

WEED CONTROL HANDBOOK

FOR DECLARED PLANTS IN SOUTH AUSTRALIA

JULY 2018 EDITION



Government
of South Australia

WEED CONTROL HANDBOOK FOR DECLARED PLANTS IN SOUTH AUSTRALIA

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ABOUT THIS BOOK

This book provides information on how to control South Australia's declared plants. The first section of the book provides information regarding declared plants, weed control methods and the important legal, environmental and work health and safety (WHS) considerations when using herbicides for weed control.



The second section is a table of treatment options to manage or control these weeds, including rates and application methods of herbicides for each weed. These treatments were compiled with assistance from people with experience in controlling South Australia's declared plants including Natural Resources Officers, bush regenerators and agronomists. All control methods that involve herbicides are checked annually against the current registered labels and permits.

The table lists declared plants in alphabetical order by their common name. Herbicide active ingredient(s) are then listed in alphabetical order for each plant along with the registered or permitted application rate, method and timing, the herbicide's mode of action and general comments regarding the treatment method. Please note that one example product name has been included for each herbicide; there are often many products with the same active ingredient and users should shop around in choosing a product with the correct active ingredient(s).

All herbicide treatments listed in the table are registered or permitted for use by the Agricultural Pesticides and Veterinary Medicines Authority (APVMA). Users should refer to the label or permit for specific details about the situation within which the herbicide may be used. Some herbicide treatments that are registered in South Australia are included for particular weeds that are noted as being on the label only in some other States. Throughout the table, registered uses are labelled 'registered' and permit numbers (e.g. PER 1234) are provided for permitted uses.

IMPORTANT: The herbicide treatments provided in this book should be considered a guide only and users of agricultural chemical products must always **READ THE LABEL** before using a product and strictly comply with the directions on the label and/or conditions of any permit.

THE PLANTS INCLUDED IN THIS BOOK



Declared plants

Declared plants are plants that are regulated under the *Natural Resources Management Act 2004* due to their weed threat to South Australia's primary industries, natural environments and public safety. Plant species are declared under various provisions of the Act relating to:

- **Movement** – The declared plant must not be moved on a public road (e.g. as a cutting, seed or potted specimen). Inadvertent movement of the plant on animals, soil, vehicles, machinery or produce may also be prohibited.
- **Sale** – The declared plant must not be sold at any outlet including nurseries, pet shops and market stalls. Sale of any animal, soil, vehicle, machinery or produce contaminated with the plant may also be prohibited.
- **Notification** – The presence and locations of the declared plant must be reported to the regional NRM Authority by the owner of the land.
- **Control** – Landowners are required to take action to destroy or control certain declared plant species present on their property. NRM Authorities are also responsible for controlling these declared plants on road reserves, and may have the power to recover costs of control from the adjoining landowners.

Some or all of these provisions apply to each declared plant depending on the region where the plant occurs. Details of plant declarations can be found at www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa/plant_policies.

Land owners, including the Crown, are responsible for the control of declared weeds on their own land. The regional NRM Authorities are responsible for co-ordinating weed control in each region. If a weed species is targeted for enforced control on properties, the Authority has responsibility for its control on road reserves, and may recover the costs of this work from the owners of adjoining land.

Within Local Government areas, control of all non-declared weeds on a road reserve is a responsibility of the local Council. Outside Local Government areas or on controlled access roads such as expressways, it is a responsibility of the Department of Planning, Transport and Infrastructure (DPTI). Any land owners who wish to carry out work on a road reserve must obtain permission from their local Council and should also consult their Natural Resources Centre for advice. Outside Local Government areas or on controlled access roads they must obtain permission from DPTI.

The responsibilities of land owners and others also include preventing the inadvertent movement of declared plants on livestock, soil, vehicles, machinery or produce.

Weeds of National Significance (WoNS)

Included in South Australian declared plant list are all Weeds of National Significance (WoNS). WoNS have been identified as national threats due to their invasiveness, economic and environmental impacts. There are national strategic plans for their management. These weeds are denoted as '**WoNS**' in the treatment options table.

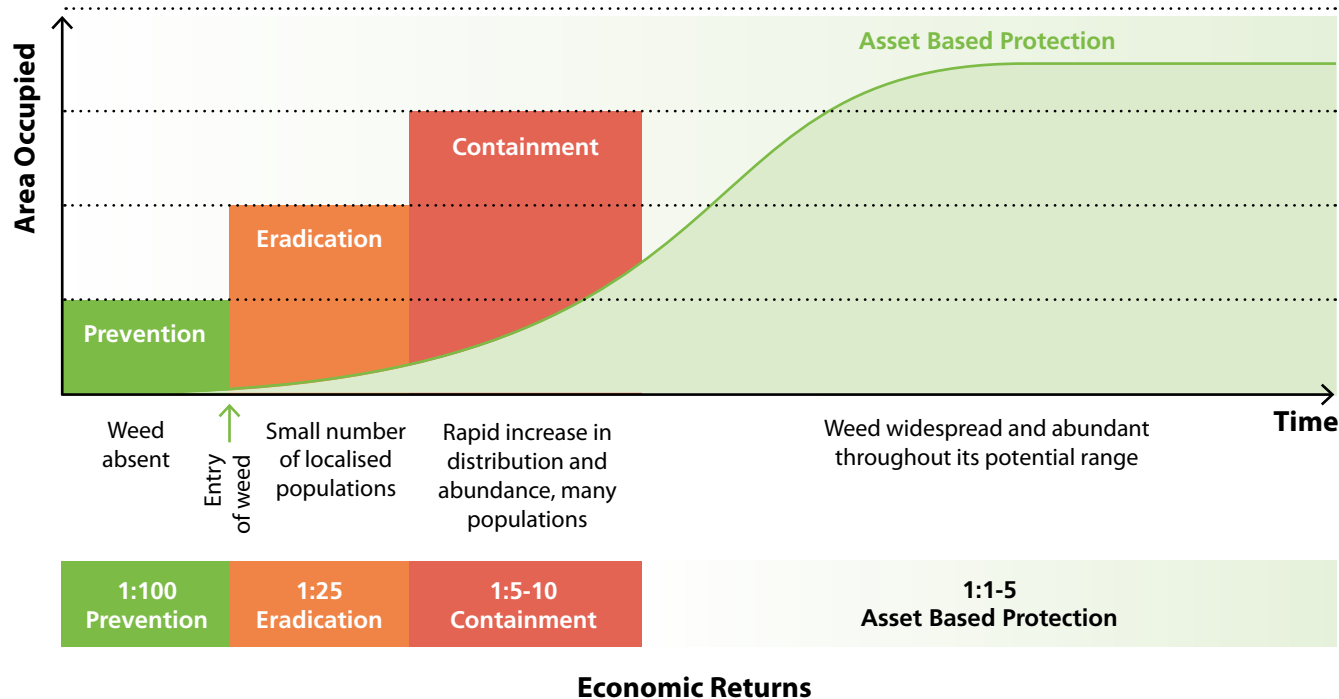
ALERT WEEDS

ALERT WEEDs are also included in South Australia's declared plant list. ALERT WEEDs are high threat species that, should they enter the state, have the potential to invade and cause significant economic and environmental impacts. All people should be on the lookout and report ALERT WEEDs to their local NRM Authority. ALERT WEEDs may also be WoNS weeds. These weeds are denoted with '**AW**' in the table.

Importance of Early Intervention

All weed management has costs, and these are paid by the community. Weed management benefits the community in terms of production and asset protection.

Prevention of entry is the most cost-effective form of weed control; eradication of a new introduction is also good value. Containment may have worthwhile returns on investment when a weed with high impacts is still absent from vulnerable lands. Beyond this stage, decisions on control effort are made by land managers according to value of the asset and the impact of the weed.



Based on information from Invasive Plants and Animals Policy Framework, Department of Primary Industries Victoria.

HERBICIDE USE

Herbicide registration

Agricultural chemical products must be registered by the Australian Pesticide and Veterinary Medicines Authority (APVMA) in accordance with the Agricultural and Veterinary Code Act 1994 (AGVET code) and the Agricultural and Veterinary Chemicals Administration Act 1994. In South Australia the main legislation controlling the use of agricultural and commercial pesticides is the Agricultural and Veterinary Products (Control of Use) Act 2002 (AGVET Control of Use Act) and the Agricultural and Veterinary Products (Control of Use) Regulations 2004 (AGVET Control of Use Regulations). This legislation is administered and enforced by PIRSA.

