

HTHF 2019 Kauri cone collection update to mana whenua July 2019

To the Rangatira and Kaitiaki of the HTHF partners: Kawerau a Maki, Ngamanawa Inc, Ngati Huarere Ki Whangapoua, Ngati Hine, Ngati Rehia, Ngati te Wai Omahuta, Patuharakeke, Tau Iho I Te Po, Te Rarawa, Te Rawhiti, Te Roroa, Te Uri O Hau, and Te Uri o Hikihiki.



Tena koutou

We are pleased to report that we have a greenhouse full of seedlings growing happily from the seeds collected in your rohe earlier this year.

As reported the collection was very successful this year with all mana whenua groups rallying to work with Fredrik and the BioSense team. With a huge logistical effort there was a grand total of 650 trees collected from, between 7th February and 31st March.

Once the bags of cones were received at Scion, Gordon, Catherine, and the team set them out to dry until the cones burst open releasing the seed. The seeds were then separated from the bracts and 100 viable seeds from each bag (a single tree family) were sown in our Kauri facility.

In approx. 10 – 14 days germination occurred and 40 of each have been pricked out into individual cell trays. These 40 will be grown on in preparation for testing against *Phytophthora agathidicida* in September 2020, when they are 15 months old.

Forty of each doesn't seem a lot of each, but reality is, that's all we can fit into our kauri house. That's still 26,000 which is a significantly large testing programme.

It also means that there are significant amounts of seed being held in storage at Scion ready for the next programme of research and/or made available to grow up to repatriate into their natural habitats.

Of the 650 families there are approximately 150 that we need to sow more of to reach the 40 which shows the variation in germination rates. We have started counting the germination numbers and this will be interesting information that we can get to you once it is reconciled.

Recently you will have seen our media release on the kauri cone collection which appears to have been very well received. It was Scion's most popular news story on our website and most popular tweet for March. It was covered in the major news outlets, which also led to Nari being interviewed on Radio NZ Afternoons with Jesse Mulligan.

Ngarimu's visit

In May, we enjoyed a visit by Ngarimu Besselink (Patuharakeke) and he shares his story here:

*In March I went to Pukekauri as part of our Patuharakeke Kaitiaki team to help collect kauri cones as part of the establishing whakapapa lines project for screening for resistance to Kauri Dieback. I got to join Freddy Hjelm and the other arborists and climb one of our Rangatira kauri trees on the slopes of our pa site, Rangiora. Once I got in the harness I abseiled up a massively tall kauri tree into the canopy. I could see right out over the Whangarei Harbour, it was awesome. Our trees had heaps of cones that were sent down to Scion in Rotorua for screening. I decided I wanted to see what happened to our kauri seeds when they got to Scion. In May I visited Scion and Gordon gave me a tour of the nursery where I could see our baby trees growing. I went and saw the freezer where the seeds are stored before they are planted out. I also went to the lab where I looked through a microscope and saw what *Phytophthora agathidicida* looks like.*



I decided I wanted to do my science fair project for school on kauri dieback. I am going to look at whether kauri dieback infected soil affects seed germination. I will use 3 trays; one with clean soil (from Pukekauri which is kauri dieback free), a control soil (potting mix) and infected soil (from a confirmed infected site in somewhere else in our rohe) and compare them. I think I would also like to know if our rangatira seeds make any difference, so I will do the same trial using only the seeds from the tree which I collected from. I would like to thank SCION for showing me around, it was really interesting.

Ngarimu Besselink (Patuharakeke)



Ngarimu inspecting the seedlings in the kauri house



Ngarimu amongst the stored seed

Return of your excess 2019 seedlings

Now that our kauri house is full to bursting and the seedlings are settling well into their individual pots for the next 15 months, we would like to know if you're keen and able to receive any of your seedlings (leftover still in punnets) back? There would be up to 60 seedlings (in 1 punnet) of each family.

Team members will be coming north August to October, so this will be a good opportunity for delivery.

We will be in touch personally about this shortly.

2017 collection seedlings

Your 2017 seedlings are quite happy in our shade environment. They are currently pretty hungry in their pots, but that's helpful for their ability to withstand the Rotorua frosts – and we're getting some good ones. It also helps with their planting out as once they get into a warmer environment and better soil they will just take off.

As discussed previously, we need to repatriate these seedlings to you and will be in touch shortly with planting options for your consideration.

Key messages

As the spokespeople for this work we have listed below a few key messages you are welcome to share with your communities:

- Testing on seedlings from the 2016 and 2017 collections are showing that there is definitely variation in resilience to kauri dieback amongst kauri.
- The remaining 2017 seedlings are ready to be returned to the respective mana whenua groups.
- The collection done in 2018 was from healthy looking trees in infested areas and the testing will start on these in August at Manaaki Whenua Landcare Research in Auckland. The testing will take at least 6 months to complete.

Like you all, we are still waiting to see what funding is available for this work through the allocation to the Bio-heritage National Science Challenge. We are also advocating for the research funding to be met with funds for operational management to support field testing and long-term management on the ground.

Nga mihi

Nari and Vicky