI's practical field experience, case studies, expert tips, photos, practical tools and key reference materials.

# Digital Learning

- The global e-learning marketplace **growing at a rate of 7%** - driven by vast changes in enabling technologies, and the worldwide penetration of internet connectivity and mobile devices.
- **Agriculture as a sector is lagging behind** other industries in terms of education and training.
- There is **significant investment** being put in to address skills gaps by both Government and Corporate.
- **Evidence digital learning helps:** access and reach, the quality of training, learning outcomes, job relevance, certification and scalability.



# About CABI Digital Learning

- **Aim:** help students and professionals in agriculture-related disciplines to translate the latest research and innovations in agriculture and the environment into actionable knowledge and practical applications in the field.
- **Broad scope:** offered as a blended solution in combination with traditional training; integrated into CABI projects as a systematic solution for a Government or Corporate partner.

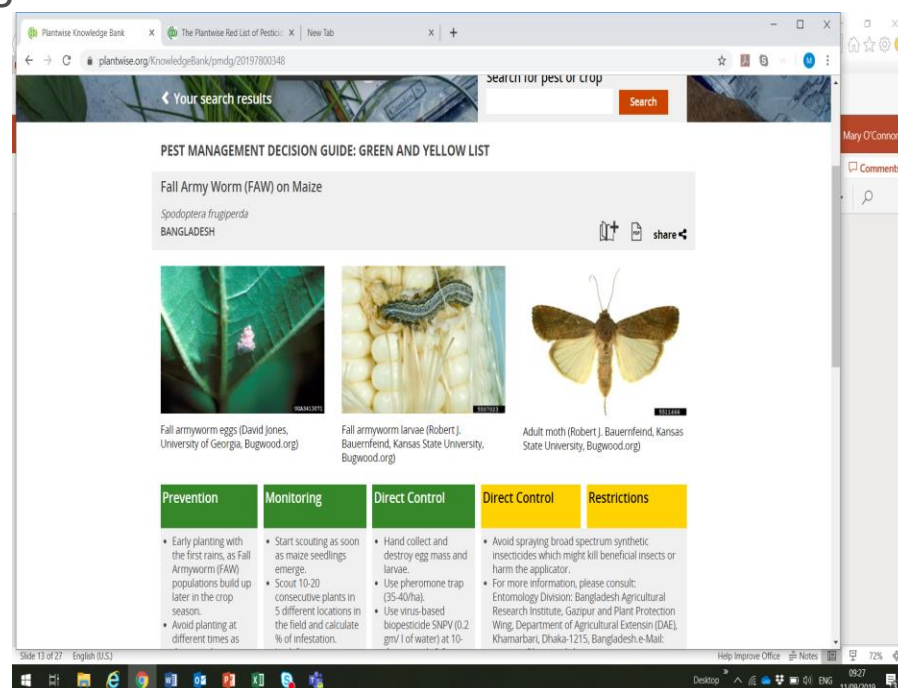
## Where we are at:

- Recruiting for a subject matter expert (Digital Learning Manager), and building a roster of vendors for operationalising.



# Plantwise Knowledge Bank

- an **open access** internet resource covering **2,500 crop pests** in **80 languages**
- over **12,500 factsheets** to provide practical information on pest management
- **thousands of images** to assist with diagnoses
- **diagnostic tool**
- **pest alerts**
- **available offline**
- **Android and iOS**





## Compendia

- **Encyclopedic, mixed-media tools**
- Packed with scientific information, images, maps, diagnostic and decision support tools.

Comprehensive resources covering

- Crop Protection
- Invasive Species
- Forestry
- Animal health and production
- Aquaculture
- Horticulture





# Invasive Species Compendium

**Freely available and open access**

- Global coverage of invasive species of all taxa except pathogens of humans
- **Over 2,400 Full datasheets on invasive species**
- **220,000 Bibliographic records** including nearly 7000 Full Text articles
- Downloadable distribution data



# Decision-support tools: Pest Risk Analysis

**Targeted users:** risk assessors, plant protection officers, quarantine officers

## What is it?

A **decision support tool** to aid the selection of appropriate measures for **reducing risk and facilitating the safe movement of plants and plant products** associated with a **commodity pathway**

## Overview

- Built on Crop Protection Compendia data
- Follows standards set out by the International Plant Protection Convention (IPPC) ISPMs 2 and 11

