



## NRM Plan

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# Native plant seed collection

## In the Northern and Yorke Region

One of the most important components of a revegetation project is the collection of seeds. What better way to get more involved in your revegetation program than by collecting the seed yourself. Collecting native seeds for your own projects can be a rewarding activity, whether it is for use in direct seeding or to grow in a nursery. By collecting the seeds yourself you can ensure that they have come from the local area and that they were collected sustainably.

Seed collection doesn't have to be difficult but there are a few things that must be considered before starting your seed collection program. This fact sheet highlights these points and gives tips on how to successfully collect your native seed.

### Seed Collection Permit

Before commencing seed collection ensure you have the correct permit. Permits are issued by the Department for Environment and Natural Resources.

There are five different permits depending on the type of seed collection you intend to do:

- Bush food collectors
- Trees for Life collectors
- School and community groups collecting for revegetation
- Commercial collectors
- Collection of other plant material.

Seed collection permits are available to any member of the public, free of charge. Written permission from the relevant authority must still be obtained for collection on public land (e.g. Department for Transport, Energy and Infrastructure, Forestry SA, Local Council etc.). Always keep a copy of the permit with you when collecting seeds.

A seed collection permit is not required for collecting on private land, although it is recommended you still seek permission from the landholder and collect using the best practice techniques.

At the expiration of your permit you have an obligation to return an annual report to the DEH detailing your collection activities, so it pays to maintain accurate and detailed records.

Once you have your permit, it is essential to have a detailed plan of what, how and when you are going to collect.





## What to Collect?

Decide on which species you need to collect. This will dictate your entire seed collection strategy. Start by making a list of all the species you want to direct seed or grow in your nursery. If any of these are too difficult to grow from seed by direct seeding or in a nursery strike them off the list. If any of these species can be grown better by another method (cuttings, division etc.) strike them off the list too.

Collection of some species is also prohibited. Once you have reduced your list to the species that are appropriate to collect you must consider what volume of these you need. One gram of *Eucalyptus* seeds may yield 100 plants, but one gram of *Acacia* seed may yield only half a dozen plants.

## How to Collect

Once you know the species and volume of seed you want to collect you can plan how you are going to collect it.

Most importantly, ensure you know how to correctly identify your target species. There is nothing worse than spending a day collecting to find out it was the wrong seed.

Acquiring suitable equipment to collect from your target plants is also essential. For example, tall trees may require ladders or pole loppers and bulky seeds may need to be kept in tarpaulins or sacks. Common seed collection equipment includes:

- Trailer with high sides
- Extension ladder
- Pole loppers / pole saw
- Pruning saw / bow saw
- Paper bags
- Secateurs / loppers
- Tarpaulins / drop sheets
- Blower-vac
- Plant ID Books
- Rope
- Buckets / tubs
- GPS
- Seed collection data sheets
- Camera
- Safety glasses, gloves and hard hat

Small scale collection can be done with basic tools as efficiency is not as important. Large scale seed collection must be done as efficiently as possible, with more specialised tools, to minimise seed and time wastage.

Seed on ground covers, small shrubs and low branches may be easily collected by hand, though in some cases this process can be sped up by beating or shaking the plant causing seed to drop onto sheets or into buckets.

Some seed pods do not easily dislodge by this method (such as *Eucalyptus*, *Allocasuarina* and *Melaleuca*) and need to be cut from the plant. Try to remove small branches or, where possible, individual pods from the plant to avoid unnecessary damage. This will also ensure that the plant has plenty of branches on which to grow seed next season.

Grasses such as *Austrostipa* and *Austrodanthonia* can be harvested by running a gloved hand gently up the seed heads. If done correctly this removes only the ripe seed.





## Collect Sustainably

- Never collect more than 20% of the seeds on any one plant and try to collect seed from as many individuals as possible to ensure genetic diversity.
- Keep your equipment clean to prevent the transmission of fungus and diseases between plants.
- Always ensure you collect according to the requirements of your seed collection permit.

