



He Kākano Seed Collecting Guide



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



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Introduction

Seed collecting is an important part of what happens at He Kākano community nursery and we want to share this knowledge so more people can grow more plants, in more places. Use this resource as a starting point to learn new things, like how plants produce seeds that, if cared for, can multiply into forests.

Karakia

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!

Atua Māori

Papatūānuku (earth) & **Ranginui** (sky) – Energies of the earth and sky

Tānemahuta & **Hinewao** – Energies of the forests, birds and insects

Tāwhirimātea – Energy of the winds and weather that help the spread of seeds and pollen

Te Ihurangi – Energy of rain

Tamanuiterā – The sun whose rays are turned into food by plants through photosynthesis

Hineraumati (summer) & **Hinetakurua** (winter) – The energies of warm and cold seasonal cycles



Tikanga

Affirming our connection to the natural world through karakia (acknowledgement) is important before seed collection.

Try not to collect seeds when it is raining.

Never strip the plant's seeds; take some, and leave the rest as ngao (energy) 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 they will survive better.

Try to collect from a few different 'parent' plants, in order to preserve their genetic variation and whakapapa (genealogy).

When possible use tools such as a ladder to collect from tall trees, so you don't harm the tree by standing on it, or breaking branches, thus preserving its mauri and tapu.

Keeping yourself safe

Always obtain permission of the land owner before taking seeds and always seed collect with an adult supervisor. Be careful around tools you are using and never eat plants or seeds unless an expert has told you it is OK to do so.

The benefits of collecting seeds

Seed collecting and growing your own plants can be really rewarding. Not only is it rewarding but it is good for the planet! Plants provide oxygen, shade for streams and provide food and shelter for birds. Growing your own plants can also save money, as buying native plants can be expensive. By seed collecting and growing native plants in your area, you are caring for the environment.



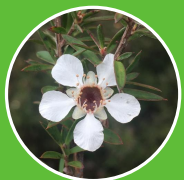


Mānuka

Tea/tī tree (*Leptospermum scoparium*)



Mānuka leaves are small, skinny and dark green. The bark is brown/red and peely. They have seed capsules from **September to May** but you can often find capsules most of the year.



Mānuka seeds starts as a flower. If pollinated, (by a bee or other insect) their petals shrivel and the base starts swelling up.

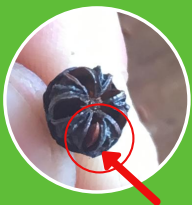


It turns from pink to a brown swollen capsule. The seeds are inside. Collect the capsules before they split open and place them in a paper bag to open.



Already empty!

Ready to pick!



Seeds inside!

Leave in a dry/warm place for two days, then look at the very bottom of the bag to find the seeds. They look like red eyelashes.



Mānuka is 'mean', kānuka is 'kind'. Grab a handful of leaves and you will find the mānuka to be much more spiky! The bark of the kānuka is more grey and can grow taller than mānuka.



Harakeke

Flax (*Phormium tenax*)



Harakeke is a large bush with very long green leaves - dark brown stalks in the middle hold the flowers and seed pods.

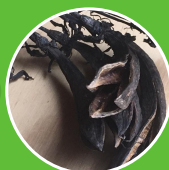
Harakeke have flowers from September to November and have seeds from **November to March**. You may notice old empty stalks from past years.



The leaves of harakeke are long and come from the base of the plant. The backs of the leaves are paler than the front and have a center 'rib'.



Pick the whole 'pod' off the harakeke stalk and it put straight into a bag or container.



Ready to plant!



Gently open the pod and let the shiny black seeds fall out.



For Māori, a 'Pā Harakeke' is used as a metaphor for family where the central shoot is likened to a 'child', while the outer shoots either side are its 'parents', 'grandparents' etc.



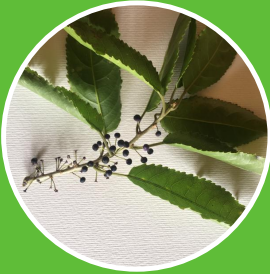
Māhoe

Whitey-wood (*Meliccytus ramiflorus*)



Māhoe have thin dark green leaves with zig-zag edges (serrations). They grow up to 10m high, often with many trunks.

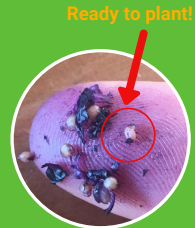
The bark of the māhoe is smooth and grey, but almost always has white patches. This is why its English name is 'whitey-wood'.



Māhoe have really sweet smelling, tiny green/white flowers, sometimes coming straight from the trunk. From **December to April** you might find dark purple berries.



Collect the purple berries (some think they look like 'mini-microphones'). Squash them between your fingers, wash in a sieve to get rid of the excess flesh and find the seeds inside.



Remembering the name: Māhoe leaves look like the 'hoe' (paddle) of a canoe, and the wood is 'mā' (white).



Tī Kōuka

Cabbage Tree (*Cordyline australis*)



Tī kōuka trees have a tuft of leaves at the end of each branch and can grow up to 12m tall.

The leaves of the tī kōuka tree are long, skinny and have slightly sharp edges. You might see a 'skirt' of old dead leaves under the fresh new ones.

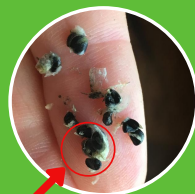


The bark is thick and grey. If you run your hand over it, it feels knobby but smooth.

Tī kōuka have berries from **December to March**. The berries are white with blue speckles. Often you will only find one bunch of berries per 'head' of leaves. Each berry may contain 1-10 seeds inside.