Each registered product has a label providing instructions on safety, use and disposal as well as identifying the active constituents and other ingredients of the product. Labels also outline the pests, crops and situations where the herbicide may be applied. In certain situations the APVMA may issue a minor use permit for use of a herbicide in a situation not specified on the label. Permits need to be applied for and will have specific conditions and expiry dates that must be adhered to.

Following label or permit instructions ensures that herbicides are used effectively and do not have a negative impact on the environment, health, safety and trade. It is an offence to use unregistered pesticides unless you have a permit. To search for registered and permitted products visit the APVMA on line database at:

<https://portal.apvma.gov.au/pubcris>

The use of herbicides in a manner that varies from the label instructions is called off-label use. A herbicide may only be used on a crop or situation for which it is registered, and at a rate not exceeding the maximum rate specified on the label for that use, unless the off-label use is covered by a currently valid permit issued by APVMA. For example, if a herbicide is registered only for use in tree crops it is not legal to use it on pastures.

In South Australia limited off-label use is allowed for activities deemed low risk. In these situations:

- You may use a pesticide at less than the label rate of application.
- You may use a pesticide less frequently than advised on the label.
- You may use a pesticide to treat a pest not mentioned on the label as long as the crop is specified and you follow all other label conditions.
- If there are no instructions for the use of the product on a crop in South Australia, then the product may be used on that crop if it is listed for another state. The product must not be used at a higher rate or frequency than listed for the crop in the other state, and must not be used if the label specifies that it is not for use in South Australia.

It should also be understood that the manufacturer makes no claim for the efficacy of the herbicide if it is used in any off-label way.

Herbicide toxicity

Many herbicides are hazardous chemicals toxic to humans and other living things and their inappropriate use can cause harm. Where possible choose herbicides with a low toxicity to humans and animals. The degree of toxicity of a herbicide is outlined on the label as a poison schedule. Poison scheduling is the national system used to classify substances based on their potential health risks.

When using herbicides **personal protection equipment (PPE) must always be worn** to avoid contact with and absorption into the body. The degree of PPE required may depend on the application method and the herbicide's toxicity; however, **users should always wear:**

- Chemical impervious, PVC or nitrile gloves,
- eye protection,
- a respirator (with a filter appropriate to the level of toxicity), and
- clothes, a hat and boots that cover the whole body.

For higher risk herbicides more PPE and additional precautions may apply, including wearing a full face respirator and chemical resistant overalls.

HERBICIDE POISON SCHEDULING

SIGNAL HEADING	SCHEDULE	DEGREE OF HAZARD
No signal heading required; 'Keep out of the reach of children' only	Unscheduled	Low toxicity Not considered poisons however they may be capable of causing minor adverse effects to human beings in normal use.
'Caution'	Schedule 5	Slight degree of hazard Have a low toxicity or a low concentration and pose a low to moderate hazard. They are capable of causing only minor adverse effects to human beings in normal use and require caution in handling, storage or use.
'Poison'	Schedule 6	Moderate degree of hazard Have a moderate to high toxicity which may cause death or severe injury if they are ingested, inhaled or come in contact with the skin or eyes.
'Dangerous Poison'	Schedule 7	High degree of hazard Have a high to extremely high toxicity which can cause death or severe injury at low exposures. They require special precautions in their manufacture, handling or use and are too hazardous for domestic use or use by untrained persons.

By law, Schedule 7 chemicals must not be sold to or be used by persons who have not completed appropriate training (e.g. ChemCert or equivalent) and shall not be used in domestic settings.

Herbicide spray drift

The drift of fine spray droplets away from the target area can cause off-target damage to plants, aquatic environments or humans. All herbicides are capable of drift; however the extent and damage caused by the drift will depend on the amount of drift, type of herbicide used and the susceptibility of the non-target plants and animals.

All users have a moral and legal responsibility to prevent herbicides (and other pesticides) from drifting and contaminating or damaging neighbouring properties and off-target species.

Spray drift can result in chemical trespass, the term used to describe the trespass of chemicals to off-target properties, crops or the environment that causes:

- Actual or potential contamination of land, animals or plants outside the target area.
- Actual or potential harm to human health and safety (within or outside the target area).
- Actual or potential environmental harm (within or outside the target area).

Chemical trespasses can be reported to the Rural Chemicals division of Biosecurity SA, who will trigger an investigation and appropriate response to the incident. Penalties can apply.

How to avoid spray drift and chemical trespass

Where possible choose herbicides that are selective to the weed, are the least toxic to humans, animals and the environment, and pose the least threat to surrounding off target plants

Prior to spraying:

- Check for nearby sensitive areas such as houses, schools, riparian (waterway) areas and susceptible crops/ pastures,
- Notify neighbours of planned herbicide treatments,
- Check the expected weather conditions and do not spray if windy, still, humid or hot conditions are forecast during spray activities, and
- Read and follow the label drift reduction recommendations.

During spraying:

- Carefully monitor weather conditions and the drift hazard
 - Do not spray when temperatures exceed 28 degrees Celsius
 - Do not spray under still or very windy conditions
 - Suitable wind speeds for spraying are 7-10 km/h (a light breeze)
 - Do not spray after 11am in summer to avoid midday turbulence and
 - Do not spray during low relative humidity conditions,
- Maintain a downwind buffer from neighbouring properties/paddocks,
- Do not spray upwind of sensitive areas,
- Minimise spray release height (as low to the ground as possible),
- Always use the least volatile formulation of herbicide, and
- Use nozzles and spray settings that produce a minimum proportion of small, drift-prone droplets (e.g. lower pressure, large droplets and higher spray volume).

Herbicide use near waterways

Many herbicides can damage aquatic ecosystems. Plants, invertebrates, amphibians and fish may be harmed when herbicides contaminate a body of water. Inappropriate use of herbicides may also cause significant risks to human health where water is pumped from a bore for domestic use, or flows to a reservoir. Herbicides can enter water bodies either directly through spray or spray drift, or they can move into water bodies via surface water run-off or leaching and sub-surface draining.

When planning to undertake weed control within or immediately adjacent to a water body, the use of herbicides should be avoided where practical - can the use of biological control, mowing, slashing or hand removal be employed instead of herbicides?

If herbicides must be used near waterways choose products registered for use in aquatic areas, for example some glyphosate products. Always read the label carefully.

Herbicides more appropriate for use near waterways will have the following characteristics:

- low eco-toxicity,
- nil or low volatility at all temperatures to reduce spray drift potential,
- low water solubility to reduce potential for leaching to groundwater,
- high soil absorption co-efficient to reduce potential for leaching into groundwater,
- a short half-life.

Because of the sensitivity of aquatic environments, it is recommended that only trained, licensed contractors carry out spraying operations near water bodies. However, if you feel you can select the appropriate chemical, apply it according to best practice and avoid environmental or personal harm, then the following points are critical.

Important points to remember when applying herbicides near aquatic areas

- Use only herbicides registered for use near waterways and always read and follow the label directions carefully,
- Where possible use methods that avoid the need to spray herbicides e.g. cut stump and stem injection,
- Never spray herbicides over a water body unless they are registered for this specialised use,
- When you are working near the edge of a water body, direct the spray away from the water body where possible,
- Spray only to the extent of covering foliage with droplets,
- Spray when weather is calm; strong winds may carry herbicide drift into water bodies.
- Use a flat fan nozzle and a low pump/spray pressure to reduce the likelihood of spray drift, and
- Do not spray when rainfall is forecast within six hours as herbicide can be washed off the pest plant and run off into aquatic ecosystems.

For more information about control of weeds near waterways refer to Safe and Effective Herbicide Use: A handbook for near-water application produced by the Environment Protection Authority.

www.epa.sa.gov.au/xstd_files/Water/Other/pesticide_water.pdf

Herbicide mode of action and herbicide resistance

Herbicides act by interfering with specific processes in plants; this is known as the herbicide's mode of action. Different herbicides may have the same mode of action and herbicides with the same mode of action are grouped from A to Z – see table below for examples. The herbicide group of the active ingredient(s) is clearly shown on each product label.

