what is CABI?

CABI is a not-for-profit science-based development and information organization
Plantwise is a global programme led by CABI to increase food security and improve rural livelihoods by reducing crop losses.
Plantwise Process: 2 way flow

Farmer visits plant clinic

Plant doctor consults Knowledge Bank

Knowledge Bank shares data with partners

Plant doctor provides management advice

Knowledge Bank helps diagnosis

Partners issue pest alerts & best practice guides
Plant doctor Training

Module 1
• Pest Diagnosis

Module 2
• Pest Management recommendations
• Practical, IPM focused

ICT tools to support advisory services
**Prevention**
- Includes cultural, physical, and mechanical practices, and enhancing habitat for natural enemies.
- Also includes the use of resistant or tolerant varieties and seed treatments.

**Yellow Direct Control**
- WHO class II, III and some WHO class U chemicals.
- Available nationally registered pesticides that are not on the Plantwise Pesticide Red List (highly hazardous).

**Direct control**

<table>
<thead>
<tr>
<th>Direct control</th>
<th>Restrictions</th>
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<tbody>
<tr>
<td>Green Direct Control</td>
<td>- WHO class of active ingredient</td>
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<tr>
<td>- Maximum number of applications per season</td>
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<tr>
<td>- Timing of application</td>
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<td>- Chronic or other human health effects</td>
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<td>- Toxicity to non-target organisms</td>
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<tr>
<td>- Environmental considerations</td>
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<td>- PHI and REI</td>
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<tr>
<td>- PPE (if specific to active ingredient)</td>
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</table>

**Step 6 - Restrictions**
- Restrictions are considerations and limitations for use.
- WHO class of active ingredient.
- Maximum number of applications per season.
- Timing of application.
- Chronic or other human health effects.
- Toxicity to non-target organisms.
- Environmental considerations.
- PHI and REI.
- PPE (if specific to active ingredient).

**Monitoring/Scouting**
- Describe what to look for, where to look, when to look, and how often.
- When to consider taking action.

**Damage to leaf, resulting in a “window pane” (Phil Swolterbeck, Kansas State University, Department of Entomology)**
Globally,

- PW reach of 31 million farmers (cumulative) by 2018 mainly through PCs and other complementary extension campaigns
- 3700 PCs established across countries
- 10,000 PDs trained
PW Knowledge Bank for Pest Management Information

- an open access internet resource
- covering 2,500 crop pests in 80 languages
- > 13,600 factsheets to provide practical information on integrated pest management options
- thousands of images to assist with diagnoses
- interactive maps showing pest distribution
- pest alerts to inform of new pest outbreaks
- plant health news from online sources
- available offline and via apps

www.plantwise.org/KnowledgeBank
.. mass dissemination of information on early warning and management of key pests is essential..
Reaching Farmers with FAW information through Extension officers with different ICT tools in Uganda
Key learning by farmers; FAW mass campaigns

Kenya:
Over 80% farmers learned new knowledge
- Cultural practices e.g. intercropping, early planting, handpicking/crushing FAW larvae
- FAW identification, reduced misconceptions of FAW spread

Uganda:
Over 75% farmers learned new knowledge
- Cultural practices e.g. regular monitoring, early planting, rotation with non-host crop
- Safe chemical use practices i.e. timing of application, use of protective clothing,

Key
- **Kenya** - Over 80% farmers learned new knowledge
- **Uganda** - Over 75% farmers learned new knowledge
Farmer Communication channels

Trade-offs between reach and targeting/suitability for complex messaging and adoption

Message complexity
Effective targeting
Local adoption and impact

Numbers reached

Radio
TV
Mobile (SMS, IVR)
Webpages
Apps
Social media
Plant health rally
Farmer cluster meeting
Plant clinic
Extension worker
Farmer to farmer
Farmer field school
On field experience by farmer
Bio Pesticide Portal

- **Bio pesticides Portal** – an online tool that facilitates the identification, sourcing and application of biological control products

Your free one-stop shop for identifying, sourcing and applying biopesticides

Partners

- dudutech
- biobest
- Adermatt Biocontrol
- Koppert
- realIPM
PRISE

- Pest Risk Information Service for sub-Saharan Africa is a 5 year project funded by the UK Space Agency International Partnerships Programme

- Combines earth observation technology, plant health modelling, and real-time field observations,

- Works with 3 UK based and 4 Africa based organizations as partners to create an EWS to forecast the risk of pest outbreaks using space infrastructure, earth observation data and modelling techniques
  - Initially Kenya, Ghana, Zambia (+ Malawi, Rwanda + 1 other) but later scalable to other countries/regions
First continuous greenhouse gas measurements and validation of satellite derived land surface temperature estimates in East African drylands

Posted on October 23, 2018 by LUTZ MERBOLD

by Thomas Dowling (King’s College London) and Lutz Merbold (Mazingira Centre, ILRI)
Partners

Implementation partners:

CABI
ASSIMILA

National partners:

Ministry of Food & Agriculture, Republic of Ghana

Republic of Kenya
Ministry of Agriculture, Livestock and Fisheries

Zambia Agriculture Research Institute

Knowledge for Life
Capacity Building on IPM and ICM Champions; Extension officers

- Collaboration between Plantwise, University of Neuchâtel, Switzerland and the Jura Canton
- Inaugural class in March 2015
- 60 strong IPM ICM champions trained (12 per year)
- Opportunity for more …

“Masters of Advanced Studies in Integrated Crop Management exposed me to practical new models and knowledge in Agriculture production. I am applying these new skills and knowledge on ICM and IPM in my interaction with farmers and extension officers in Machakos County,” Eunice Sakong, County Extension Training officer and Business Officer.

<table>
<thead>
<tr>
<th>Year</th>
<th>Gender f:m</th>
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<tbody>
<tr>
<td>2015</td>
<td>3:9</td>
</tr>
<tr>
<td>2016</td>
<td>2:10</td>
</tr>
<tr>
<td>2017</td>
<td>6:6</td>
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<td>2018</td>
<td>6:6</td>
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<tr>
<td>2019</td>
<td>6:6</td>
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Partnerships

Sustainability of IPM strategies relies on a strengthened national plant health systems.

Linking stakeholders, such as:

- national/local governments
- extension services
- diagnostic services
- research institutions
- agro-input suppliers
- universities/colleges
- NGOs
- farmers and community-based organisations
CABI is working and is willing to continue working with partners to deliver sustainable approaches and solutions for pest management in Africa and beyond.
CABI is an international intergovernmental organisation, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including: