Propagation Guide Manawatū

A practical resource and living guide to aid in seed collection, processing, and sowing of common New Zealand grasses, trees, and shrubs, endemic to the Foxton and Manawatū Plains Ecological District.

Written By: Kristin Berge

Kawakawa nursery

MANAWATŪ DISTRICT COUNCIL

About The Author

Kristin Berge

Native Plant Nursery Assistant
Kawakawa Nursery

Kristin Berge has been working at Kawakawa Nursery since 2022, with a particular focus on the propagation space. She holds a New Zealand Certificate in Horticulture, though much of her hands on knowledge has come from learning alongside others at the nursery.

Raised in the Manawatū, carrying whakapapa connections to Te Waipounamu, and spending plenty of time in Hawke's Bay, Kristin loves being out in nature whether in the backyard, the forest, or on the water.

Kristin is passionate about encouraging hands on participation in restoration and conservation projects. Through her work and with the release of this guide, she hopes to make knowledge accessible and inspire more people to care for Aotearoa's unique environment.

Kawakawa Nursery

Since 2016, Kawakawa Nursery, run by Manawatū District Council and based in Feilding, has been working to bring native plants back into local landscapes. Focusing on eco-sourced riparian and wetland species, we grow plants that help restore habitats and support the region's biodiversity.

As part council's ongoing commitment to environmental care, Kawakawa Nursery works alongside community groups, iwi, other councils, businesses, and schools to provide healthy, affordable plants for a wide range of restoration projects. Our team brings together diverse environmental skills and a shared passion for caring for the land.

Using seed, cuttings, and division, we nurture strong, resilient plants that have taken root in places like Awahuri Forest's Kitchener Park, regional council projects, and parks and reserves all across the region. Every plant we grow is part of a bigger effort to help nature thrive and our environment flourish.

"Ko au te whenua, ko te whenua ko au."
I am the land, and the land is me.

Kawakawa Nursery Team
Paige Mey, Mary-Ellen Gregg, Kristin Berge, Kuuipo Searancke

Purpose of the Propagation Guide

Propagating Native New Zealand Plants

We're excited to share the knowledge our team at Kawakawa Nursery has gathered. Knowledge built through hands-on experience, trial and error, and the generous insights of other passionate experts in the field.

One of our most valuable references has been Lawrie Metcalf's The Propagation of New Zealand Native Plants, which helped guide many of our early trials.

This guide is designed to be a living, evolving resource for anyone interested in propagating native plants for their local environment. We've intentionally left space beside each species for your own notes and updates as you adapt and improve these methods to suit your conditions.

You'll also find blank template pages at the end of the guide. These are there for you to add new species or completely overhaul existing processes as fresh insights and techniques emerge. As you learn more, this guide will continue to grow just like the plants it supports.

Overview of Process

Collecting

This guide mentions several collection sites, however most species are left blank for you to add your own. Please collect only from council reserves unless you have a permit from The Department of Conservation to collect from national and/or scientific reserves. The guide also features the ideal time of the year to collect seed locally and tools required.

Processing

Every species has different requirements and techniques. We will go over a few of the main methods that we use to process seed.

Sowing

Along with different processing methods, each seed also has different techniques for sowing. There will also be a handy guide included on weighing seed.

This guide contains images for easy indentification of the different species. This images are generaly broken down to these three categories

Overview

Foliage

Seeds

Index

Karakia

This section is credited to Kuuipo Searancke

Ko au ko Koe, ko Koe ko au
I am you, you are me
Te waiora o Papatūānuku
The life-sustaining waters of mother earth
Te Hauora o Ranginui
The life-sustaining air of father sky
Ko te taiao ko au, ko au te taiao
Nature is me, I am nature
He kākano i ruia mai i Rangiātea
A seed sown from creation
E kore e ngaro.
Never to be lost
Tihei mauri ora!
The breath of life!

The first and most important rongoā is the connection we have with Atua (God) and which is realized through the power of Karakia.

Key Principles for Seed Collection

Permission First
Always get landowner permission, and if it's conservation land, a permit from DOC (Department of Conservation) is usually required. For Māori land or culturally significant areas, consult and gain consent from the local iwi or hapū.

Kaitiakitanga
Collect with the mindset of being a guardian, not just a user. Take only what you need, leaving enough for the plant to regenerate via natural dispersal and for wildlife to use.

Minimal Impact
Avoid damaging plants, soil, or surrounding habitat.
Use clean tools and hands to prevent spreading disease or pests.

Right Time, Right Way
Harvest at the appropriate time when seeds are mature.
Don't take seeds from rare or struggling species unless you're part of an approved conservation project.

Acknowledge and Give Back
Offer a karakia or gesture of thanks to Papatūānuku.
Share knowledge and, if possible, support replanting or restoration efforts.

Tikanga

Making our connection to Papatuanuku through karakia (acknowledgement) is important to Māori before seed collection. When you are seed collecting never strip the plant's seeds, take some, and leave the rest for the birds/forest floor.

Eco-source where possible, collect from within the area you will be re-planting the trees, assisting in kaitiakitanga of the space. This ensures the adaptations of the plants will continue and the population will continue to grow. Try to collect from a few different 'parent' plants, in order to preserve their genetic variation and whakapapa (genealogy).

How to Weigh Seed

Not all seed can be weighed using the below method. Some seeds, such as Kānuka seeds , are very small. Other seeds are difficult to separate from debris. Both of these things can result in inaccurate readings.

WHY DO WE WEIGH SEED?

Weighing seed is not a must, and most hobbyists sow seed visually. However, if you want to accurately monitor and check your germination rates, these weights will provide a baseline. Secondly, we weigh seed to reduce likelihood of over or under-sowing seed.

Step 1

Choose a weight (in grams) that will provide a sample number of around 50-100 seeds. Weigh out 4 samples of your selected weight, and count the amount of seed in each.*

*If you're not sure which weight to start with, you can count out the first lot of 50-100 seeds and then weigh it to get an idea. Don't include this first count in your calculations.

(A)		(B)
0.5g	=	48
0.5g	=	51
0.5g	=	56
0.5g	=	51

Step 2

Carry out the following equation on each sample:

A ÷ B X 100 = C

(0.5 ÷ 48) x 100 = 1.04
(0.5 ÷ 51) x 100 = 0.98
(0.5 ÷ 56) x 100 = 0.89
(0.5 ÷ 51) x 100 = 0.98

Step 3

Work out the average of **(C)** to get **(D)**

$$\frac{(C) + (C) + (C) + (C)}{\text{Number of samples (4)}} = (D)$$

$$\frac{(1.04 + 0.98 + 0.89 + 0.98)}{4} = 0.97\ (D)$$

Step 4

Weigh **ALL** the seed to find the **TOTAL** weight.
Let's use 25 grams as an example.

To find the TOTAL NUMBER OF SEEDS use the following equation:

Total Weight ÷ Average (D) X 100

(25 ÷ 0.97) x 100
= 2,577 total seeds

Step 5

Choose the number of seeds you require per tray **(E)** and multiply this by the average weight **(D)**. Divide this by 100.

This will provide the weight in grams to be weighed out for each individual seed tray.

(E) X (D) ÷ 100

$$\frac{(216 \times 0.97)}{100} = 3 \text{ grams to be weighed for each seed tray}$$

Template for Weighing Seeds

Chosen weight: .....g

Step 1

(A) Sample #	(B) How many seeds per sample
.....g	.....
.....g	.....
.....g	.....
.....g	.....

Step 2

(C) = A ÷ B x 100

.....

.....

.....

.....

Step 3

(D) = The average weight of 100 seeds

(C)..... + (C).....+ (C)..... + (C)..... ÷ 4

(D) = ...

Step 4

Total weight of all seed = (T) .....g

How many seeds are there in total?

(T).....g ÷ (D) ..... x 100

= ..... seeds in total

Step 5

How many seeds do you want per seed tray?

..... seeds/tray (E)

(D)..... X (E).....

÷ 100

= ..... grams/tray

Always ensure you push 'TARE' button on the scales before weighing each sample. This returns the scales to zero and removes weight of the cup/dish holding the seeds. Always round your weights to two decimal places.

Alectryon excelsus
Tītoki/NZ Oak

Seed collection and processing

Titoki seeds can be collected in Spring and Summer when the capsules are opening and the red fruit is visible.
Common seed collection points are:
•Kōwhai Park •Mt Lees •Almadale Reserve

Once the seeds have been collected, you will need to remove the capsule and the fruit. If the capsule is still closed, you will need to gently hammer or press the capsule to open it.

Stratification and storage

Titoki seeds will need to be soaked in hot water overnight before being sown into trays. Titoki seeds lose viability quickly and will need to be sown immediately.