HERBICIDE POISON SCHEDULING

HERBICIDE GROUP LABEL - <i>MODE OF ACTION</i>	HERBICIDE
A Inhibition of acetyl CoA carboxylase (ACCase)	fluazifop-p; cyhalofop butyl and others
B Inhibition of acetolactate synthase ALS	chlorsulfuron; flumetsulam; imazapyr; imazethapyr; metsulfuron-methyl; triasulfuron and others
C Inhibition of photosynthesis (PS II inhibitors)	bromoxynil; hexazinone; tebuthiuron and others
D Inhibition of microtubule assembly	chlorthal-dimethyl; trifluralin
I Disruption of plant cell growth (synthetic auxins)	triclopyr; picloram, dicamba; MCPA; 2,4-D; clopyralid, fluroxypr and others
J Inhibition of lipid synthesis	flupropanate; 2-2-DPA
L Inhibition of photosynthesis (PS I Inhibitors)	diquat
M Inhibition of EPSP synthase	glyphosate
N Inhibition of glutamine synthetase	glufosinate
Z Unknown	MSMA

Herbicide resistance is the inherent ability of weeds to survive a herbicide treatment that would normally control them. Herbicide resistant plants are usually present in weed populations at low frequencies. These resistant individuals do not become apparent until a herbicide with the same mode of action is used repeatedly and the resistant weeds are allowed to survive, set seed and multiply while susceptible plants are killed. Resistant individuals can thus become more common over time.

If herbicide resistance develops, other herbicides (with a different mode of action) or other control methods (non-chemical) will need to be used. Once herbicide resistance occurs it will persist for many years.

To minimise the chance of herbicide resistance it is important to use a range of weed control methods and alternate between different herbicide groups. For further information, please see the WeedSmart Website, www.weedsmart.org.au

Herbicide compatibility

Using more than one herbicide in a herbicide mix can be an effective method of controlling hard to kill weeds or kill a broader range of weeds; however not all herbicides are compatible. When using more than one herbicide in a mix, users must ensure they are compatible. Compatible herbicides will be listed on the product label.

Herbicide adjuvants

An adjuvant is any additive intended to improve a herbicide's effectiveness. There are many adjuvants available that help herbicides adhere to and penetrate the weed (see table below). The most commonly used ones are surfactants (also known as wetters), penetrants and dyes. Only ever use adjuvants that are compatible with the herbicide chosen; these will be listed on the herbicide label.

HERBICIDE ADJUVANTS

Adjuvants that enhance product efficiency

Surfactants/ Wetters / Spreaders - enhance adhesion to and spreading of spray droplets on target surfaces by reducing the surface tension of the pesticide formulation and improving coverage, such as;

- Non-ionic surfactants – non-reactive, i.e. they do not have a negative charge or a positive charge; they remain on the leaf once dry and allow rewetting after rain, permitting additional pesticide uptake
- Anionic surfactants – negative charge
- Cationic surfactants – positive charge
- Amphoteric surfactants
- Organo-silicate surfactants
- Acidified surfactants.

Stickers - increase adhesion of pesticides to target surfaces.

Penetrants - improve the transfer of active ingredients from the target surface to interior tissues.

Extenders - enhance the amount of time the active ingredient remains toxic by increasing resistance to environmental degradation.

Humectants - increase the density/drying time of an aqueous spray deposit.

Adjuvants that improve ease of application

Acidifying/buffering agents - agents adjust the pH of alkaline or acidic water and minimise decomposition of the pesticide through alkaline hydrolysis.

Anti-foaming/de-foaming agents - reduce or suppress the formation of foam in the spray tank preventing foam overflow.

Compatibility agents - permit the mixing of different agrochemicals by preventing antagonism between different ingredients in the spray solution.

Drift control agents - alter the viscoelastic properties of the spray solution yielding a coarser spray with greater mean droplet sizes.

Dyes - commonly used for spot or boom spraying herbicides to detect missed spots or avoid spraying a plant or area twice.

Water conditioners - prevent reaction between hard water ions in spray solutions and suppress formation of precipitates or salts.

WEED CONTROL METHODS

There are a number of methods available to treat weeds and choosing the most suitable option will depend on:

- The aim of the control,
- The scale of the problem,
- The resources available,
- Time constraints, and
- The situation and location of the weeds.

Herbicides alone should not be relied upon for weed control; instead, an integrated Weed Management (IWM) approach should be taken. Integrated Weed Management (IWM) combines appropriate weed control options including physical removal, chemical control, biological control and cultural control to achieve effective long term control.



TIPS FOR SUCCESSFUL WEED CONTROL

PREVENTION IS CHEAP

- Ensure vehicles, machinery, livestock and produce do not carry weed seeds.
- Report sales of declared plants to your local Natural Resources centre or Biosecurity SA.
- Pay particular attention to ALERT WEEDs – most have yet to become established in SA.

FIND WEEDS EARLY

- Get to know plants in your area/on your property and quickly identify and deal with new threats.

WATCH YOUR SPREAD

- Take measures to contain weed infestations and prevent further weed dispersal.

PLAN YOUR CONTROLS

- Obtain information about managing your target weed.
- Map infestations.
- Treat weeds when they are young.
- Use the recommended control method. Minimise damage to non-target plants. Establish and promote competing vegetation.

UNDERTAKE FOLLOW UP CONTROL

- Continue follow up treatments over several years. Some plants may have been missed, some may not have died and new seedlings may emerge

Minimising weed spread

One of the commonest ways in which weeds are spread is via vehicles and other machinery that has travelled through an infested area.

The easiest way to prevent weed spread is to thoroughly clean vehicles and machinery before leaving a site. The most effective cleaning options include:

- Air blast hard-to-reach spots such as cavities and joints while the vehicle and any contaminants are still dry.
- Wash the vehicle down using a low or high pressure cleaner, or a spray tank and pump. A commercial car wash will also remove the majority of weed seeds. Clean the vehicle from the top down. Spray the tyres and move the vehicle forward to ensure the whole tyre is clean.
- Vacuum inside the cab to remove contaminants.
- Use a brush or scraping implement to remove contaminants such as burrs and clods of mud from tynes or tyres.

Also consider

- Using detergents to assist the removal of grease, dirt and mud, which may contain weed seeds.
- Clean the undercarriage, springs and axles of trailers.
- For boats, check the floor and sides, propellers, anchor wells, cooling system inlet, bilges and bait wells.
- Clean footwear and remove weeds seeds from socks and other clothing.
- Use the same site for cleaning and monitor it regularly for weeds.

Contaminated material must be disposed of in a way that ensures all weeds and seeds removed cannot spread or grow.

NON-HERBICIDE CONTROL METHODS

Hand pulling

Hand pulling is an option for small numbers of plants with tap roots that are not too deep. It is suitable for seedlings, herbaceous weeds and some grasses, and is easiest when the soil is moist. A hand tool called the Tree Popper has been produced for levering out larger woody weeds.

When hand pulling, ensure the majority of the tap root has been removed and take measures to minimise soil disturbance. If the plant has the ability to vegetatively reshoot from fragments or has mature seeds attached, carefully pull, bag, remove and destroy the plants appropriately, taking care not to spill seeds along the way. Remember your work health and safety when doing physical activities.

Grubbing and/or digging out

This method involves digging weeds out using a mattock, spade or hoe and is suitable when there are a small number of plants. Grubbing and digging out can be useful for weeds that have their growing points at ground level or below the surface of the ground such as weeds with corms, bulbs, rhizomes, clumped or fibrous root systems and grasses. This method involves removing all the above and underground parts of the plant (including bulbs, corms, etc.) to prevent any part of the plant from regrowing. Often a great deal of soil disturbance can result from this method and follow-up monitoring for new germinations or regrowth is required. For some plants the above or underground parts of the plants (bulbs, corms etc.) will need to be carefully removed from the site and disposed of appropriately.

Mechanical control methods

Mechanical control refers to the removal or manipulation of weeds using power tools or machinery and is usually used for large, dense infestations. Commonly employed methods include:

- Using a slasher or mower to reduce weed growth and restrict flowering at critical times of the plant's lifecycle.
- Using a tractor to blade plough woody weeds out of the ground and destroy their root system.
- In a cultivated paddock, using a tractor and disc plough to sever roots and/or bury weeds.
- Using a mulcher to turn woody weeds into a thick mulch layer which is spread back over the area to suppress regrowth and new germinations.
- Using a mechanical weed puller attached to a tractor to pull woody weeds out of the ground.

Mechanical control using heavy machinery (such as bulldozers) can result in a great deal of disturbance and may increase erosion, damage native vegetation and/or promote further weed seed germinations. When considering the use of heavy machinery ensure that it is suited to the situation.

Fire

In some situations fire can be a useful method to reduce weed biomass, clear an area for follow-up chemical control and, for some fire sensitive species, destroy the plant altogether. Areas that have been burnt need to be monitored to ensure desirable species re-establish and weed species are suppressed through follow-up control.

