

ALEP

Aboriginal Landcare Education Program

4

Collect, Prepare and Preserve Plant Specimens



Learning Guide

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Student name:.....

Student number:.....

INTRODUCTION

Welcome to *Collect, Prepare and Preserve Plant Specimens*. This learning guide covers the process of collecting and preserving plants. You might need to be able to collect plants when working for councils, carrying out bush regeneration work, ranger work or when managing your own country.

Training should be completed on the job or out in the field. It is best to use native plants but weeds could also be used.

It is recommended you undertake *Recognise Plants* before doing *Collect, Prepare and Preserve Plant Specimens*. *Recognise Plants* will give you the plant identification skills needed and will introduce you to pressing and storing plants.

EQUIPMENT REQUIRED

To complete this training you will need the following:

1. Appropriate Personal Protective Equipment (PPE).
2. Safety gear for field work including first aid kit, maps and water.
3. Secateurs, plastic bags, notebook and pencil and other equipment for collecting plants.
4. A plant press, newspaper, herbarium paper and glue or sticky tape for pressing and mounting plants.
5. Labels and pens, folders and boxes for labelling and storing plants.

ASSIGNMENTS

There are three assignments you will need to complete.

Some of these assignments may go towards your final assessment.

Section	Assignment	Competent (C) Not yet competent (NYC)	Date Achieved
Collecting Plants	Assignment 1. Project Risk Assessment		
Pressing and Mounting	Assignment 2. Plant Collection Sheets		
Labelling and Storing	Assignment 3. Plant Collection (Herbarium)		



1A. INFORMATION ABOUT COLLECTING PLANTS

It is important when collecting plants to be able to identify them. We recommend you work through the learning guide for *Recognise Plants* first as it has lots of information about identifying plants, including references. Some good documents about collecting plants are:

- *Collecting and Preserving Plant Specimens, A Manual* (2006) by Tony Bean from the Queensland Herbarium.
- *Collect, Prepare and Preserve Weed Specimens* (2005) by Jane Morton from the Cooperative Research Centre for Australian Weed Management (Weeds CRC).
- *Northern Australia Quarantine Strategy Weed and Plant Collection Manual* (2007) by the Weeds CRC and Australian Quarantine and Inspection Service.

There is also a wealth of information available online.

1. The Australian National Herbarium is a good place to find out about herbariums.

 <http://avh.ala.org.au>

2. Australia's Virtual Herbarium is another place to find out information.

 www.ersa.edu.au/avh

3. The Northern Territory Herbarium is responsible for naming, describing, surveying and storing the flora of the Northern Territory.

 www.nretas.nt.gov.au/plants-and-animals

1B. COLLECTING PLANTS SAFELY

When collecting plants you should use sunscreen and wear a hat, sturdy shoes, a long-sleeved shirt and long trousers to keep the sun off. This is called Personal Protective Equipment (PPE).


Some plants are very poisonous or should not be handled for spiritual reasons. Always ask your elders or trainer before handling any plants. Wear gloves in case the sap, fruits, seeds or dust from dried seeds is toxic or causes allergic reactions on the skin. Wear a hard hat if there is danger from falling branches or fruit.

Follow your organisation's health and safety procedures when working and carry a first aid kit. Carry plenty of water for drinking and washing hands, especially if handling poisonous or irritating plants. Make sure your vehicle is properly maintained. Check all safety equipment such as radios and mobile or satellite phones before you leave to see if they are working properly.

Always inform your trainer or supervisor about where you are going and when you expect to return. Ideally you should not go out into the field with less than three people. Before you set off check the weather, road and fire reports for your local area. Bring maps and any permits with you.



Before you begin, use this checklist to confirm you have followed good safety procedures.