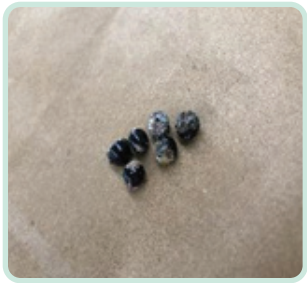
Seed sowing

Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Scatter them on the tray and press down with a wooden press. The seeds then need to be covered with a layer of seed raising mix that is the same thickness as the black seed. Before taking them to the greenhouse, don't forget to water lightly.

Transplanting seedlings

Titoki seedlings can be collected and then transferred into tubes of potting mix. You need to ensure that the seedlings collected are potted up straight away or promptly placed in water to prevent them from drying out and dying. Seedlings can be found around the base of mature titoki trees, our common seedling collection points are listed above.

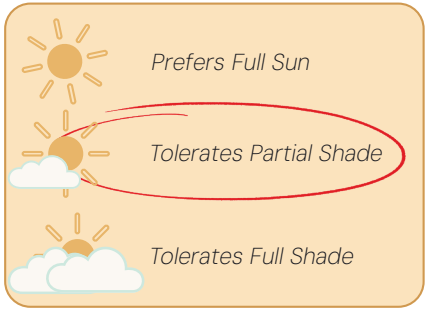
Germination time Should start to occur in 2 months time.



Notes

Māori traditionally used an oil made from Tītoki for treating joint pain, earache and skin irritation. The wood was typically used to create handles for tools and weapons as well.

The red Tītoki fruit is edible and has a mild, sweet flavour. However, it can leave an unpleasant dry texture in the mouth.



Aristotelia serrata
Makomako/Wineberry

Seed collection and processing

Wineberry seeds can be collected in Summer when the berries are dark purple/black. Seed collection points are:

- Kōwhai Park
- Mt Lees

Once collected, the fruit will need to be removed from the seed to aid germination and prevent rot/mould/fungus growing. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can place it in a ziplock bag and use your fingers to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

To decant, put all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage:

Cold stratify the wineberry seeds for 3-4 weeks before sowing. Wineberry seed stores best in a cool, dry place.

Seed sowing:

Sow the seeds in a regular seed tray filled with 100% seed raising mix. Scatter them on the tray and cover with a layer of seed raising mix that is the same thickness as the seed. Press/flatten the top of the tray. Before taking them to the greenhouse, don't forget to water lightly.

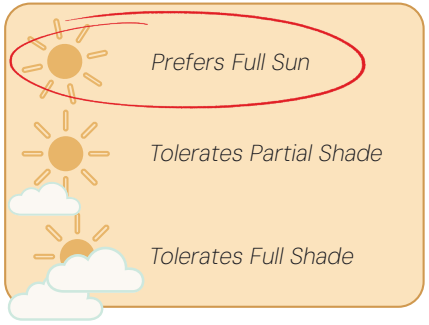
Germination time: Should start to occur in 2 months time.

Notes

Makomako is a plant with a great number of healing properties. It has traditionally been used to cure a wide range of skin problems, and body aches and pains.

Along with having medicinal uses, the plant has been used for producing wine, and the wood has been burned to aid in the production of gunpowder.

The berries on the plant are edible however the seeds in the centre are bitter-tasting.



Austroderia fulvida
Toetoe

Seed collection and processing
Toetoe seeds can be collected in early Summer to autumn when the white fluffy seeds are shedding from the flower head.

Stratification and storage
No stratification required, seeds may not store well for long periods.

Seed sowing
Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds **very lightly** with seed raising mix, they do require light to germinate. Before taking them to the greenhouse, don't forget to water lightly.

Germination time
Should start to occur in 2 months time.

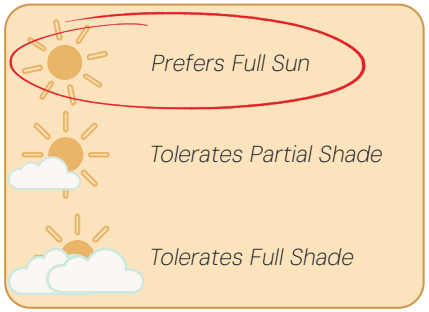
Notes Toetoe seed trays may benefit from being placed under misters with special care taken to avoid over-watering and prevent dampening off.

Notes

Toetoe flower heads have historically been used in New Zealand to line the inside of houses and other buildings. It has also been used in tukutuku panels.

Special care must be taken when identifying toetoe for seed collection due to its similarity to pampas grass.

As a general guide, toetoe flowerheads are typically a golden colour and the stems droop downwards rather than pointing straight up.



Beilschmedia tawa
Tawa

Seed collection and processing

Tawa seeds can be collected in Late Summer to Autumn when the fruit is dark purple. Seed collection points are: • Almadale Reserve

Once the seeds have been collected, you will achieve the best germination rates by removing the purple fruit from the outside. These seeds need to be sown straight away as they lose viability quickly. They can be cool-moist stored for up to 1 month if required.

Stratification and storage

None required. Can be cool-moist stored for up to one month if they cannot be sown straight after collection.

Seed sowing

Sow the seeds in a regular seed tray, with 100% seed raising mix. The seeds are large and pricking out/potting up the young plants will be easier if each seed is spaced out and individually planted into the tray. Once the seeds are spaced out on the surface of the soil, they can be pressed into the top with a wooden press, they do not require a top layer of soil. Before taking them to the greenhouse, don't forget to water lightly. Once moved to the greenhouse, you will want to cover them with crates to prevent any predation.

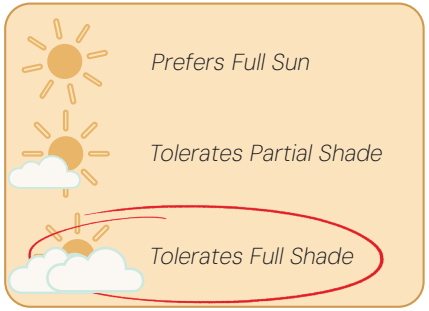
Germination time

Generally, the first seedling will appear after 2 months time, with the rest following behind.

Notes

There are many old legends and phrases surrounding the Tawa tree.

"The Tawa has a soft berry, but a hard kernel. A cowardly person was likened to the berry, but a brave person was compared to the kernel"



Cyperus ustulatus
Toetoe upoko tangata/ Giant umbrella sedge

Seed collection and processing

Toetoe upoko tangata seeds can be collected in Summer.

Common collection points are: • Timona Park

Once the seed heads have been collected, you can shake them out into a bag to release the individual seeds for sowing.

Stratification and storage

Seeds store well, and can be kept in the fridge or a dry storage container.

Seed sowing

Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Scatter them evenly on the tray and cover lightly with seed raising mix. Alternatively, Cyperus ustulatus can be sown straight into root trainers or small cell seed trays for easy splitting and repotting later. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

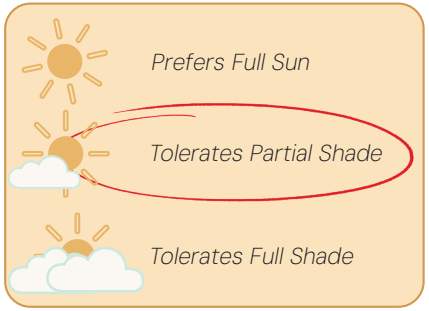
Generally, the first seedling will appear after 2 months time.

Notes

Toetoe upoko tangata is an excellent wetland and riparian plant. It thrives in waterlogged areas, but is also able to tolerate a well-draining soil.

Cyperus ustulatus is a very robust grower and can reach a height of up to 2m, and a width of 1m.

In the past, it has been used by Māori for thatching and weaving. Beware of its sharp leaf blades when collecting seed!



Carex lessoniana
Rautahi/Cutty Grass

Seed collection and processing

Rautahi seeds can be collected in early Summer to autumn when the seed is brown and dry. Seed collection points are: • Mt Lees

Use gloves to strip the seeds off of the strands of grass and into your bag. To remove any debris from the seed, place all the collected plant matter into a sieve and sift until only the seed remains, or winnow.

Stratification and storage

No stratification required. Seed stores well.

Seed sowing

Seeds can be sown directly into seed trays/pots/root trainers. There will be a different mix of soil type depending on which kind of tray you're using. It is optional to top trays lightly with more seed raising mix once the seed has been sown onto the surface. Before taking to the greenhouse, don't forget to water the trays lightly.

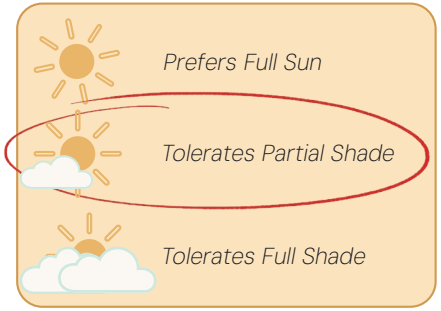
Germination time

Germination can be sporadic and weather dependent. In warmer weather, seeds may germinate in as quickly as a few weeks. When colder, it may take up to 4 months.

