

HOW TO GROW YOUR OWN HEALTHY POHUTUKAWA AND RATA

Growing pohutukawa and rata is a rewarding activity that helps to ensure these trees are here for future generations to enjoy. Before starting, it is important to spend time planning which variety to grow and where best to put it. This can avoid the tree performing poorly or causing problems later.

WHERE TO LOCATE YOUR TREE

Consider the tree's natural habitat If a tree is planted in a location that differs too widely from its natural habitat, then it may not produce flowers or generally thrive. For example, pohutukawa like warm coastal conditions and are unlikely to thrive on a south-facing hill with a tendency to frost. Other factors to take into account include rainfall, soil type, proximity to the coast, wind and the general topography. See photo captions for guidelines on pohutukawa and rata habitat.

Think ahead before planting Pohutukawa and rata grow to become huge trees, which can cause problems when planted on small suburban sections or near fences or other structures on farm land. The location of underground drains and water pipes also needs to be taken into account.

GROWING TREES FROM SEEDS

HOW TO COLLECT THE RIGHT SEED

It takes at least two or three years from the time seed is gathered, until a seedling is ready for planting out. The following factors must be taken into account when collecting seed:

Decide what you want from a tree The process of successfully growing trees from seed starts with finding the right parent trees. The best time to evaluate a tree's potential is when the tree is flowering. Look for a specimen with characteristics that you find appealing. For example, are you looking for a tree that flowers well or that has flowers with a great depth of colour? Note that genetic diversity will always occur in trees grown from seed, so a tree's appearance and performance cannot be entirely predictable.

Maintain genetic integrity It is important not to bring in seed from another part of the country. Locality can affect many important factors, such as the genetic basis for the plant's hardiness, drought resistance, seed viability, size, shape, colour and even its resistance to pests and disease. Try to gather seed only from trees that you know are 'native' to your area. This can be difficult to tell but the following guidelines will help:

- Take seed from trees that are growing naturally rather than those that have been deliberately planted.
- Ensure the parent tree is located well away from other types of pohutukawa and rata (e.g. *M. kermadecensis* or *M. colina* 'Tahiti') because they could cross-pollinate to create hybrids.
- Avoid roadside plantings because these trees are generally of unknown origin and may therefore have originated from other regions and not be genetically well-adapted.
- Before planting, check with your local council (ask for the Parks Officer) or the Department of Conservation to ensure the species you select is ecologically correct for your area.

Identify attractive, healthy looking parent trees Ideally the trees should also flower abundantly and over a long time span because the flowers are an important food source for nectar-eating birds.



Don't be put off by insect damage Lots of native leaf-eating insects live on pohutukawa and rata, most of which have co-existed well with their host for millions of years. Insects are generally only a problem to the tree's health when it is already sick.

Collecting seed Pohutukawa seed matures in autumn, rata in winter. Pick a dry day, hold a large bag over a cluster of seed capsules and shake it to produce thousands of tiny seeds. Alternatively, put a sheet on the ground, tap the branches and stand clear. Take care when gathering seed because it is very fine. It can make you very itchy and can take several washes to get the seed out of your clothes!

Collecting seed from northern rata can be quite difficult because the trees are very tall and the seed capsules are therefore difficult to access. Try propagating from cuttings if seed is not accessible.

Use seed quickly Pohutukawa and rata seeds lose their viability quickly. Where absolutely necessary, store them temporarily in the fridge (not the freezer).



Mainland pohutukawa (*Metrosideros excelsa*): Grows to 20 m high by 35 m. Grows throughout the North Island, particularly north of New Plymouth and Gisborne. Prefers warm, drier areas close to the sea.



Northern rata (*Metrosideros robusta*): One of New Zealand's tallest flowering trees. Grows to 25 m or more in height with a trunk up to 2.5 m in diameter. Grows from Hokitika northwards, preferring warm moist areas such as north-west Nelson and Northland. Northern rata grows from sea level to a maximum of 900 m.



Bartlett's rata (*Metrosideros bartlettii*): Grows to 15 m high by 6 m. Only 30 adult trees remain in a forest remnant near Cape Reinga, which is almost a sub-tropical climate. Some nurseries are now stocking Bartlett's rata, ensuring the species' continued survival.