SAFETY CHECKLIST ACTIVITY		✓
Long trousers, shirt and boots		
Hat (hard hat if necessary) and gloves		
Sunscreen, insect repellent and sunglasses		
Water		
First aid kit		
Notified others and have phone/ 2 way radio		
Checked weather, road and fire reports		
Permits (if required) and maps		



Cycads are threatened species



1C. PERMITS AND PERMISSION

Before collecting any plant you will need to get permission from the landowner. Most landowners are generally helpful and you can collect plants without too many problems but always ask first. In many communities you may also need permission from local traditional owners before collecting any plants. Some plants may have special significance and should never be touched (e.g. totemic plants, local restrictions, local protocols etc.). Always seek local advice before you start collecting plants – not afterwards.

Various laws protect all plants listed as threatened, and some common plants which are harvested from the wild. The main laws are the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* and the NT Government's *Territory Parks and Wildlife Conservation Act 2006*. These acts conserve biological diversity, and prevent the extinction and promote the recovery of, populations of threatened animals and plants and ecological communities. They also aim to stop processes that destroy or threaten the survival of these threatened plants and animals. Information on threatened plants can be accessed online.



www.nretas.nt.gov.au/plants-and-animals

The Northern Territory Government has restrictions on what native plants and seeds can be collected and has a permit system for collecting wildlife, including plants. See this website for the latest details.



www.nt.gov.au/nreta/wildlife/permits

1D. WHY COLLECT AND PRESERVE PLANTS?

Western scientists often preserve a specimen of a plant (or a part of larger plants) by pressing, drying, and mounting on thick paper or board. Pressed and mounted plants won't go mouldy and are easier to identify. Plants preserved in this way can last for hundreds of years.

One of the most common reasons for collecting a plant specimen is to try and find out the name of the plant. To get accurate plant identification you will need to have a very good plant specimen. Sometimes pressed plants need to be sent off to a local or interstate herbarium for identification.

A plant collection (called a herbarium) can provide a useful library of plants about an area and can help with identifying other plants later on.

ACTIVITY

In your group make notes on butchers paper about what type of plants you will collect. Ideas might be:

- Plants from a certain family (eg. grasses).
- Native plants from a certain area (eg. the woodland behind the school).
- Weeds from a certain area.
- Plants you can eat.
- Plants with a certain colour flower.

1E. EQUIPMENT NEEDED FOR COLLECTING

- Secateurs (maybe long handled secateurs for tall plants)
- Plastic bags
- Tags for attaching to plants (often called jewellers tags)
- Notebook for writing down information
- Pencil (or pen)
- Camera
- GPS unit

1F. COLLECTING PLANT MATERIAL

Important things to remember when collecting plants:

- Collect flowers, fruit, seeds and pods, and leaves using secateurs – try and keep all these attached to the twig.
- Make sure the plant is no bigger than 30 cm (so it fits into the newspaper for pressing and on to your herbarium paper when mounted).
- If you need to collect a larger part you can bend it to fit on the paper.
- If plants are small then a number may be collected to fill the newspaper page. For small plants sometimes you need to dig up the root as well.
- Only collect what you need.
- Attach a tag to the plant with a number (or write a number on the newspaper if pressing straight away).

You should write as much information down as possible in your notebook (or on the newspaper if you are pressing it straight away):

- The number on the tag and date.
- The name of the plant if you have worked it out.
- The place you collected it (include GPS reading if you have it).
- Who collected the plant.
- The habit of the plant – see section 3B.
- The habitat it was growing in – see section 3C.
- Any interesting features.
- The picture number from your camera if you took a photo.

It is important to press the plants as soon as you collect them to stop them drying out and wilting. If this is not possible then plants can be stored for a short while in plastic bags with a few drops of water inside to keep them cool.

- Don't put too many plants in the one bag as plant material can get mixed up.
- Make sure all the plants are labelled.
- If possible roll the plants up in wet newspaper before they are loosely packed in the plastic bags.
- Store all bags in an esky or the refrigerator to keep them cool.
- Don't leave the plastic bags out in the sun.



ACTIVITY

In your group practice collecting flowers and fruit from plants.