Some weeds such as buffel grass may actually benefit from fire. If the area contains rare or endangered species, or desirable species not adapted to fire, fire may destroy these plants and their seed bank. If undertaken in the wrong season, burning may result in a hot fire and lead to long-term damage or increased erosion. The use of fire as a weed management tool must therefore be used with extreme care.

Before any planned burn, all necessary permissions must be obtained from the Local Council, Native Vegetation Authority and the South Australian Country Fire Service.

Competition

Competition using planted or regenerating native plants or pastures is an essential part of long-term weed management. Encouraging and maintaining cover of desired species will suppress weed growth, flowering and weed seed production by reducing access to available sunlight, nutrients and moisture.

On grazing land, managing grazing pressure to avoiding patches of bare ground is an important preventative strategy for weed management. Weeds will typically invade overgrazed, high traffic areas where the ground is bare. Maintaining sustainable grazing pressure and moving stock regularly can ensure that weeds are less likely to find places to colonise.

Biological control

Plants introduced into Australia usually arrive without the natural enemies that kept their populations in check within their natural range. Without these natural enemies introduced plants are able to rapidly reproduce and spread, becoming weeds.

Biological control is the use of a weed's natural enemies, such as insects, mites or pathogens (bacteria or fungi), which affect the health of the weed by either feeding or parasitising on it. Usually, the biological control agents come from the country of origin of the weed. A well-known example was the release of the *Cactoblastis* moth to control prickly pear in Queensland in 1926; within 6 years the moth virtually eliminated all major stands of prickly pear. Biological controls are not usually this successful but serve as an important tool to limit the growth and spread of the target weed and hence reduce the cost of other control methods.

It is critical that biological control agents introduced into Australia do not become pests themselves. Therefore, prior to introduction, rigorous testing is done on the agent to ensure it is specific only to the target weed they are intended for.

Examples of biological agents established in South Australia include: the crown weevil on Salvation Jane; the spider mite on gorse; the plume moth on horehound; a leaf rust fungus on blackberry; the leaf buckle mite on boneseed; a leaf hopper, a rust and a leaf beetle on bridal creeper; and many more. Current information about these agents can be found in Ivory and Mantel (2013), *A Guide to Biological Control in South Australia*.

BIOCONTROL AGENTS CURRENTLY PRESENT ON DECLARED WEEDS IN SOUTH AUSTRALIA

WEED COMMON NAME <i>Scientific name</i>	AGENT COMMON NAME <i>Scientific name</i>	MODE OF ACTION	NRM REGIONS WHERE RELEASED	COMMENTS
Boneseed <i>Chrysanthemoides monilifera</i>	Leaf buckle mite <i>Aceria</i> sp.	Induces the formation of galls on developing leaves causing distorted leaf growth.	AMLR, SAMDB, SE	Not available for community distribution due to variable establishment and lack of field collection sites.
Bridal creeper <i>Asparagus asparagoides</i>	Leafhopper <i>Zygina</i> sp.	Adult and nymph feed on leaves, bleaching leaves and defoliating plants.	AMLR, EP, KI, NY, SAMDB, SE	Insects available from SE Natural Resources Management Region field sites in most years.
	Rust fungus <i>Puccinia myrsiphylli</i>	Fungus infects leaves, stems reducing above ground plant biomass.	AMLR, EP, KI, NY, SAMDB, SE	Use spore water technique for distribution. Rust available in most regions.
	Leaf beetle <i>Crioceris</i> sp.	Larva feed on young shoots, leaves during early stage of the season.	EP, SE, AMLR	Not available for community distribution due to variable establishment and lack of field collection sites.
Cape broom <i>Genista monspessulana</i>	Cape broom psyllid <i>Arytinnis hakani</i>	Nymph feeds on leaves and buds, sucking sap.	AMLR, SAMDB, SE	Psyllid is well distributed across most of the range. Check plants first for nymphs and adults and characteristic sugar deposits at growing tips. Tie a cutting infested with psyllid nymphs and adults onto uninfected plants.
Drooping tree pear <i>Opuntia monacantha</i>	Cochineal <i>Dactylopius</i> sp.	Adult female bug sucks sap	AMLR	Limited distribution.
Engelmann's prickly pear <i>Opuntia engelmannii</i>	Cochineal <i>Dactylopius</i> sp.	Adult female bug sucks sap	SAAL	Variable establishment and impact
English broom <i>Cytisus scoparius</i>	Broom twig mining moth <i>Leucoptera spartifoliella</i>	Larva mines (bores into) stems	AMLR	Not available for community distribution due to lack of field collection sites.
	Broom psyllid <i>Arytainilla spartiophila</i>	Adult and nymph feed on buds or shoots by sucking sap	AMLR, SAMDB	Not available for community distribution due to unknown establishment.
	Gall mite <i>Aceria genistae</i>	Mite induces leaf and flower galls potentially restricting photosynthesis and flower production	AMLR, SAMDB	Limited distribution in AMLR Natural Resources Region.
European blackberry <i>Rubus fruticosus</i> agg.	Leaf rust fungus <i>Phragmidium violaceum</i>	Rust infects leaves, defoliates plant	AMLR, EP, SAMDB, SE	New strains not available for community distribution due to lack of field collection sites.

WEED COMMON NAME <i>Scientific name</i>	AGENT COMMON NAME <i>Scientific name</i>	MODE OF ACTION	NRM REGIONS WHERE RELEASED	COMMENTS
Gorse <i>Ulex europaeus</i>	Seed weevil <i>Exapion ulicis</i>	Larva feeds on developing seeds in pods over spring and summer	AMLR, SAMDB	Well distributed across range. Open pods in late spring summer and check that weevils are not already present.
	Spider mite <i>Tetranychus lintearius</i>	Mite colonies feed on leaves, extract cell contents bleaching plants	AMLR, NY, SAMDB, SE	When collecting spider mite from the field be sure to collect the last 5cm of an infested branch to avoid redistributing known predators.
	Thrips <i>Sericothrips staphylinus</i>	Adults and juveniles suck out cell contents of leaves	AMLR, SAMDB	Not available for community distribution due to lack of field collection sites
	Soft-shoot moth <i>Agonopterix ulicetella</i>	Caterpillars feed on new buds, shoots restricting growth	AMLR	Not available for community distribution due to early stage in release program.
Horehound <i>Marrubium vulgare</i>	Horehound plume moth <i>Wheeleria spilodactylus</i>	Larva feeds on growing tips, defoliates plant	ALL	Collect leaves with larvae present in late spring early summer and deposit leaves on to new plants.
	Clear-wing moth <i>Hamaesphecia mysiniiformis</i>	Larva feeds on growing tissue in roots, stems	SAAL, SAMDB	Not available for community distribution due to need for lab rearing. Insects will distribute naturally from established release sites.
Hudson pear <i>Cylindropuntia rosea</i>	Cochineal <i>Dactylopius tomentosus</i>	Adult female bug sucks sap	SAMDB, NY	Limited distribution, Long time lag before impact occurs. Variable control depending on biotype and host provenance
Prickly pear <i>Opuntia stricta</i>	Cochineal <i>Dactylopius opuntiae</i>	Adult female bug sucks sap	AMLR, EP, NY, SAAL, SAMDB	Varying levels of establishment
	Cactoblastis <i>Cactoblastis cactorum</i>	Caterpillars feed communally inside aerial parts of plant	EP, NY, SAAL	Varying levels of establishment. Doesn't appear to kill plants.
Salvation Jane <i>Echium plantagineum</i>	Leaf mining moth <i>Dialectica scalariella</i>	Larva mines leaves	ALL	Well distributed across most of acceptable climatic range.
	Flea beetle <i>Longitarsus echii</i>	Larva feeds on roots in winter and early spring	AMLR, EP, KI, NY, SAAL, SAMDB, SE	Collect beetles with a sweep net in winter when plants at the rosette stage. Contact the local Natural Resources Management Region for collect site details.
	Crown weevil <i>Mogulones larvatus</i>	Larva feeds in growing rosette in autumn and winter	AMLR, EP, KI, NY, SAAL, SAMDB, SE	Well distributed across most of acceptable climatic range. Check plants in winter for characteristic black/purple "goo" in the centre of rosettes. Collect adult weevils in summer with a sweep net from flowers. Contact your Natural Resources Region for site details.
	Root weevil <i>Mogulones geographicus</i>	Larva feeds in roots in autumn and winter	AMLR, EP, KI, NY, SAMDB, SE	Collect adult weevils in summer with a sweep net from flowers. Contact the local Natural Resources Region for collect site details limited sites available
	Pollen beetle <i>Meligethes planiusculus</i>	Adult and larva feed on developing seed in spring and early summer	AMLR, EP, KI, NY, SAMDB, SE	Collect adult beetles in spring with a sweep net from flowers. Contact the local Natural Resources Region for collect site details. Limited known sites available.

