



Seeding
Victoria

HINTS FOR COLLECTORS

OF INDIGENOUS SEED COLLECTION
IN THE MALLEE

COLLECTOR'S KIT

PRODUCED BY SWAN HILL REGIONAL SEEDBANK
FOR MALLEE CATCHMENT MANAGEMENT AUTHORITY

AUGUST 2005

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OF INDIGENOUS SEED IN THE MALLEE

A Guide for Collecting Cleaning and Storing Seed

PRODUCED BY SWAN HILL REGIONAL SEEDBANK
FOR MALLEE CATCHMENT MANAGEMENT AUTHORITY
WITH FUNDING FROM NATURAL HERITAGE TRUST

AUGUST 2005

Reprint of a 2005 document produced by Swan Hill Regional
Seedbank (SHRS) now operating as Seeding Victoria.
JULY 2023

INTRODUCTION

to *'Hints for Collectors of Indigenous Seed in the Mallee'*.

This Collector's Kit has been produced as part of a project developed by the Mallee Catchment Management Authority aiming to ensure a sustainable seed supply for revegetation works in the Mallee. Funding was provided by the Natural Heritage Trust. The Swan Hill Regional Seedbank committee was engaged to administer the project and has set out to provide an attractive, practical field resource for collectors.

The *Hints for Collectors of Indigenous Seed in the Mallee* booklet is a collection of tips and hints from a variety of people experienced in the collection, cleaning and storage of seed. The Seedbank is very grateful to all those who readily contributed.

Now it's over to you the collector! It is hoped that this kit will be a valuable resource as you help to achieve the aim of supplying seed for revegetation of the Mallee.

D ELLEMOR /Coordinator SHRSB
2005

HINTS FOR COLLECTORS

OF INDIGENOUS SEED IN THE MALLEE

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WHY?

Reasons and Responsibilities

DIRECT BENEFITS

There is a variety of economic and environmental benefits which flow from developing areas of native vegetation, which have the added bonus of being naturally self-sustaining. Seed collected from indigenous species can be used for direct seeding or for growing seedlings which can be planted out to

- *reduce soil salinity and erosion*
- *provide food and breeding sites for wildlife*
- *provide windbreaks for stock and agriculture*
- *improve water quality*
- *revitalize the surrounding landscape*
- *conserve genetic resources*
- *establish woodlots*

Projects for planting new areas with native trees, shrubs and grasses are more likely to be a success if the seeds used come from plants which were growing in similar conditions. The original plants have adapted to comparable surroundings and weather, and have developed characteristics which help them to flourish in those circumstances. So it is an advantage using seed with these inherited survival qualities for propagation in corresponding situations.

COMMUNITY EFFECTS

Seed collecting leads to greater knowledge about the local plants and conditions, and can help raise the level of community awareness about the requirements for a dynamic, sustainable environment and the value of remnant, indigenous vegetation.

Collecting can be done by groups or individuals, working as volunteers for community revegetation projects or as professionals to earn some money.

RESPONSIBILITIES

Flourishing plant populations require a sufficient quantity of good quality seed to be left on the parent plants for new seedlings to be produced. The condition of the surroundings and the relationship with other plants and wildlife are also vital factors for a healthy environment for growth.

All collectors have responsibilities to

- *leave sufficient seed on the plant to sustain the plant community and any wildlife that depend on it*
- *take no more than 10% of the seed present on any plant*
- *collect only the fruit and seeds*
- *leave the flowers and buds undamaged for future fruit and seed production*
- *prevent damage by vehicles and people in the area that seeds are taken from*

Maintaining the health of the originating plant population and protecting new growth in it is an essential part of sustainable, productive seed collecting.

WHEN?

Timing and Awareness

SEASONAL AND ENVIRONMENTAL VARIATIONS

The best time for collection will vary in different areas and from year to year depending on the local conditions. The seed collected is from the fruit of the plant so it is important to know when the fruit is ripe in order to harvest the best quantity and quality of seed.

The fruit of native plants appears after flowering as a nut, pod, cone, or woody capsule, or it is soft and fleshy. Most fruits ripen between spring and summer, but the quantity of flowers and fruit may vary because of environmental and genetic factors.

Certain species naturally have cycles of greater fruit and seed production and will therefore have more prolific crops in some years. The amount of seed available may also be affected by changes in weather patterns, and by insects, wildlife and disease.

