

**Empowering advisory services and growers
by providing free access to innovative digital decision
support tools**

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G20 MACS - Saudi Arabia, 18 February 2020

CABI

- **not-for-profit** intergovernmental organisation, established by a United Nations-level agreement
- owned by **49 member countries**, which have an equal role in the organisation's governance, policies and strategic direction
- **over 480 staff worldwide**
- addresses issues of global concern such as **food security** and **food safety**, through research and international development cooperation
- major publisher of scientific information – books, e-books, full text electronic resources, compendia and online information resources

Invasive Species Compendium – Free Access

The screenshot shows the CABI Invasive Species Compendium website. At the top, there is a navigation bar with the CABI logo, the title 'Invasives Species Compendium', and links for 'Other CABI sites', 'About', 'Mobile', and 'Help'. Below this is a large banner with the title 'Invasive Species Compendium' and a subtitle 'Detailed coverage of invasive species threatening livelihoods and the environment worldwide'. A search bar is present with a 'Search' button and links for 'clear search', 'Advanced search', 'Advanced bibliographic search', 'Smart searches', and 'Login to My ISC'. The main content area is divided into several sections: 'Topical species in the news' featuring images and names of *Spodoptera frugiperda* (fall armyworm), *Parthenium hysterophorus* (parthenium weed), and *Tuta absoluta* (tomato leafminer); 'Popular invasive species datasheets' listing *Spodoptera frugiperda*, *Tuta absoluta*, *Monochamus sutor*, *Eurwallacea fomicatus*, *Maconellicoccus hirsutus*, and *Phthorimaea operculella*; 'Latest news' with a link to 'Could invasive plant management prevent the spread of malaria?'; a Twitter feed for @CABI_Invasive; a 'Toolbox' with links to 'Horizon Scanning Tool', 'Apps', and 'Sign up for country pest alerts'; and a 'Resources' section with links to 'ID guides', 'Posters + leaflets', 'Factsheets', 'Manuals', 'Reports', 'Latest research', 'Useful links + resources', and 'Videos'. At the bottom, there is a footer with 'Contact Us', 'Feedback', 'Accessibility', 'Cookies', 'Privacy Policy', and 'Terms & Conditions', along with the CABI logo and copyright information: '© Copyright 2016 CABI International. CABI is a registered EU trademark.'

www.cabi.org/isc

Content:

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

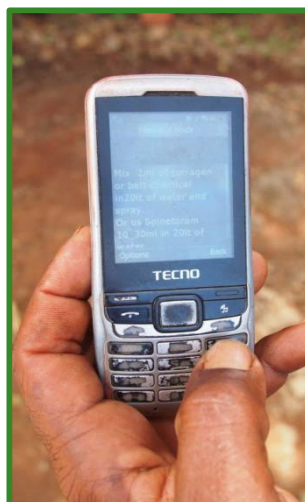
**Around 2.1 million hits annually –
268,020 in one month (November 2019)**

Free access digital decision support tools (1)

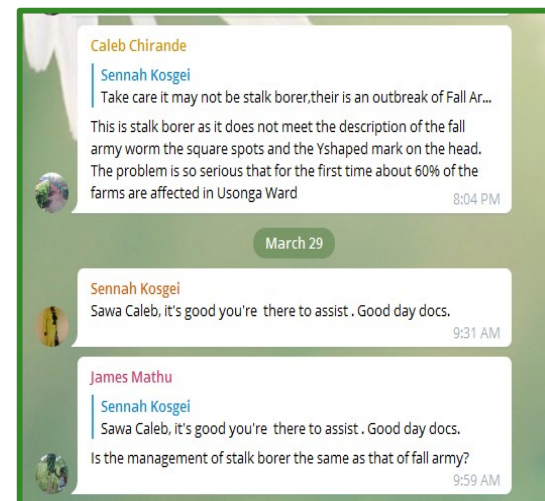
Web portals and applications



Mobile services



Communication apps



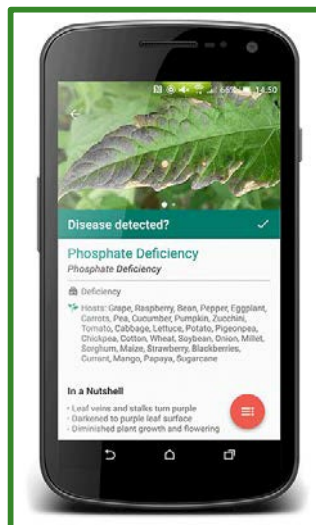
...to enable extension organisations to store, share and access country-specific information and tools