WEED COMMON NAME <i>Scientific name</i>	AGENT COMMON NAME <i>Scientific name</i>	MODE OF ACTION	NRM REGIONS WHERE RELEASED	COMMENTS
Skeleton weed <i>Chondrilla juncea</i>	Gall midge <i>Cystiphora schmidtii</i>	Larva feeds on rosettes and flowering stems	EP	Limited and variable (unconfirmed) establishment
	Rust fungus <i>Puccinia chondrillina</i>	Rust infects leaves and stems	EP, SAMDB	Limited and variable establishment. Attacks only one form of the weed.
Slender thistle <i>Carduus tenuiflorus</i>	Rust fungus <i>Puccinia cardui-pycnocephali</i>	Rust infects leaves & flowering stems	AMLR, SAMDB, SE	Variable establishment and impact
Spear thistle <i>Cirsium vulgare</i>	Spear thistle gall fly <i>Urophora stylata</i>	Inducing galls in the flower head reducing seed production	SE, SAMDB, AMLR	Thought to have naturally dispersed from Victoria into SE Natural Resources Management region. Flies currently sourced from Victoria.
Velvet tree pear <i>Opuntia tomentosa</i>	Cochineal <i>Dactylopius</i> sp.	Adult female bug sucks sap	AMLR	Limited distribution.
Wheel cactus <i>Opuntia robusta</i>	Cochineal <i>Dactylopius</i> sp.	Adult female bug sucks sap	SAAL, SAMDB, NY	Varying levels of establishment
White-spined prickly pear <i>Opuntia streptacantha</i>	Cochineal <i>Dactylopius</i> sp.	Adult female bug sucks sap	SAMDB	Limited distribution.
<i>Willows</i> Salix spp.	Willow sawfly <i>Nematus oligospilus</i>	Larva feeds on leaves	AMLR, SAMDB	Established but variable. No field collection sites known. Not actively distributed.



Grazing

In grazing situations stock will usually choose more palatable species over less palatable weeds such as soldier thistle and salvation Jane; however, spraying some weeds with the correct herbicide at the correct time of year increases their palatability to stock. This method, known as spray grazing is used in pastures to suppress weed populations making pasture species more competitive.

NON-HERBICIDE CONTROL METHODS

Foliar spray

The foliar spray method involves spraying the foliage of the target plant, usually to before the point of run-off (i.e. until each leaf is wetted but not dripping) with a hand gun or boom spray. This method is suitable for herbaceous plants, shrubs, grasses and vines where complete coverage can be achieved. Foliar spray can be done in a number of ways depending on the nature of the weed, the size of the infestation and the presence of off-target plants.

Boom spraying involves the use of a boom spray unit attached to a vehicle (4WD or tractor) to spray large areas of dense infestations or spray weeds within crops and pastures where selective herbicides can be used to kill the undesirable weeds and not the crop or pasture. Boom spraying is suitable for control of weeds up to 1m in height.

Spray rigs must be calibrated to ensure that the correct rate is applied and also to minimise spray drift. Check flow rates by placing a jug under each nozzle collect the water output over a known spraying time. Rate of application (L/ha) can then be calculated from the output per nozzle (L/minute) multiplied by 600 and divided by driving speed (km/hour) multiplied by the spacing between nozzles (metres).

$$\text{application rate} = \frac{600 \times \text{output per nozzle}}{\text{speed} \times \text{nozzle spacing}}$$

Spot spraying usually involves the use of either a hand held spray unit with a pneumatic pump or vehicle mounted spray unit with electric or petrol powered pump. The herbicide mix is delivered to the foliage of the plant via a hand gun. Spot spray is useful for weeds at low to high densities or weeds within desirable vegetation where the user can minimise off-target damage through careful application.

Splatter gun method is a form of foliar spray where a splatter gun is used to apply a low volume of concentrated herbicide mix to foliage. A specialised nozzle produces a solid stream of large droplets of herbicide that can be applied from a distance of 6-10 m away. Only a small portion of the foliage needs to be sprayed so non-target damage can be minimised. This technique is particularly useful in areas of difficult access and where water supply is limited.

Wiper Application

Wiper application is used for control of weeds including tufted grasses that grow higher than a crop or pasture species. The method involves applying herbicide solution to an absorbent surface, such as a length of rope or wick. The wetted surface is then used to wipe herbicide over the weed. The wetted surface is usually attached to a small boom and passed over pastures at a certain height to contact weeds that grow higher than the pasture species.

Cut stump method

This method is useful for vines, multi-stemmed shrubs and medium to large trees, and even for some large herbs such as arum lily. The term cut and swab is also often used to describe this method. The main stem(s) or trunk(s) are cut off at their base by chainsaw, axe, brush cutter or machete and the stump immediately (within 10-15 seconds) sprayed or painted with herbicide mixture to the point of run-off. It is necessary to apply the herbicide promptly before the plant begins to seal the cut preventing penetration of the herbicide into the sap stream. The stump should be cut as close to the ground as possible. For some species care must be taken to remove cut branch fragments off and away from areas of moist soil such as a creek bed, swamp or low lying area where they may regenerate.

Stem injection method

Stem injection applies to trees and shrubs with single woody trunks 5-10 cm or more in diameter. It involves cutting or drilling into the bark and injecting herbicide into the sap stream.

Frill and fill method uses a narrow-bladed axe (5-7cm wide) to make a horizontal cut the width of the blade at an angle of about 45 degrees through the bark of the tree into the sap stream in the trunk. It is important not to make cuts too deep. The herbicide is then immediately applied (within 3 seconds) into the cut.

Drill and fill method uses a cordless drill to drill (with a 9mm drill bit) 4cm holes around the base of the tree into the sapwood. Holes should be about 4cm deep (or deeper for trees with thick bark), angled down at 45 degrees and at 5-10 cm intervals. Herbicide is then immediately (within 3 seconds) injected into each hole. It is necessary to inject the herbicide quickly before the plant seals the cut, thus barring the chemical from entering the sap stream.

For cactus species a sheep drenching needle (or equivalent) is used to inject a measured dose of herbicide into the stem of the plants.

Basal bark method

This method is used to treat saplings and multi-stemmed shrubs and regrowth with a basal diameter of less than 5 cm. The herbicide, usually mixed with diesel (for preference, biodiesel such as Biosafe™) at label rates, is applied to all sides of every stem from ground up to a height of around 30cm. Stems should be dry, free of fire charring and not have debris (e.g. from floods) accumulated around them.

Scrape and paint method

Scrape and paint is used for vines (e.g. blackberry) where it is desirable to leave the vine intact or in sensitive areas such as native vegetation where it is desirable to minimise risks to off-target species. A sharp knife is used to scrape a thin layer of bark from a 15-30cm section of stem. Herbicide is then immediately applied to the exposed sap tissue.

Pellet or granular soil application method

This method can be used to treat isolated outlying plants that are not easy to treat using other methods. Herbicide pellets are evenly applied to the soil under the target weed from the stem out to 30cm beyond the canopy drip line. Pellets should not be thrown at the base of the tree trunk - this will waste material and may result in poor control. The herbicide acts by moving into the root zone of the weed following rain and from there it is absorbed by the roots.

