



Seed collection guidelines



1 March 2022, Version 1.0





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What is eco-sourcing?

Eco-sourcing

Eco-sourcing is where seeds are collected and grown for restoration plantings from:

- naturally growing plants in the area surrounding the revegetation site
- and from places which match its climatic and environmental conditions

Seed should be sourced from as close as possible to your planting site. There are no simple distance rules that apply equally to all plants.

Identify what seed to collect

- Use planting plans to determine the amount of seed to be collected per species
- Not every seed will germinate so you need to account for this when collecting seed.
- Take into account the amount of time required to grow species to a stage suitable for planting. This often means you need to collect seed ~1.5 years in advance for initial species and ~3 years for future canopy species.

Finding collection sites:

- Contact mana whenua, Council specialists or local experts who may be able to provide advice on possible locations of target species which are in close proximity to the planting site.
- Ensure you have landowner permission to visit site and then subsequently collect seed. In order to collect seed from local parks and regional parks an application needs to be submitted and approved by Auckland Council¹.
- Undertake a scoping trip early in the season (ideally when flowering) to locate populations of the target species to confirm species identification and estimate when plants will fruit. Take GPS coordinates and record a description of how to relocate populations.
- Collect as close as possible to the planting site

Confirming identification of the target species:

- Target species need to be accurately identified. Familiarise yourself with the key characteristics of the species using online resources, field guides or seek advice from specialists.
- Take any identification resources with you into the field and consider inviting along someone who is more familiar with the identification of the species if required. Plant identification apps can be used to assist with plant identification but need to be sense-checked.
- Take detailed photos of the key characteristics of the species in the field if the identification needs to be verified.

¹ Local Parks: <https://www.aucklandcouncil.govt.nz/licences-regulations/Pages/landowner-approvals.aspx>
Regional Parks: <https://www.aucklandcouncil.govt.nz/licences-regulations/commercial-activity-park/Pages/apply-research-seeds-plants-regional-park.aspx>

Seed collection guidelines

What plants to collect from?

- Ensure populations are natural (i.e. not planted) - if you are unsure seek advice.
- Collect only from healthy specimens e.g. no signs of disease or insect infestations.
- Check the habitat of the target species. It is vital to collect seed from a similar habitat to where the plants will be planted so they have a good chance of survival.

Assess the size of the population of the target species:

In order to have a representative sample of the target species, seed should be collected from many individual plants randomly across the extent of the population (ideally at least 50). If the population is small, you may need to find another population of the same species.

Collecting seed

Timing of seed collection:

Time seed collection when plants will be fruiting based on known information on fruiting times and the results of your scoping trip. Seed must be collected at the optimum stage of development. Look for:

- Changes in fruit or seed coat colour
- Fruits breaking or splitting open
- Seeds rattling
- Dry and hard seeds
- If seed has already dispersed.

You want to collect seed when the plant would naturally disperse it so that it has fully developed and is viable. So, if you see seed fallen this is a good indicator it's time to collect seed. You can perform a cut test of seed to see if the inside of the seed has fully formed, is entire and is white in colour and if all these criteria are met, then seed is suitable for collection. Note that for some species there may be variability in fruit timing even within one population.

Seed collection kit:

Gear that might be needed to collect includes;

- Plastic and paper seed bags
- Seed collection labels
- Secateurs, loppers, extension loppers,
- Gardening gloves
- Plant identification books
- Methylated spirits or 70% alcohol
- Kauri dieback hygiene kits (i.e. brush and trigene)
- Notebook and pen/pencil

Seed collection guidelines

How to collect seed:

- Avoid areas with kauri to minimise the risk of spreading kauri dieback. If you need to collect seed from areas with kauri follow kauri dieback hygiene protocols and do not collect seed from the ground.
- Tools used should be cleaned before and after use with methylated spirits or 70% alcohol to prevent the spread of myrtle rust and kauri dieback.
- Ideally you want to collect from at least 50 individuals to genetically represent a population.
- When sourcing seed it is important to ensure that seed collection does not impact on natural populations.
- Do not collect more than 10% of seeds on a single plant so that there are sufficient seed available for natural regeneration. For example if there is 100 fruit on a tree only take 10 fruits if there is one seed inside a fruit.
- Do not remove too much of the plant.
- For endangered plant species which have small natural populations it is recommended that advice is sought from Council specialists. This is because it is even more important to ensure collection doesn't endanger natural populations and to ensure plants will be planted in the appropriate habitat and location.
- Fleshy fruits should be put in plastic bags and stored in the fridge and dry fruits/capsules should be put in paper bags and stored out of the fridge. This prevents the fleshy fruits from rotting and the dry fruit/capsules from sweating.
- Deliver seed as quick as possible to the nursery, ideally weekly.

Record keeping:

It is important to keep detailed records of which plants have been sourced from.

Write clearly on the bag label and provide details such as date, species, number of seed and collection locality information.

Data to record for each collection should include:

- Species name
- Date of collection
- Collector name
- Location of collection (description and GPS coordinates)
- Number of plants you collected/sampled from