## When to Collect?

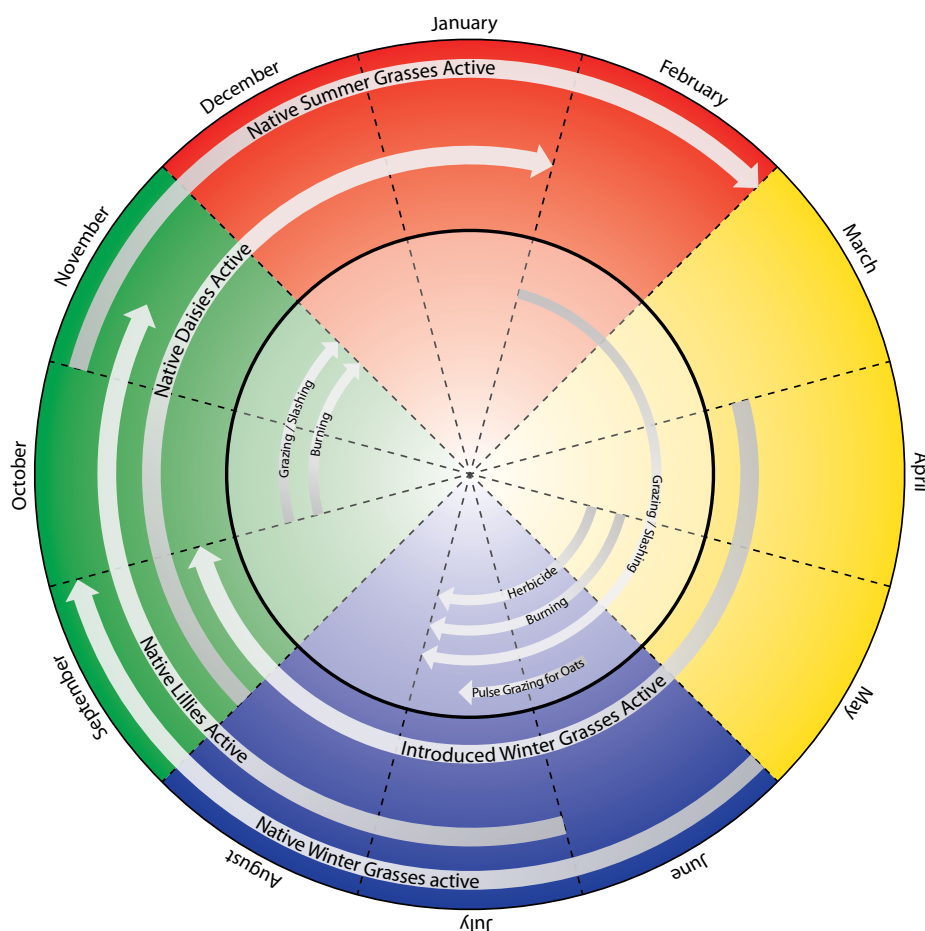
All year round

- *Allocasuarina*
- *Banksia*
- *Callistemon*
- *Eucalyptus*
- *Hakea*
- *Melaleuca*

Time your seed collection to ensure that you only collect ripe seed. Seeds in pods (such as *Acacia*, *Senna* and *Dodonaea*) are generally ripe if the pods are fully dry and crunch in your hands. The seed from these genera will drop onto the ground once fully ripe so timing is essential.

Naturally opened cones or fruit are a good indicator of ripe seed for genera such as *Allocasuarina*, *Banksia*, *Callistemon*, *Callitris*, *Eucalyptus*, *Hakea*, *Melaleuca*, *Pittosporum* and *Xanthorrhoea*. Seed from these fruit may be retained for longer periods so the collection period is usually longer than for pods.

Grasses are ripe if they easily come off when you gently run your fingers up the seed heads. Seed should be white to straw coloured with no visible green colouration.







## Cleaning Native Seed

Before seed can be stored or sown it usually needs to be cleaned. This should be done as soon as possible after harvesting the seed. Cleaning involves the extraction of seed from the pods and separating the waste material such as twigs, leaves and sometimes fleshy fruit away from the seed. The method used is dependent on the species but usually, storing the seed in a dry, well ventilated (but not windy) hot area will encourage the seed to separate from pods or fruit. This can be done in paper bags for small volumes of seed or on tarpaulins for larger volumes.

*Eucalypt* and *Melaleuca* seed readily falls away from the pod leaving little cleaning to do. Other genera such as *Acacia*, *Dodonaea* and *Senna* need to be threshed to get the seed to separate from the pods.

Once the bulk of the chaff has been removed the seeds are usually run through a series of different sized sieves to remove smaller twigs, pieces of leaves and even non-viable seeds. Similarly, winnowing in front of a domestic fan can separate seeds and chaff of different weights. Useful cleaning equipment includes:

- Sieves (different gauges)
- Electric fan
- Tarpaulin
- Muslin bags

The extent to which you clean the seed depends on what you intend to do with the seed and how much time you have. If it is to be used in a nursery then cleaning the seed may not be very important, but if you intend on storing the seed for a long time or selling the seed then cleanliness and purity may be very important.

## Storing Native Seed

The correct storage of native seed is very important to maintaining the viability of the seed in the short and long term.

Ensure seed is fully dry before storing it to prevent mould or germination. This is especially important for fleshier seeds such as *Enchylaena* and *Atriplex*.

Store seeds in airtight containers made of glass, plastic or metal.

Preventing insects from spoiling seed collections in storage is essential. Adding insecticides such as magnesite alleviates this problem. In commercial storage situations carbon dioxide or vacuum sealing is also used.

Keep your seed in a room which does not experience extreme temperatures or large fluctuations in temperature. A fridge may be suitable for long term storage but keep the temperature above 0°C.

Some seeds such as *Calostemma* do not store at all as they readily germinate in any conditions.

Always label individual bags of seed with the name of the species, when and where you collected it and ensure the seed and label stay together.

## Further Information

Berkinshaw, T. (2006). Native Vegetation of the Northern and Yorke Region. Finsbury Green.

Bonney, N. (2003). What Seed is That? Finsbury Press.

Ralph, M. (1993). Seed Collection of Australian Native Plants for Revegetation, Tree Planting and Direct Seeding

[www.florabank.org.au](http://www.florabank.org.au)

[www.environment.sa.gov.au](http://www.environment.sa.gov.au)

## Other NRM Fact Sheets

Seed Collection  
Plant Identification  
Threatened Flora of Grassy Habitats

## Help and Assistance

Northern and Yorke NRM Board  
8636 2361

Greening Australia  
8372 0100

Department for Environment and Natural Resources - Permit Unit  
8463 4841

TAFE SA offer 1 day short courses in seed collection and seed extraction from their Kadina campus.  
1800 882 661