WEED CONTROL ADVICE IS AVAILABLE FROM ALL REGIONAL NRM OFFICES:

ADELAIDE & MOUNT LOFTY RANGES

dewnr.amlr@sa.gov.au

Black Hill Natural Resources Centre

115 Maryvale Road, Athelstone SA 5076
08 8336 0901

Eastwood Natural Resources Centre

205 Greenhill Road, Eastwood SA 5063
08 8273 9100

Gawler Natural Resources Centre

8 Adelaide Road, Gawler South SA 5118
08 8523 7700

Victor Harbor Natural Resources Centre

3 Eyre Terrace, Victor Harbor SA 5211
08 8552 3677

Willunga Natural Resources Centre

5 Aldinga Road, Willunga SA 5172
08 8550 3400

Woodside Natural Resources Centre

87 Onkaparinga Valley Road, Woodside SA 5244
08 8336 0901

ALINYTJARA WILURARA

Natural Resources Office - Adelaide

Level 2, 1 Richmond Road, Keswick SA 5035
08 8463 4860

Natural Resources Centre - Ceduna

50B McKenzie Street, Ceduna SA 5690
08 8625 3706

EYRE PENINSULA

DEWNR.NREPAadmin@sa.gov.au

Natural Resources Centre - Port Lincoln

86 Tasman Terrace
PO Box 22, Port Lincoln SA 5606
08 8688 3111

Natural Resources Centre - Ceduna

50B McKenzie Street
PO Box 569, Ceduna SA 5690
08 8625 3144

NORTHERN AND YORKE

DEWNR.NRNY@sa.gov.au

Natural Resources Centre - Clare

Unit 2/17 Lennon Street, Clare SA 5453
08 8841 3400

SOUTH AUSTRALIAN ARID LANDS

SAAridlands@sa.gov.au

Natural Resources Centre

Level 1, 9 Mackay Street
PO BOX 78, Port Augusta SA 5700
08 8648 5300

SOUTH AUSTRALIAN MURRAY DARLING BASIN

SAMDBEnquiries@sa.gov.au

Natural Resources Centre - Berri

2 Wade Street, Berri SA 5343
08 8580 1800

Natural Resources Centre - Murray Bridge

110A Mannum Road,
Murray Bridge SA 5253
08 8532 9100

Community Natural Resources Centre – Strathalbyn

6 Catherine Street, Strathalbyn SA 5255
08 8536 5600

Natural Resources Office - Burra

2 Kingston Street, Burra SA 5417
08 8892 3033

Natural Resources Office - Cambrai

Deane Street, Cambrai SA 5353
08 8564 5154

Natural Resources Office - Karoonda

3 Peake Terrace, Karoonda SA 5307
08 8578 1493

Natural Resources Office - Lameroo

74 Railway Terrace North, Lameroo SA 5302
08 8576 3400

Natural Resources Office - Mount Barker

Upper level, Corner Mann & Walker Street,
Mount Barker SA 5251
08 8391 7500

KANGAROO ISLAND

rory.wiadrowski@sa.gov.au

Natural Resources Centre - Kingscote

37 Dauncey Street, Kingscote 5223
PO Box 39 Kingscote SA 5223
08 8553 4444

SOUTH EAST

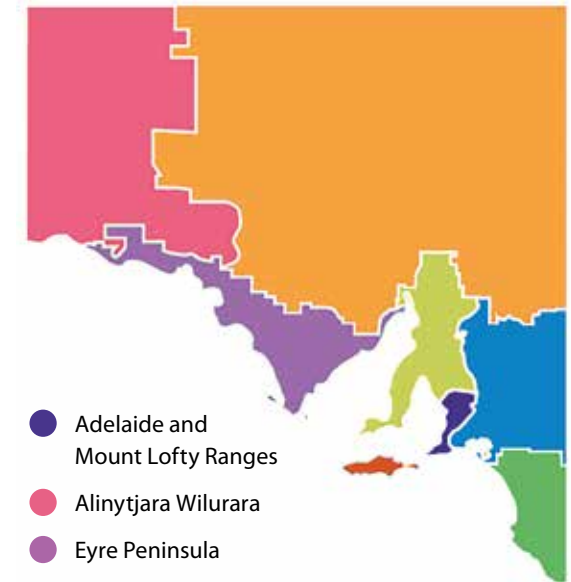
reception@senrm.sa.gov.au

Natural Resources Centre Mount Gambier

11 Helen Street
PO Box 1046, Mount Gambier SA 5290
08 87351177

Natural Resources Office, Keith

Anzac Terrace, Keith SA 5267
08 8755 1620



- Adelaide and Mount Lofty Ranges
- Alinytjara Wilurara
- Eyre Peninsula
- Kangaroo Island
- Northern and Yorke
- South Australian Arid Lands
- South Australian Murray-Darling Basin
- South East

TREATMENT OPTIONS FOR DECLARED PLANTS OF SOUTH AUSTRALIA

When using herbicides it is important to consider a few key factors that will increase effectiveness and reduce risks to users and non-target plants. These factors are:

- Apply herbicide only when plants are actively growing,
- Do not apply herbicides when the plant is under stress, e.g. extreme heat or cold, drought, water-logging or disease,
- Do not spray when wet or windy weather is anticipated,
- Use herbicides only in situations specified on the label.

IMPORTANT: the herbicide control treatments provided in this book should be considered a guide only and users of agricultural chemical products must always **READ THE LABEL** before using a product and strictly comply with the directions on the label and/or conditions of any permit.

SA WEED CONTROL APP

The SA Weed Control App for Android or iOS contains all the text and images from this book, regularly updated control information, plus features that allow you to record the weeds you find and send reports to your regional NRM weed officer.

Get it free from the App Store or Googleplay via this link.



African boxthorn

Lycium ferocissimum

WoNS

FORMS PRICKLY THICKETS IN NATIVE VEGETATION AND PASTURE

Large dense shrub. Light green fleshy leaves. Flowers are white with purple blotches. Round red berries. Stems are much branched, rigid, and spine-tipped.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Mechanical removal						Any time	Large plants need machinery such as a boxthorn puller to grub them out.	
glyphosate (450g/L) + triclopyr (600g/L)	Roundup CT® + Garlon 600®	M, I	Cut stump	333mL + 33mL/1L	All.	Any time	Cut stem and apply herbicide immediately.	Registered
glyphosate (540g/kg)	Knockout Pro 540®	I	Spot spray	470-670mL/100L	Non-crop areas and pastures.	July - September	Apply to actively growing plants. Do not apply to drought stressed plants. Further treatment may be necessary to restrict seedling re-establishment. Non selective, avoid contact with desirable plants. Use lower rates on seedlings and higher rates on large mature bushes.	Registered
hexazinone (250g/L)	Velpar L®	C	Ground spot applicator	Undiluted 4mL/ spot	Non-crop areas and pastures.	On moist soil or before rain.	One spot for each metre of bush height, up to 3 metres. Place spot between base and dripline of the plant. Do not apply over root zone of desirable trees. Soil active.	Registered
picloram (20g/kg)	Tordon® Granules	I	Granular application	35 to 45g/square metre	Non-crop areas and pastures.	Any time unless plants stressed.	Suitable for isolated outlying plants only. Soil active; do not apply near native vegetation or other desirable plants.	Registered
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Non-crop areas and pastures.	Any time	Apply a 3-5 mm thick layer of gel to freshly cut stump.	Registered
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Basal bark or cut stump	1L/60L biodiesel or diesel	Non-crop areas and pastures.		Treat basal bark on stems up to 5 cm diameter. Cut larger trunks and apply herbicide immediately.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	500mL per 100L	Non-crop areas and pastures.	When plants have good leaf cover.	Bushes less than 2m tall only, with good growth and no leaf fall.	Registered
triclopyr (600g/L)	Garlon 600®	I	Basal bark or cut stump	2L/60L biodiesel or diesel	Non-crop areas and pastures.		Treat basal bark on stems up to 5 cm diameter. Cut larger trunks and apply herbicide immediately.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	1L/100L	Non-crop areas.	July - September	Repeat application will be required. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label
picloram (75g/L) + 2,4D (300g/L)	Tordon 75-D®	I	Spot spray	1.3L per 100L	Non-crop areas and pastures.	Prior to bud burst.	Small plants only. Thorough coverage essential, spray soil to drip line.	Product and use are registered, but this weed is on the label for Qld, NSW, Victoria and WA only.

