#### **EXECUTIVE SUMMARY**

#### Challenges for pest management in New Zealand

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# New Zealand remains under intense pressure from pests.

Pests threaten our economy and environment, despite investing heavily in biosecurity and pest management systems.

> ONGOING TARGETED INVESTMENT is needed to protect our native land and aquatic environments and primary production from weeds, vertebrate and invertebrate pests and pathogens.



### Many pest management tools can no longer be used.

Changes in the use of pest management tools have been made in response to public concerns and trade issues around the environment, humaneness standards and food safety.

Increasing pest resistance is also making some invertebrate pesticides and herbicides ineffective, while others have been phased out.



#### There is an urgent need to develop new approaches and tools.

New Zealand has already provided leadership in environmentally and socially sensitive pest management but there is an urgent need to do more.

> URGENT ACTION is needed to develop new approaches and to improve existing tools to protect the country's environment and economy.

## Increased monitoring for pests is needed.

More emphasis needs to be given to surveillance and pest monitoring to increase the chances of successful eradication of new incursions when pest distributions are still limited; and prevent the recovery of existing pests after control has been applied.

- MORE TRAINED LOCAL AND CENTRAL GOVERNMENT STAFF are needed to assist with translating and applying scientific research and new technology.
- CITIZEN SCIENCE should play a much stronger role in monitoring and surveillance for pests in New Zealand.

## Better understanding is needed about New Zealand's pests.

Many pests are managed with little scientific understanding of their life-cycle or population processes, and New Zealand's unique environment means we cannot presume that the behaviour of species in their native range will be replicated here.

- > MORE SPECIALIST TAXONOMISTS are urgently needed so indigenous species can be distinguished from exotic threats, to underpin surveillance and responses, and fundamental biological understanding.
- > PUBLIC ATTITUDES to novel pest management tactics need to be explored in advance of use, and ways of improving public engagement developed with social researchers.
- GREATER USE OF INFORMATION TECHNOLOGY should be used to move pest management towards "real time" control.
- > BETTER UNDERSTANDING OF THE BIOLOGY OF PESTS, their interactions, and their impacts on assets we value, are all required.

For further information: www.royalsociety.org.nz/pestmanagement

GRASP image of Turnip Yellow Mosaic Virus by Dr J.Y. Sgro, Univ. Wisconsin-Madison, USA (http://virology.wisc.edu/virusworld). Except for figures and the Royal Society of New Zealand logo, this paper is licensed under a Creative Commons 3.0 New Zealand Licence.