Notes

Rautahi is a spreading sedge that is great for damp ground.

Carex lessoniana is primarily used in riparian plantings to assist with riverbank stabilisation.



Carex secta
Pūrei /Swamp Sedge

Seed collection and processing

Pūrei seeds can be collected in early Summer to autumn when the seed is brown and dry. Use gloves to strip the seeds off of the strands of grass and into your bag. To remove any debris from the seed, place all the collected plant matter into a sieve and sift until only the seed remains, or winnow seed.

Stratification and storage

No stratification required. Seed stores well.

Seed sowing

Seeds can be sown directly into seed trays/pots/root trainers. There will be a different mix of soil type depending on which kind of tray you're using. It is optional to top trays lightly with more seed raising mix once the seed has been sown onto the surface. Before taking to the greenhouse, don't forget to water the trays lightly.

Germination time:

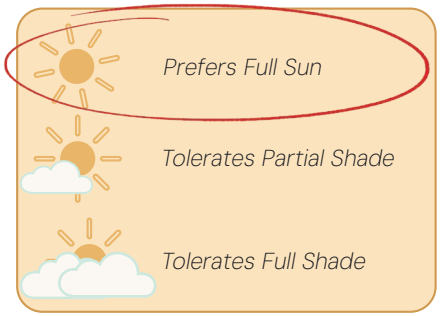
Germination can be sporadic and weather dependent. In warmer weather, seeds may germinate in as quickly as a few weeks. When colder, it may take up to 3 months.

Notes

Pūrei is commonly used for enhancing wetlands and ponds.

Mature specimens form thick trunk-like bases up to 1 metre tall.

Carex secta is similar to Carex virgata. However, C. secta grows better in swampy areas, grows larger and is slightly more of a golden colour than C. virgata.



Carex virgata
Pukio/Swamp Sedge

Seed collection and processing

Carex virgata seeds can be collected in Summer through to autumn when the seeds are brown and dry. Use gloves to strip the seeds off of the strands of grass and into your bag. To remove any debris from the seed, place all the collected plant matter into a sieve and sift until only the seed remains.

Stratification and storage

No stratification required. Seed stores well.

Seed sowing

Seeds can be sown directly into seed trays/pots/root trainers. There will be a different mix of soil type depending on which kind of tray you're using. It is optional to top trays lightly with more seed raising mix once the seed has been sown onto the surface. Before taking to the greenhouse, don't forget to water the trays lightly.

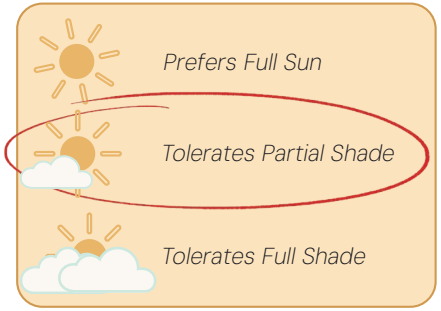
Germination time

Germination can be sporadic and weather dependent. In warmer weather, seeds may germinate in as quickly as a few weeks. When colder, it may take up to 4 months.

Notes

Pukio is similar to Carex virgata. However, C. secta grows better in swampy areas, grows larger and is slightly more of a golden colour than C. virgata.

Pukio is a colonising plant and grows well in wetlands, drain margins and boggy pasture.



Coprosma propinqua Mingimingi

Seed collection and processing

Typically, as the seed hybridizes too easily, we do not collect it and instead opt to order it in where possible. Otherwise cuttings are also a good alternative. No processing required for purchased seed.

Cuttings

Take 10cm long cuttings, remove the lower leaves, dip the end in rooting hormone, and pot up into trays of cutting mix. In 6 months time, cuttings should have good roots and be ready for potting on.

Stratification and storage

4 week cold stratification. Store in a cool, dry place.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

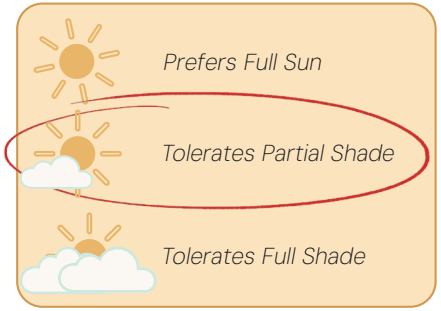
Germination time

Germination should begin to occur in 2-3 months

Notes

Mingimingi is an important food source for native birds, the fruit is also edible to humans. The roasted seed has been known to be consumed as a coffee substitute.

Mingimingi plants are either male or female, a single plant cannot be both. This means that both male and female plants must be grown together if seed is required.



Coprosma repens
Taupata/Mirrorbush

Seed collection and processing

Mirror Bush seeds can be collected in autumn when the seeds have turned from green to orange. Seed collection points are:

- Green Spine
- Himitangi Domain

Once the seeds have been collected, you will need to remove the fruit. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can use a wooden press or rolling pin to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

No stratification required. Seed stores well.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

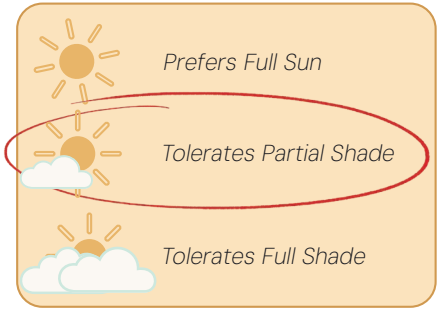
Germination time

Germination can take up to 12 months, however may occur quicker in warmer weather.

Notes

The wood of Taupata repens can be used to craft yellow dye.

Taupata repens plants are either male or female, a single plant cannot be both. This means that both male and female plants must be grown together if seed is required. However, coprosma repens is usually found in areas where there are multiple plants growing together, so it does not typically pose an issue for seed collection.



Coprosma rigida
Stiff Karamū

Seed collection and processing

Coprosma rigida seeds can be collected in autumn when the seeds have turned from green to orange.

Once the seeds have been collected, you can either sow direct or remove the fruit first. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can use a wooden press or rolling pin to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

Store in a cool, dry place.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

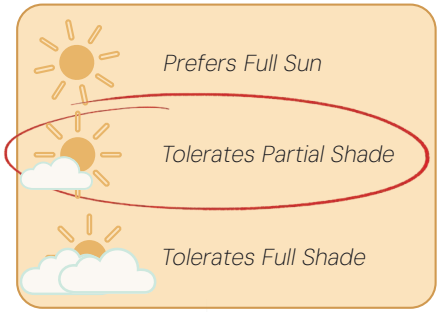
Germination time

Germination should begin to occur in 2-4 months.

Notes

The fruit of Coprosma rigida is eaten by many native animals, and the seed is typically dispersed by birds.

Coprosma rigida can be planted in dense, waterlogged soil. It is particularly good for planting along water margins.



Coprosma robusta
Karamū

Seed collection and processing

Coprosma robusta seeds can be collected in autumn when the seeds have turned from green to orange. Seed collection points are:

- Green Spine
- Kowhai Park
- Timona Park

Once the seeds have been collected, you will need to remove the fruit. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can use a wooden press or rolling pin to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

Store in a cool, dry place.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

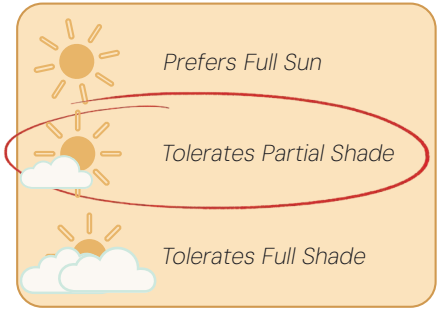
Germination time

Germination should begin to occur in 1-2 months.

Notes

The original translation of 'coprosma' is "smelling like dung" and refers to the smell given off by the crushed leaves of a few coprosma species.

The fruit of coprosma robusta is edible, with a mildly sweet taste.



Cordyline australis
Tī Kouka/Cabbage Tree

Seed collection and processing

White flowers appear in the spring and are followed by white berries in the autumn containing several black seeds. Seeds are ripe between January and May.