Southern rata (*Metrosideros umbellata*): Grows to 15 m high – sometimes more – with a trunk up to 1 m through. Grows throughout New Zealand, particularly along the South Island's West Coast. Best suited to the South Island and cooler, high rainfall regions. Occurs from sea level to 760 m.

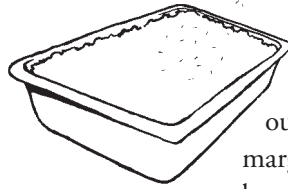
PROPAGATING THE SEED

The following steps show how to successfully grow seedlings from the seed you have collected:

- Prepare a number of shallow seedling trays. Fill to 5 cm with sterilised seed-raising mix or leaf-mould and loam (finely sieved and free of weeds).
- Sow the seed thinly on the dampened mix. Thick sowing may cause the seedlings to rot.
- Cover the seed very thinly with fine sand (pumice sand is recommended) – the seeds should be barely covered. Lightly water. Note: avoid coastal sand because its high salt content may kill the seedlings.
- Cover the tray with a sheet or two of newspaper (or keep the trays out of direct light / in a low light area) for a maximum of a week.
- Check from seven days on. As soon as germination starts, remove the paper and water lightly (with a fine mist spray). Keep the soil just moist. Don't over-water.
- Keep the seedlings in a sheltered



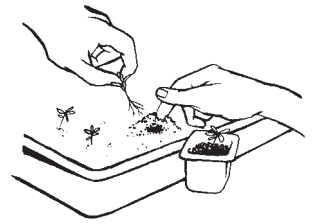
spot out of the wind and direct sun, and away from frost.



At about three months, the seedlings should be around 1 cm high with four to six leaves. At this stage, prick them out into separate containers (plastic yoghurt and margarine containers with drainage holes poked in the bottom make ideal containers).

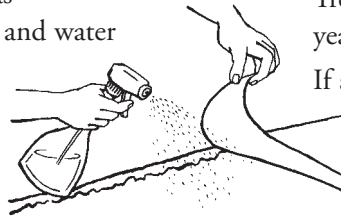
- The planting mixture should be a commercial potting mixture or a leaf/loam mixture with added fertiliser. Ensure the plants are well-watered.
- When the seedlings have recovered from the replanting (after three to four weeks) progressively introduce them to stronger light until they can tolerate full sunshine.

- Pot into larger containers as the plants grow.



Trees need to be grown for two years before planting out.

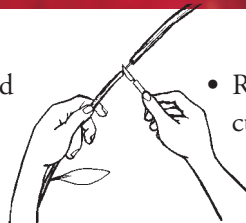
If scale insects or psyllids become a problem, treat every four weeks during the growing season (spring and summer) with a light spraying oil such as Conquer Oil.



GROWING TREES FROM CUTTINGS

Growing from cuttings ensures the tree is more advanced in its development at the time of planting and is a genetic duplicate of the parent tree. However, it can be difficult to 'strike' cuttings. It is therefore advisable to use the 'aerial rooting' technique for taking pohutukawa and rata cuttings. The process for taking aerial cuttings is as follows:

- This method is no good for taking cuttings far from home because you need to periodically check the shoot until it is ready for removal.
- Spring and autumn are the best times to take cuttings. If this isn't possible, make sure the bark is still green.
- Choose a one or two year old growing tip low on the tree. The stalk should be about as thick as a pencil.
- About 40 cm from the end, strip leaves away to create a 15 cm clear working zone.



- Ring-bark in the middle of the zone, about 2 cm wide, cutting away the bark and soft outer layer but not cutting into the wood.

- Rub Seredix 2 or 3 rooting hormone into the cut.

- Enclose in a fist-sized ball of damp (not wet) sphagnum moss.

- Wrap clear cling film around the ball of moss, and use plastic tape to seal the cling film tightly to the stalk at either end.

- After five or six weeks, depending on the season and growing conditions, roots growing through the moss will be visible through the cling film.

- Cut off the shoot, complete with root ball. Keep the cutting in its wrapping if you are unable to plant immediately.

- Remove cling film and tape and plant in moist potting mix. Keep damp and shaded for the first week or so.

If necessary, encase the leaves in a plastic bag to retain moisture during this period.

