



Protecting Aotearoa  
from wind-dispersed pests  
RESEARCH PROGRAMME



# Monitoring fall armyworm in Taranaki

Some insect pests are capable of reaching Aotearoa New Zealand via the wind. Our research programme *Protecting Aotearoa from wind-dispersed pests* aims to strengthen our biosecurity net by monitoring when pests arrive from Australia or the Pacific.

These research programmes are funded by the Ministry of Business, Innovation and Employment Endeavour Fund with co-funding from Te Uru Kahika – Regional and Unitary Councils Aotearoa and The Foundation for Arable Research (FAR) and by the Ministry of Primary Industries Sustainable Food and Fibre Fund.



## Background

Over time, New Zealand has battled multiple unwelcome insect and pathogens which arrived by wind and are now established. The fall armyworm, *Spodoptera frugiperda* was a recent example, first detected in 2022.

## How They Spread

Fall armyworm adult moths are excellent migratory fliers. They have recently spread from the subtropical America, to Africa, Asia, Australia and now New Zealand.

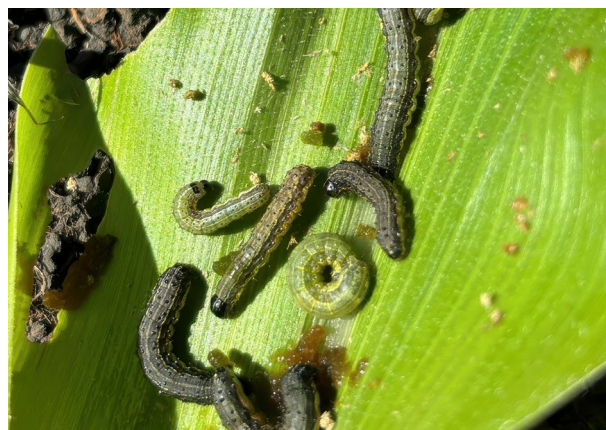
While predicted to be a serious pest of maize and corn around coastal regions of the North Island, they have only been observed occasionally in Taranaki.

## Monitoring

Our research project on surveillance of pests is teaming up with FAR to find locations to undertake scientific monitoring of fall armyworm moths.

We will deploy CropVue Technologies automated scouting solar-powered traps. They work by attracting the male fall armyworm into the trap with the alluring smell of the pheromone similar to the female moth.

The moths are trapped on a sticky base, a solar powered camera takes a daily image of the moths and using the best available AI pest recognition, the trap automatically delivers accurate results to a computer monitored by FAR.



## Impacts

The only negative of this method is bycatch. Because of the similarity of the fall armyworm female sex pheromone to that of some other species, we are likely to also catch some native moths.

The bycatches could include:

- *Ichneutica mutans* – the New Zealand cutworm (very common through NZ and often considered an agricultural and garden pest).
- *Ichneutica semivittata* – the common dotted owl (also common in a variety of grassy habitats throughout New Zealand).
- *Wiseana capularis* (summer porina) – a grass feeding moth common to the lower North Island.
- *Agrotis ipsilon* – (greasy cutworm) a serious agricultural pest distributed world wide due to its excellent migratory ability. It also flew to New Zealand from Australia.

Successful trapping will:

- Inform the Protecting Aotearoa programme of any new arrivals from Australia on the wind.
- Enable scientists to collect the dead moths caught in the traps for further analysis.
- Inform FAR to improve pest spread predictions.
- FAR can then alert Taranaki maize growers to the presence of fall armyworm pest in their region.
- Growers can make informed decisions on protecting their maize crops.
- Corroborate climate models.



## Contact information

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**More Information**  
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## About Scion

Scion is the Crown research institute that specialises in research, science and technology development for forestry, wood and wood-derived materials, and other bio-material sectors. Scion's purpose is to create economic value across the entire forestry value chain, and contribute to beneficial environmental and social outcomes for New Zealand.