Once the seeds have been collected, you will need to remove the fruit. To soften the fruit first, it will need to be soaked in a bowl of hot water over night. After the fruit has been softened, you can put it into a ziplock bag and gently use a hammer or other heavy object to squish the fruit. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. You may want to repeat this process a couple of times if there is a lot of fruit left which has not been mashed. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

Cold-moist stratify for 6 weeks.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

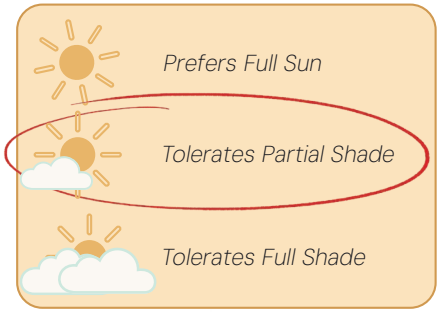
Germination time

First seeds should begin germinating in up to 6 weeks.

Notes

Historically Tī Kouka has been an extremely useful plant in New Zealand as food, fibre and medicine. The root, stem and top are all edible. The fibres were typically separated by a long cooking time or by breaking the fibres up before cooking.

The leaves were woven into baskets, sandals, rope, rain capes and other items and could also be made into tea to cure diarrhoea.



Dacrycarpus dacrydoides
Kahikatea/White Pine

Seed collection and processing

Kahikatea seeds can be collected from the forest floor.

Seed collection points are: •Mt. Lees •Almadale Reserve

Once the seeds have been collected, you will need to remove the fruit. To do this, put the plant matter into a ziplock bag and press the seeds to separate them from the fruit. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. You may want to repeat this process a couple of times if there is a lot of fruit left which has not been mashed. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

No stratification required.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

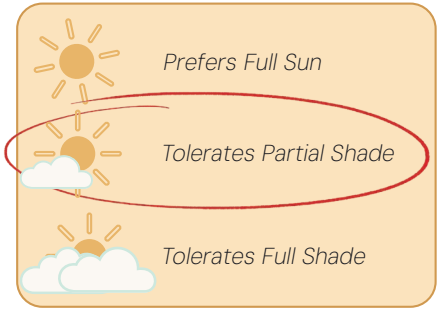
Germination time

Germination should begin to occur in 2-4 months

Notes

Kahikatea berries are edible. Kahikatea is the tallest New Zealand native tree.

Traditionally, the soot of burnt Kahikatea wood was used as a pigment for tā moko



Dacrydium cupressinum
Rimu/Red Pine

Cuttings

At the nursery, Rimu is typically propagated by doing cuttings. Rimu is known for having sporadic 'good' and 'bad' years for seed (~every 7 years), so seed collecting each year is not a reliable option. Along with being hard to collect, it is also slow to germinate.

Autumn is the best time to get cuttings underway when the plants have just had an influx of new growth. Take 10cm long cuttings of branches showing an upright growth (pointing to the sky, rather than drooping down). It is important that the cuttings are upward growing; downward facing branches will not grow well, if at all, and will not make for an attractive tree.

After the cuttings have been collected, dip the end in rooting hormone, and put them all into open seed trays full of cutting mix. They can be quite dense in the trays.

Root Development

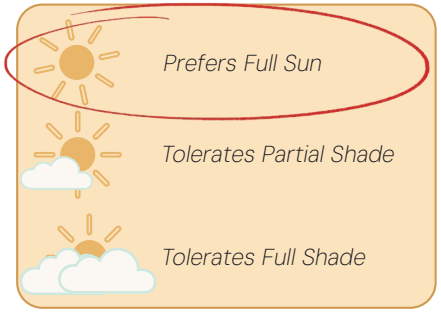
It can take some time for the cuttings to grow roots, in 6 months' you may begin to see some roots forming.

Notes

The first beer brewed in New Zealand was a spruce beer made using the young tips of Rimu in 1773.

The inner bark of Rimu can be used to treat burns and cuts.

Rimu seed is a major part of the diet of birds and introduced mammals in New Zealand



Dodonaea viscosa
Akeake/Sticky Hop Bush

Seed collection and processing

Akeake seeds can be collected in Summer. Ensure you collect while the seed is still slightly green as they are often quickly predated after appearing.

Seed collection points are: • Timona Park Walkway

Cover with derris dust immediately after collecting.

Stratification and storage

No stratification required.

Seed sowing

Sow the seeds in a regular seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

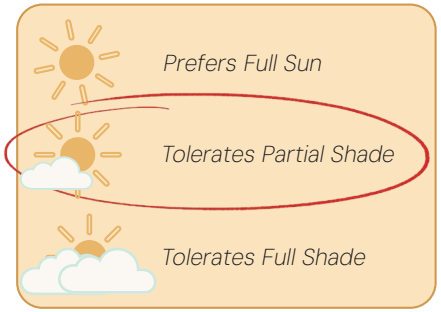
Seeds germinate very well; germination may start to occur in as little as 2 weeks' time, or up to 3 months in colder weather.

Notes

Akeake often grows purple due to a mutation not originally found 'in the wild'. The mutation spread rapidly mostly due to nursery production of the plant. Akeake is a self-fertile plant, and a large number of seeds from the purple akeake will also grow purple plants.

Akeake is the heaviest of New Zealand woods, and is also one of the hardest and most durable.

It is difficult to find true Akeake that is endemic to the Foxton Ecological District.



Eleocharis sphacelata
Kuta/Tall Spike Sedge

Seed collection and processing

Harvest blades of grass that are laden with the ripe seed. Once collected, scrunch the seed heads with hands or rub onto a sieve to separate. Winnowing can help to remove unwanted material. This is done by choosing a day with a light breeze and sprinkling handfuls of the seed slowly into a bowl. The light, unwanted seed casings should be blown away while the heavier seed falls into the bowl.

Stratification and storage

2-4 weeks cold stratification

Seed sowing

There have been a number of different techniques developed for the propagation of Eleocharis by seed. Typically, it is done in large plastic storage bins after the seeds have been soaked in bleach. The bottom of the bin is filled with soil, water is poured until it hits 30cm in height, and then the seed is put into the container. The water is kept at a steady level for a certain amount of time until it is periodically reduced.

Further information about sowing this species should be sought.

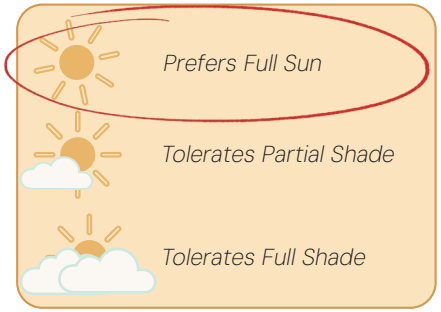
Germination time

Germination can be extremely erratic, sometimes taking up to 11 months, if it germinates at all.

Notes

The stalks (culms) of Kuta are popular for weavers. The culms are flattened, then woven into kete, mats and more.

The roots and rhizomes of kuta form large mats, and help stabilize the sediment in bodies of water. The hollow stems pump oxygen down to the rhizomes, enabling it to grow in deeper water. The stems also pump waste gases from the bottom, back to the atmosphere. This encourages debris decomposition and nutrient turnover.



Geniostoma rupestre
Hangehange/NZ Privet

Seed collection and processing

Hangehange seeds can be collected in Summer to early autumn. The capsules should be collected before they split open, just when they begin to dry out. Seed collection points are:

•Road sides in Pohangina and Apiti

Once collected, let the seed capsules dry out completely. Over time, the capsules will split open releasing the seeds. Once they have been released, break up the clusters before sowing.

Stratification and storage

No stratification required

Seed sowing

Sow the seeds thinly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Disturbance to the plants' roots can occur when pricking out, hence the need to sow thinly. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly

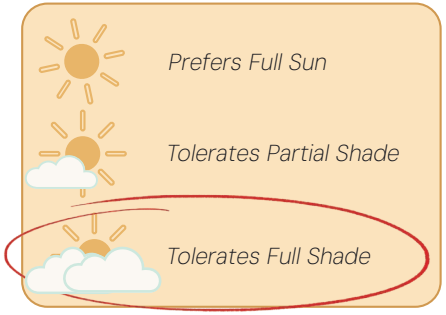
Germination time

Germination should begin to occur in 8 weeks time.

Notes

Hangehange has been reported to have medicinal value, and has been used in the past to treat skin conditions.

The small nectar of the hangehange flowers attract flies and other small insects; the insects in turn assist with pollination.



Hebe stricta Koromiko

Cuttings

Hebes are typically propagated by doing cuttings. Summer time is the best time to get cuttings underway when hebes have an influx of new growth. Seed collection points are: •Timona Park

Take 10cm long cuttings, remove the lower leaves, dip the end in rooting hormone, and pot up into tubes of cutting mix. In 6 months time, cuttings should be rooted and ready for potting on. Take 10cm long cuttings, remove the lower leaves, dip the end in rooting hormone, and pot up into tubes of cutting mix. In 6 months time, cuttings should be rooted and ready for potting on.

Seed collection and processing

If you're opting to propagate by seed, hebe seeds can be collected from March to June, before the seeds capsule begin to turn brown and open.

