

A close-up photograph of a corn cob. The green husks are partially peeled back, revealing the yellowish-green kernels. A small, dark, segmented insect, possibly a caterpillar or a small beetle, is visible on one of the kernels. The background is blurred, showing more of the corn plant.

# Invasive Species

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**Member Countries Regional Consultation: Asia-Pacific**  
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# CABI and Invasive Species

- A focus since CABI originated >100 years ago
- Member countries repeatedly identify Invasive Species as a priority
- CABI's strength: biological control, following due diligence in regard to Nagoya protocol
- Collaborative applied research on Invasive Species prevention and management core to CABI's Science Strategy
- Expertise and resources in knowledge management and dissemination: [www.cabi.org/isc](http://www.cabi.org/isc)
- Convening capability facilitates cooperation and collaboration amongst stakeholders
- Member of the Inter-Agency Liaison Group on Invasive Species ([www.cbd.int/invasive/lg](http://www.cbd.int/invasive/lg))
- New "Action on Invasives" programme aims to protect and improve the livelihoods of over 50 million poor rural households



# SDG 15.8 – Invasive Alien Species

15 LIFE  
ON LAND



## Goal:

By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems, and control or eradicate the priority species

## Indicator:

Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species





# CABI's goals and activities in Invasive Species

1. Increased awareness of the risks and costs of Invasive Species
  2. Enhanced capacities of countries to respond to the threat of Invasive Species
  3. Strengthened policies and plans for Invasive Species management
  4. Effective prevention and management of Invasive Species
- Action on Invasives (Aoi) programme contributes to all goals
  - Specific projects contribute to one or more goals



# 1. Increased awareness of the risks and costs of Invasive Species

- Develop, implement and evaluate communication campaigns
- Develop and apply methods for assessing and communicating the risks and costs
- Strengthen areas of
  - Monitoring and evaluation
  - Gender and diversity
  - Management and analysis of big data sets