That means collecting will be easier in some years than in others. However, familiarity with the area and careful observation of the local plants will also contribute to more successful collecting.

KEYS TO SUCCESS

For effective seed collection it is important to

- *Recognize the stages of the plant's flowering and fruiting cycle*
- *Record flowering and fruiting times*
- *Check plants regularly for ripe fruit/pods*
- *Respond quickly to hot windy weather which speeds up ripening*
- *Avoid collecting in wet weather which slows the drying of fruits and increases the risk of fungal infections*

A successful collector is a good observer.

CHECKING FOR RIPENESS

When the fruit is ripe it usually turns brown and woody. Sometimes it may be still green underneath the surface, so it is important to scratch the fruit and check it is properly ripe before harvesting. However, there are some species such as the River Red Gum that have relatively green fruit even when ripe.

Eucalypts and *Melaleucas* retain fruit and seed on the plant from year to year. The capsules are at different stages of maturity and are not fully ripe for at least a year. A change of colour and sometimes the shedding of seed are signs of pod maturity. With *Eucalypts* a small cross-like opening also appears at the end of the pods as they ripen. These are signals that the seed is ready to be collected.

Generally with *Eucalypts* and *Melaleucas* the seed from the previous season is ripe when the plants are flowering again in the next season. To test for ripeness

in *Eucalypts* and *Melaleucas* place some sample capsules in a paper or cloth bag in a warm position. If the seeds are released readily within a couple of days they are ready for collection.

The colour of the *Eucalypt* seed indicates its maturity. The ripe seed has a dark brown to black outer coating and inside it is white. If the outside of the seed is pale with no clear distinction between the outer covering and the inside, it is either not ripe or not viable. With Box trees it is more reliable to check ripeness by seed colour than by the colour of the fruit.

Wattles, *Hop bushes* and *Desert Cassia* ripen with the early bursts of hot weather. These and other plants may release seed within days of ripening, so careful monitoring is required to catch the optimum collection time and to avoid having all the seed disperse before it is collected.

Fleshy plants do not release their seed as spontaneously but birds may take the ripe seed. Therefore it is important to check these plants carefully and be ready to collect the fruits when they are ripe.

The time for harvesting the seed, and the amount and quality of seed available will change from season to season, according to local conditions and the variability of the plants. That means collecting will be easier in some years than in others. However, familiarity with the area and careful observation of the local plants will also contribute to more successful collecting.

WHERE?

Choosing a site

THE RIGHT SOURCE - *Provenance*

The area where the seeds were produced on the fruiting plant is their *Provenance*. New plants from the seeds are more likely to thrive if the conditions where they are grown are similar to those of their origin. Generally it is important to collect seed from vigorous plants which are in robust plant communities and well adapted to the local conditions. This helps ensure good quality seed for planting, and a healthy future for the existing species and the animals and insects that depend on them.

A good outcome for growing new plants will be enhanced by seed collected from

- *local natural-bushland areas*
- *plants which show good flowering and plentiful fruit or pods*
- *areas which have several plants of the same species present*

GOOD PICKINGS

Tall trees and shrubs in open areas are more likely to have branches closer to the ground and therefore be easier to reach for harvesting. In forests there are more plants but they grow closer together and the branches

may be higher on the trees. In plantations the seed stock for trees and shrubs may not have been sourced from local species and their *provenance* should be checked. It is important to include the name of the plantation on the label when submitting seed to the Seedbank.

Watch out for promising sites while driving or walking around and make careful notes about their position and the plants present. Plan ahead and be ready to collect the seed when it is mature. Advice about suitable plants may be obtained from your local Seedbank, other collectors, or from books.

GETTING PERMISSION - *Permits*

Before collecting on public land a permit must be obtained from the Department of Sustainability and Environment and may also be required from the local government authority. It is important to check with the local Seedbank, the Department of Sustainability and Environment, or the Environment Officer at the local Council for the current details.

On private land the permission of the land-holder must be received. In all cases it is important to allow enough time for appropriate authorisation to be processed.

At the time of publishing this booklet, significant changes to Victoria's permit system are being developed. The new requirements are expected to be finalised by the end of 2005. Up to date information can be obtained by contacting your local Seedbank, DSE, or

local government Environment Officer, or by checking the relevant websites.

Swan Hill Regional Seedbank & Mallee CMA
www.malleecma.vic.gov.au/biodiversity

Department of Sustainability
www.dse.vic.gov.au

2021 Update:

*Department of Environment, Land,
Water and Planning*
<https://www.environment.vic.gov.au>

Seeding Victoria:
<https://seedingvictoria.com.au/>

WHAT?