...to provide targeted SMS services across the whole agricultural supply chain

...to exchange knowledge, raise awareness and improve linkages between stakeholders

Free access digital decision support tools (2)

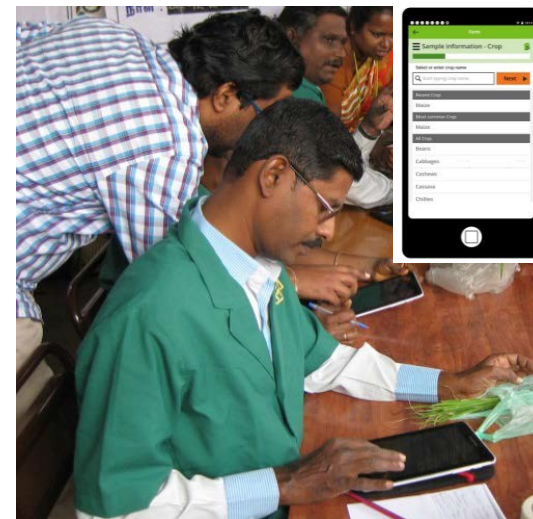
Image recognition
and crop advisory
apps



Educational apps
(serious games)



Data collection tools



...to improve
diagnostic services
and management
advice

...to make learning
fun, even in a
professional
environment

...to increase data
volume and speed of
data delivery

Other digital opportunities for farmers

Digitised financial services



... to enable farmers to invest in improvements in farm productivity, mitigate risk and improve resilience

ICT-enabled market linkages



... to translate productivity gains into increased farmer incomes

Self-service farm management solutions



... to boost farm profitability and empower farmers to transition from smallholders to small businesses

Source: Transforming Rural Advisory Services in a Digital World, Agriculture Development Programme, Bill & Melinda Gates Foundation, 2017

New opportunities for the development of decision support tools

- However, through our Plantwise programme activities across 34 countries we have identified that adequate **free access** tools are lacking in the area of biological-based pest management





Why is it important to tackle this gap?

- Chemical pesticides can be valuable tools for reducing crop losses to pests and diseases
- Consequently pesticide use is widespread among farmers in many countries
- However, chemical pesticides also pose a significant threat to human and environmental health
- Pests can also become resistant, thereby rendering certain pesticides ineffective
- Biological control and biopesticides offer a safer and more sustainable alternative to chemical pesticides
- However, their uptake by farmers is slower than it should be as a recent baseline study demonstrated

What did we learn from this baseline study?

- Results revealed that nationally registered biocontrol and biopesticide products are not always included in the extension material compiled by national experts in CABI's led Plantwise programme; India and Nepal are better in this respect
- Even if biocontrol and biopesticide products are mentioned in the extension material used at the plant clinics, they are only sometimes (or never – in Ghana and Zambia) recommended to the small-holder farmers by the advisory services
- Advisory service providers have a lack of knowledge / awareness about biocontrol products and their use



- 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



Barriers to growth of biological control market

«*Accessability, availability & affordability*»

- More labour-intensive and expensive application techniques
- Lack of compatibility with certain chemical products
- Complex regulatory approval pathways
- Lack of awareness and familiarity with these products
- Not widely stocked by distributors in developing countries
- Specific storage conditions and short shelf-life for certain products
- Biocontrol and biopesicide products are often more expensive