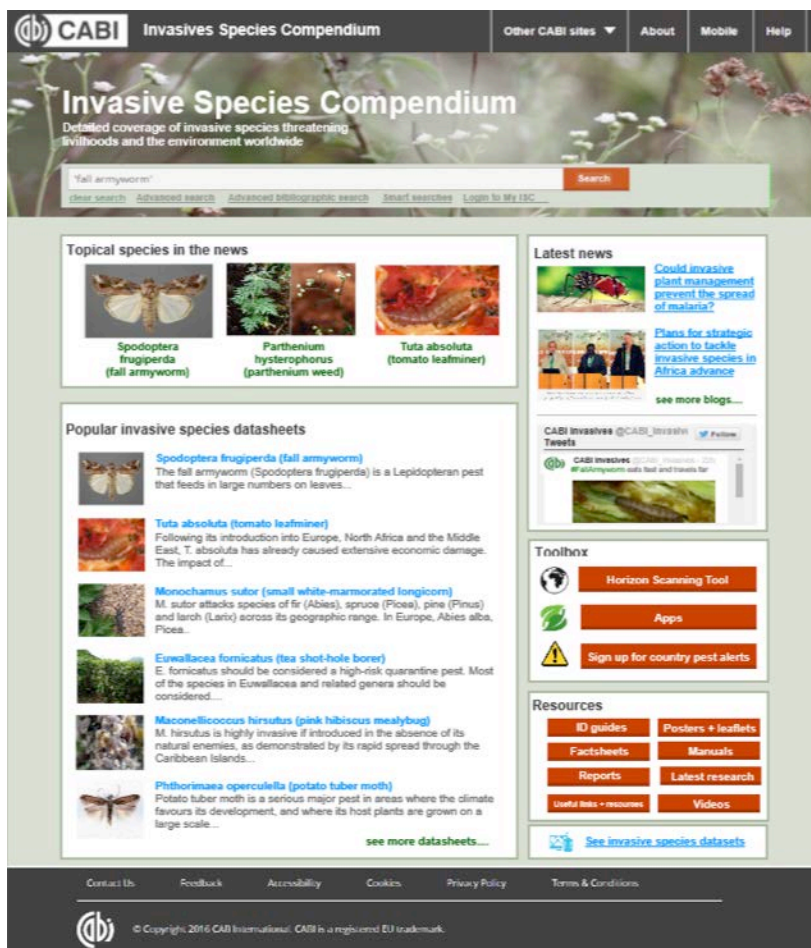




## **2. Enhanced capacities of countries to respond to the threat of Invasive Species**

- Facilitate national and regional cross-sectoral cooperation, building on Plantwise achievements
- Further develop knowledge and information resources and tools to support decision-making
- Provide training to national agricultural and environment organisations

# Enhanced Invasive Species Compendium



[www.cabi.org/isc](http://www.cabi.org/isc)

## Enhancements

- Species “portals”
- Improved mapping
- Toolbox
  - Horizon scanning
  - Pest risk analysis (PRA)
- Resources
  - Diagnostics
  - Communication materials
  - Data
- Abstracts
- News

# Horizon Scanning Tool (beta)

Prioritizing invasive species threats

The Horizon Scanning Tool is a decision support aid that helps you identify and categorize species that might enter a particular country from another country.

Using the Horizon Scanning Tool



Refine by: ?	Results: 2382 species found				Current search:
Source countries	Show: 25 ▼ Page: 1 of 96 ◀ ▶	Downloaded as CSV			Other countries
Pathways	Preferred scientific name	International common name	Taxonomic group	View datasheet	Japan ✖ China ✖ Korea, DPR ✖
Plant hosts	Abrus precatorius	rosary pea	Plants	CPC (Full) ISC (Full)	Korea, Republic of ✖
Plant parts in trade	Abutilon theophrasti	velvet leaf	Plants	CPC (Full) ISC (Full)	Malaysia ✖ Vietnam ✖ Laos ✖
Habitats	Acacia confusa		Plants	CPC (Full) ISC (Full) ?	Papua New Guinea ✖
Taxonomic group	Acalolepta cervina	coffee longhorn	Invertebrates	CPC (Basic) ?	Singapore ✖ Indonesia ✖
	Acanthophilus helianthi	fly, capsule	Invertebrates	CPC (Full)	Pathways
	Acanthocoris scaber		Invertebrates	CPC (Basic) ?	Container or bulk ✖
	Acanthocoris scabrator	squash bug	Invertebrates	CPC (Full) ?	Containers and packaging - non-wood ✖
	Acanthocoris sordidus	winter cherry bug	Invertebrates	CPC (Basic) ?	Containers and packaging - wood ✖
	Acantholyda parki		Invertebrates	CPC (Basic) ?	Debris and waste associated with human activities ✖
	Acaphylla steinwardeni		Invertebrates	CPC (Basic) ?	Floating vegetation and debris ✖
	Acarus siro	flour mite	Invertebrates	CPC (Full) ?	Hitchhikers in or on plane ✖
	Araia raiana	rainforest mite	Invertebrates	CPC (Full)	Hitchhikers on land vehicles ✖
					Hitchhikers on ship or boat ✖
					Machinery and equipment ✖
					Mail ✖
					Mulch, straw, baskets and sod ✖
					People and their luggage/equipment ✖
					Ship bilge water ✖
					Ship ballast water and sediment ✖
					Ship hull fouling ✖
					Soil, sand, gravel ✖
					Involve datasheets with us

**Targeted users:** risk assessors, plant protection officers, quarantine officers, protected area managers and researchers

**Potential threats can be prioritised by:**

- Habitats
- Pathways
- Plant hosts
- Plant parts in trade
- Taxonomic group

**Results output** as a list with links to datasheets in the ISC and CPC. Exportable as .csv for analysis

<https://www.cabi.org/horizonsscanningtool>

Supported by USDA





### 3. Strengthened policies and plans for Invasive Species management

- Assist countries to develop and implement national Invasive Species strategies and action plans (NISSAPs), ecosystem management plans and biosecurity plans
- Assist countries to strengthen regulatory frameworks for prevention and management of Invasive Species



