

Myrtle rust – information for specific groups

- Beekeepers
- Feijoa growers
- Other orchardists
- Nursery owners
- Home gardeners
- Walkers / Trampers

Beekeepers

Recommendations and information:

- The exact behaviour of myrtle rust in New Zealand conditions, and what impact it will have on Mānuka, is currently unknown.
- We do know that bees can transfer the myrtle rust spores from plant to plant.
- From overseas studies we know that bees can transfer spores into the hive. However, myrtle rust spores have not been observed in honey. Our best information from the Australian experience tells us that transmission of any viable spores out of the hive is considered unlikely.

Are there sprays for myrtle rust that are non-toxic to bees?

- The fungicide used in the current response is Triadimenol with the product label Vandia 250 EC or Agpro Jupiter. The MSDS from [Agpro](#) lists the LD50 (Contact) for bees as >100ug/bee and the LD50 (Oral) for bees as >100ug/bee. Note that this is the data for triadimenol, and not the diluted product when sprayed.

The lowest HSNO Threshold for toxicity to invertebrates 9.4C is 25 µg/bee so this product is more than 4x times less toxic than the lowest threshold, so is considered "safe".

Are myrtle rust spores dormant over winter and then become active over spring/summer when the temperature warms up?

- There is a possibility for the rust to produce spores and spread during autumn/winter in warmer areas. The optimal temperature for spore production is around 20°C, but it is reduced at cooler temperatures (<15°C) and inhibited at warmer (over 30°C) temperatures. Studies indicate that spores can still be produced during the winter time, however it takes longer (4-5 weeks) compared to summer time (10-14 days). Some Myrtaceae species undergo growth in the winter so myrtle rust may be able to proliferate on the new growth on these plants in the right conditions.

Most hives are wintered down now – what is MPI’s advice regarding beehive movement?

- The honey season is over, and while MPI does not expect much movement of hives in the coming months, we recommend that beekeepers do not move their beehives until further information is gathered on bees as possible myrtle rust vectors.
- At this time there is no need for any destruction of hives.
- If you suspect myrtle rust, please take a photo and report to MPI (0800 80 99 66) and don’t move any plants, produce or machinery offsite until you hear back from MPI.

Feijoa growers

Recommendations and Information:

- There is some limited international evidence that feijoa is a host plant; therefore, we recommend it is treated as such.
- To date (25 May) myrtle rust has not been found on feijoa plants in New Zealand.
- Evidence suggests myrtle rust is more likely to infect young plants; flowers and developing fruitlets.
- While some literature suggests that fruit could potentially carry and spread hitchhiking spores, the likelihood of these spores coming into contact with a suitable live host plant is considered to be very low.
- Fruit is just one potential pathway. We also need to account for movement of people and equipment, and these need to be managed by good hygiene and biosecurity practices by growers.
- Anyone growing feijoas needs to inspect their trees prior to and during harvest.
- Orchardists should also inspect other myrtle species plants around or near the orchard for infection.
- If you see signs of myrtle rust phone MPI on the pest and disease hotline 0800 80 99 66 immediately, photograph if possible, and don’t harvest fruit.
- As a precaution, MPI recommends that feijoa and guava fruit should be washed thoroughly with water at some point in the post-harvest process – preferably before distribution. This is to reduce the risk of transferring spores.
- NZPPI have a range of useful guidance documents on their website:
<http://nzppi.co.nz/>
- On infected properties, a chemical sealer has been sprayed on small individual plants infected by myrtle rust to prevent the spread of spores. Sometimes referred to as “concrete spraying”, this is not concrete, but a sealer for concrete.
- There are a range of fungicides available to treat myrtle rust. Currently our preferred product contains Triadimenol as its active ingredient. Triadimenol is not allowed to be used on fruit and fruit trees and therefore any fruiting feijoa trees sprayed with this product cannot be used to supply fruit or any other plant material into the food chain.

Other orchardists

Recommendations and information:

- Before harvesting fruit or moving any plants, machinery or crops from your site, please inspect any myrtaceae plants on your property (both crop plants and border trees) for symptoms of myrtle rust. (link to host list)
- Best information suggests that feijoa and guava may be myrtle rust host plants. As a precaution, MPI recommends that feijoa and guava fruit should be washed thoroughly with water at some point in the post-harvest process, if possible before distribution.
- Before bringing Myrtaceae plants or fruit onto your property, check that the site the plants are coming from has been searched for symptoms of myrtle rust.
- When any Myrtaceae plants arrive, check them for symptoms of myrtle rust. Check the plants again after 2 weeks (areas with average temperature above 20°C) to 4 weeks (areas below 15°C).
- If you suspect myrtle rust, please take a photo and report to MPI via the pest and disease hotline 0800 80 99 66 and don't move any plants, produce or machinery offsite until you hear back from MPI.
- MPI recommends good hygiene practices irrespective of whether you have Myrtaceae plants on your property or not. Wash equipment, machinery, clothing and hands before moving between properties.
- NZPPI have a range of useful guidance documents on their website: <http://nzppi.co.nz/>

Nursery owners

Recommendations and information:

- Before moving any plants or equipment off your site, inspect any Myrtaceae plants on your property (including planted trees, not only nursery stock) for symptoms of myrtle rust. (link to host list)
- Before bringing Myrtaceae plants onto your property, check that the site the plants are coming from has been inspected for symptoms of myrtle rust.
- When any Myrtaceae plants arrive, check them for symptoms of myrtle rust.
- If you suspect myrtle rust, please take a photo and report to MPI (0800 80 99 66) and don't move any plants, produce or machinery offsite until you hear back from MPI.
- Practice good hygiene – wash equipment, machinery, clothing and hands before moving between properties.
- NZPPI have a range of useful guidance documents on their website: <http://nzppi.co.nz/>

Home gardeners

Recommendations and information:

- Check any Myrtaceae plants on your property for symptoms of myrtle rust. (add host list)
- Before bringing Myrtaceae plants onto your property, check that the site the plants are coming from has been surveyed for symptoms of myrtle rust.
- If you suspect myrtle rust, please take a photo and report to MPI (0800 80 99 66) and don't move any plants, produce or gardening equipment offsite until you hear back from MPI.

Walkers / Trampers

Advice and information:

- Know your plants and those that are affected by myrtle rust. This serious fungal disease only affects plants in the myrtle family which includes pōhutukawa, mānuka, kanuka, ramarama, and feijoa.
- Remain vigilant for signs of myrtle rust. Symptoms to look out for on myrtle plants are:
 - bright yellow powdery eruptions appearing on the underside of the leaf (young infection)
 - bright yellow powdery eruptions on both sides of the leaf (mature infection)
 - brown/grey rust pustules (older spores) on older lesions.
 - Some leaves may become buckled or twisted and die off.
- If you think you've seen the symptoms of myrtle rust, **do not touch it**.
 - Call the MPI Exotic Pest and Disease Hotline immediately (or as soon as practicable) on 0800 80 99 66.
 - If you have a camera or phone camera, take clear photos, including the whole plant, the whole affected leaf, and a close-up of the spores/affected area of the plant.
 - Note your location as accurately as possible, using GPS if available or reference against a landmark.
 - Don't touch it or try to collect samples as this may increase the spread of the disease.
- For more information refer to [MPI's website](#).