Once collected, put the seed capsules into a bag in a warm dry area. The capsules will open and the seeds will be released into the bag. Once all the capsules are open, sieve into a bowl to remove any debris.

Seed sowing

Using a regular seed tray, fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. In a bowl, combine the hebe seeds and some seed raising mix. The ratio should be 1 large pinch of seeds to 1 large handful of seed raising mix. Spread the mix thickly over the top of your trays. Before taking them to the greenhouse, don't forget to water lightly. Keep an eye out for dampening off.

Germination time

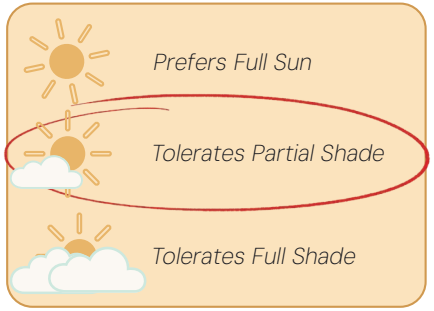
Germination can begin in as little as 2 weeks, or take up to 4 months. If propagating by seed, it is vital to ensure the young plants do not get fungal disease as they will often die shortly after. Adequate airflow, a thin sow and not overwatering are all ways you can manage this.

Notes

Hebes are very prone to fungal disease. If propagating by seed, ensure they are placed in an area with adequate air flow, and commence pricking out once they are large enough.

The name hebe comes from Greek mythology; it means 'youth' or 'bloom of youth'.

Hebe is in the largest genus of New Zealand shrubs, in total there are almost 80 species.



Hoheria sexstylosa
Houhere/Long-Leaved Lacebark

Seed collection and processing
Lacebark produces flowers in February to April, and seeds can be collected in May to June.

Seed collection points are:• Green Spine

Try to collect branches with plenty of flowers on them which are still green, as usually predation will not have occurred yet. Once collected, apply derris dust to the plant matter. Strip the flowers containing the seeds from the branches and sow. If the seed is very green, allow to dry out first before putting into the fridge.

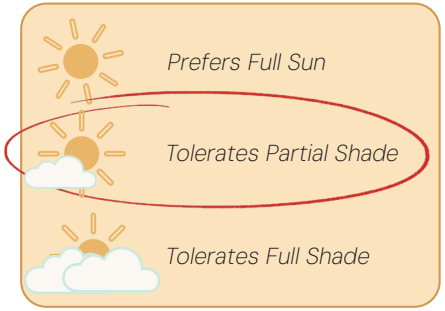
Stratification and storage
4 weeks cold stratification in fridge.

Seed sowing
Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Do not cover the seeds with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time
In warmer weather, seeds may germinate as quickly as in a few weeks. When colder, it may take up to 3 months.

Notes

Houhere's inner bark has often been used for decorative weaving. For kete, headbands and the trim on hats and korowai



Kunzea robusta
Kānuka/White Tea Tree

Seed collection and processing

Kanuka seeds can be collected around March when capsules appear on the trees, but have not yet opened fully to release the seed inside. The perfect time to collect is when you can see a few capsules have started opening, but a majority still remain closed.

Once you have collected the branches containing seed capsules, leave them in a brown bag in a warm, dry area to allow them to release the seed. Shake the branches off into the bags and set aside. Kanuka seed is a red/orange colour and is very small. Carefully pour the seed into a bowl and sieve until there is no debris/leaves remaining in the seed. Capsules will not open all at once and you will be able to harvest some seed every couple of days by returning the branches back to the bags after each collection.

Stratification and storage

No stratification required

Seed sowing

Seeds can be sown a number of ways, directly into pots/trays of regular potting mix or into an open seed tray. Fill the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Do not cover the seeds with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

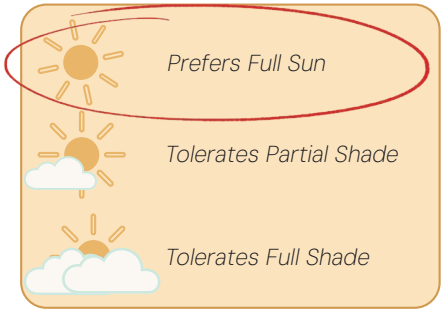
Germination time

Germination may begin to occur in as little as a couple of weeks, however may take up to 4 months.

Notes

Kanuka and Mānuka look very similar, care must be taken when eco-sourcing seeds to ensure you are collecting from the correct plant.

As a guide, Mānuka flowers tend to be larger and grow on their own, whereas Kānuka flowers are smaller and tend to grow in bunches. Kānuka leaves are also softer than Mānuka leaves, you can test this by running the branches through your hand.



Leptospermum scoparium
Mānuka/Tea Tree

Seed collection and processing

Mānuka seeds can be collected around March when capsules appear on the trees, but have not yet opened fully to release the seed inside. The perfect time to collect is when you can see a few capsules have started opening, but a majority still remain closed.

Once you have collected the branches containing seed capsules, leave them in a brown bag in a warm, dry area to allow them to release the seed. Shake the branches off into the bags and set aside. Kanuka seed is a red/orange colour and is very small. Carefully pour the seed into a bowl and sieve until there is no debris/leaves remaining in the seed. Capsules will not open all at once and you will be able to harvest some seed every couple of days by returning the branches back to the bags after each collection.

Stratification and storage

No stratification required.

Seed sowing

Seeds can be sown a number of ways, typically we would sow these directly into pots full of regular potting mix that are already outside. This should be done on a relatively still day to prevent the seeds from being blown away. Leave a small swirl of seeds in the centre of the pot and don't cover, it is also optional to poke a small hole into the soil first and then sprinkle the seed into the hole. This helps to keep the plant centred in the pot. Don't forget to water lightly, this will also prevent the seed from being blown away.

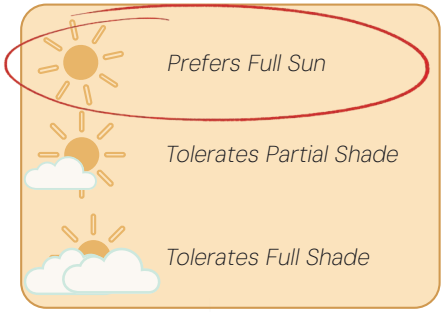
Germination time

Germination may begin to occur in as little as a couple of weeks, however may take up to 4 months.

Notes

Kānuka and Mānuka look very similar, care must be taken when eco-sourcing seeds to ensure you are collecting from the correct plant.

As a guide, Mānuka flowers tend to be larger and grow on their own, whereas Kānuka flowers are smaller and tend to grow in bunches. Kānuka leaves are also softer than Mānuka leaves, you can test this by running the branches through your hand.



Machaerina articulata
Jointed Twig Rush

Seed collection and processing

Machaerina seeds can be collected from November to May, when the seed heads are brown. Harvest blades of grass that are laden with ripe seed. Once collected, scrunch the seed heads with hands or rub onto a sieve to separate. Winnowing can help to remove unwanted material. This is done by choosing a day with a light breeze and sprinkling handfuls of the seed slowly into a bowl. The light, unwanted seed casings should be blown away while the heavier seed falls into the bowl.

Stratification and storage

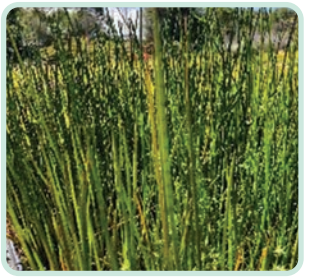
Cold-moist for 4-6 months optional.

Seed sowing

Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

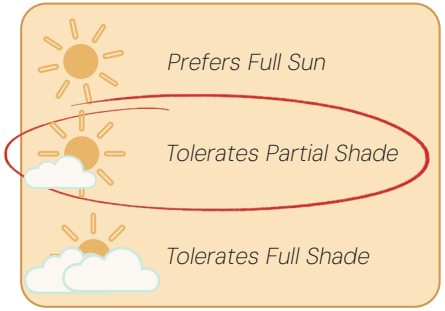
Germination time

Seeds may take up to 9 months to germinate.



Notes

Historically, Machaerina has been used to make traditional Māori piupiu.



Melicytus ramiflorus
Māhoe/Whiteywood

Seed collection and processing

Mahoe seeds can be collected between February and April when seed is purple. Once the seeds have been collected, you will need to remove the fruit. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can use a wooden press or rolling pin to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

Sow fresh if possible. Fresh seed will germinate in 2 months. When cold stored for 2 months and then sown, germination timeframe is increased to 6 months.

