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FOOD AND NUTRITION SECURITY

The biosecurity, health, trade nexus

The Crawford Fund 2021 ANNUAL CONFERENCE

QT Hotel, Canberra ACT, Australia
and Online

13-14 December 2021

Editor A. Milligan



The battle against fall armyworm

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ABSTRACT



Biosecurity is a shared responsibility. The coordination of biosecurity efforts at a national level has its challenges. The coordination of biosecurity efforts at a global and regional level across geographical, political, and institutional boundaries presents an even greater challenge. This presentation provides an overview of recent collaborative efforts of international organisations, regional plant protection bodies, and technical specialists to coordinate biosecurity initiatives to help countries prevent, prepare for, and respond to biosecurity threats across the Asia Pacific region. Biosecurity pest threats such as the fall armyworm (*Spodoptera frugiperda*) have caused devastating impact upon agricultural sectors at a global level in recent years, and are threatening the biosecurity status of our near neighbour and Pacific island countries as they move via natural and trade pathways through the region. Agricultural production and food trade need to continue for economic and food security reasons but require coordination and collaboration at global, regional and national levels to support local biosecurity systems. Global and regional level biosecurity programs such as the FAO Global Action for Fall Armyworm Control, the ASEAN Action Plan on Fall Armyworm Control, and the DFAT–DAWE Pacific Biosecurity Partnership Program are coordinating the mobilisation of technical, operational, academic, research and communication expertise and resources in a collaborative effort to battle the spread and impact of the fall armyworm across the region. These initiatives are not only providing technical and operational support to biosecurity agencies through the development of regionally and globally consistent fall armyworm resources, but also they are supporting livelihoods at village, grower and commercial levels through implementation of globally harmonised preparedness, response and management initiatives.

This talk is about fall armyworm, which is a shared biosecurity responsibility and a shared opportunity. Biosecurity is a shared responsibility, and the coordination of biosecurity efforts at a national level has its challenges, as I am sure everyone in this room would appreciate. The coordination of biosecurity efforts at regional and global levels across geographical, political, and institutional boundaries presents an even greater challenge. This has been highlighted over recent years with the rapid spread of transboundary pests such as the fall armyworm, and the coordination of prevention, preparedness and response initiatives.

I want to stress the fact that we talk a lot about prevention in relation to biosecurity, but it is very important that we look at preparedness and response as part of that, because a lot of our regional and international stakeholders

This record has been prepared from a transcript and the slides of the presentation.



Figure 1. The spread of fall armyworm (*Spodoptera frugiperda*) around the globe.

have the legislative authority and responsibility for preparedness and response initiatives and, ultimately, management initiatives in their countries as well.

The fall armyworm has become a global biosecurity issue, as highlighted already in several of today’s presentations. It has been officially reported in 73 countries – most recently in the Solomon Islands and New Caledonia – and it is predicted to continue its spread throughout the Pacific over the coming years, if not months, if it continues its rapid spread. Fall armyworm has also attracted significant attention at national level and international levels across government, industry, and even mainstream media. There is even reference to it being the ‘coronavirus of agriculture’ (Figure 2).

In Australia, near-Australia and Oceania

At national level in Australia we have a coordinated and collaborative biosecurity system to support our prevention, preparedness, response and management arrangements. Our international biosecurity arrangements have prevented fall

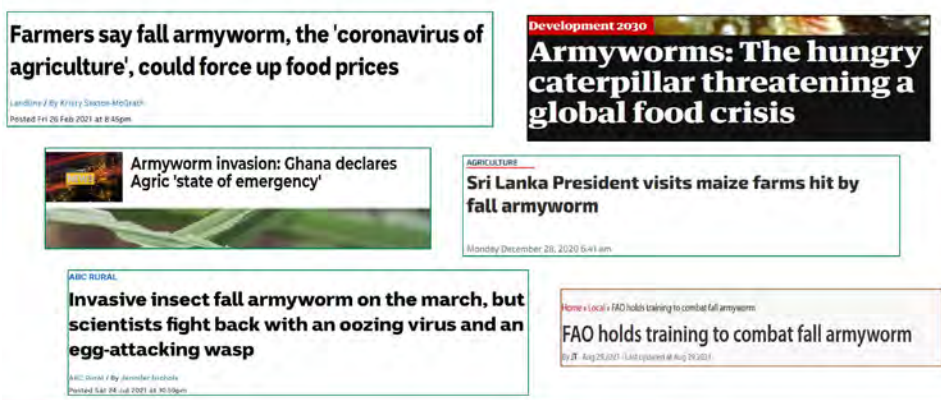


Figure 2. Some headlines about fall armyworm – a global priority pest.



Figure 3. National coordination: FAW prevention, preparedness, response and management involves CABI, DAWE and GRDC and others. See also the GRDC's fall armyworm web portal at <https://grdc.com.au/resources-and-publications/resources/fall-armyworm> which gives access to a series of podcasts on FAW at <https://www.pbri.com.au/pbri-podcasts>

armyworm (FAW) for a number of years through strict border controls of our trade pathways. However, despite our best efforts, our systems were not able to prevent the natural movement of fall armyworm through our risk pathways in northern Australia and ultimately the Torres Strait.

