



OTAGO SOUTH
RIVER CARE

Start your own **FARM NURSERY**

Information Booklet





Introduction

Why grow your own plants?

If you are planning a restoration or riparian planting project on your farm or for a community project, growing your own plants is incredibly satisfying! It also shows commitment to protecting the environment and may form part of a freshwater farm plan.

Propagating your own plants enables you to eco-source seed from native plants in the local area, meaning your plants will be well suited to the conditions.

Growing your own plants however requires some basic knowledge, planning and ongoing commitment to be successful. You might be able to shadow and help someone else who is more experienced in growing plants to begin with. By applying that Kiwi No. 8 wire mentality and talking to people within the industry, or attending a propagation workshop, you will be ready to start.

Will growing my own plants take a lot of time?

Growing plants comes with some commitment but some basic resources such as a potting bench, a shadehouse and a stockproof enclosure with reliable automated watering will allow better use of your valuable time and the potential to scale up production in the future.

Basic knowledge

While you'll need to know a few basics before embarking on your own nursery project, much of this knowledge can be gained by trial and error!

Think about:

- Which plants you want to grow. Harakeke? *Carex secta*? Kōwhai? Thinking ahead about the site where you want to plant is important.
- Identifying and collecting seed – just start with a couple of species and grow from there.
- How to process, sow and germinate this seed you have collected or been given.
- Basic growing techniques
- Timing of nursery activities related to your local climate and your seasonal workload.

Nursery Design

How much room do I need?

'Nurseries' can exist in many different shapes and sizes. If you only have a limited time available, it is often better to start with basics and progressively build up the scale of operation over several years. You can start small and as the passion grows, gradually build the structures that make producing quality plants easier. A small nursery producing up to 1000 plants per year is often plenty for farm planting needs and can be established with a reasonable cost.

The main requirements are:

- A site which is near home and located where you are inclined to visit
- Easy vehicle access to deliver potting mix and pick up plants
- A simple dry potting shed with:
 - a potting bench - well-lit to process and sow seeds, prick out seedlings and pot on plants and a dry storage area - for potting mix, trays, pots, seed and equipment (*Figure 1*)
 - access and proximity to the outside container area (*Figures 2, 3, 4, 5*)
- A protected area to place seed trays – could use metal frames with shade cloth to deter cats (*Figures 6 and 7*)
- A reliable water supply for a nursery watering system with an automatic timer
- Outdoor container growing area with weedmat and/or washed gravel surface (*Figures 4, 5, 8*)
- Some shade
- Shelter from wind e.g. hedges or artificial windbreaks.
- A fence to exclude stock and rabbits
- You can get by with a simple setup but if you want to produce larger quantities of plants, some basic facilities will make a huge difference. Many of the components you may already have on the farm – posts, timber, nails, screws, wire, polypipe and fittings.
- Find a space that you already visit regularly (such as beside a vegetable garden) to keep an eye on moisture, weeds and growth. Ideally find a space that is not in full shade.

Shade

When plants are young and newly potted, they need some shade to protect tender leaves from wind, too much heat from the sun and maintain humidity. (*Figures 6, 7, 9, 10*)

Shadecloth is long lasting and comes in a range of density percentages from 30% to 80% shade. For most species, 30% -40% shade is sufficient. Rolls are usually 1.83m x 50m long. Depending on the size of your nursery you may be able to share a roll.

Shadecloth can be anchored with a range of clips or timber battens may be used to attach to deer posts (*Figure 11*). Remember a large snowfall may weaken wide unsupported expanses of shadecloth.

Start your plants in a lightly shaded area to prevent transplant shock, then move your plants to a sunnier spot when plants are stronger and more well established. Once established, give them full sun and a little wind to toughen them up for the real world, which is called 'hardening off'. Make sure you have paths to walk around to weed and check plants. Paths should be wide enough to not knock over your plants, and possibly allow use of a plant trolley or wheelbarrow.

Wind

Wind can be hard on small plants, bending them and tipping pots over. Windcloth fixed vertically to a surrounding fence can help reduce the wind. (*Figure 12*) Once the plants are potted on and have well established roots, introducing more sun and some wind can be handy to harden off the plants ready to plant out. (*Figure 4*)

Weedmat

Keeping weeds at bay in a nursery is essential, and where plants are to sit on the ground, weedmat is a terrific help to prevent weed growth and seeding into your pots. *(Figures 2 and 3)*

Weedmat rolls are sold in 50m lengths, and in a range of widths from 0.9m to 1.83m to 3.66m. Factor these widths into your nursery planning. Better quality woven weedmat is UV stabilised and 100gms/m². Non-woven mat tends to become slimy and slippery! Weedmat can be pinned down with home made pins or weedmat staples may be purchased. Good overlap is important.

Other fabrics may be used to begin a very basic set up, but weedmat is relatively cheap and long lasting.

Irrigation

In a small home nursery, if you are hand watering, check the moisture in pots and seed trays at least every second day, or more if it is hot and sunny. A tap timer to automate the watering cycle is an incredible labour and plant saving device. *(Figure 13)*

There are many different types of watering systems, and if water reaches all plants in your nursery and is regular, your plants will thrive.

