

Studies in Horticulture,
Agriculture & Land Management

Treat weeds

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This handbook covers the
knowledge and skills required for
the Unit of Competency:

Treat weeds
(AHCPMG201A)

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What is a weed?



Dandelion - showing flowers and fruit (*Taraxacum officinalis*)



St John's Wort (*Hypericum perforatum*).



Blackberry - showing flowers and fruit (*Rubus* spp.)

Declared or noxious weeds have to be contained or eradicated and they are not allowed to be moved or sold.

Weeds mean different things to different people. It really depends on where you are and what is important to you. Broadly speaking, there are two groups of weeds:

- weeds that upset you (or your boss) in your workplace and
- weeds that upset lots of people.

If you are a gardener, **weeds** are the plants you spend your spare time pulling out of your vegetable garden, lawn and flower beds. For example, dandelion.

Orchardists, market gardeners, foresters and parks and gardens staff all have to deal with weeds. Farmers spend a lot of time and money managing weeds in their crops and pastures. These are called **agricultural weeds**. For example, St. John's Wort.

Bushland, rainforest, coastal reserves and native grasslands also have weeds. These are called **environmental weeds** because they invade natural environments and stop the indigenous (local native) plants from growing and regenerating. For example, Blackberry.

Some weeds are so successful at taking over that they have become weeds in both agricultural and natural areas. Their effect is so serious that they are called **declared** or **noxious** weeds. The State and Federal governments pass laws on these plants.



Activity 1 Noxious weeds in your State

1. Noxious weeds for each State and Territory are listed on the web at www.weeds.org.au Check out the web-site. How many declared weeds are there in your State/Territory?
State = _____ declared weeds = _____

2. List 3 declared weeds for your State.



Activity 2 Getting to know your weeds

1. How would you describe your workplace? For example, production horticulture, commercial cropping, conservation land management, gardening, landscaping, livestock production. (If you don't have a workplace, use your college or home as the workplace).



2. Setting up a 'Weeds' folder. To **help you to recognise weeds** in your workplace and other weeds in the future, it is a good idea to start your own weed collection. You can collect and press specimens of your weeds and also take photographs of them. Keep the information for each weed together in the 'Weeds' folder. Clearly label each weed with its common and botanical names. You can use your collection as a memory jogger for your current workplace or take it with you and add to it at your next workplace.

Your folder is also great for storing class notes, supervisor comments, brochures, diagrams, photographs and articles. Set up your 'Weeds' folder now.

3. List one weed from your local area (workplace, college, home or park) in each of the following categories. Ask your workplace supervisor or teacher for help if you are not sure of the Plant type categories or check out *Recognise plants*.



See *Recognise plants* by Michèle Adler in this series.

Plant type (life-form)	Example of a local weed	
	common name	botanical name (if possible)
Woody trees and tall shrubs		
Small woody shrubs		
Climbers and creepers		
Grasses		
Herbaceous plants		
Succulents and cacti		
Water plants		
Bulbs, tubers and rhizomes		

How do you get rid of weeds?

Before you grab a spray pack and head off to zap the little blighters stop and think about what you are trying to achieve. Every situation is different. How you get rid of weeds will depend on the answers to a number of questions:

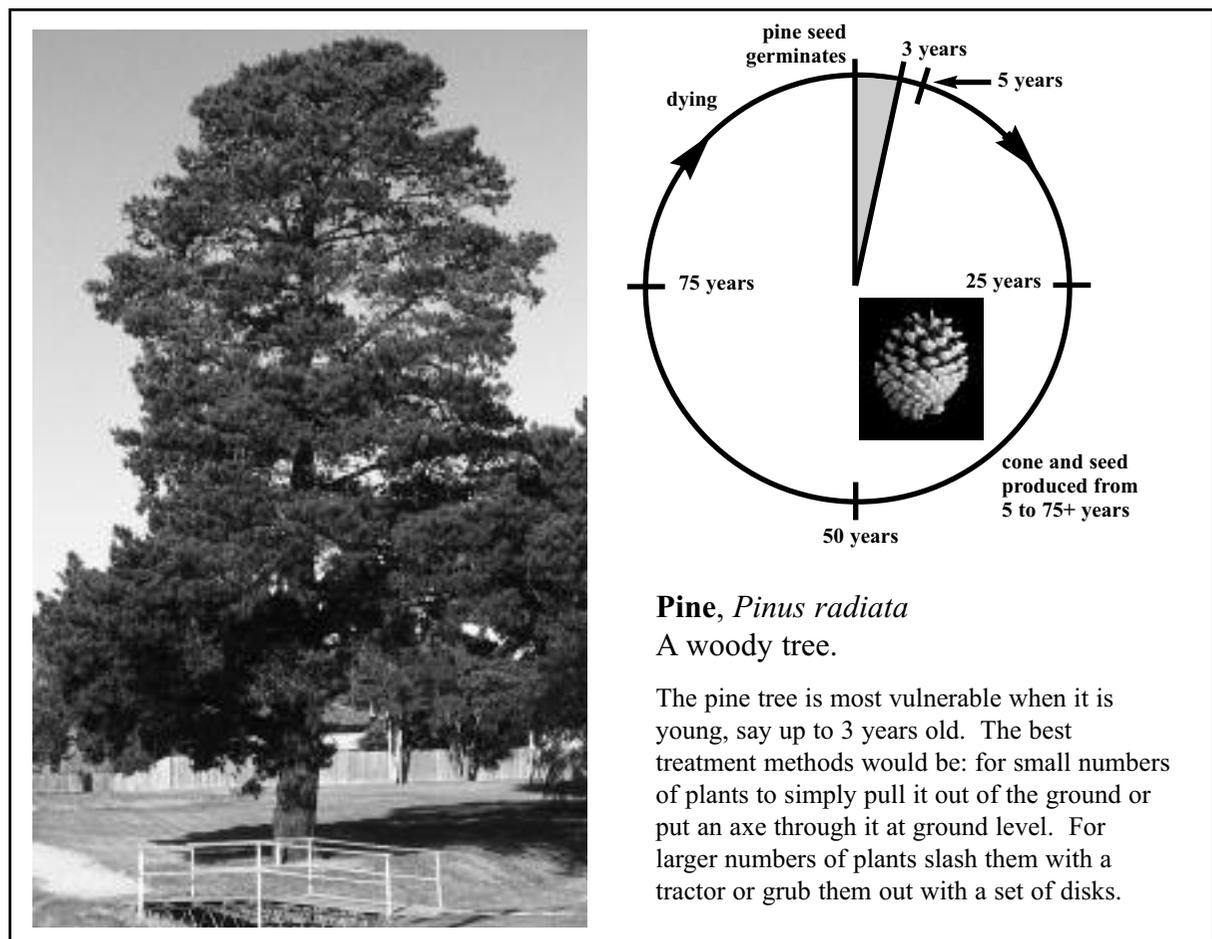
- which weed is it? For example, in a cropping situation you would use a different method to get rid of Paterson's Curse compared to getting rid of it from your garden
- how does the weed spread? For example, you will treat weeds spread by wind differently to weeds spread by bulblets. How the weed spreads is related to the **life-cycle** of the weed.
- how big a weed problem is it? For example, a small number of weeds may be removed by hand whereas a large problem may require spraying or the release of a biological control (see later).
- where are the weeds? For example, you will use a different method to get rid of blackberry in the bush compared to getting rid of blackberry in a clients garden.
- what would happen if you didn't get rid of the weeds? For example, will the weed die off naturally without action? How much will it cost - is it worth the effort, time and money?

