

Propagating Native Seedlings



Growing your own seedlings can be an enjoyable and rewarding experience

Collecting and germinating local seed is a great way to grow plants of local provenance for revegetation, and is also a very rewarding and enjoyable activity! The information below gives you some tips to get started.

Seed collection

Preparation

Before commencing any seed collection, determine which species you want to collect, and when these are likely to have seed ready.

Some of the equipment which may come in handy includes: buckets, paper bags or envelopes, secateurs, long-handled pruner, gloves, pen and paper.

If you are collecting from land belonging to another landholder (including private, Crown and State Forest land), you will need prior approval. You will also need a licence if you are collecting threatened species or ecological communities.

Collection

It is generally best to collect from a site with similar conditions to the site you would like to revegetate (eg soil type, aspect, climate, etc).

Some tips to maximise the genetic quality of seed collected include:

- Collect from a wide range of plants - at least 10 individuals of each species is recommended
- Only collect from healthy plants
- Collect from plants scattered throughout an area, rather than from adjacent plants
- Avoid collecting seed from isolated plants, as seed from these plants may be inbred from self-pollination
- Collect only as much seed as you need, and make sure you don't damage plants when taking seed
- Do not remove more than 10% of the fruit of any one plant or more than 1% of the overall biomass.

"Make sure you don't damage plants when taking seed"

To collect seed from tall trees, you may be able to reach lower branches using a long-handled pruner from the back of a truck or ute. If possible, you may also be able to take advantage of fallen limbs and branches, provided the seed has not already been released.

Seed and pods on small trees and shrubs can be hand-picked or cut with secateurs. You can also place a drop-sheet or tarpaulin under the plant to catch fallen seeds, then shake the branches.

For species which release their seed very quickly upon ripening (such as Wattles and Bush Peas), it may be worthwhile to tie paper bags or nylon stockings around the branches before the seed pods ripen.

Collect and dry seeds in paper envelopes or bags, and label with as much information as you can, including species, collection date, collection location, etc.

Cleaning and storing seed

After collecting seed, you need to separate it from the fruit. First, ensure the seed is completely dry by placing the paper bag containing the seed on a window sill in a sunny position. Once the seed is dried, separate it from the seed pod and any other material by sieving or rubbing it.

To store seed, after cleaning place it in a labelled jar or other airtight container. Store in a cool, dark place where they are not likely to be reached by insects or mice. Most seed can be stored at temperatures up to 20°C for several years, although with some loss of viability. Some species (such as Bulloak, Hakea and Banksia) are best stored in the fridge.

Germinating seeds

Preparation

The best time to propagate is usually spring to early summer.

Cell containers, punnets, pots or shallow trays are all suitable for germinating seeds in. Use either a commercial seed-raising mix which is free-draining, or make your own - for example, you can mix equal parts of coarse washed sand and vermiculite, or use a 4:1 mix of washed sand and coir fibre.

Germination

Some species, such as Acacia (Wattles), need to be pre-treated before germinating. However pre-treatment is not required for many species, including Kurrajong, Callistemon (Bottlebrush), Casuarina (She Oaks) and Eucalypts.

To sow the seeds, put the potting mix in the pots and wet it. Sprinkle the seeds on the surface, then cover lightly with sand or some potting mix. Sit the pots in a warm spot, and make sure they stay moist. A good technique is to sit the pots in a tray of water, so they won't dry out (just keep the trays topped up with water!) Otherwise water around once a day.

Most species should germinate within about 1 to 4 weeks (some take longer).

Transplanting seedlings

Once the seedlings have grown big enough to be handled (at least 2 leaves), it's time to transfer them into individual tubestock pots or similar (if you germinated individual seedlings in separate pots, you don't need to transplant them). Use native potting mix in the pots, either a commercial mix or make your own (eg a 3:2 mix of regular potting mix and washed sand). It helps to add a small amount of controlled-release native plant fertiliser to the potting mix before transplanting, but this is not essential.

Carefully remove each seedling using a flat knife or spatula, and place into a partly filled pot. Gently firm potting mix around the seedling, and water with a light spray, such as from a spray bottle.

Keep the pots in a protected area for a few weeks, then harden them by gradually moving them to an area where full sun is available for at least part of the day. Make sure they don't dry out; you may like to use a tray of water as before.

Your seedlings should be ready to plant out in about 3-4 months. The best time to plant is winter.



Photo by John Holstein

References and further reading

Australian National Botanic Gardens, www.anbg.gov.au
Australian Native Plant Society, www.anpsa.org.au
Greening Australia, www.greeningaustralia.org.au
Habitat Network, www.habitatnetwork.org
NSW Office of Environment & Heritage, www.environment.nsw.gov.au

This Fact Sheet is one of a series produced through the Murrumbidgee Landcare project "Cross Property Planning to Balance Production and Conservation". This project was assisted with funding from the NSW Environmental Trust's "Community Bush Regeneration" program, and the Australian Government.