Market by region



67%

NAm & Euro Share of
Global Market



17.8%-18%

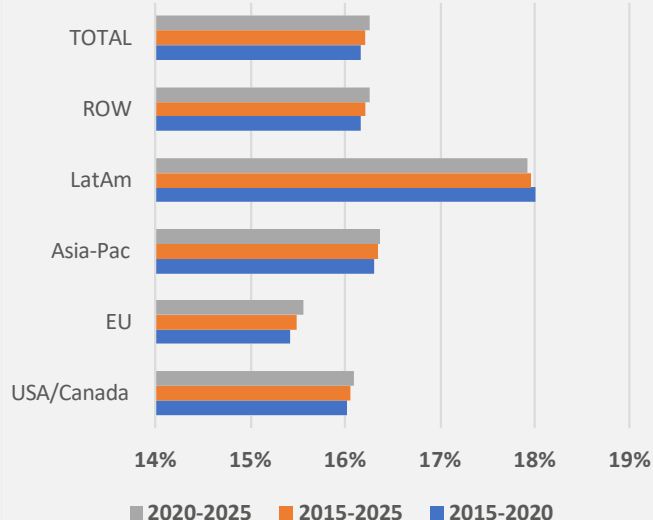
CAGR LatAm

Regional

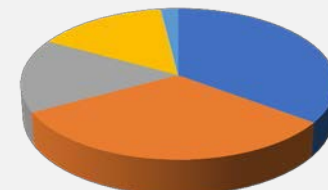
- NorAm and EU make up 2/3 of market
- EU growth could accelerate if regulatory systems revised to give more preference to biopesticides
- Latin America is growing fastest and will overtake Asia as third largest region by 2025

Source: Dunham Trimmer LLC

Global Biocontrol Mkt--Regional CAGR

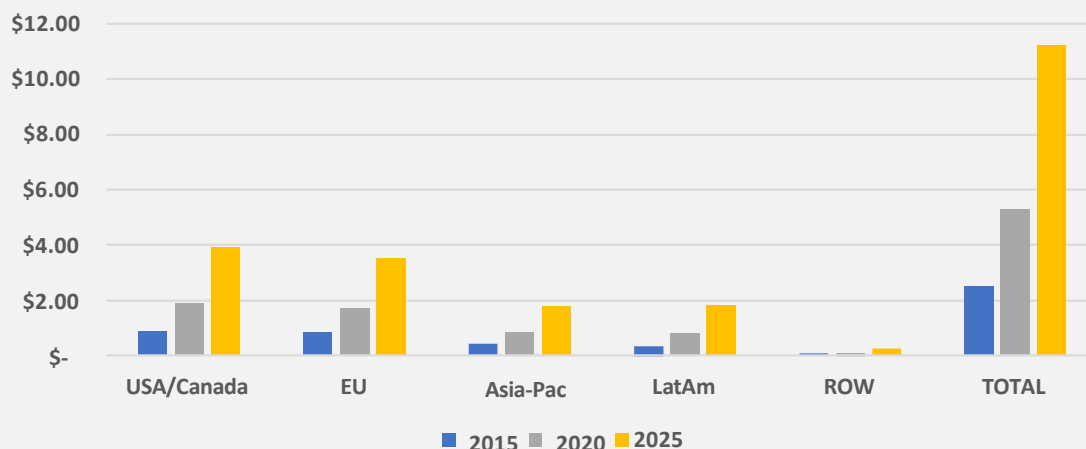


2020 Global Biocontrol
Regional Mkt Share



■ N.Am ■ EU
■ Asia-Pac ■ LatAm
■ ROW

Global Biocontrol Mkt-Regional Values-Bn usd





Biological control companies

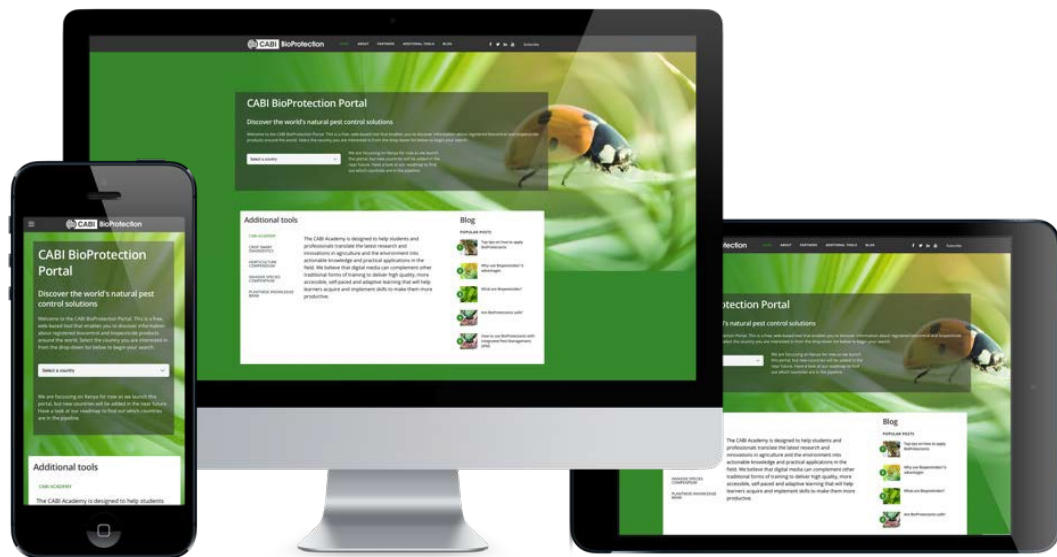
- There are in the range of 250 biological control companies across the world (excl. India and China – where not all companies can be recognised)
- 98% companies are privately held, however, there is a trend for multinationals to acquire smaller companies with specialised knowledge
- ~5 biocontrol companies have > \$100 MnAR
- 75% of the biocontrol companies have <\$10 Mn AR
- Certain companies have ‘best seller products’ that have had significant impact on their market growth