Tools for Getting Started

THE RIGHT EQUIPMENT FOR THE JOB...

A variety of equipment is used at different stages of seed collecting. For a simple job the only requirements are a pair of secateurs and some bags or envelopes to put the seeds in. A bigger project may need more specific tools and processes and take more planning.

Gloves are recommended for all field work and for some cleaning processes to give protection from prickly twigs and leaves, and to guard against bites and stings from spiders and insects. Gloves and arm protection are vital when collecting from some plants which have particularly strong spikes and prickles.

Although it is relatively easy to collect most fruits without elaborate equipment, the task will be more straightforward if the appropriate tools are used and they are in good condition.

...FOR COLLECTING

- *Pens and labels for recording details of plants collected and the provenance*
- *Ground sheets, tarpaulins, cloth bags and collecting boxes with straps which leave hands free for picking*

- *Bags of different sizes from sacks to envelopes and zip-lock plastic bags for transporting plant material after collection*
- *Secateurs, long-handled pruning tools, hedge clippers, pruning saw*
- *Thick gloves*
- *Basic First Aid kit in case of accidents or bites*

...FOR EXTRACTING & CLEANING THE SEED

- *Sieves of different gauges to separate out the pods, waste, and dirt*
- *A variety of buckets and trays*
- *A modified garden mulcher to thresh Senna and some species of Acacia*
- *An electric fan to blow away husks and other waste after sieving*
- *A mask to guard against dust and chaff*

...FOR STORING CLEAN SEED

- *Heavy duty, air-tight, zip-lock bags of different sizes and various air-tight containers with lids with good seals*
- *Paradichlorobenzene (air-freshener blocks) to help control grubs and insects*
- *A cool, dark place for short-term storage*
- *A refrigerator or cool room for longer storage*

Your local Seedbank will take seed on consignment or place orders for seed for specific projects and it is then stored in ideal conditions. The Swan Hill Regional Seedbank has collecting equipment available for hire at low rates. It includes pruning saws, extension loppers, secateurs, sieves, kidney trays, and a covered trailer.

HOW?

General Collecting Tips

CHECKING SEED QUALITY

To avoid wasted effort, it is important to check that the fruit to be picked still contains the seed and that it is mature and viable. Sometimes the seed has already scattered, or the plant has produced fruit that has poor quality seed or no seed. Generally, viable seed comes from fruit that is plump and a good size, and healthy seed has a shiny coat and a distinctive white centre. If necessary, check the quality of the seed with the local Seedbank.

In areas where there are just a few instances of a certain plant present, self-pollination may occur. This may result in poor quality seed which has a low strike-rate and which produces seedlings that do not thrive. Therefore, it is important to note on the *Field Data Sheet* the number of plants of the same species present and the number of plants collected from.

SAFETY

Safety is important. While in the field, continue to be aware of the things on the ground when looking up at the trees and shrubs for seed. If going out alone, leave details of the collecting site with another person. Wear gloves and watch out for spiders and insects when reaching into plants.

SELECTION CRITERIA

The vigor of the plants to be grown from the seed collected, and the viability of the originating plant population depends on restraint and careful selection by collectors.

When out in the field collecting

- *Choose plants which are growing in similar conditions to those where the new seedlings will be growing*
- *Take no more than 10% of the seed present*
- *Take fruit from several plants of the same species in the area to enhance genetic variability*
- *Collect from different parts of the plant*
- *Avoid collecting from isolated trees and shrubs*
- *Watch out for snakes, spiders and stinging insects*

HARVESTING THE SEED

A variety of collecting methods will be used. Picking from low branches can be done directly into a large container or onto sheeting placed under the tree. Bags or a kidney tray worn over the shoulder or around the waist are useful as they leave both hands free for picking. The fruit from *Buloke* and *Belah* can be knocked off by hitting the branches with a stick. Care should be taken to avoid damaging the tree.

Higher branches of trees and shrubs can be reached with extendable loppers, saws and secateurs. A plank set up in the back of a ute can give a boost for harvesting. The fruit can be dropped directly into the tray of the vehicle and then swept into a container.