# Australia-Africa Plant Biosecurity Partnership (AAPBP)

- Funded by ACIAR, led by PBCRC and CABI
- Focus on capacity development
  - 10 countries in E & S Africa
  - 15 Senior Fellows (NPPOs)
  - 30 Associates (NPPOs, private sector)
  - Six week study tour in Australia
  - Series of four training workshops
  - Mentoring, building networks

## Impact pathway

Activities	Outputs	Outcomes	Impacts
Workshops Training courses Mentoring	More knowledge Improved skills More “Capacity”	Using knowledge, skills, capacity New measures Better P-P cooperation	More trade Fewer interceptions More productivity “Development”



## 4. Effective prevention and management of Invasive Species

- Support national and regional prioritisation of risks and threats from Invasive Species in agriculture and the environment
- Undertake collaborative research on improved methods for the prevention and management of prioritised species
- Provide the information needed by stakeholders (particularly the men and women most impacted) to take action against Invasive Species
- Promote the implementation of biological control and other low-risk methods for integrated management of Invasive Species





## Example: Biological control of Brown Marmorated Stink Bug

- Native to East Asia, it has become a global invasive pest since its introduction to the United States (1996), Switzerland (2004), Canada (2010), France (2013), Germany (2012), Italy (2013), Hungary and Georgia (2014), and Chile (2017)
- >120 host plants including economically-important crops and ornamentals, such as kiwifruit, apple, etc
- Caused US\$37 million in losses in apple in the Mid-Atlantic region, with some growers losing over 80% of their crop
- Biological control research conducted by CABI and the Joint Lab team revealed the dominant egg parasitoids in northern China, its host range and potential application in the field to control BMSB

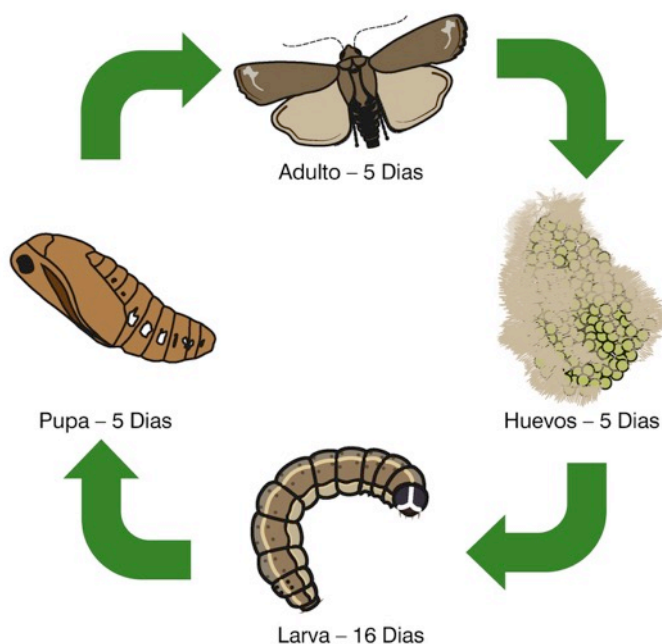




# Potential for biological control of fall armyworm (FAW) in Africa

- FAW originates in South/Central America and has become a major invasive species in Africa and has now also reached Asia (India)
- Crop losses in key crops, especially maize
- Search for classical biological control agents in South America have started for eventual export to Africa
- Classical biocontrol approach relies on free exchange of genetic resources
- Experience on the management of these species from LAC
- **South – South Cooperation**

