

OIA23-0414

Matt Munro
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Dear Matt Munro

Thank you for your email of 16 July 2023 requesting information relating to kauri dieback being caused by *Phytophthora agathidicida*. Your request has been considered under the Official Information Act 1982 (OIA).

We shall respond to each part of your request below:

What evidence exists that Kauri Dieback (= high number of symptomatic Kauri in a forest) is caused by Phytophthora agathidicida. Please don't just refer to articles. I want a short & clear description of the evidence.

The evidence that the soil-borne pathogen *Phytophthora agathidicida* (PA) causes the symptoms characterising the condition known as kauri dieback disease has been well proven in research, including the pathogenicity of PA to kauri and the relationship between PA and the symptoms of kauri dieback disease. Examples below:

- From Plant & Food Research's "[Pathogenicity of four Phytophthora species on kauri: in vitro and glasshouse trials](#)", authored by [I. Horner, E. Hough](#) (2014): "When [potted 2-year-old kauri seedlings were] PA-inoculated, lesions spread rapidly, trunks were girdled, and all trees died within 4-6 weeks. All kauri seedlings died within 10 weeks when soil was inoculated with PA."
- From: Landcare Research's 2015 description of *Phytophthora agathidicida*: [Weir, B.S.; Paderes, E.P.; Anand, N; Uchida, J.Y.; Pennycook, S.R.; Bellgard, S.E.; Beever, R.E. 2015: A taxonomic revision of Phytophthora Clade 5 including two new species, Phytophthora agathidicida and P. cocois. Phytotaxa 205\(1\): 21-38.](#) "Delimitation surveys have confirmed impacts upon kauri of all age classes, in forest remnants and plantations, throughout its geographic range".
- From [Auckland Council's 2021 Waitakere Ranges kauri population health monitoring survey](#): "For the symptomatic kauri model, the strongest association was between symptomatic kauri and proximity to *P. agathidicida* sites (point locations of *P. agathidicida* detections) which reinforces the need to manage *P. agathidicida* to reduce tree to tree spread and symptom development."

In summary, Kauri is in decline due to multiple interacting global change factors, such as drought, disease and habitat fragmentation. Unlike these other factors, disease from *Phytophthora Agathidicida* (PA) causes certain, and relatively rapid, tree death. PA can be spread many ways. For example, by moving water, animals, and humans, however, studies

have shown the strongest correlation is between human disturbance (from historic logging as well as contemporary foot traffic) and disease caused by PA (confirmed with soil tests).

Can you give me a list of New Zealand scientists who still believe in the idea that Kauri Dieback is caused by Phytophthora agathidicida mostly spread by people with their walking boots. I have been in contact with many, and nobody has confirmed that to me.

A list of all New Zealand scientist is withheld pursuant to section 9(2)(a) – *to protect the privacy of natural persons*. However, the vectoring of the PA pathogen by human movement of soil is well established. Examples below:

- From: Bio-Protection's [Independent review of the state of kauri dieback knowledge by Amanda Black and Ian Dickie](#): "International literature on the spread of Phytophthora species/taxa have highlighted the significant role that nurseries and other human activities (vehicle movement and foot traffic) have in the spread of these pathogens (Jules et al. 2002; Jung et al. 2015)."
- From [Auckland Council's 2021 Waitakere Ranges kauri population health monitoring survey](#): "The distance to tracks (closest or uphill) was significantly associated with P. agathidicida detection and disease in the non-spatial models."

MPI is satisfied that in the circumstances of this case, the withholding of the information is not outweighed by other considerations which render it desirable in the public interest to make the information available.

For more information on kauri dieback you can find details of individual scientific papers researching the disease and the causes at the following link:
<https://www.kauriprotection.co.nz/research/>.

Should you have any concerns with this response, I would encourage you to raise these with the Ministry for Primary Industries at Official.InformationAct@mpi.govt.nz. Alternatively, you are advised of your right to also raise any concerns with the Office of the Ombudsman. Contact details are: Office of the Ombudsman, PO Box 10152, Wellington 6143 or at info@ombudsman.parliament.nz.

Yours sincerely



John Walsh
Director, Readiness and Response Services