

A Biosecurity Team of 4.7 Million

TEACHER INTRODUCTION

The Ministry for Primary Industries (MPI) is charged with the leadership of our biosecurity system. The activities in this teaching unit are based on the recently released **Biosecurity 2025 Direction Statement**. This statement is based on the idea that biosecurity awareness and action is the responsibility of all **4.7 million New Zealanders** and we all must and can play our part in keeping New Zealand free of pests and diseases to protect our economy and way of life. The statement also embraces the **Predator Free New Zealand 2050** aspirational goal by acknowledging the importance of protecting New Zealand's unique biodiversity as the main driver of our tourist industry – now our largest earner of foreign exchange. **Download Biosecurity 2025 Direction Statement** at: www.mpi.govt.nz/biosecurity2025

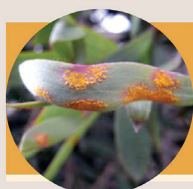
KEEPING OUT UNWANTED PESTS AND DISEASES

- Do the students know that New Zealand has a list of over 15,000 unwanted plant, animal and marine pests and diseases it wants to keep out of New Zealand? Can the students think of any plants, animals or diseases we want to keep out of our country and why we want to keep them out? Brainstorm and record ideas.
- Can the students think of any pest plants, animals or diseases that we already have in New Zealand? How do they harm our country? How did they get here? What are we doing to stop them spreading throughout New Zealand? What are we doing to stop the harm they are causing? Share ideas.
- Visit: www.doc.govt.nz/nature/pests-and-threats/animal-pests and have groups (or use class shared reading) to investigate some of the animal pests we already have in New Zealand. Have students discover: *the problems and threats they cause; how/why they arrived or why they were introduced to New Zealand; the measures/actions we can take to control or eradicate them.*
- www.mpi.govt.nz/protection-and-response/finding-and-reporting-pests-and-diseases/keeping-watch Visit this website for shared reading and to develop an understanding of the following ideas:
 - how unwanted pests and diseases can damage our economy by reducing productivity, increasing costs, preventing export of our goods overseas, and affecting our strong tourist market
 - the ways our environment and native species would be damaged by pests and diseases
 - how unwanted pests and diseases could change our way of life and how humans could also be affected.

Plant Pests

Diseases

Animal Pests



Myrtle rust



Foot-and-mouth



Possum

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Indicative Curriculum Links and Learning Outcomes

Social Sciences; Science; Health. Students will gain an understanding of

- how unwanted pests and diseases can damage our economy, threaten human health and change our way of life
- how our environment and native species would be damaged by introduced pests and diseases and the effects of pests and diseases already present
- how our biosecurity system works and why visitors and Kiwis must know what they are and are not allowed to bring into New Zealand
- the reasons why the risk is increasing and why MPI wants to get out the message that biosecurity is the responsibility of all New Zealanders
- planning and carrying out a 'real life' biosecurity team project in their local area to help protect our economy, way of life and our natural biodiversity.

Best suited to curriculum levels 3-5. Links to English, Arts and Technology

- Tell students that 'foot-and-mouth' disease would be a disaster for New Zealand. Download, data project and discuss the foot and mouth pdf (link below) for discussion to discover: what it is; the animals it affects; how it spreads; the effect it would have on our trade with other countries and the possible costs to our country. www.mpi.govt.nz/protection-and-response/readiness/foot-and-mouth-disease/about-foot-and-mouth-disease
- Tell students that while we have never had an outbreak of the disease, 15 years ago foot-and-mouth disease led to the culling of millions of animals in the UK costing billions of pounds. Type: *bbc rewind foot and mouth 2001* into Google and play the following (graphic) BBC videos to the class. As a class, discuss the reasons why this would be such a disaster for New Zealand.

WHAT IS BIOSECURITY?

- Tell students that to prevent pests and diseases establishing in New Zealand we carry out biosecurity surveillance. This not only means stopping, unwanted diseases, animals, plants and other organisms crossing the border, but also surveillance, eradication and management of any unwanted pests and diseases that are already here from spreading and becoming established.
- **Prevention:** Introduce the idea that the over 3 million tourists from around the world who visit us each year (including New Zealanders returning home) could be bringing in pests or diseases in their luggage. To help prevent this all arrivals must fill out a passenger arrival card. Find what must be declared at: www.customs.govt.nz > type in *passenger arrival card English* into the search box.
- **Management:** Visit: www.mpi.govt.nz/travel-and-recreation/outdoor-activities/check-clean-dry and discuss the ways we are managing the spread of fresh water pests such as didymo from spreading around our waterways.
- Can students think of any other ways that unwanted pests and diseases could arrive in New Zealand? Did these include: overseas mail and parcels; in shipping containers; on the hulls of ships; carried by the wind ...?