Be aware of opportunities to coordinate collecting activities with events such as heavy winds and storms when branches are blown from trees, or with pruning work carried out by local authorities. If possible find out about any tree-logging schedules for the area and plan ahead to be present to collect the seed. Obviously trees should not be cut down just to collect seed, but if they are being removed for other reasons the seed could be recovered.

Keep notes of collecting sites and the time of harvesting to help with planning for the next season.

CARTING THE COLLECTED SEED

After the fruit is collected as pods or cones or on twigs and small branches, the plant material needs to be taken to be dried to extract the seed. In some circumstances it is useful to leave a few leaves on the branches with the fruit as it can help the capsules dry more quickly. This could be significant when conditions for drying are not ideal.

It is crucial to label bags and bundles accurately before leaving the collection site. This can be done easily by writing on tape stuck to the bundle or bag. Each batch of fruits and seed collected should continue to be tagged throughout the various processing stages.

Use large sacks or collecting sheets to bundle the picked branches and twigs. In hot weather some seed is released within hours of picking so it is useful to put the fruit straight into bags for transporting. Self-supporting, stand-up plastic garbage bags are good for collecting large amounts of plant material, but it should not be left in there for long periods.

Plastic is not recommended for bundling and carrying the picked fruit and branches if they are to be left wrapped up for an extended period, as it causes sweating of the plant matter which leads to mould. Collecting in wet weather creates the same problems.

Green fruits which remain bundled for too long may heat up and this can adversely affect the quality of the seed. Sweating and overheating can happen in just a few hours in any kind of wrapping or bag, so the collected material should be opened up and spread out as soon as possible.

DRYING THE SEED

To extract seed effectively the ripe fruit must be dried. For larger quantities it is spread out on poly-tarp, sheets of black plastic or iron in the sun or in an airy, covered position. To help the drying process, the fruit needs to be turned or shaken occasionally. Smaller amounts can be dried in a paper or cloth bag to catch the seed when it is released.

Drying the fruit may take a few days in warm weather, but in cooler weather it could be necessary to put the fruits onto a wire rack under cover for a longer

period and fix a sheet underneath to collect the seed as it falls.

It is important to protect the seed from insects and animals during drying. Ants are very effective removalists, especially with *Acacia* seeds.

A microwave oven is not suitable to use for drying as it cooks the seed and destroys viability.

EXTRACTING SEED

Extracting the seed can be as easy as tapping the dried fruit against the side of a container, or shaking the dried pods or cones in a container with a lid on until all the seeds fall out. Often the best seed is at the bottom of the pod so it is important to persist until all the seed is released. For some species of *Eucalypts*, *Melaleucas*, and *Allocasuarinas* or *Casuarinas* this is all that is required.

For seed that is harder to recover, hit the fruit vigorously or put it into a tumbler with blocks or rocks, or a modified mulcher until the seed is released. Use just enough force to recover the seed, but not so much that it is destroyed.

For really tough fruits such as *Acacia stenophylla* it can be effective to use a modified garden mulcher. A wider loading chute is used and the original blades are replaced with conveyor belt rubber to prevent damaging the seed. Use care when handling *A. stenophylla*.

Fleshy fruits and partially opened pods may be too difficult to separate seed from. They can be scattered as

mulch at a planting site with the hope that some seed will germinate. The leftover remnants from sorting the seed can also be used as mulch.

Maintaining correct labelling of the seed as it is extracted is essential.

CLEANING THE SEED

Before seed is stored it needs to be cleaned to remove unwanted debris. Some of the sorting is already achieved in the drying phase when the seed falls through a mesh screen onto a collection tray or sheet as the fruit dries and is turned.

The final sorting for most species is done with some kind of sieve of an appropriate mesh size. Depending on the amount and type of seed, it may be possible to use a household sieve or colander. A lid fitted over the top enables the container to be shaken to help dislodge all the seed.

For bigger quantities of seed a set of sieves with various grades of mesh may be useful. These are expensive to buy but are available for hire at affordable rates from the local Seedbank. For some species it is helpful to use a domestic fan to blow away the unwanted chaff while sieving, or to work while the wind is blowing to help remove husks and litter.

Generally the seed should be free of extra bits and pieces before storing, but some species can be stored with them. Some Eucalypts shed a much higher proportion of chaff than seed from their capsules and

the seed cannot be separated from the chaff. The viable seed usually appears larger and darker than the rest, but does not need to be separated out.

