Tāne's Tree Trust Approach to Kauri Die-Back, Myrtle Rust and Other New Pests and Diseases

Tāne's Tree Trust
Native Trees for the Future

This statement is current as of 2 May 2019. It is a working draft that has not been formally adopted - it is a living document that may change over time if significant new information arises.

1. With increasing international trade and greater numbers of overseas visitors there is a real risk of new pests and diseases, potentially harmful to our native trees and forests, being introduced into New Zealand.
2. A warming climate also enhances the possibility of a wider range of harmful organisms arriving and successfully establishing in our trees, gardens and forests. Existing pests could also become more active in warmer and wetter conditions.
3. Tane's Tree Trust accordingly fully supports the efforts of our border control and biosecurity inspection personnel to prevent new pests being introduced into New Zealand.
4. We also fully support regular forest health surveillance so that where possible any new arrivals or outbreaks of existing pests can be identified before they have spread far enough to make eradication impractical, and we encourage all growers to also regularly check the condition of their trees and forests and report any unfamiliar pests promptly. The Find-A-Pest app (http://www.findapest.nz) allows anyone to quickly and simply report pests, diseases, and weeds and get feedback from experts within the forest sector or from iNaturalist NZ.
5. Plant nurseries have a very important role in limiting the spread of pests and diseases and should follow recognised practice in terms of preventing pests developing in the nursery or being spread from them, including regular inspection and testing, proper seed collection and treatment regimes, good record keeping and tracking of sales and good nursery practice. Nurseries not able to confirm their practice in this respect should be avoided.
6. Where pests are identified then prompt steps should be taken to determine;-
    a. The identity of the causal agent and its potential to cause damage in New Zealand's forests and to its trees.
    b. Where the pest is likely to cause significant damage quickly review the options for eradication (i.e. before the pest becomes to widespread and well established to eliminate).
    c. Where the pest is found to be too widespread for eradication to quickly look for methods to contain it or limit its ability to cause harm, such as ;-
        i. Controlling the movement of host material around New Zealand,

ii. Introducing quarantine processes where the pest is present such as fumigation in nurseries, cleaning of vehicles and other machinery operating in infected areas
iii. Reviewing the literature and if necessary undertaking further research to determine other ways to contain the pest and limit its pathogenicity.

7. Kauri die-back is caused by the fungi-like pathogen *Phytophthora agathidicida*, presently unknown outside New Zealand. Kauri is recognised as one of the more iconic trees around the world and certainly in New Zealand and the high degree of pathogenicity associated with this disease in infected stands is a matter of great concern. Its zoospores are easily spread in minute particles of infected soil and also move through the soil water system; however data collected in infected areas suggest humans are probably the most important vector – partly by shifting infected plants to other locations and partly through recreational activity such as tramping. Notably seed collections are free of the disease so collecting and planting seed in new areas may not contribute its spread – however caution is still suggested.

   TTT recommends;-

   a. That people with kauri trees or forest on their properties regularly inspect their trees for signs of infection and die-back.
   b. Install and insist on the use of footwear washes for all visitors to their forests and take the same precaution when visiting other's forests.
   c. Similarly ensure all plant, equipment and vehicles visiting their own or transferring to others forests are properly cleaned and all plant material removed – and as a general rule any such plant and equipment used in an infected area should not be permitted to be used in uninfected areas for at least 3 months.
   d. Only use plants raised in nurseries and in conditions proven to be free of the disease – noting that other plants such as (but not limited to) rewarewa and *Astelia trinerva* may also be carriers of the disease without showing particular symptoms. Note that guidelines for seed collection and nursery propagation of kauri are available from the "*Keep Kauri Standing*" website and these should be strictly observed by nurseries. Prudent practice is to avoid shifting seedlings from parts of the country known to be infected to other parts of New Zealand which are still disease free.
   e. That research to identify ways to control the spread of the disease and its pathogenicity in infected trees be continued while other work to identify disease resistance should also be encouraged.
   f. That planting of trees on sites known to be free of the pest be encouraged, including on suitable sites outside its natural range. Again the *"Keep Kauri Standing"* guidelines are very relevant.

8. Myrtle rust is caused by the fungus *Austropuccinia psidii, a serious rust in other parts of the world where many species in the myrtle family are damaged or killed*. *A number of strains exist and the strain present in New Zealand is also found in Australia where it arrived a year or so before it appeared here. Fortunately it has not seriously damaged most of the myrtaceous plants found in either country, which include economic and ornamental species such as the eucalypts, horticulturally important species such as feijoa, and prominent native trees such as manuka and pohutukawa. TTT recommends:*

a. That people with myrtaceous trees in their forests or on their properties regularly inspect them for signs of Myrtle rust and report any finds immediately.
b. Avoid moving plant material and especially any known host species around New Zealand, and also check, and wash plant and equipment moving from possibly infected sites to other areas presently considered to be free of myrtle rust.
c. Only using plants from nurseries known to be free of Myrtle rust and which are regularly checked for the pest.
d. That surveillance of native forests and trees for signs of the pest continues on a regular basis, and that research to monitor and identify new strains of the pest (mutation is reasonably common amongst rust species) is similarly ongoing.