Everybody Has a Role to Play

BIOSECURITY IS EVERYONE'S RESPONSIBILITY



- Tell students that a government department, the Ministry for Primary Industries (MPI), leads our biosecurity system. Play the following MPI video to the class at:
www.youtube.com/watch?v=VXb2ic-kroc&t=65s
Through discussion, have students discover the following:
 - why we are able to grow the 'best stuff' well and cheaply
 - the consequences for all of us if pests and diseases arrive
 - the importance of our agricultural production and our natural environment to all New Zealanders.
- Why do students think MPI wants to get the message out to all New Zealanders that biosecurity is everyone's responsibility? Do they know our present biosecurity system is regarded as one of the best in the world but the challenge of controlling and keeping out pests and diseases gets greater every year. What are these new challenges? **eg:** increased trade; increased mail and parcels from overseas (growing internet shopping); over 3 million tourists annually; climate change; new plant pests becoming established...

HOW TO BECOME A MEMBER OF THE BIOSECURITY TEAM

- Download the Biosecurity 2025 direction statement at:
www.mpi.govt.nz/biosecurity2025
and data project the Queensland fruit fly response case study on page 9 for shared class reading. Focus on why community involvement was critical to the success of the operation. Introduce the idea that the local community had become members of the local team to help solve a biosecurity problem.

- Enthuse students with the idea that they too can become members of New Zealand's biosecurity team and that one of the best ways of doing this is to get the New Zealand border requirements message out to all their family and friends, local community and visitors. Include overseas friends and family who are planning to visit. They need to know what they can and can't bring into New Zealand. The reasons why we want to keep our country free of risk items can be found at:
<http://mpi.govt.nz/travel-and-recreation/arriving-in-new-zealand/items-to-declare/#types>
- As biosecurity team members have students brainstorm ideas to get these important messages out to their local communities, families and friends, **eg** colourful and informative brochures for a letter box drop and the local Information Centre.

A LOCAL AREA STUDENT BIOSECURITY TEAM PROJECT

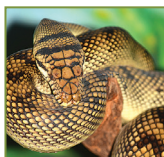
- Myrtle rust has recently been found in several areas around New Zealand. The fungus attacks various species of plants in the myrtle family such as pōhutukawa, mānuka, bottlebrush, feijoa, ramarama and blue gum. It is thought that it most likely arrived in New Zealand carried by wind across the Tasman Sea.
- As a Biosecurity Team, the students' task is to investigate the local area to see if myrtle rust is present. Have the team visit:
<http://www.mpi.govt.nz/protection-and-response/responding/alerts/myrtle-rust> and www.doc.govt.nz/myrtlerust
 - download the MPI fact sheet with pictures of myrtle rust
 - know what to look for in your garden and district
 - discover the effects of myrtle rust on trees and shrubs
 - be able to recognise trees and shrubs where it is likely to be found
 - discover the consequences and threats to New Zealand of myrtle rust becoming established (include effects on tourism)
 - what actions MPI and DOC are taking to manage the threat of myrtle rust – now and in the future.
- Divide students into biosecurity teams to explore the local district for signs of myrtle rust. Ensure students know what to do if they spot it and why they should not touch it, **eg** Call MPI Pest & Disease Hotline immediately on 0800 80 99 66. Take photos.

NEW FREE CURRICULUM RESOURCES FOR YEARS 1-10

MPI has developed new curriculum resources for Years 1-10 in three systems critical to New Zealand's primary industries.



Animal Welfare



Biosecurity



Food

- The resources provide teachers with contextualised learning opportunities across a range of curriculum areas.
- Based on community engagement, coherence, and future focus principles, the resources encourage students to look to the future by exploring significant issues such as sustainability, citizenship, enterprise and globalisation.

Download at: www.mpi.govt.nz/news-and-resources/teacher-resources/te-ao-turoa

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