With hard-coated, black seeds such as *Acacia*, *Senna* and *Dodonaea* a flotation process can be used when seeds are mixed with broken pieces of pod of a similar size and cannot be separated easily with sieving. The seeds and other bits are tipped into a bucket of water. The mix is stirred and after a few minutes the pieces of pod and non-viable seed floating on top can be scooped off with a small sieve. The seeds are then spread on newspaper to dry completely before storing.

To test for seed viability, use this same process. The viable seed sinks in the water and the damaged or non-productive seed floats. It is especially recommended that *Acacia*, *Senna* and *Dodonaea* are water-tested. Make a note of it on the *Field Data Sheet*. The productive seed is then dried thoroughly before storing.

It should be noted that some seeds such as Acacia stenophylla produce hazardous dust. So appropriate protective clothing should be worn, especially guarding eyes and nose.

Once the cleaning process is finished the seed should be stored as soon as possible in an airtight container in a cool, dry place.

SEED STORAGE

For storing the cleaned, dry seed, a variety of airtight containers can be used including heavy-duty, air-tight,

zip-lock plastic bags. An appropriate size should be selected so that the available seed almost fills the container. It is important that the seed is dry to prevent mould. The bags are then placed in a container which is not transparent and which has a tight-fitting lid.

The stored seed must be free of insects. This can be done using *paradichlorobenzene*, which is readily available from the supermarket as air-freshener blocks. A couple of the tablets are wrapped in light fabric and placed in the sealed container with the seed. After two weeks they are removed and the container resealed. It should be noted that *paradichlorobenzene* is considered to be a hazardous substance and protective clothing is recommended for handling it.

The place where seed is stored should be generally cool, dry and away from direct sunlight. It should be free from big variations in climate, and protected from pests. The conditions in a tin shed will be too unstable for effective storage. For storage over a longer period, refrigeration at around 4°C is recommended, although *Acacia* seed has a hard coat and does not need to be kept this cool.

No matter how good the storage is, the viability of all seed will diminish with time.

KEEPING ACCURATE RECORDS

It is essential to keep good records at every stage of seed recovery. Make sure that each batch of fruits or seed collected is carefully labelled in the field, and at every stage through to storage and use. This can be

done very effectively by writing with waterproof, felt-tip pen on tape stuck on bags or containers. With accurate recording seed can be correctly identified, selected and retrieved for particular growing conditions. Good records also help in analysing the outcomes of a planting project.

While in the field use the *Field Data Sheets* which are supplied by your local Seedbank, or a notebook to make preliminary notes. This will provide observations about the site location, the plants collected from, the surroundings, and what other species are in the area.

To help with the identification of unknown plants, collect samples of fruit, leaves, buds, flowers and bark. One set of the samples can be sent to the Seedbank for classification, and the other kept for personal records.

To achieve good outcomes when the seeds are planted, accurate records are needed when collecting and processing the seed.

FIELD DATA SHEET

Accurate information is required about all the seed collected. To do this effectively, it is important to fill in some of the information on the *Field Data Sheet* while actually at the collection site and the details are clear. Complete the rest of the *Field Data Sheet* when preparing seed for delivery to the Seedbank and submit one sheet with each batch of seed.

The Seedbank uses the details for labelling the seed and entering information into the data bank. The *Field Data Sheet* is then filed for future reference. eg. p 25,26

SWAN HILL REGIONAL SEEDBANK

Seed Collectors Field Data Sheet

To be entered by
Seedbank

Seedlot Number

Storage date

Owner

Data entry date

Weight after cleaning and
packaging

Weight on receipt

Has seed been WATER-
TESTED for viability?

No

COLLECTOR'S NAME

John Stone

DATE COLLECTED

20.4.05

PLANT COMMON NAME

Moonah

BOTANICAL NAME

Melaleuca lanceolata

SITE NAME

Fire Access Road

DISTRICT/TOWN NAME

Piangil

GPS/GRID REFERENCE

PROJECT/CONSIGNMENT

OTHER SPECIES PRESENT

Acacia, Dodonaea, Senna, Grasses

No. of plants

collected from

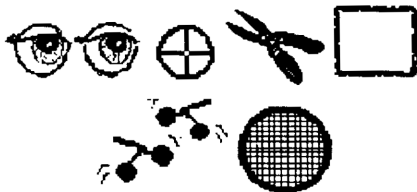
10

HOW?

Specific Collecting Hints

WORKING WITH VARIOUS PLANTS

Eucalypts & Mallees (*Eucalyptus*)



Cut off mature fruits. Allow to dry over clean sheet of material until seed is released. Sieve through screens to remove unwanted material.