Seed sowing

Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

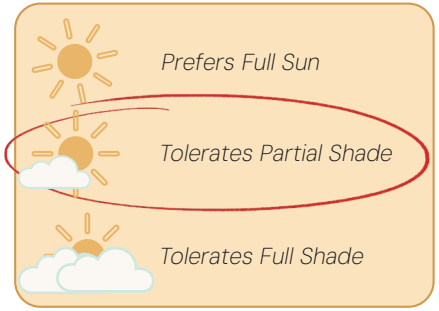
Germination time

Germination should begin to occur in 2-6 months time.

Notes

Most Māhoe have two flowering periods per year in spring and summer.

The flowers of the Māhoe are shaped like a cup. The flowers pool with nectar and have a strong scent, it is a great food source for bugs and other creatures



Myoporum laetum
Ngaio/Mousehole Tree

Cuttings

Ngaios are also commonly propagated by doing cuttings. Winter is the best time to get cuttings underway with 10cm long cuttings of semi-hardwood. Dip in rooting hormone and pot up into seed trays of cutting mix. Cuttings should be ready for potting on the following Autumn. Cutting collection points are: •Kowhai Park

Seed collection and processing

Seed collection and processing: If you're opting to propagate with seed, Ngaio seeds can be collected in early Summer to autumn, following the bloom of its white flowers. Seeds are ready for collection once they turn purple.Once the seeds have been collected, you will need to remove the fruit. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can use a wooden press or rolling pin to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

You do this by putting all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Germination time

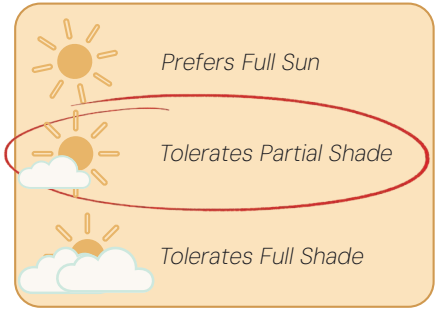
The seeds may germinate in 2 months.

Notes

Ngaio leaves contain a liver toxin, Ngaione. This can be fatal to livestock.

Rubbing the leaves of the Ngaio tree onto your skin can deter sandflies and mosquitos.

NZ Ngaio has leaf buds which are black and resinous/sticky, along with dotted leaves. Tasmanian Ngaio which is very similar, has green leaf buds which are not sticky.



Myrsine australis
Māpou/Red Matipo

Seed collection and processing

Red matipo seeds can be collected around autumn when small fleshy fruit is black.

Seed collection points are: • Green Spine

Once collected, no processing is required and fruits can be sown directly into a seed tray.

Stratification and storage

No stratification required

Seed sowing

Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

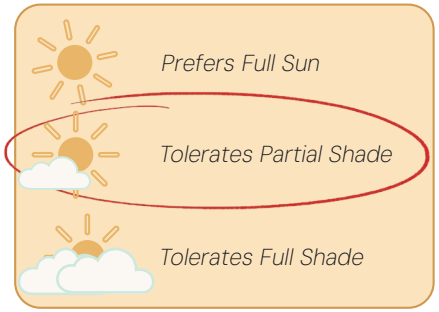
Germination time

The seeds may germinate in 2 to 3 months, dependent on temperature.

Notes

Māpou is a very adaptable plant and once established, it can live both in drought and frost prone conditions.

In Māori tradition, Red Matipo was considered a sacred tree. Small sprigs were often plucked, dipped into sacred water and sprinkled on people/items that required cleansing or blessing.



Olearia solandri
Oheria/Coastal Shrub Daisy

Seed collection and processing

Olearia Solandri, Coastal Shrub Daisy, seeds can be collected in late Summer- Autumn when the white fluffy seeds are shedding from the flower head.

Seed collection points are: • Green Spine

Once collected, shake the seed heads into a large bag to loosen them. You can pull the branches between your fingers to strip any stubborn flowers/seeds that don't fall off when shaken. Take care to remove any large pieces of branch/wood that may come off with the seed.

Stratification and storage

No stratification required.

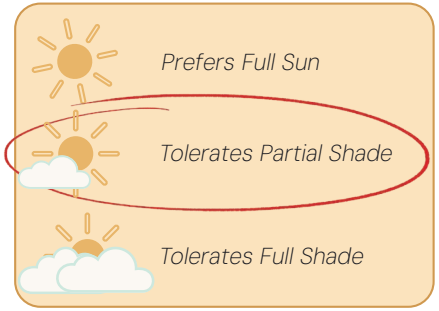
Seed sowing

Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and 1/3 with seed raising mix. You will want to sow the seed so thick as to cover the surface of the tray completely. Sprinkle a very light covering of seed raising mix on top, it's okay if some of the fluff is still exposed. Before taking them to the greenhouse, don't forget to water lightly.

Germination time The seeds may germinate in 2 months.

Notes

Oheria is capable of living in a wide range of environments. They are often a first choice for coastal locations, but are also very well suited to alpine conditions also.



Olearia virgata
Twiggy Tree Daisy

Seed collection and processing

Olearia Solandri, Coastal Shrub Daisy, seeds can be collected in late Summer- Autumn when the white fluffy seeds are shedding from the flower head. Once collected, shake the seed heads into a large bag to loosen them. You can pull the branches between your fingers to strip any stubborn flowers/seeds that don't fall off when shaken. Take care to remove any large pieces of branch/wood that may come off with the seed.

Stratification and storage

No stratification required

Seed sowing

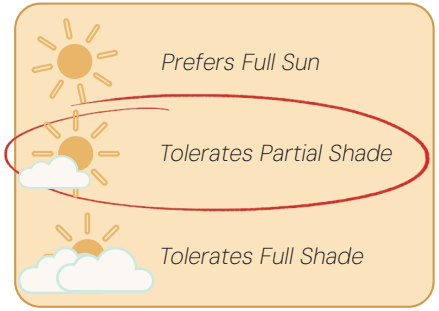
Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. You will want to sow the seed so thick as to cover the surface of the tray completely. Sprinkle a very light covering of seed raising mix on top, it's okay if some of the fluff is still exposed. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

The seeds may germinate in 2 months.

Notes

Olearia Solandri is capable of living in a wide range of environments. They are often a first choice for coastal locations, but are also very well suited to alpine conditions also.



Phormium cookianum
Whariariki/Mountain Flax

Seed collection and processing

Mountain Flax seeds can be collected around Summer, February-April. It is best to collect them before the seed pods burst open and begin dispersing the seeds, so monitor your seed source closely coming up to collection time. Seed collection points are:

•Green Spine

To collect the seeds, use a pair of loppers to cut off the large flower spikes. Place them into a bin or a large bag, take care as the seed pods do not take much effort to split open when very ripe. To process, simply twist each pod and shake the seed out.

Stratification and storage

No stratification required.

Seed sowing

Use a regular seed tray and fill the bottom 2/3rds with potting mix, spread a layer of seed raising mix on top. Sprinkle the seeds onto the tray evenly and cover lightly with seed raising mix until no seeds are visible. Before taking them to the greenhouse, don't forget to water lightly.

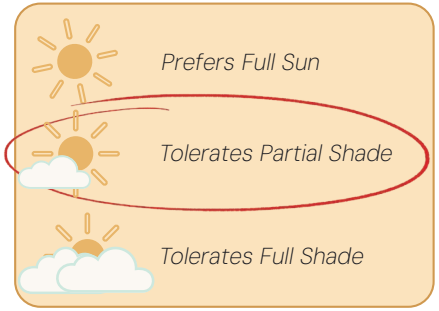
Germination time

The seeds may germinated in 2 months.

Notes

Whariariki and Swamp Flax can look similar when very young, Mountain Flax is the smaller of the two species, typically only growing up to 1.5m tall with flower spikes up to 1m tall.

The shiny black seeds of Mountain Flax can also be smaller than those of the Swamp Flax.



Phormium tenax
Harakeke/Swamp Flax

Seed collection and processing

Swamp Flax seeds can be collected around Summer, February-April. Seed collection points are: •Green Spine

It is best to collect them before the seed pods burst open and begin dispersing the seeds, so monitor your seed source closely coming up to collection time.

To collect the seeds, use a pair of loppers to cut off the large flower spikes. Place them into a bin or a large bag, take care as the seed pods do not take much effort to split open when very ripe. To process, simply twist each pod and shake the seed out.

Stratification and storage

No stratification required.

Seed sowing

Use a regular seed tray and fill the bottom 2/3rds with potting mix, spread a layer of seed raising mix on top. Sprinkle the seeds onto the tray evenly and cover lightly with seed raising mix until no seeds are visible. Before taking them to the greenhouse, don't forget to water lightly.

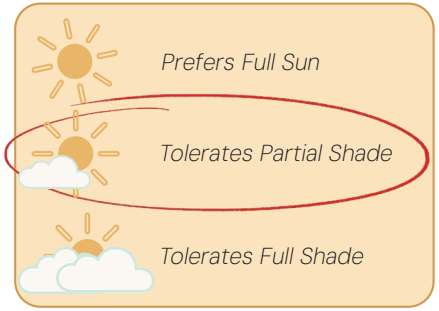
Germination time

The seeds may germinate in 2 months.

