



# He Kākano: How to set up a native plant nursery



This resource aims to assist schools and communities in starting their own backyard/community nurseries. It is a collaboration between Whitebait Connection and Te Aho Tū Roa.



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# Introduction

Growing your own native plants is exciting. There are so many reasons to start your own nursery. You may want to grow plants to make sure you are getting closely eco-sourced seed, or to save money in a restoration project, or to get your whānau and community engaged and educated on plants. 'Nurseries' can exist in many different shapes and sizes. You may want to start by keeping a few plants in your yard with some shade cloth draped over them, or you may want to create a full-blown community nursery producing thousands of plants to sell or donate. Whatever your space, capacity or level of knowledge is, this booklet is for you.





# Seeds

Seed collecting can be a really fun activity and is usually the start of a backyard nursery. Check out the [He Kākano Seed Collecting Guide](#) to help you get started. Once you have collected some seeds it is important you know how to get them off to a good start. Here are the sowing instructions from our seed collecting guide.



# Sowing instructions

1. Find yourself a container. This might be a seed tray, a recycled plant pot or an old egg carton. The most important thing is that it can hold soil and has drainage holes to let excess water out.
2. Fill it 3/4 full with soil. Ideally this will be seed raising mix or potting mix. If you don't have access to these, use what you have on hand.
3. Wet the soil so it is soaked through and dripping out.
4. Gently sprinkle the seeds you have collected on top of the wet soil, careful not to spread them too thick.
5. Cover the seeds with a small amount of seed raising mix, to cover all of the seeds (any seeds showing might get eaten or dug up by birds or mice).
6. Put the tray or pot in a sheltered spot that you can check on and water regularly. It doesn't have to be a sunny spot, lots of native seeds like germinating in a slightly shady spot and then moved into a sunnier spot when they are a bit older.
7. Water regularly, but there is no need to keep the tray soaking wet. Wait patiently and watch your seeds germinate. Most seeds will take between 2-4 weeks but some may take a few months.



Awesome, you have germinated your first native seedlings!



# Soil

Depending on your budget and number of plants you are wanting to grow, you'll find different soil options. Here at He Kākano, we buy trailer loads of premium potting mix from a local landscaping shop. If you only have a few trays of plants you may only need a bag-full. If a 'make your own' style is more your approach, have a go at composting. Mix some well-rotted compost with some topsoil from your garden, this will be a great substrate for your plants.

The most important things to consider when finding soil for your plants are:

- Is it free draining? (lets water out)
- Does it have enough food/nutrients for the plant to use until it is ready to be planted?
- Is it safe and easy to handle?
- Is it weed free?



**Note:** If you are buying potting mix do not confuse 'seed raising mix' and 'potting mix'. Seed raising mix is especially for germinating seeds and that's all, so there is a short sharp burst of nutrient, and very fine particles. Do not use this potting on your seedlings as they will run out of food! Potting mix can come in different grades, we use premium because we know our seedlings need enough food to last them a year in the same pot, so in we get the mix with slow release fertilizer, but it does increase the price.



**Safety First!** There is a risk of coming into contact with the bacteria that causes Legionnaires disease when handling soil or potting mix, especially those that have come in a sealed bag. To keep yourselves safe, always use gloves, keep it away from your face and wash your hands well before eating and drinking. If you are using the soil in way that it could become airborne, wear a mask.





# Water

Watering is the most important factor in keeping plants alive. If you have a small group of plants, hand watering with a watering-can or hose will be fine. During winter we turn our irrigation off completely, because the increased rate of rain and shorter daylight hours ensure the soil stays moist. It is even more important that plants in small pots get watered as limiting their root growth and soil volume will make them dry out faster. The bigger the pot/bag the more water it will hold, but the more space it will take up. It is a fine balance.