# Generation of a list of pests associated with a selected commodity pathway

Home > Initiation: By Pathway > Pest list

Session#: P00057

## Import of tomato from South Africa to Zambia

1. Pest lists and risk assessments

2. Pest risk management


3. Pest risk analysis summary

### Categorized pest lists

Pests have been categorized into two lists based on CABI's distribution data and details of crop and commodity types entered at the Initiation stage. Select which list to view below:

- ☒ Pests potentially requiring phytosanitary measures
- ☐ Pests excluded from assessment

Or view both lists by downloading the full pest list

Download full pest list 

### 86 Pests potentially requiring phytosanitary measures

Pests recorded on selected crop, recorded as present in the exporting country and not recorded or recorded as absent in the importing country or present with special regulatory status. Individual risk assessment can be completed on pests included in this table.



# Risk assessment

Four tabs classify the risk assessment questions. Under each tab an editable form containing questions aligned to ISPM 11 is available.

## Risk assessment for: **Aphis fabae** (black bean aphid)

1. Probability of entry
2. Probability of establishment
3. Probability of spread
4. Potential consequences

Probability of entry

Probability of establishment

Probability of spread

Potential consequences

### Probability of entry

1. What is the probability of the pest being associated with the commodity at origin?

Add rating

Not assessed



Add confidence level

Not assessed

*Other questions listed*

### Summary

Add summary rating

Not assessed

Add summary confidence level

Not assessed

Add a summary note

The aphid can also be carried in trade on planting material and some vegetable products.

(2910 characters left)

Save

Save and return to pest list

Save and view summary

# PRA Tool: Dissemination to NPPOs (2019)

- CABI has offered gratis access to the full CPC and PRA Tool to the registered NPPOs of 97 lower and middle income countries
- CABI staff are actively engaging with NPPOs to support their use
- Data enhancement for improving pest lists is part of the project

# Biopesticides - what we have learned from Plantwise

- Nationally registered **biocontrol products are not always included in the extension material** compiled by national experts in the Plantwise programme
- Even if biocontrol products are mentioned in the extension materials at plant clinics, they are **only sometimes recommended to farmers**
- Extension officers **lack of knowledge / awareness about biocontrol products** and their use
- This is important because biopesticides are a less toxic alternative to synthetic pesticides.



- Dougoud, J., Cock, M. J., Edgington, S., & Kuhlmann, U. (2018). A baseline study using Plantwise information to assess the contribution of extension services to the uptake of augmentative biological control in selected low- to lower-middle-income countries. *BioControl*, 63(1), 117-132.
- Publication available open access



# Biopesticide portal

- **To improve uptake of biological control products by extension and farmers**
- **Database to facilitate the identification, sourcing and application of macrobial and microbial products in a given country**
- **Free to use** mobile app and website
- **Users:**
  - Farmers and extension workers
  - Governmental regulators (pesticide registrars)
  - Private sector decision-makers: out-grower schemes, cooperatives, organisations operating voluntary certification schemes
  - Biological control manufacturers





CABI

BIOPESTICIDES PORTAL

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Your one-stop information shop for  
identifying and sourcing biopesticides

Kenya



Crop\*

French Bean

Pest

Thrips

Manufacturer



Search 



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Kenya

French B

Thri

 Refresh

The following 3 products were found  
Select a product to see more information or modify above:

Filter by:

Active ingredient ▼

Manufacturer ▼

User rating ▼

4th filter option ▼



**Bb-Plus**

Active ingredient: *Beauveria bassiana*  
ManufacturerX



**Mycotal**

Active ingredient: : *Lecanicillium muscarium*  
ManufacturerY



**Neemazal**

Active ingredient: *Azadirachtin*  
ManufacturerZ



[Description](#)[Related documents \(3\)](#)[Customer Reviews \(346\)](#)[Product Q&A \(125\)](#)

## Mycotal

[Go to store](#)[Back to product list](#)

Active ingredient	<i>Lecanicillium muscarium</i>
Manufacturer	<a href="#">Koppert</a>
Crops	French beans, maize, roses
Target pests	Thrips, Aphids
Mode of action	Stomach poison
Application info	Apply every 7 days
PPE requirements	Gloves, face shield (icons)
Precautions	Do not apply if crop is in flower
Approved for use in	EU Organic