Our collaboration across government, industry and research partners enhanced our preparedness through forecasting, through modelling and response planning, well in advance of fall armyworm being detected in the Torres Strait in early 2020. In fact, they were conducting early warning surveillance and trapping in Timor-Leste well over a year before fall armyworm was actually detected in Australia.

There is national coordination across jurisdictions, industry and research partners and Research & Development Corporations, particularly the Grains Research & Development Corporation (GRDC), and that coordination is now supporting the ongoing fall armyworm management across Australia (Figure 3).

At regional level, particularly in our near neighbours Timor-Leste, Papua New Guinea (PNG) and the Solomon Islands, the concept of the shared responsibility to biosecurity is still evolving. While Australia actively supports our biosecurity counterparts in our near neighbours, there need to be broader multilateral efforts to complement and support those bilateral efforts.

There are regional-level biosecurity programs (Figure 4), such as the ASEAN Action Plan on Fall Armyworm Control, and a Pacific biosecurity partnership program led by the Dept of Agriculture, Water and the Environment (DAWE) and by DFAT; they are coordinating the implementation of technical and operational and academic related activities in a collaborative effort to minimise impacts of fall armyworm across the region. However, more can be done.



Figure 4. Regional coordination: e.g. the ASEAN Action Plan on Fall Armyworm Control, and PPPO [Pacific Plant Protection Organisation] FAW preparedness.

We have had opportunities through the Department of Agriculture animal and plant biosecurity leads for the Pacific, and we have Sophie Peterson here as the Plant Biosecurity lead for our region, in coordination with our Chief Plant Protection Officer and Chief Veterinary Officer; they are driving a lot of the work throughout our region. It is also important that we actively engage with our Asia and Pacific regional plant protection agencies to coordinate and mobilise these efforts as the regional plant protection bodies.

Global level

At a global level, as we have seen in the maps presented already today, fall armyworm (FAW) is a significant and recognised pest. It has also been recognised by the FAO as a global biosecurity threat, as shown by the establishment of the FAO Global Action for Fall Armyworm Control, which has the direct oversight of the FAO Director-General. That is quite rare for a specific pest risk, particularly in the plant biosecurity and plant protection world. There is also a fall armyworm-specific program within the FAO to address this very important global issue, and that is a significant four-year program (Figure 5).

Australia contributes to these efforts through representation on the FAW technical committees and leadership in the FAW biosecurity Technical Working Group that is one of the seven Technical Working Groups that support the



Figure 5. Global coordination: FAO Global Action for FAW Control 2020–2022.

<https://www.fao.org/fall-armyworm/global-action/en/>

global action. The biosecurity Technical Working Group that I lead within the FAO draws on technical expertise from national plant protection organisations – that is, Australia and Italy and regional plant protection organisations – to provide that global representation. We have representation from CABI, from CSIRO, particularly from a very scientific and technical perspective. Collectively we develop resources, we deliver workshops, we deliver capacity development and capability development initiatives to support the national plant protection officers and the leads in those plant biosecurity agencies. This is not only in the countries where fall armyworm is established, but primarily in the countries still free of fall armyworm, in an effort to try and enhance the preparedness and response capability of those countries that may not have the resources or the technical expertise that we do.

In addition to fall armyworm, Australia is also contributing to regional and international efforts for other global biosecurity pests such as the banana disease TR4 (see Kernot, this conference), and broader biosecurity issues – particularly biosecurity issues relating to climate change which have impacts on plant health. It is very encouraging that effects of climate change have been brought into much of the discussions today.

Biosecurity is a shared responsibility at a national level, and Australia has seen that for a long time. However, biosecurity should also be a shared responsibility at regional and global levels.

Biosecurity is a shared opportunity

Despite the devastation that fall armyworm has caused and will continue to cause as it moves throughout the Pacific region over the coming years, it has provided an opportunity to highlight the global impact of transboundary pests on both developed and developing countries.

Fall armyworm is providing an opportunity and platform to share our learning, our research, our experiences and – as Rob Kaan highlighted in his Private Sector Keynote this morning – it continues to provide an opportunity for Australia and our collective stakeholders to lead by example, both at regional and at international levels.

Biosecurity is a shared responsibility, but we should also see it as a shared opportunity.

Chris Dale is the International Biosecurity Specialist, Agriculture and Food Security Section, Department of Foreign Affairs and Trade, and formerly Assistant Director of Plant Health Surveillance and Diagnostics within the Australian Department of Agriculture, Water, and the Environment (DAWE). Chris has over 20 years of technical and operational experience within the Department, delivering animal and plant biosecurity programs across northern Australia, the Torres Strait, Timor-Leste, PNG, Solomon Islands and South East Asia. Chris is also the Vice Chair of the Implementation and Capacity Development Committee of the International Plant Protection Convention (IPPC) and represents the committee and Australia within the Asia Pacific Plant Protection Commission (APPPC) and the Pacific Plant Protection Organisation (PPPO). Chris is also a member of the FAO Fall Armyworm Technical Committee, Chair of the FAO/IPPC Fall Armyworm Technical Working Group, and technical lead of the DFAT/DAWE International Agricultural Biosecurity Technical Working Group (IAB-TWG), supporting biosecurity preparedness and response initiatives across the Asia Pacific Region.