In a small backyard nursery, if you are hand watering, check the soil moisture every second day if it is hot and sunny. There are many different types of watering systems, as long as they reach all of the plants you plan to take care of and is regular, your plants will thrive. If you are setting up an alkathene sprinkler system, most shops will be happy to give you advice on types of alkathene, sprinklers and water rates. The most important thing is the soil in your pots are moist all the way through, with no dry spots. It is also important to have drainage to let out excess water as plants can drown if they are in a pool of water for too long. Find some irrigation ideas [here](#).





# Pests

Pests come in lots of different forms. We don't use chemicals to suppress weeds at He Kākano although this is an option that many commercial nurseries use. Hand weeding is our preferred method and with help from our volunteers it isn't so daunting. Pull any weeds out of your pots to stop them robbing nutrients and sunlight from your native species. Be firm enough to get the root but gentle enough not to disturb the plant you are trying to grow.



We put metal frames on the germinating trays and newly potted seedlings to deter neighboring pet cats coming and lying on/digging up the soil. This may not be an issue where you are. These can be removed when the plants are big and strong enough (knee height). It is also handy to have these frames and extra shade cloth over a row of newly potted up plants to give them an extra bit of shade to prevent transplant shock (Mānuka especially).





Keep an eye out for other pests including insects such as mites. Also look out for diseases such as kauri dieback and myrtle rust. Make sure you are familiar with the symptoms and learn more [here](#). We also trap for rats, mice and stoats.

Slugs and snails love nibbling on new seedlings, you can tell if these have been around by the little bite marks and their slimy trails. You may want to consider using slug pellets.



There are also invasive weeds to keep an eye on, the last thing you want to do is transfer noxious weeds to a new restoration site. Some common weeds are Tradescantia, jasmine, moth plant and Selaginella. Check out common plant pests [here](#).



Tradescantia



Jasmine



Moth plant



Selaginella





# Set up



**Sunlight-** Use some sort of shade cloth. This comes in different thicknesses, I would recommend 30% for most species and 50% for shade lovers. This is a plastic woven material that protects the newly potted up seedlings from full sun as some natives can go into shock.

**Wind-** Wind can be hard on small plants, bending them and tearing their root structure. Shade cloth fixed vertically can help limit the wind in your area. Once the plants are potted on and have well established roots, introducing a little more sun and wind can be handy in hardening off the plants ready to plant out.



**Weed mat-** You won't always need to use store bought weed mat under your plants, you just need something to keep the weeds out but lets the water drain away. You could use thick newspaper or carboard, bricks, plastic or silage wrap (on a slight slope so water doesn't pool around pots).



**Space-** Find space that you already visit regularly to keep an eye on moisture, weeds and growth. Ideally find a space that is not in full shade but not full sun either. When plants are young and newly potted, they need shade. If you are working on a small scale, start in a shady area, then move your nursery to a sunnier spot when plants are more well established. Different species like different amounts of sun. Mānuka for example can handle lots of sun once established but plants like Kawakawa always need shade. But both need shade when they are newly potted on. A couple of months before they are planted out, give them full sun and a little wind in order to toughen them up for the real world, we call this 'hardening off'. Make sure you have paths in order to get around and check on plants. They should be big enough to not damage and knock over your plants. **Note: Some natives (such as Pūriri and Kohekohe) cannot handle any frost, if you are in a frosty area make sure you bring your plants inside over winter or only grow frost tolerant species. Learn more [here](#).**



# Activities

[Kiwi Conservation Kids Activities](#)

[Experiencing native trees in your green space](#)

[He Kākano Seed Collecting Guide](#)

[He Kākano Puka Kohi Kākano](#)

[DOC: How to plant a tree](#)

[Whitebait Connection Resources](#)

[MPI Pests and Diseases](#)

[Kauri Dieback Information](#)

[DOC native seed information](#)

[Trees that Count activities](#)

[Twinkl native tree activities](#)

[Predator Free NZ Activities](#)

[Native tree conditions](#)

[Youtube: Red Earth Nursery seed collecting and sowing](#)



