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Department of Biodiversity,  
Conservation and Attractions

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## Important considerations

Look at historical records of past seed collections, but be aware that not all species will flower and fruit at the exact same time every year. Prolific flowering and fruiting may be dependent on particular environmental conditions and during drought years some species may not flower well at all. Monitoring some species for more than a season may be required in order to determine the optimum time for seed collection.

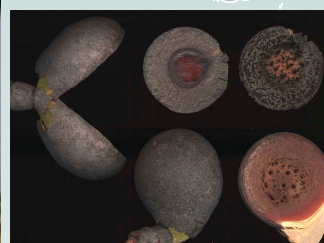
Fruits will ripen quicker in warmer climates than in cooler ones so collect seed in the north before collecting in the south. Variation in maturity can be large over the natural geographical range and is associated with latitude, altitude and distance from the coast. Environmental factors during the period leading up to maturity also influence timing of a seed collection.

### Disease hygiene:

**Use secateurs** rather than breaking seeds or stems. This is less damaging to plants and there is less likelihood that insect predators or disease (eg. aerial canker) can enter a clean cut. Remember to clean secateurs (methylated spirits or bleach) regularly as disease can be transmitted by unclean equipment.

**Clean shoes and vehicles** before venturing into the bush. This helps prevent the spread of soil-borne diseases such as *Phytophthora cinnamomi*. Do not spread mud from one site to another and preferably collect seeds in dry weather. Collecting seeds in dry weather also reduces the chance of seeds going mouldy if they are damp and cannot be air dried shortly after collection.

**Always try to collect seeds just before natural dispersal - seeds are as close to maximum maturity as possible at this time and will have greatest longevity.**



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Department of  
Environment and Conservation

# Guidelines for Timing Seed Collections

Compiled by the  
Threatened Flora Seed Centre

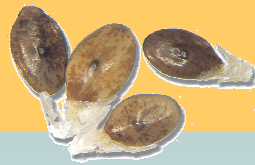


## Science Division



Department of  
Environment and Conservation

# Timing Seed Collections



Time collections to ensure fruits and seeds are sampled at peak maturity. Fully ripened seeds retain viability longer than seeds collected when immature. The timing between fruit maturation and seed shed varies from species to species and often along an altitudinal and longitudinal gradient. Seed development may take from weeks to over a year dependent on the species and prevailing environmental factors have a major influence on time to maturity. Hot windy conditions can speed the onset of maturity in fruit and seed release. Information on reproductive biology (flowering and fruiting time and



natural seed storage and seed dispersal mechanisms) and climatic conditions are therefore valuable for formulating collecting procedures and need to be taken into account when deciding on the timing of collections.

It may be necessary to recollect over several weeks to ensure sufficient mature seeds are collected especially with species that exhibit differential fruiting. Some species will hold mature fruit only for a short period of time before seed dehiscence and the correct timing of field collections is crucial. Many of the legumes (for example *Daviesia*) have explosive dispersal mechanisms meaning that there is only a small window of opportunity for seed collection. Other plants with serotinous woody fruits such as *Banksia*, *Hakea* and

*Allocasuarina* and many small seeded myrtaceous species (for example *Callistemon*, *Calothamnus* and *Melaleuca*) retain seeds within the fruits on the plants for several years. Other small seeded myrtaceous species such as *Kunzea*, release



seeds annually and do not hold their fruits. Reconnaissance of species for collection may be required to ensure adequate seed collections can be made.

Characteristics to observe for ripeness and maturity include size and colour of ripe fruit or seed, whether the inside of the seed is firm and white and whether the seed coat collapses when cut. Cut open fruits and seeds to check if in doubt. A rule of thumb for ripeness of many fruits is if they are brown or black. Green fruits are generally not ripe (there may be exceptions eg. fleshy fruits of *Persoonia* sp. or *Astroloma* sp.) and if seeds are immature they are unlikely to germinate.

Collect fruits with closed valves, follicles, pods or capsules. If they are open then the

seeds have probably already shed. This is true for many other myrtaceous genera that hold seeds in capsules (eg *Kunzea*, *Melaleuca*, *Baeckea*). *Banksia* cones ripen when the surface of the follicles is brown and hard. Unripe *Acacia* pods are green; ripe ones are brown or even black but if the pod has split the seeds will probably already have fallen. *Grevillea* fruits also release their seeds quickly on maturity. If fruits have fallen then it is an indication that seeds are ripe - unfortunately by this time many seeds will have dispersed. It is not advisable to collect from the ground as seeds may have started to decay, lose viability or be predated.

Bagging fruits that are slightly unripe with muslin, stockings or cloth bags of some sort is a useful method to ensure that seeds will not dehisce in your absence. Be aware that insects may get into your bags and take the opportunity to have a feast. Do not bag flowers - they may require a pollinator to fertilise them and no seeds will form in the pollinators absence. Do not bag very immature fruit. Bag almost ripe fruits will light coloured and light weight material that will allow warmth and sunlight to penetrate to the seeds to continue the ripening process but will ensure moisture is not trapped within to create fungal contamination and rot seeds.