Rate this product: ☆☆☆☆☆

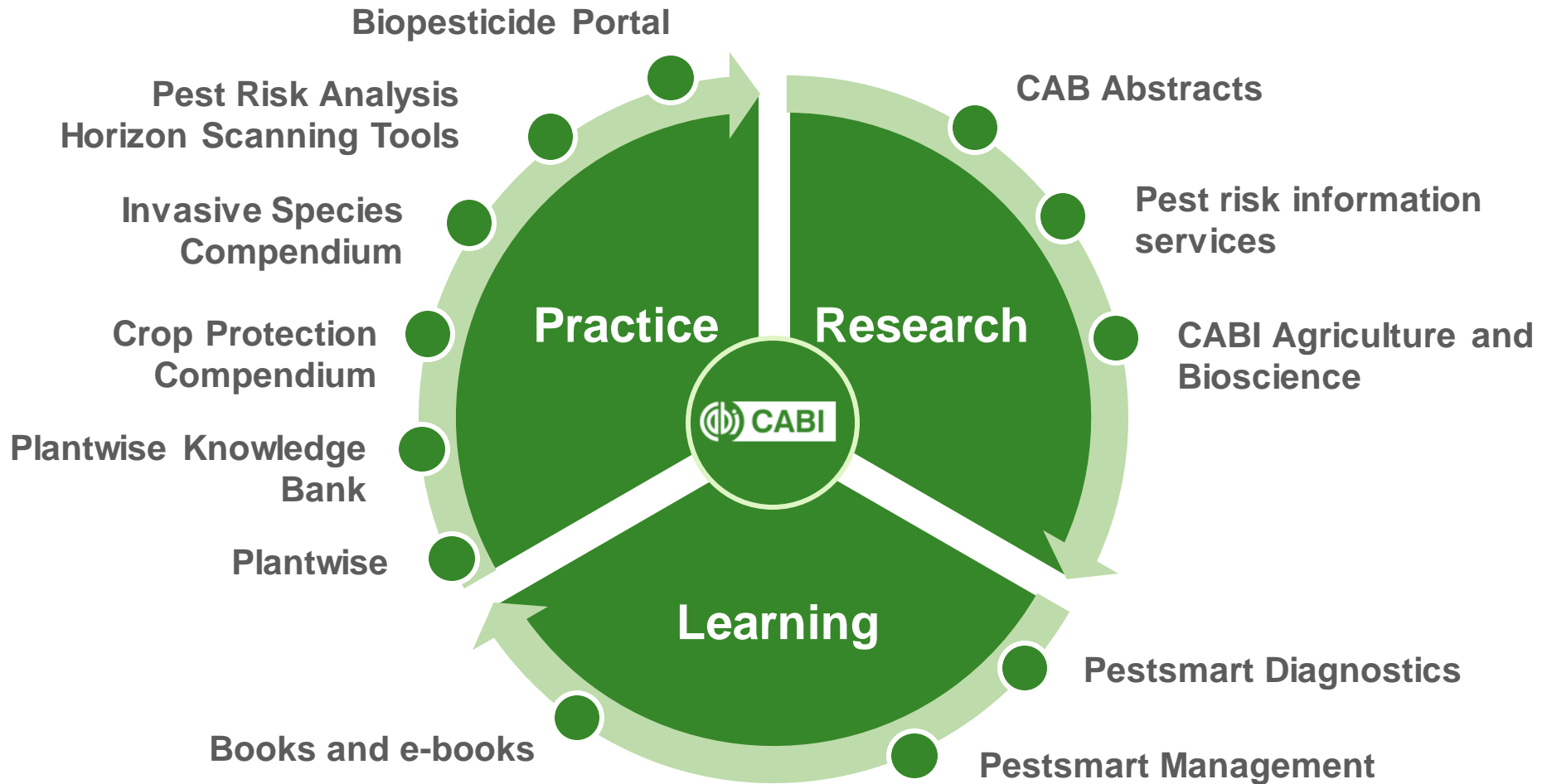
Comment on this product:



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# Overview of Knowledge Business Activities







Plant health and invasive species are key themes for CABI's publishing efforts. We continue to explore new sources and means of curating and validating scientific information and disseminating knowledge - much remains to be done!

CABI is an international intergovernmental organisation, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including:



Ministry of Agriculture and  
Rural Affairs,  
People's Republic of China



Agriculture and  
Agri-Food Canada



Ministry of Foreign Affairs of the  
Netherlands