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Seed collection and germination notes for selected species

Trees

Kurrajong (*Brachychiton populneus*)

- Hand pick seeds, from December to January
- Use gloves and mask to protect yourself from the hairs surrounding seeds
- Before sowing, pour boiling water over seeds and soak for 1 minute, or scarify (rub the seeds between sandpaper to abrade the seed coat).



Kurrajong seed pods

White Cypress Pine (*Callitris glaucophylla*)

- Hand pick the cones just before they open, usually around late December, but can be between November and April
- Lay cones out to dry for a few weeks, then shake in a sieve; the papery seeds should release easily
- Use seed within 12 months
- Before sowing, place seeds in the fridge for 2-4 weeks
- Seed may take up to 6 weeks to germinate.

White Box (*Eucalyptus albens*)

Yellow Box (*Eucalyptus melliodora*)

Grey Box (*Eucalyptus microcarpa*)

- Hand pick gumnuts when they are brown, from January to around May
- Place gumnuts in a paper bag in a warm place until the seeds are released, then shake or sieve to clean the seeds

Shrubs

Deane's Wattle (*Acacia deanii*)

Hickory Wattle (*Acacia implexa*)

- Hand pick seed pods when they are turning brown, around October to February. Remove the seeds by splitting the pods open along the seam of the pod
- Before sowing, pour boiling water over the seeds, and allow to stand for up to 24 hours (discard any seeds that are floating after this time). Alternatively you can scarify the seeds, by nicking or rubbing each seed with sandpaper.

Hop Bitter Pea (*Daviesia latifolia*)

Small-Leaf Bush Pea (*Pultenaea foliolosa*)

- Hand pick rattling pods just before they open, between November and February
- Dry pods completely in a warm place, then crush to separate the seed from the pod
- Before sowing, pour boiling water over seeds and soak, or scarify
- Seed may take up to 6 weeks to germinate.

Wedge-Leaf Hop Bush (*Dodonaea viscosa*)

- Hand pick capsules before they open, from October to February
- Dry seed pods completely in a warm place, then crush to separate the seed from the pod
- Before sowing, pour hot water over seeds and soak for 30 seconds, or scarify.



Wedge-Leaf Hop Bush seed capsules

Hill Indigo (*Indigofera australis*)

- Hand pick pods between November and February
- Place pods in a warm place to ripen, then extract the seeds
- Before sowing, pour boiling water over seeds, soak for 30 seconds then dry.

Grasses

Wallaby Grass (*Austrodanthonia caespitosa*)

- Cut stalks with secateurs, from December to March
- Rub the heads between your hands (or two rubber car mats for larger quantities) to extract seeds, then clean by sieving
- Use seeds fresh, before dormancy sets in.

Spiny-Headed Mat Rush (*Lomandra longifolia*)

- Cut off the maturing brown capsules, between December and February
- Place the capsules in a warm place. When the fruits have fully opened, screen off unwanted material to clean the seed. Use gloves, as the flowers have spines!
- Seed can take 8-10 weeks to germinate.

Weeping Grass (*Microleaena stipoides*)

- Harvest seeds in November-December
- Harvest seeds by running the stem lightly between your fingers
- Seeds need light to germinate, so sow at the surface
- Seed may take up to 5 weeks to germinate.

Kangaroo Grass (*Themeda australis*)

- Hand pick seeds from December to February
- Strip seed and husks by hand (can be tricky to clean!)
- Store for 6-12 months at room temperature before sowing
- Seeds need light to germinate, so sow at the surface.



Kangaroo Grass seeds

Groundcovers and vines

Bulbine Lily (*Bulbine bulbosa*)

Chocolate Lily (*Dichopogon strictus*)

- Harvest seed heads by hand or secateurs when papery capsules turn brown and brittle, around December to January
- Place stems upside down inside paper bags, and dry until the capsules have opened. Thresh lightly, then shake or sieve to clean the seeds
- Store seeds for 2 to 3 months before sowing
- Sow in autumn, as high temperatures inhibit germination
- Bulbine lily needs light to germinate, so sow at the surface
- Seeds may take up to 8 weeks to germinate.



A stunning Chocolate Lily flower

Yellow Burr-Daisy (*Calotis lappulacea*)

Common Everlasting (*Chrysocephalum apiculatum*)

- Hand pick capsules when they are red-brown and brittle, approximately December to February
- Dry the seed capsules in a paper bag, then break up the seed head by hand and shake or sieve to clean
- Common Everlasting needs light to germinate, so sow at the surface
- Yellow Burr-Daisy may take up to 8 weeks to germinate.

Twining Glycine (*Glycine clandestina*)

Purple Coral Pea (*Hardenbergia violacea*)

- Hand pick pods close to maturity, when they turn brown, usually between October and February
- Dry pods completely in a warm area, then shake or sieve to extract the seeds
- Before sowing, soak the seeds in boiling water for several hours, then dry.