

Myrtle Rust Questions and Answers

23 December 2010

A fungal disease known as Myrtle rust was first detected on a property on the central coast of New South Wales in late April 2010. Surveillance and tracing activities to late December 2010 by the NSW Government indicates that Myrtle Rust has been detected on more than 140 premises including commercial plant nurseries, public amenities and in large areas of bushland including the Olney State Forest. There are indications that the disease may have been present in Australia for at least two years.

The Myrtle rust National Management Group agreed on 22 December 2010 that it is not technically feasible to eradicate this plant disease. The decision of the National Management Group reflects the difficulty of eradicating and slowing the spread of this disease, understanding its behavior, increasing host range and its spread beyond the New South Wales Central Coast to a large number of domestic, commercial, public and recreational sites.

What is Myrtle rust?

Myrtle rust was first detected in Australia on the Central Coast of New South Wales in April 2010. However there are indications that the disease may have been present in Australia for at least two years. The fungus that causes Myrtle rust has not been found before in Australia. It belongs to a group of fungi known as the 'guava rust complex'. Myrtle rust can affect plants belonging to the family Myrtaceae, which includes many Australian native species including Eucalyptus.

The rust has been identified as Myrtle rust based on the host range seen so far in Australia and the structure of its spores. Information is continuing to be gathered on its host range under Australian environmental conditions through information gathered during surveillance activities and laboratory-based host testing of a range of important commercial and ecological species of Myrtaceae.

Where did it come from and how did it get here?

This complex of diseases is native to South America and is also present in the United States of America (Florida and Hawaii) and Mexico. It is not known how this disease entered Australia, however, rust fungi produce microscopic spores which are easily carried by wind current, on people's clothing, plants or on goods that are shipped around the world.

What does it look like?

The fungus causes spots on leaves and stems that develop masses of orange to yellow powdery spores. The disease most often affects young shoots and the growing tips of plants causing leaves to become curled and distorted. More information, along with photographs of host plants can be found on the Department of Industry & Investment NSW website.

Is it the same as guava rust?

Myrtle rust and Guava rust are both serious pathogens which could cause major damage to Australia's natural environment and may severely impact nursery and forestry industries.

Although they have some morphological differences, early molecular testing indicates they are closely related but has not established the exact nature of their relationship.

The identity of the fungi has not affected the manner in which the response has been handled.

Where is it?

Myrtle rust has now spread beyond the New South Wales Central Coast to a large number of domestic, commercial, public and recreation sites in New South Wales.

Due to the expanding host range of the disease and the increase in the number of locations that Myrtle rust has been detected, further spread of the disease is anticipated.

What kind of damage can be done?

When severely infected, young plants and new growth may become stunted and in the worst case may die. However, little is known about the disease and its impact under Australian conditions and on the wide range of Myrtaceae that grow here.

Scientific studies and observations of the disease show that plants can vary greatly in their susceptibility or resistance to the disease. Testing is continuing on a range of plants to find out which could be hosts so that researchers can assess the potential impact on the Australian environment as well as industries such as plant nurseries and forests.

What plants are affected by it?

Surveillance has found evidence of Myrtle rust on these plants:

Acmena sp.

Agonis flexuosa willow myrtle Afterdark and Jeddas Dream

Backhousia anisata aniseed myrtle

Backhousia citridora lemon myrtle

Backhousia myrtifolia grey myrtle

Callistemon salignus broad leafed bottlebrush

Callistemon viminalis weeping bottlebrush

Chamelaucium uncinatum geraldton wax

Choricarpia leptopetala rusty/brush turpentine

<i>Eucalyptus agglomerata</i>	blue leafed stringybark
<i>Eucalyptus deani</i>	deans gum
<i>Eucalyptus elata</i>	river peppermint gum
<i>Eucalyptus pilularis</i>	blackbutt
<i>Gossia (Austromyrtus) inophloia</i>	aurora & blushing beauty
<i>Leptospermum rotundifolium</i>	round leaf tea-tree
<i>Lophomyrtus</i>	black stallion
<i>Lophomyrtus ralphi</i>	krinkly & red dragon
<i>Lophomyrtus bullata</i>	rainbows end
<i>Melaleuca quinquenervia</i>	broad leafed paperbark
<i>Metrosideros collina 2</i>	fiji and dwarf (also known as tahiti)
<i>Rhodomyrtus psidiodes</i>	native guava
<i>Rhodamnia rubescens</i>	brush turpentine
<i>Syzygium australe</i>	lilly pilly <i>meridian midget & tiny trev</i>
<i>Syzygium wilsonii subsp.</i>	
<i>wilsonii x Syzygium leumannii</i>	lilly pilly <i>Cascade</i>
<i>Syzygium jambos</i>	plum rose, rose apple
<i>Syzygium luehmannii</i>	small leaf lilly pilly, ribery
<i>Syncarpia glomulifera</i>	turpentine
<i>Tristania neriifolia</i>	water gum
<i>Xanthostemon chrysanthus</i>	golden penda

Will it affect me? Will it affect my backyard?

It is possible that some popular Myrtaceae garden plants may be affected. If you do see anything that looks like Myrtle rust please report it to the Exotic Plant Pest Hotline on 1800 084 881. This number operates across Australia and should be used to report any suspect exotic plant pest or disease.

There is no evidence to suggest the disease is harmful to people or to animals.

Is it going to damage the environment?

Host testing conducted on hundreds of Australian native plants in overseas trials using the closely related guava rust organism recorded different reactions by similar plants. This indicates that plants, even closely related species, can vary significantly in their susceptibility to these fungi. The susceptibility of the same species under Australian conditions is also untested. This makes it difficult, at this time, to gauge precisely how this disease may affect our environment.

What is being done about it?

An interim response plan to respond to Myrtle rust had been in place since July 2010 under the provisions of the Emergency Plant Pest Response Deed - a legally binding agreement between the Australian Government, all state and territory governments, national plant industry body signatories and Plant Health Australia.

The interim response plan contained actions to suppress the spread of the disease with a view to its potential eradication while gaining additional knowledge of its host range and potential impact, host testing under controlled circumstances, DNA testing, surveillance of known infected properties and the natural environment, destruction of host material and ongoing suppression activities at known infected properties.

Through the implementation of actions within the interim response plan, the Myrtle rust National Management Group recognised from onset that eradication of the disease would be difficult to achieve, as historically, control of diseases with air-borne spores has had a very low chance of success.

While we do not believe that Myrtle rust is able to be eradicated, due to the potential for Myrtle rust to have an ongoing impact on the natural environment, the community and potentially affected industries, ongoing arrangements to nationally coordinate projects or direct actions to manage the disease are being finalised.

A Myrtle rust Coordination Group, chaired by the Commonwealth, with technical and policy support provided by primary industries and environmental agencies within each state and territory, relevant non-government organisations and affected industries will be established very early into the new year.

The Myrtle rust Coordination Group will consider and coordinate ongoing actions to respond to Myrtle rust focusing on mitigating its impact on the natural environment, including threatened and endangered species and industries that rely on Myrtaceae and Eucalyptus. These actions will include education and awareness, strategies for industries and government to mitigate the impact of the disease in anticipation of further spread, collation and analysis of information about the behaviour of the disease and its impacts on natural ecosystems.

This work will contribute towards the development of long-term management programs for Myrtle rust. The Myrtle rust Coordination Group will continue to update these questions and answers and issue further communication about the management of this disease.