How can we facilitate improved uptake of biological control and biopesticide products by growers and advisors?

- Create a **free to use website** for use on all devices to **facilitate the identification, sourcing and application of biocontrol and biopesticide products** by growers and advisory service providers

CABI BioProtection Portal



- Users enter their country and crop-pestquery
- The search generates a list of biocontrol and biopesticide products, together with their active ingredient and manufacturer, that are registered for the specified crop-pest problem in the selected country. This information is sourced directly from national governments' lists of registered plant protection products
- Further guidance on correct storage and application is also provided for products that belong to partner biocontrol manufacturers, together with links to product labels and distributor details



Who is it for (end-users) and what are the specific benefits?

- **Farmers and advisors** who need current and reliable information, on-demand, regarding the availability and correct use of effective, lower toxicity products that are registered locally and meet market/export standards
- **Biocontrol manufacturers** looking to promote wider uptake of their products and identify new markets
- **National authorities responsible for regulation/registration of plant protection products** who require information on registered products in neighbouring countries



Sustainability model

- *Partner Membership* – partners (e.g. private sector biocontrol manufacturers, distributors, etc.) make a three-year commitment to developing the portal and pay fixed annual partnership fees built around their annual biocontrol revenues
- *Sponsorship* – sponsors (e.g. private sector stakeholders) may contribute through a tiered annual sponsorship towards the development and maintenance of the portal
- *Donor funding* – CABI is seeking contributions from governmental agencies and foundations to develop and maintain the portal according to their priorities, focus countries and funding schemes.



In partnership with the biocontrol manufacturers

- Partners are given the opportunity to upload information and related documents about their registered products to help users source and correctly apply the products
- Links are also provided to the partner websites, product-specific websites and labels
- Partners also have the unique opportunity to purchase detailed, geo- and company-specific website and app analytic reports, which offer great advantages for market research and analysis
- Information displayed for products of non-partners includes only the information provided on the national pesticide register

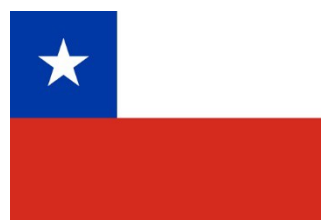
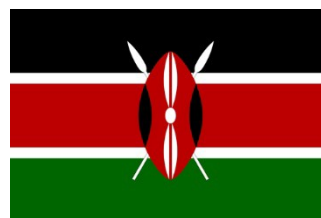


Post-launch assessments

- Assessment of perception, uptake and use by growers, advisors and the industry
- Identification of new features and functionality to match user needs more closely
- Gathering of user analytics to provide evidence to the industry of the portal's widespread uptake and source of market information so as to convince other manufacturers to invest