Notes

Mountain Flax and Swamp Flax can look similar when very young, Swamp Flax is the taller of the two species, typically growing up to 3m tall with flower spikes reaching up to 3.5m tall.

Many Swamp Flaxes grown from seed naturally take on a deep purple hue, among other colours. Typically though, they will be a deep grey-green.



Pittosporum eugenoides
Tarata/Lemonwood

Seed collection and processing

Lemonwood seeds can be collected in autumn when the seed capsules turn black and begin to open.

Seed collection points are: • Kowhai Park

Once collected, the capsules can be split open by hand and the black seed put into a bowl. You can then add sand to a bowl and mix around until the seed is no longer sticky.

Alternatively, the capsules can be left whole and placed into a food processor with dull blades and some sand. Process until the capsules look broken down and much of the seed is in the bowl, and then sieve with a colander to separate the seed from the capsule debris. You may need to do this a couple of times to get all of the seed.

Stratification and storage

4-12 weeks cool-moist stratification optional.

Seed sowing

Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

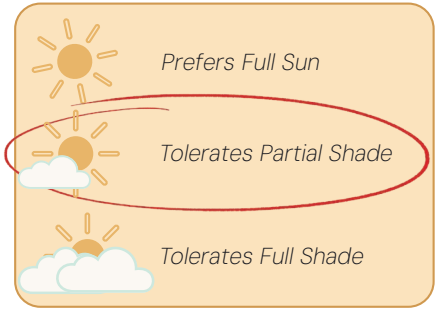
Should begin to occur in 2-4 months.

Notes

Tarata flowers between October and December. The following year after flowering, the seed capsules will open.

The capsules open the year following flowering because the fruit of the lemonwood takes between 12 and 14 months to ripen.

There is unripe fruit and ripe fruit present on the lemonwood at the same time, this is the current season's fruit and last season's fruit. For this reason it is very important to ensure you do not strip the tree entirely of its seed.



Pittosporum tenuifolium
Kōhūhū/Black Matipo

Seed collection and processing

Black Matipo seeds can be collected in autumn when the seed capsules turn black and begin to open.

Seed collection points are: • Timona Park

Once collected, the capsules can be split open by hand and the black seed put into a bowl. You can then add sand to a bowl and mix around until the seed is no longer sticky.

Alternatively, the capsules can be left whole and placed into a food processor with dulled blades and some sand. Process until the capsules look broken down and much of the seed is in the bowl, and then sieve with a colander to separate the seed from the capsule debris. You may need to do this a couple of times to get all of the seed.

Stratification and storage

4-12 weeks cool-moist stratification optional.

Seed sowing

Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

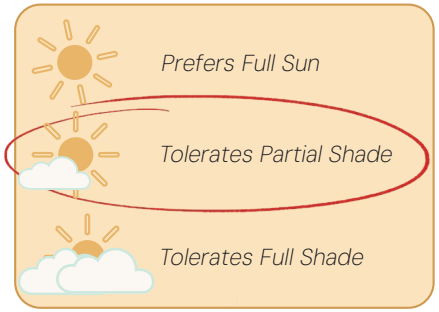
Germination can be uneven and sporadic, some information suggests that it could take up to 8 months for all seeds to finish germinating. You can expect to see some germination occurring within the first couple of months.

Notes

Traditionally, the gum/sap from Kōhūhū was used by Māori in perfumes due to its sweet aroma.

It has also been recorded that parts of the Kōhūhū have been used to treat eczema, dandruff and other skin diseases.

The sweet smelling nectar from the flowers of Kōhūhū attract beneficial insects that help with pollination.



Piper excelsum
Kawakawa/Pepper Tree

Seed collection and processing

Kawakawa seed can be collected in December-January, you'll want to monitor your seed source closely and collect as soon as they start turning from green to orange; Birds are fond of the seed, and predation is likely to occur. •Kōwhai Park

Once collected, the fruit will need to be removed from the seed to aid germination and prevent rot/mould/fungus growing. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can place it in a ziplock bag and use your fingers to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

To decant, put all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage:

No stratification required. Sow fresh, or dry and store.

Seed sowing

Sow the seeds in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

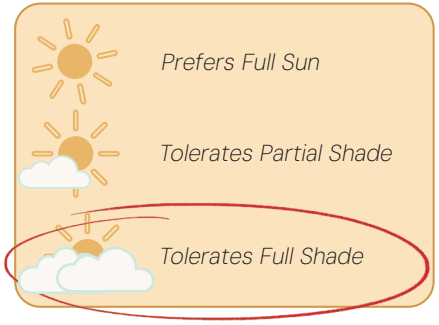
Should begin to occur in 2-3 months.

Notes

Kawakawa is a plant of many uses, the leaves and fruit are edible, both having a peppery flavour. The plant has also served many functions in rongoā māori for centuries.

To make kawakawa tea, simply steep a couple of leaves in hot water.

The leaves of the plant, when dried, have multiple applications. They can be sprinkled into food as a substitute for pepper, or they can be burned to repel insects.



Plagianthus divaricatus
Mākaka/Saltmarsh Ribbonwood

Seed collection and processing:
The small brown seed capsules of Saltmarsh Ribbonwood ripen and can be collected in summer, following their influx of flowers in the spring. Once collected, leave the seed capsules in a brown bag. Eventually, the capsules will split open to release the seeds and you'll be able to use a sieve to separate the seed from the unwanted plant matter.

Stratification and storage:
4 weeks cold stratification will help speed up and even out germination time.

Seed sowing:
Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

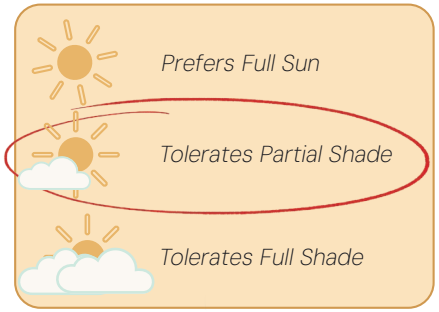
Germination time
Should begin to occur in 4-6 months.

Cuttings
Saltmarsh Ribbonwood can also be propagated by doing cuttings. December-March is the best time to get cuttings underway when Saltmarsh Ribbonwood has an influx of soft new growth. Take 10cm long cuttings, remove the lower leaves, dip the end in rooting hormone, and pot up into tubes of cutting mix. In 6 months time, cuttings should be rooted and ready for potting on.

Notes

Mākaka produces small, cream-coloured flowers with a strong vanilla scent.

The seed capsules contain a single seed and a thick sow will be required, as insects often get to the seeds first.



Plagianthus regius
Manatu/Ribbonwood

Seed collection and processing

Ribbonwood seed can be collected in early Summer. Seed collection points are: •Almadale Reserve

Once collected, derris dust the seed immediately to deter pests. Strip the seeds from the branches by running the stems in between your fingers. There will likely be some small twigs that remain in the seed by the end of this process, however the seed will be sown especially thick to combat this, along with insect predation.

Stratification and storage:

No stratification required

Seed sowing:

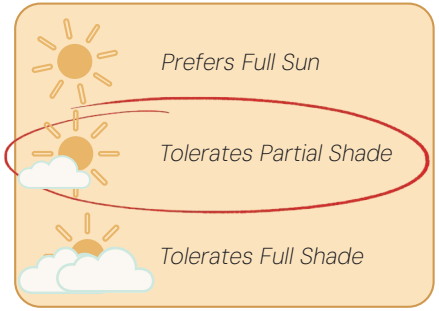
Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

Should begin to occur in 4-6 months.

Notes

The Manatu seed capsules contain a single seed. As insects often get to the seeds first, you may be able to spot small holes bored into the seeds. A thick sow is always recommended due to insect predation.



Podocarpus totara
Tōtara

Seed collection and processing

Tōtara seeds can be collected in Autumn when the small fruit is turning red. Seed laden branches can be harvested if close enough to the ground, or the seeds can be scooped from the forest floor at the base of the tree. Seed collection points are: •Kōwhai Park

Once collected, shake the seed in a sieve with large holes to remove the unwanted plant matter. Pluck the seed off the red fruit, particularly if storing, to reduce the chances of rot/mould/fungus growing.

Stratification and storage

Cold stratification of 4-6 weeks is recommended.

Seed sowing

Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

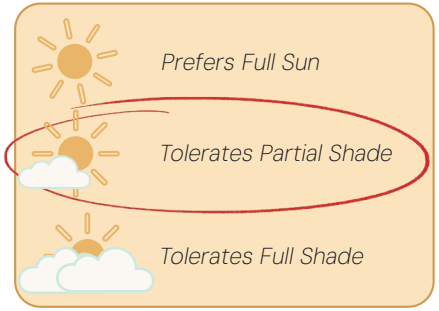
Germination time

Germination should occur in 6+ weeks time.