Cogollero *Spodoptera frugiperda*

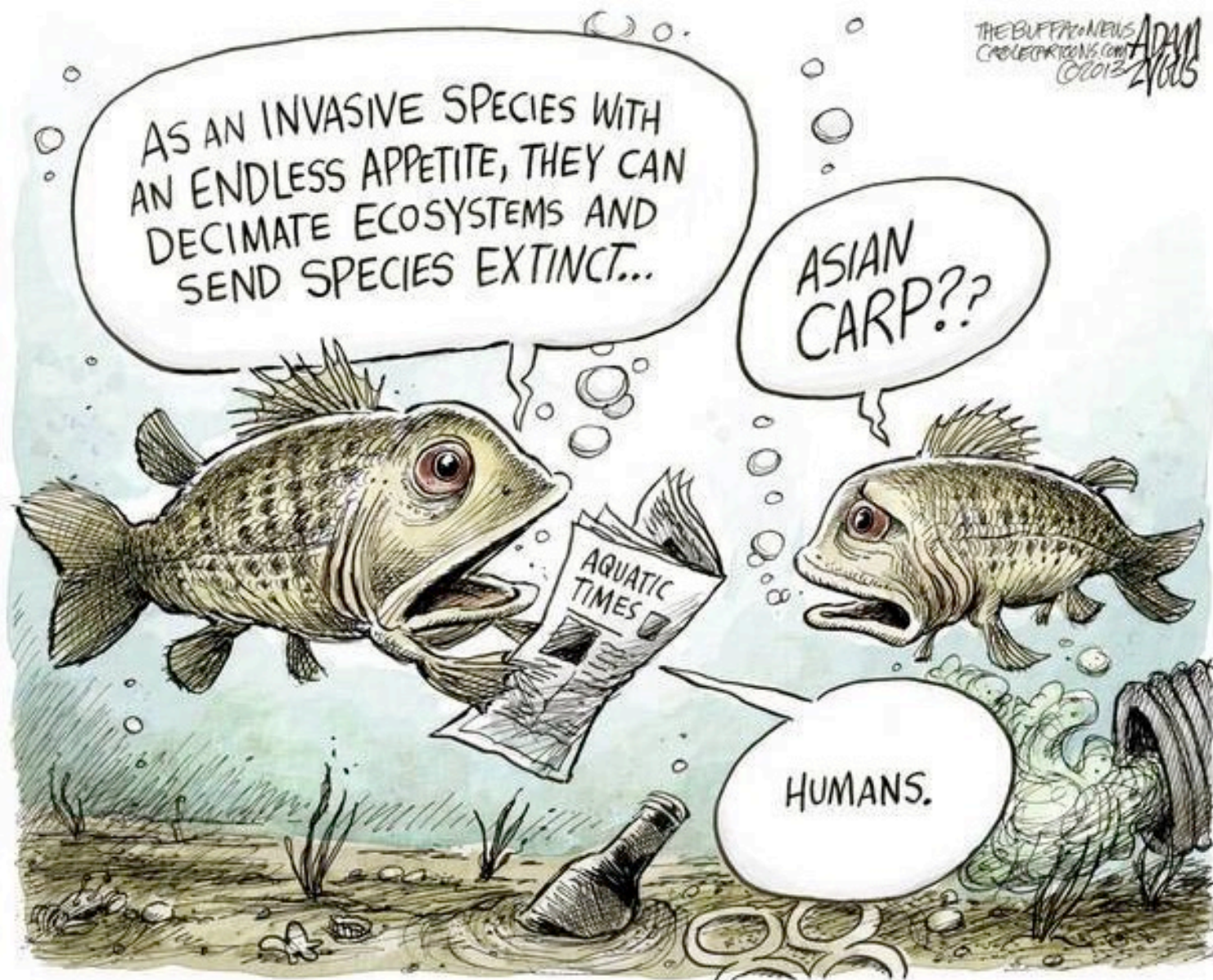


Review Article

REVISÃO DA BIOLOGIA, OCORRÊNCIA E CONTROLE DE *Spodoptera frugiperda* (LEPIDOPTERA, NOCTUIDAE) EM MILHO NO BRASIL

BIOLOGY REVIEW, OCCURRENCE AND CONTROL OF *Spodoptera frugiperda* (LEPIDOPTERA, NOCTUIDAE) IN CORN IN BRAZIL







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tak  
thank you

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