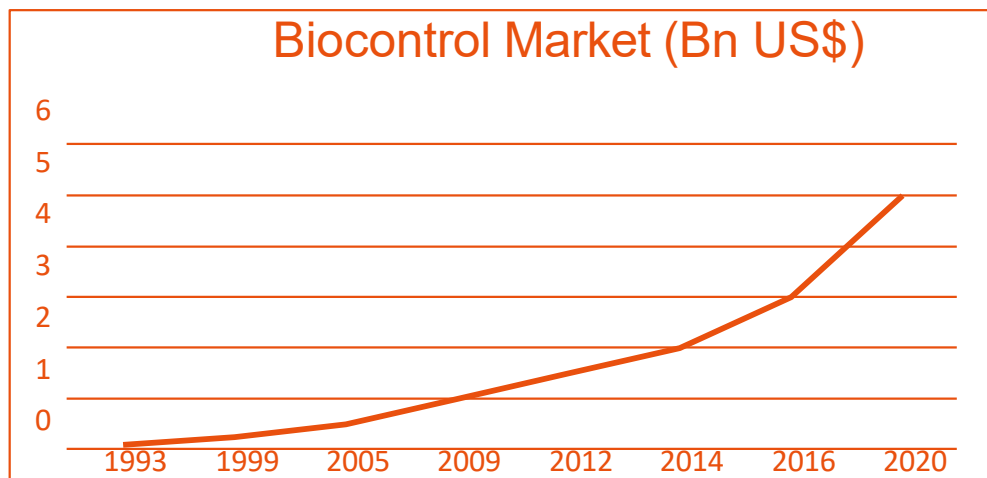


Countries to be added in 2020



-and others as decided by the Development Consortium members

Market development and outlook



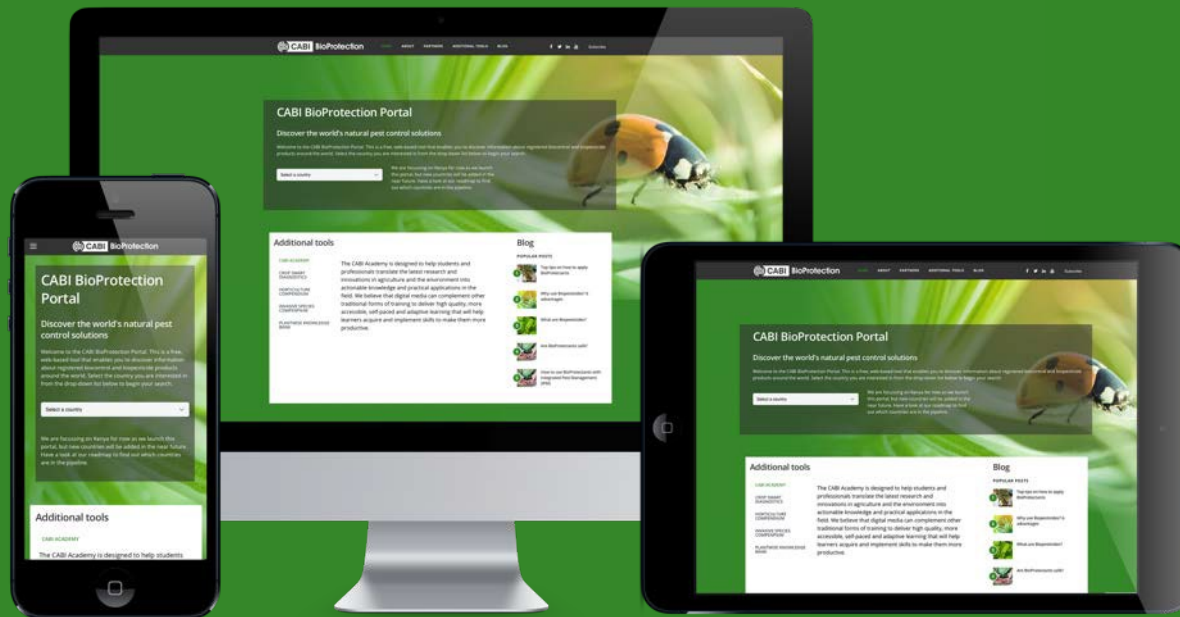
Source: Dunham Trimmer LLC

Market anticipated to reach US\$ 8.8 billion by 2022 and US\$ 11 billion by 2025

- Through improved knowledge and awareness of growers and advisors, the uptake and integration of biocontrol products in integrated crop management approaches will be significantly enhanced
- Growers will be better able to respond to consumer/food market demands for more sustainable food production and reduced chemical residues on produce



CABI BioProtection Portal



www.bioprotectionportal.com



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



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development
and Cooperation SDC