*Application Rate - with water unless indicated

triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Non-crop areas and pastures.	July - September	Plants up to 2 m tall.	Product and use are registered, but this weed is on the label for Tasmania only.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted, or up to 1:5	Conservation areas, bushland and other non-crop areas.	July - September	Apply when weed is actively growing. A 1:1 dilution gives the best viscosity for sponge application.	PER 13371 (exp.2022)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Brush-Off®	B, M	Spot spray	1L + 10g /100L	Conservation areas, bushland and other non-crop areas.	July - September, before berry set and leaf fall.	Apply after good rains. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

African feathergrass

Cenchrus macrourus

COMPETES WITH PASTURE. FIRE HAZARD

Perennial grass forming large tussocks of rough, densely growing leaves with slender seed heads on stems to 2 m tall.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
flupropanate (745g/L)	Tussock™	J	Boom spray	3L/ha	Non-crop areas and pastures.	Early in the season.	A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Add a non-ionic surfactant. Do not graze or cut for stockfeed for at least 4 months after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Spot spray	300mL/100L	Non-crop areas and pastures.	Early in the season.	A slow-working residual. Add a non-ionic surfactant. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	Early in the season.	Add a non-ionic surfactant. Do not graze or cut for stockfeed for at least 14 days after application.	PER 9792 (exp. 2020)

flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Boom spray	3L + 300-500mL/ha	Non-crop areas and pastures.	Early in the season.	Apply to fresh foliage. Add a non-ionic surfactant. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Use higher rate on dense infestations. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	300mL + 260mL/100L	Non-crop areas and pastures.	Early in the season.	Apply to fresh foliage. Add a non-ionic surfactant. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Use higher rate on dense infestations. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Wiper	500mL + 260mL/10L	Non-crop areas and pastures.	Early in the season.	Apply to fresh foliage. Add a non-ionic surfactant. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants. Add an organosilicone penetrant.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Boom spray	4.8L/ha	Non-crop areas and pastures.	While actively growing.	Non selective, avoid contact with desirable plants. Add an organosilicone penetrant.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing.	Non selective, avoid contact with desirable plants. Add an organosilicone penetrant.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop areas and pastures.	While actively growing.	Non selective, avoid contact with desirable plants. Add an organosilicone penetrant.	PER 9792 (exp. 2020)

African lovegrass

Eragrostis curvula

COMPETES WITH PASTURE

Perennial grass forming tussocks. Leaves fine, to 30 cm long with rough edges and curled tips. Densely branched grey-green, arching seed heads on stems to 1.5 m tall.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Grub individual plants		All.	Any time		
glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	6L/ha	Pasture renovation.	While actively growing.	Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for NSW, Victoria and WA only
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Non-crop areas and pastures.	While actively growing.	Re-treatment and/or pasture improvement is recommended to restrict seedling regrowth. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for NSW, Victoria and WA only
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	January - March	Non selective, avoid contact with desirable plants. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	Product and use are registered, but this weed is not on the label
flupropanate (745g/L)	Tussock™	J	Spot spray	300mL/100L	Non-crop areas and pastures.	January - March	A slow-working residual. Add a non-ionic surfactant. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	Product and use are registered, but this weed is on the label for NSW, Victoria and WA only
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	January - March	A slow-working residual. Add a non-ionic surfactant. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)

flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Boom spray	1.5-3L + 300-500mL/ha	Non-crop areas and pastures.	January - March	Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Use higher rate if the weed is dense. Add a non-ionic surfactant. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop areas and pastures.	January - March	Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Add a non-ionic surfactant. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Boom spray	4.8L/ha	Non-crop areas and pastures.	January - March	Non selective, avoid contact with desirable plants. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1.3L/100L	Conservation areas, bushland and other non-crop areas.	January - March	Non selective, avoid contact with desirable plants. Add a spray oil. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop areas and pastures.	January - March	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

African rue

Peganum harmala

INVADES RANGELAND PASTURES. UNPALATABLE

Bushy perennial with a bitter smell. Cream coloured 5-petalled flowers. Leaves divided into narrow straps. Seeds red-brown, in capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted	Conservation areas, bushland and other non-crop areas.	While actively growing.		PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing before flowering	Non selective, avoid contact with desirable plants. Add an organosilicone penetrant.	PER 13371 (exp.2022)

Aleppo pine

Pinus halepensis

INVADES NATIVE VEGETATION. FIRE HAZARD

Large spreading tree. Branches have silvery bark, narrow grey-green needles in pairs, and smooth reddish brown cones.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Fell and remove			Cut down		All.	Any time	Cut as close to the ground or below the lowest branch. Regrowth does not occur from stumps, but follow-up may be needed to control seedlings.	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens.	Registered
glyphosate (450g/L)	Roundup CT®	M	Stem injection	Undiluted	Conservation areas, bushland and other non-crop areas.	While actively growing	Drill holes in trunk to place herbicide. Regrowth does not occur from stumps, but follow-up may be needed to control seedlings.	PER 13371 (exp.2022)

Alisma

Alisma lanceolatum

INVADES WETLANDS AND WATERWAYS

Aquatic perennial with creeping underwater stems and narrow oval leaves emerging from the water. Flowers with three white petals, on branched stalks.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1L/100L	Wetlands, streams.	While actively growing.	Seek advice from an NRM Authority, and confirm identity of all plants before treating. Avoid confusion with very similar native species. Suitable for use in waterways. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.

Alkali sida

Malvella leprosa

WEED OF PASTURES AND CROPS.

Perennial herb. Olive green oval to fan-shaped leaves. Solitary pale yellow flowers in leaf axils. Cone or disc-shaped dry fruits.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	150mL/100L	Non-crop areas and pastures.	Before flowering	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered
triclopyr (300g/L) + picloram (75g/L) + aminopyralid (7.5g/L)	FallowBoss Tordon®	I	Boom spray	3.5L/Ha	Non-crop areas and pastures.	Before flowering	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered

*Application Rate - with water unless indicated

Alligator weed

Alternanthera philoxeroides

WoNS ALERT WEED

INVADES FLOODPLAINS AND WATERWAYS

Aquatic perennial with creeping hollow stems, a pair of bright green oblong leaves at each node, and papery, white ball-shaped flower clusters.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not currently known to be established in South Australia. Report any occurrences to the regional NRM Authority or Biosecurity SA.							
Manual removal			Hand pull			Summer-autumn.	Dig out large infestations with machinery and dispose by drying out - seek advice from an NRM Authority. Monitor site until eradication has been achieved.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1L/100L	Aquatic and wetland sites.	While actively growing in summer-autumn.	Seek advice from an NRM Authority. Monitor site and undertake follow up control until eradication has been achieved suitable for use in waterways. Non selective, avoid contact with desirable plants.	Registered
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Spot spray	150mL/15L	Over water.	While actively growing in summer-autumn.	For use over water on the floating form. Nonselective, avoid contact with desirable plants. Monitor site and undertake follow up control until eradication has been achieved	Registered

Apple-of-sodom

Solanum linnaeanum

INVADES PERENNIAL PASTURES

Perennial subshrub to 1 m high. Deeply lobed elliptic leaves, dark green with star-shaped hairs and prickles to 15 mm long. Blue flowers with five petals. Large, round green berries that turn brown when ripe.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal						Any time	Manually remove and burn isolated plants.	
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Non-crop areas and pastures.	Spring - summer	Cut stem and apply immediately. Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)

Arum lily

Zantedeschia aethiopica

INVADES WETLANDS

Large perennial herb growing from a rhizome, hairless, remaining green all year. Broad arrowhead leaves to 50 cm long on fleshy stalks. Inflorescence a yellow spike wrapped in a large white bract. Fruit is a cluster of green berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Cut and swab	10 - 50 mL/L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L)	Roundup Biactive®	M	Wiper or brush	10 - 50 mL/L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Cut and swab	0.05 - 0.1 g/L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Soil active.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Wiper or brush	0.05 - 0.1 g/L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Soil active.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup Biactive® + Brush-Off®	M,B	Cut and swab	10 - 50 mL/L glyphosate + 0.05 to 0.1 g/L metsulfuron-methyl	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Wiper or brush	10 - 50 mL/L glyphosate + 0.05 - 0.1 g/L metsulfuron-methyl	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Asparagus fern

Asparagus scandens

WoNS

INVADES WOODLANDS, SMOTHERS NATIVE PLANTS

Climber with perennial rhizome. Narrow, lance-shaped cladodes in threes give branches a fern-like appearance. Small white flowers followed by orange-red berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Manual removal. Ensure that tubers are removed totally		All.	June - August	Suitable for small plants and outliers only. Can result in a high level of soil disturbance therefore reduce soil disturbance as much as practical.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	"Add an organosilicone penetrant. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Wiper sponge or brush	1L/3L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Athel pine

Tamarix aphylla

WoNS

EXCLUDES NATIVE PLANTS ALONG WATERCOURSES

Tree with weeping branches. Grey-green shoots have tiny scale leaves that exude salt. Small, pale pink flowers.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
fluroxypyr (333g/L).	Starane Advanced®	I	Spot spray	600mL/100L	Non-cropping areas in and near dry ephemeral waterways.	Spring-Autumn	Young plants less than 50cm tall.	PER 81696 (exp. 2020) (NT only)

triclopyr (600g/L)	Garlon 600®	I	Basal bark/spot spray/cut stump	1L/60L biodiesel or diesel	Non-cropping areas in and near dry ephemeral waterways.	Any time	Young plants from 50cm to 2 metres tall. Poisonous if swallowed; may irritate eyes and skin.	PER 81696 (exp. 2020) (NT only)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	1L/100L	Non-cropping areas in and near dry ephemeral waterways.	While actively growing.	Young plants from 50cm to 2 metres tall. Poisonous if swallowed; may irritate eyes and skin.	PER 81696 (exp. 2020) (NT only)

Austrocyllindropuntia cacti

including cane cactus and Eve's pin cactus

Austrocyllindropuntia spp.