If you are setting up a sprinkler system, most irrigation companies will be happy to give you advice on types of piping, sprinklers and water rates.

Basically you need 2 types of sprinkler:

1. Inside your seed tray area:

Hanging micro-sprinklers (or misting nozzles) with finer droplets and a uniform water distribution pattern. Smaller droplets are better for seed and young seedlings. *(Figure 14)*

2. Outside container area:

Higher water delivery nozzles depending on location. These can be mounted on posts on the nursery perimeter. *(Figure 12)* Hunter PR-00 Shrub Sprinkler is available with a 360° coverage for centre of nursery or 90-120° rotator for corner and edge locations.

The most important thing is the potting mix in your pots is moist all the way through, with no dry spots. It is also important to have drainage to let out excess water as plants can drown if they are in a pool of water for too long.

An old sink bench outside beside a water tap could be added to wash recycled pots for reuse.

Propagation tools and materials

You'll need the following materials and supplies before you start growing:

- Seed raising mix
- Potting mix
 - Start with a commercial 40 litre bag of potting mix
 - As your production increases you may want to purchase a large sling bag of mix
- Seed trays and plant pots *(Figures 15 and 16)*
- A float to level the mix in the seed tray; plant labels and a black pen or pencil

Finally

Make a start with sowing one tray of seeds from an easier species (e.g. harakeke or *Carex secta*).



Growing your own plants is incredibly rewarding...good luck!

Want to learn more? Visit our website otagosouthrivercare.org.nz





Figure 1

Inside the simple potting shed: a potting bench and dry storage area for potting mix and tools. 2m wide x 4m long

The potting bench is 2m long. Pots, trays and seed raising mix are stored under the potting bench. Note the sling bag of mix is covered to keep mix dry. This potting shed is 2m wide but 2.5m would allow easier access for a trolley or wheelbarrow.

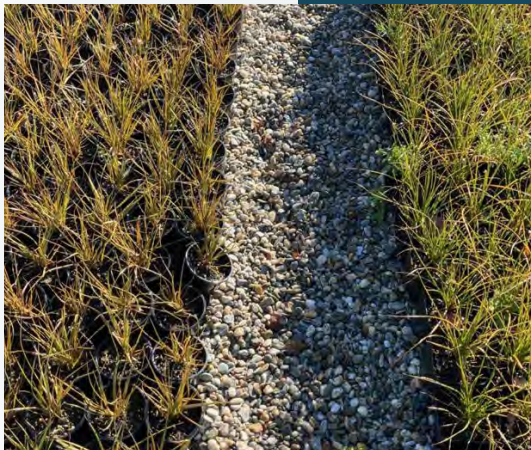


Figure 2

Outdoor container area with *Carex secta* in pots on washed gravel over weed cloth.



Figure 3

Outdoor container area with shelter from the wind. Deer posts and high tensile wire to support wind cloth. Larger plants need full sun to grow and toughen ready for planting.



Figure 4

Innovative shelter from baylage stack and end of existing shed.

Note pots are in containers to prevent tipping.

Figure 5

Outdoor container area on washed gravel over weedmat.



Figure 6

Inside the shadehouse attached to the propagation area. 2m wide x 5m long. Note the weedmat floor, shadecloth covering and benches constructed from Plasback Tuff Deck tiles, allowing drainage.



Figure 7

Bench for propagation trays- Innovative use of recycled farm plastic -Plasback Tuffdeck tiles 1200mm x 400mm, and sawn to fit then screwed to timber. Note raised vegetable beds outside repurposed to hold potted plants.



Figure 8

Removable shade using hoops.





Figure 9

Recently 'pricked out' kōwhai seedlings need protection



Figure 10

Small sheltered shade structure.



Figure 11

A superb small farm nursery with outdoor container area adjacent. Note dry potting area at the far end, covered with corrugated iron. The whole structure including the potting shed and shadehouse is 9m long.

10 deer posts and two recycled plastic covered doors are used to form the structure. The whole nursery area is surrounded by a sheep fence. Note gate at far end to unload potting mix in sling bags and collect plants for riparian projects on the farm.



Figure 12

Irrigation sprinkler mounted on corner post. (Hunter Shrub 90 degree Sprinkler) Windcloth attached to wire by PermaClip fastener.

Figure 13

Orbit Tap Timer with 2 outlets. A huge time and plant saver, ideal for simple automation of watering, and enabling operation of two different watering regimes.



Figure 14

Finer irrigation for seed trays - Rondo inverted mist sprayer



Figure 15

Propagation tray

Long lasting UV stabilised 'Hygiene' propagation tray with excellent drainage. Dimensions 450mm x 330mm x 70mm. Useful to design benches to fit these trays.



Figure 16

A small sample of the wide range of pots and tubes likely to be used in a farm nursery.





Photos courtesy of:

Ben and Anna Gillespie, Two Farmers Farming Ltd., Omakau
Jo Wakelin, Koinga Consulting
Ross Begg
Rebecca Begg
Sandra Campbell
Camille McAtamney

Text courtesy of:

Jo Wakelin, Koinga Consulting

For more information email us
otagosouthrc@gmail.com

or visit

www.otagosouthernrivercare.org.nz



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