As mentioned above, the **time** when you want to treat the weed will influence the **method** of treatment that you will use. The various treatment methods are discussed in the next section ... but just before you go there ... to illustrate the point, imagine you want to get rid of a large area of dandelions (say 100 m²). Which method do you use? Well, it depends on **when** you want to do it.

when	then	you could use this method
• before the dandelion seeds have germinated	→	you could use a selective pre-emergent herbicide to kill the newly germinating seeds
• after the dandelion seeds have germinated	→	you could use mulch to restrict the light getting to the seedlings
• when the dandelion plant is growing or flowering	→	you could spray with a broad-leaf herbicide to kill the plants
• after the dandelion plants have gone to seed	→	do nothing until next year because the seeds have already been dispersed and the existing plants are going to die anyway

As you can see, the method that you use depends on knowing the **life-cycle** of the plant.

The following diagram shows the life-cycle of a plant - a woody tree, *Pinus radiata*. This plant is considered a weed in some areas. If possible, the best time to attack a weed is when it is most vulnerable. When is this?



Activity 5 Life-cycle of your weeds

1. Draw up a life-cycle diagram (like the one above) for the 6 weeds you have chosen from your workplace. You will probably have to do some research here or at least discuss it with your supervisor. The life-cycles of the plants you choose will probably have a different time scale.
2. Indicate when the weed is most vulnerable.
3. Record the results in your 'Weeds' folder.
4. Show your diagrams to your supervisor. Then ask your supervisor to Sign-off.

Note: You will return to this information in the final activity when you are going to work out which treatment method you will use on these weeds.

Sign-off Activity 5 **Date** _____

Supervisor's signature _____

Mechanical methods



A daisy digger (Cyclone) is very helpful in getting all the roots out. Because of their action, the digger can save on getting tired hands.



Some invasive plants have a root system that can regenerate, like the tubers shown above. So, you need to make sure that you 'get the lot'.



Where there are only a small number of weeds then pulling them out by hand is very effective. The best time to do this is after rain or irrigation.

Chemical methods



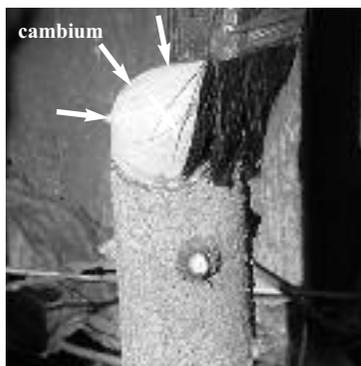
Make sure you know what chemical you are spraying and what PPE you need - it's better to be sure than sorry.



When painting, make sure you have a fresh cut. You need to act quickly before the cambium area seals over.



Make sure you have the right chemical for painting and it has been prepared to the correct concentration.



Paint the chemical onto the cambium region (around the outside of the cut section). It is a waste to apply the chemical to the central region.



When finished wash the brush and dispose of the liquid in the approved manner.

herbicide type*	use	be careful of
• Non-selective	kills everything the herbicide is applied to. Example = Round-up ^R	drift. When spraying, the herbicide may drift into the air and land on green trucks and leaves of non-target shrubs and trees, especially young plants.
• Selective	kills only one type (or small group) of plant whilst not killing others around it. For example, kills only grasses but not broad-leaves (and vice versa). Example = Brush-off ^R	killing indigenous grasses by mistake when only trying to kill introduced grasses
• Pre-emergent	is applied to the surface of the soil and kills plants that germinate and emerge from the soil. Is selective. Example = Ronstar ^R	washing-off into water-ways. Can stay around in the soil for a period of time.

* herbicide = a substance (chemical) that kills plants (herbage)