Get in quick! Kererū love to eat these berries. Gently squash them between your fingers, wash in a sieve to get rid of flesh and find the little black seeds inside.



Ready to plant!

Tī kōuka – Ehara i te tī, e wana ake! (Unlike the tī, it will never bud – you only live once!).



Kōwhai

(*Sophora microphylla*)



Kōwhai can grow into big trees up to 12m tall. They have beautiful yellow flowers from August to October.

The bark of the kōwhai tree is smooth and greyish, often found with patches of different colours on it.



Kōwhai have very small leaves, actually called 'leaflets'. Sometimes you can find kererū eating the new leaves. Kōwhai have seeds from **October to May**.

Seed pods can be picked when the long strands of cases are dry and brown. There is one seed inside each 'bubble'.



Kōwhai seeds have a hard yellow shell that needs to be broken in order for germination to start. Ask an adult to cut an end off with scissors or rub the seed on sandpaper until you can see the pale inside. **Caution!** Kōwhai seeds can be toxic so keep them away from young children.



Ready to plant!

Te ura o te kōwhai (The glow of the kōwhai). This refers to both the blaze of kōwhai flowers in bloom and the fierce way the tree's wood burns.



Karamū

(*Coprosma robusta*)



Karamū can grow to be 6m tall and has thick glossy leaves. The back of the leaf is often much paler.

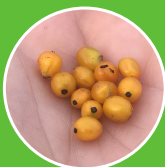
The bark of karamū is brown/grey and smooth. Karamū is shrubby with lots of different trunks.



You can collect the berries from **March to July**. The plant will often have berries of all colours, from green to orange, in each bunch.



On the left is a picture of a female karamū flower. If the flowers are pollinated they will turn into a berry.



You can pick the berries when they are bright orange. Wash and sieve the berries to expose two white, hard seeds.



Ready to plant!

Some karamū are female and some are male, but you will only find berries on the female trees!

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!



Seed calendar

Find the name of the plant you want to collect seeds from on the left of the table. Match the plant name with the month you are in along the top of the table. If it is a dark coloured square, then you are more likely to find these seeds.

Remember, not all trees and forests are the same - some plants will have seeds and some won't, so you will have to do some detective work to find where they can be found near you!

	January	February	March	April	May	June	July	August	September	October	November	December
Akeake	Orange	Orange	Orange								Orange	Orange
Harakeke	Orange	Orange									Orange	Orange
Kahikatea	Red	Red	Red									
Kānuka	Red	Red								Red	Red	
Karaka	Red	Red	Red	Red								
Karamū			Pink	Pink	Pink	Pink	Pink					
Karo	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple	Purple
Kauri	Purple	Purple	Purple	Purple							Purple	Purple
Kōwhai	Blue	Blue	Blue	Blue	Blue				Blue	Blue	Blue	Blue
Māhoe	Dark Green	Dark Green	Dark Green	Dark Green							Dark Green	Dark Green
Mānuka	Dark Green	Dark Green	Dark Green	Dark Green	Dark Green			Dark Green	Dark Green	Dark Green	Dark Green	Dark Green
Nikau	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Pōhutukawa	Light Green	Light Green	Light Green	Light Green								
Pūriri	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green	Light Green
Red Māpou	Light Green	Light Green	Light Green	Light Green				Light Green	Light Green	Light Green	Light Green	Light Green
Rewarewa	Light Green								Light Green	Light Green	Light Green	Light Green
Rimu		Yellow	Yellow	Yellow	Yellow							
Tānekaha	Yellow	Yellow	Yellow									
Taraire		Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Tarata	Orange	Orange								Orange	Orange	Orange
Ti Kōuka	Red	Red	Red									Red
Titkoki	Red	Red	Red	Red	Red	Red				Red	Red	Red
Tōtara			Red	Red	Red							
Whau	Purple	Purple	Purple	Purple	Purple	Purple						Purple

Glossary

Berry: A seed that is covered with a little fruit. This often makes it delicious for birds to eat.

Capsule: A hard, woody pod that when dried may open and drop seeds.

Eco-sourcing: Collecting seeds from the same area in which you will plant the trees you will grow.

Germination: When a seed starts sprouting into a plant. This usually starts with the mixing of seeds and water.

Kaitiakitanga: Guardianship.

Karakia: Acknowledgement/prayer.

Mauri: Life force.

Ngao: Energy.

Pod: The part of a plant that protects and holds the seeds.

Petal: The parts of a flower that attract the bees to come and drink nectar and collect pollen.

Pollen: When pollen has been transferred to a flower and it can then start producing seeds.

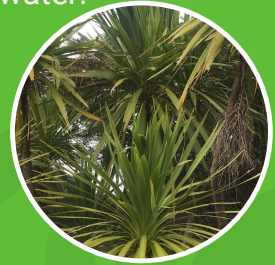
Pollination: When pollen has arrived to a flower and it can start transforming into a seed.

Seed: Everything a plant needs to reproduce. It contains a plant that is 'asleep', some food packed inside and often a hard shell to protect it.

Sowing: Planting seeds into soil to start germination.


Tapu: Sacred.

Whakapapa: Family tree/genetic variation.





References

- New Zealand Plant Conservation Network website www.nzpcn.org.nz
 - 'He kete taiao : ko au ko koe, ko koe ko au.' (Toimata Foundation) 2011
 - 'A field guide to New Zealand's Native trees' (John Dawson & Rob Lucas) 2012
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Notes

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