Gold Dust Wattle (*Acacia acinacea*)



Seed pods mature quickly with hot weather. Run hands along branches to remove pods. Place in container, rub firmly then sieve out seed from pods.

Grey Mulga (*Acacia brachybotrya*)



Place material or sheet under bush. Shake branches to dislodge seed pods. Trample over collected materials then sieve out seed from pods. Store in a cool dry area.

Hard Leaf Wattle (*Acacia sclerophylla*)



Seed pods mature quickly with hot weather. Run hands along branches to remove pods. Place in container, rub firmly then sieve out seed from pods. Can place material or sheet under shrubs and shake branches.

Manna Wattle (*Acacia microcarpa*)



Seed pods mature quickly with hot weather. Use gloved hands to remove pods and seeds. Place in container, rub firmly to dislodge more seed then sieve out seed from pods.


Nealie Wattle (*Acacia rigens*)



Use thick gloves. Remove pods carefully, place in a container, rub firmly to dislodge seed then sieve to clean. Seed ripens quickly with hot weather.

River Cooba or Eumong (*Acacia stenophylla*)



TAKE CARE!  **THRASH**

Monitor seed pods until they go brown. Remove pods by placing a sheet under tree and use gloved hands or a long rod to help dislodge seed pods.

It is one of the more difficult seeds to remove from pods. Soak the pods in water for up to two hours to soften seed coat, and then remove the husks by hand or with a modified mulcher. Some seed may be damaged using the machine, but it is otherwise very hard to recover the seed. Soaking is recommended because the dust from dry handling is a health hazard. Extreme care should be taken and a mask and eye protection worn when handling.

Umbrella Wattle (*Acacia oswaldii*)



Use gloves to remove pods and seeds, place in a container then trample over contents to try and dislodge seed. Seed will come out more easily if work is done in hot weather.

Western Black or Hakea Wattle (*Acacia hakeoides*)



(remove after 2 weeks)

Place material or sheet under bush. Shake branches to dislodge seed pods or use gloved hands to remove seeds and pods; trample over collected materials, then sieve out seed from pods. To control grubs use *para-dichlorobenzene* for two weeks then store in a fridge.

Willow Wattle (*Acacia salicina*)



Monitor seed pods until they go brown and begin to dry. Place material or sheet under trees and remove

Pods onto sheet. If necessary use a long rod to dislodge pods and seed. Trample over plant matter on sheet to remove further seed. Carry out work in hot weather for best results.

Buloke (*Allocasuarina luehmannii*)



Close inspection of ripening fruit is essential to understand when fruit is ripe. Watch for changing colour, or valves beginning to open. Hot weather will bring fruits to maturity quickly and valves will open to release seed on the ground. Small branches containing fruit are very brittle and break off easily. Fruit will fall off once seed is released. Place fruit on material or sheet to dry. Clean seed by using screens to remove unwanted bits.

Cattle-bush (*Alectryon oleifolius*)



Look for mature fruits turning brown and starting to split. Cut off fruits and dry fully on clean surface in sunny position where fruits will open to allow seed to fall out. Screen and clean and store away in dark area.

Green or Mallee Tea-Tree (*Leptospermum coriaceum*)
and *Melaleucas*



Cut off small branches using secateurs. Look for maturity of fruit. Place on clean surface and allow to dry. Valves open and release seed. Clean seed by passing through screens.

Weeping Pittosporum, Native Apricot, or Butter Bush
(*Pittosporum angustifolium* – formerly *phylliraeoides*)



Wearing gloves cut off ripe opened fruits. Place in dry, warm area. Rub firmly to dislodge seeds. Wash seed in detergent and repeat every few hours to remove sticky coating. A small amount of talcum powder can be useful to separate the seeds.

Slender Cypress Pine (*Callitris gracilis*)



Fruit is mature when colour is brown. Cut off small branches with secateurs. Lay cones on sheet of material to dry fully. When cones have opened, shake in a container. Remove cones.

Silver Needlewood (*Hakea leucoptera*)

Hooked Needlewood (*Hakea tephrosperma*)



COVER ARMS



≈Cool≈

dry≈ area

Well gloved hands and covered arms are necessary. Cut off mature fruit and place in dry area. Two seeds will be released. Place seed in container and store in dry, cool area.