Notes

The Tōtara is an especially large and strong tree, symbolic of many things in Māori culture. From strong leaders, respect and longevity, to wisdom and divination.

Tōtara have historically been used in the construction of houses and waka, among many other things. The tree also has medicinal properties, it was typically used for treating fevers and skin disorders.



Prumnopitys taxifolia
Mataī /Black Pine

Seed collection and processing

Mataī seeds can be collected from female trees in early Autumn when the fruit is turning purple. They can either be harvested directly from the tree, or collected from the forest floor. However, be aware they are a favourite food of many of our native bird species and seed infrequently. Our common seed collection points are:• Kōwhai Park

Once collected, the fruit will need to be removed from the seed to aid germination and prevent rot/mould/fungus growing. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can place it in a ziplock bag and use your fingers to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

To decant, put all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

Cold stratification of 4-6 weeks is recommended.

Seed sowing

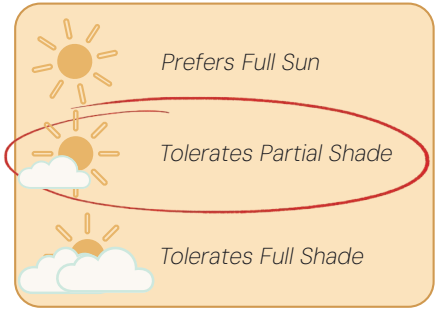
Sow the seeds thickly in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

Germination is unpredictable and notoriously sporadic. Expect to see germination occur in bursts over the course of up to 3 years.

Notes

A tree of many uses, the hard and durable wood of the Matai has historically been used for a number of things. Carvings, instruments, buildings, eel pots, handles for tools and weapons, furniture and even dyes. Medicinally, the bark also has uses treating stomach issues and inflammation.



Pseudopanax arboreus
Whauwhaupaku/Five-Finger

Seed collection and processing

Five Finger seeds ripen one year after flowering. Collect when the fruit is black, around March-June. Seed collection points are:

•Prevalent on roadsides in Pohangina and Apiti

Once collected, the fruit will need to be removed from the seed to aid germination and prevent rot/mould/fungus growing. To soften the fruit first, it will need to be soaked in a bowl of water over night. After the fruit has been softened you can place it in a ziplock bag and use your fingers to carefully mash the fruit, taking care to not damage the seed. Once the fruit has been mashed into a pulp you will be able to decant the unwanted fruit and non-viable seeds.

To decant, put all of the fruit/seed matter into a bowl and filling it with water. The viable seed should sink to the bottom, leaving only the waste floating on the top. Slowly swirl the water in a circular motion with your hand to create a gentle whirlpool. Tilt the bowl slightly and allow the water and pulp on the top to flow out. At the end of this process, you should only be left with the viable seeds in the bottom of the bowl.

Stratification and storage

4 weeks cold stratification.

Seed sowing

Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

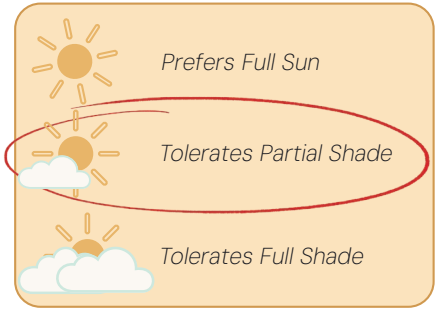
Germination time

Germination should begin to occur in 2-6 months time.

Notes

Whauwhaupaku prefers a warm but shaded spot in the greenhouse for germination to occur.

Five Finger is a great plant for pollinators, as it produces large amounts of both pollen and nectar from June to August.



Schleffera digitata
Patē/Seven-Finger

Seed collection and processing

Seven-Finger seeds can be collected at various times throughout the year, typically from March onwards, when the fruit is swollen and either purple or white.

Seed collection points are: • Almadale Reserve

Once collected, the seeds will need to be removed from the branches. They can be sown directly into a seed tray with the fruit still on.

Stratification and storage

4 weeks cold stratification

Seed sowing

Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

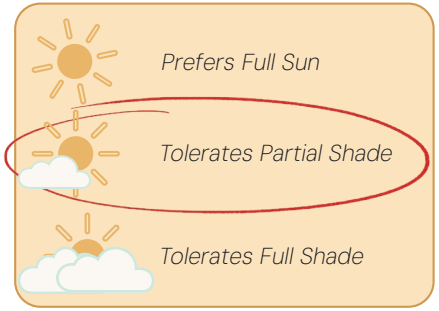
Germination time

Germination should begin to occur in 3-4 months time.

Notes

Patē is the most common host of the threatened and fully parasitic plant, the 'wood rose'.

The sap of the Patē tree has been used to treat skin conditions and sores.



Schoenoplectus tabernaemontani
Kāpūngāwhā/Soft-stem Bullrush

Seed collection and processing

Soft-stem Bullrush seeds can be collected in January-May when the seedheads are turning brown. Once collected, scrunch the seedheads with your fingers to loosen them from the stems. You can also try rubbing the seed heads against an overturned sieve. Once this is done, you may want to winnow the seed. Choose a day with a very slight breeze and carefully sprinkle the seeds from around a 30cm height above a bowl. The heavy seed will drop into the bowl and the lighter chaff will be blown away by the wind. Pick out any remaining debris and the seed is ready for sowing.

Stratification and storage

4 weeks cold stratification.

Seed sowing

Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

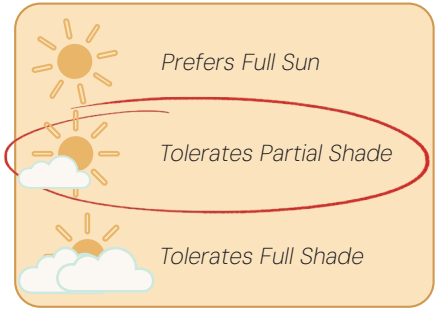
The seeds prefer a location in the greenhouse with plenty of light.

Germination should begin to occur in 1-4 months time.

Notes

Kāpūngāwhā can be found all over the world and is an extremely valuable plant for treating polluted waters and effluent. It is a vital element of many man-made wetlands.

Schoenoplectus is a target for pūkeko. The birds can strategically decimate entire wetland plantings overnight, pulling them out to eat the soft new growth at the base of the plant.



Sophora Godleyi Microphylla Kōwhai

Seed collection and processing

Kōwhai seeds can be collected over a long period from February to June when the seed pods are brown.

Seed collection points are: •Kōwhai Park

Once collected, the processing requirements of Kōwhai seed are more strenuous than others. Due to the seed being encased in a hard capsule it must undergo scarification; this allows oxygen and water to penetrate the seed and start the germination process. Put the seed into a food processor with dull blades, this will remove the brown pod from the rest of the seed and create small nicks in the yellow seed capsules. Separate the pod debris from the seed by winnowing/sifting. After this is done and the yellow seeds are the only thing remaining, boil a jug of water. Tip this along with the seeds into a bowl and let them sit overnight. The seeds will be soft by the next day and ready for sowing.

Stratification and storage

No stratification required

Seed sowing

Sow the seeds **thickly** in a regular seed tray, filling the bottom 2/3rds of the tray with potting mix and top 1/3 with seed raising mix. Cover the seeds lightly with seed raising mix. Before taking them to the greenhouse, don't forget to water lightly.

Germination time

Germination timeframes can differ depending on a number of factors, most importantly soil temperature. Anytime between 1 week to 3 months is not an uncommon span of time for germination to occur.

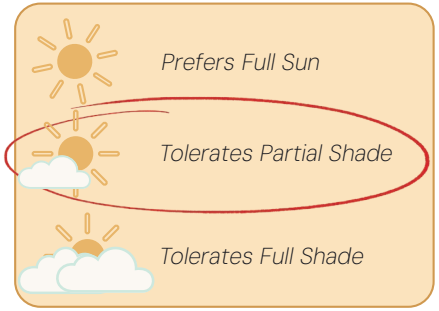
Notes

There are around 45 sophora species worldwide, with New Zealand having 8 native species.

All parts of the Kōwhai tree should be considered poisonous if ingested.

A solution made from boiling the leaves/bark of the Kōwhai tree has been used as a topical treatment for cuts, wounds and infections.

S. Microphylla has smaller leaves than that of S. Godleyi.



Seed collection and processing

Stratification and storage

Seed sowing

Germination time

Notes

Prefers Full Sun

Tolerates Partial Shade

Tolerates Full Shade

Seed collection and processing

Stratification and storage

Seed sowing

Germination time

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