Sugarwood (*Myoporum platycarpum*)



Cut off dry mature fruit from branches. Dry fully then rub the dry fruit over fine screen mesh.

Everlasting (*Chrysocephalum*)



(remove after 2 weeks)

Easy to collect by placing mature heads in a container then sieve through screens. Keep dry and add small amount of *paradichlorobenzene* for two weeks before storing.

Ruby Saltbush (*Enchylaena tomentosa*)



Run gloved fingers through branches to remove mature drying fruits. Dry fully in warm position. The fleshy material on the fruits withers away to leave mainly the seed. Clean further by passing through sieves. Store in cool position.

Hop Bush (*Dodonaea*)



Hand collect the bunches of ripening fruits, or bend the flexible stems and shake fruits off into a container. Remove husks by using wind or fan to blow chaff away.

Kangaroo Grass (*Themeda*)



Wait until seed falls then collect by using strong gloves or a light rake.

Old-man Saltbush (*Atriplex nummularia*)



Use gloved hands. Strip or shake fruiting branches into a container during warm, dry weather. Or use a battery powered vacuum cleaner.

Pimelea Daisy Bush (*Olearia pimeleoides*)



(remove after 2 weeks)

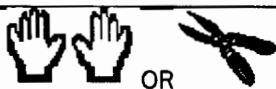
Cut off mature fruiting heads and place in warm area to further dry. Separate seed from fruit head. Treat with *paradichlorobenzene* before storing.

Desert Cassia (*Senna*)



Collect seed during warm but not windy weather. Seed is usually collected by placing sheets of material or plastic beneath the bush. Shake or rattle branches to dislodge pods and seeds. Trample over crisp dry pods to dislodge more seed. Use sieves to screen out unwanted material.

Spear Grass (*Austrostipa*)



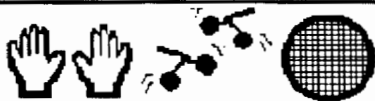
Run gloved hands through ripe seed heads or cut off below fruiting spikes.

Wallaby Grass (*Austrodanthonia*)



Run gloved hands through ripe seed heads, or cut off beneath flower heads. Store in paper or calico bags.

Yanga Bush (*Maireana brevifolia*)





Using gloved hands strip or shake fruiting branches into a container. Use sieves to remove dust and twigs.

KEY to Specific Hints Chart

		
Gloves are essential	Process accelerated by hot weather	Observe ripening fruit carefully
		
Watch for 'cross' opening at base of pod	Use hands for picking fruit, cleaning seed etc	Use secateurs to cut fruit or small branches etc
		
Use sticks to knock fruit off branches	Spread sheet under plant	Trample to remove seeds
		
Tap pods or cones to remove seeds	Shake in container to remove seeds	Soak to soften or clean

KEY to Specific Hints Chart

THRASH		
Dry on sheet or clean surface	Use wind or fan to blow chaff away	Use modified mulcher to separate seed
≈Cool≈ dry≈ area	 (remove after 2 weeks)	
Sieve to separate seed	Store for 2 weeks with Paradichlorobenzene	Store in a cool, dry place
	TAKE CARE!	
Store in cloth or paper bags	Use appropriate protective clothing when handling	

Acknowledgements & References

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Leon Costermans (1996), *Native Trees and Shrubs of South-Eastern Australia*, 2nd edition 1983, current printing 2003 published by New Holland Publishers, Sydney. Illustrations and text references used with the kind permission of Mr Costermans. Further thanks to Mr Costermans for help with current taxonomy.

Neville Bonney (2003), *What Seed Is That?* Published by the author, and information used with the kind permission of Mr Bonney. Contact details for information about this publication are listed below.

Also used were *Landcare Note TG0005*, published by the Department of Natural Resources and Environment and *Landcare Notes TG/001/01* published by the Department of Conservation and Natural Resources.

Lou Bull, Greening Australia. *The Ten Commandments of Seed Collecting*

Greening Australia (Vic), *2000 Regional Training Program*

Many species can be checked on the Internet with good information and photographs often available. However, care should be taken to match where the plants being investigated come from with the reference material.

Recommended Reading

Neville Bonney (2003), *What Seed Is That?*, published by the author Neville Bonney PO Box 37 Tantanoola SA 5280 (email nbonney@senet.com.au).

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Every effort has been made to ensure that details given here are correct. However, the information may not be appropriate in all situations. Any errors or omissions are regretted and no liability is accepted for any actions taken in relation to the material. SHRSB



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