COMPETE WITH NATIVE VEGETATION. FORMS PRICKLY THICKETS.

Succulent, shrubby perennials. Stems green, cylindrical, with linear leaves that are soon dropped and short spines. Produce large red or pink flowers followed by green egg-shaped fruits at ends of branches.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Deep burial under 1m of topsoil		Native vegetation, gardens and other non-crop areas.	Any time	Remove, collect and bury all fragments.	
triclopyr (600g/L)	Garlon 600®	I	Spot spray	3L/100L	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Poisonous if swallowed; may irritate eyes and skin.	Product and use are registered, but this weed is not on the label
triclopyr (600g/L)	Garlon 600®	I	Basal bark	800mL/60L biodiesel or diesel	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Poisonous if swallowed; may irritate eyes and skin.	Product and use are registered, but this weed is not on the label
glyphosate 450g/L	Roundup CT®	M	Stem inject	Undiluted	Conservation areas, bushland and other non-crop areas.	While actively growing	Inject a measured dose of herbicide into the pads using a drill, drenching needle (or similar).	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Stem injection	Undiluted	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Use cordless drill to make holes around the base into the sapwood. Inject herbicide immediately.	PER 12932 (exp. 2021)

*Application Rate - with water unless indicated

Azarola

Crataegus sinaica

GARDEN ESCAPE. ENVIRONMENTAL WEED IN THE ADELAIDE & MOUNT LOFTY RANGES REGION

Tree/shrub, with deeply lobed wedge shaped leaves. White or pinkish 5-petalled flowers, and shiny, rounded green berries maturing to red.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (540g/L)	Knockout Pro 540®	M	Spot spray	660-870mL/100L		From flowering to leaf fall	Add an organosilicone penetrant. Use the higher rates for plants larger than 2m. Non selective, avoid contact with desirable plants	Registered
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Cut stump/ basal bark	1L/60L biodiesel or diesel		Spring to autumn.	Use on medium to large azarola.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut Stump	Undiluted	Conservation areas, bushland and other non-crop areas.	Spring to autumn.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Brush-Off®	M,B	Spot spray	800mL + 3g /100L	Conservation areas, bushland and other non-crop areas.	From flowering to leaf fall	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g/100L	Conservation areas, bushland and other non-crop areas.	From flowering to leaf fall	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Native vegetation and roadsides.	From flowering to leaf fall	Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)

Bathurst burr

Xanthium spinosum

BURRS CONTAMINATE WOOL. SPINY STEMS

Annual herb to 1 m tall. Leaves to 8 cm long, dark green on top, and light green underneath, with large 3-branched spines at base. Flowers inconspicuous, green. Burrs covered in small spines.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D amine (625g/L)	Ozcrop 2,4-D amine 625°	I	Boom spray	Rate depends on crop type and crop stage - refer to label	Cereal crops	Before flower and burr formation	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Ozcrop 2,4-D amine 625°	I	Boom spray	1.7 - 2.2L/ha	Pasture and other non-crop areas.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Ozcrop 2,4-D amine 625°	I	Spot spray	17-22mL/10L	Pasture and other non-crop areas.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
glyphosate (450g/L)	Touchdown 450°	M	Boom spray	1.5-2.4L/ha	Fallows and pre-planting in cropping paddocks.	Before flower and burr formation	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Roundup CT°	M	Spot spray	1L/100L	Pasture and other non-crop areas.	Before flower and burr formation	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M°	I	Boom spray	2.8-4L/ha	Grass pastures.	Before flower and burr formation	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Spray seedlings, use higher rates on larger plants or plants in late flower.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M°	I	Spot spray	190-270 mL/100L	Grass pastures.	Before flower and burr formation	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Spray seedlings, use higher rates on larger plants or plants in late flower.	Registered
MCPA (750g/L)	Agritone 750°	I	Boom spray	1.35L/ha	Cereal crops.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered

*Application Rate - with water unless indicated

Bellyache bush

Jatropha gossypifolia

WoNS

WEED OF NORTHERN RANGELANDS. TOXIC TO HUMANS AND ANIMALS

Multi-stemmed shrub with conspicuous glandular hairs. New growth is purple and sticky, turning dark green. Leaves large, 3-lobed, on long stalks. Flowers in stalked clusters, small, red with yellow centres. Round green seed capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to occur in South Australia. Please report any occurrences to your regional NRM Authority or Biosecurity SA, and obtain advice.							
fluroxypyr (333g/L)	Starane Advanced®	I	Spot spray	300mL/100L	Non-crop areas.	Seedlings to pre-flowering.	Thoroughly cover foliage and stems to the point of runoff.	Registered

Berry heath

Erica baccans

INVADES BUSHLAND

Dense shrub to 2 m tall with needle-shaped, pale green leaves 6 mm long. Flowers globular, pink, in groups of 4. Tiny seeds in capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems.	Registered
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Nature reserve and other native vegetation, roadsides, urban open space and forests.	While actively growing.	Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)

Bifora

Bifora testiculata

CROP WEED. NATURALISED IN SOUTH AUSTRALIA

Annual herb smelling of coriander. Leaves hairless, pale green, divided into narrow segments.

Umbrella-shaped clusters of small white flowers. Fruit dry, globular in pairs.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
imazethapyr (700g/L)	Spinnaker 700 WDG®	B	Boom spray	70-100g/ha	Field peas. Faba beans, except on light sandy soils.	Pre-emergence	Refer to label for post-emergence use.	Registered
carfentrazone-ethyl (400g/kg) + MCPA (750g/L)	Affinity Force® + MCPA 750	G,I	Boom spray	100mL + 330mL/ha	Cereal crops	2 to 6 leaf weed stage	Apply as a tank mix, using at least 100L/ha water. Refer to the Affinity Force label.	Registered

Blackberry, European

Rubus fruticosus sp. agg.

WoNS

FORMS IMPENETRABLE THICKETS. INVADES BUSHLAND AND PASTURE

Scrambling perennial shrub with prickles. Long stems/canes curve down and form roots at end. Leaves of 3-5 leaflets are dark green above, hairy with short prickles on underside. White or pink flowers followed by berries ripening to black.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Mechanical control			Slashing		All	Any time	Slashing will not kill blackberry but will improve the results of follow up herbicide treatment. Regrowth needs to be approximately 0.5-1 m high before undertaking follow up spraying.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray - Do not add surfactants if using near aquatic areas	1-1.3L/100L		November - April	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Use higher rate for plants 1-2m high. Repeat applications will be required.	Registered
glyphosate (835g/kg) + metsulfuron-methyl (10g/kg)	Trounce Brush-Pack®	M,B	Spot spray	173g/100L	Non-crop areas, bushland and pastures.	November - April	Add an organosilicone penetrant. Apply from flowering until before leaf yellowing. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered

*Application Rate - with water unless indicated

metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	10g/100L	Non-crop areas, bushland and pastures.	November - April	Add spray oil, 1L/100L. Soil active herbicide, may damage desirable vegetation.	Registered
picloram (20g/kg)	Tordon® Granules	I	Granular application	35 to 45g/square metre	Non-crop areas and pastures.		Suitable for isolated outlying plants only. Soil active; do not apply near native vegetation or other desirable plants.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Boom spray	10L/ha	Non-crop areas and pastures.	November - April	Where herbicides other than Group I have been used, allow two seasons regrowth before respraying with Grazon DS. May damage eucalypts. Do not burn, cut or clear blackberry for at least 6 months after spraying.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350-500mL/100L	Non-crop areas, bushland and pastures.	November - April	Use higher rates on plants damaged by grazing stock or insects or on hard to kill plants.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350-500mL/100L	Non-crop areas, bushland and pastures.	November - April	Use higher rates on plants damaged by grazing stock or insects or on hard to kill plants. Where herbicides other than Group I have been used, allow two seasons regrowth before respraying with Grazon Extra.	Registered
triclopyr (600g/L)	Garlon 600®	I	Controlled droplet application	170mL/1L	Non-crop areas, bushland and pastures.	November - April	Poisonous if swallowed; may irritate eyes and skin.	Registered
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Non-crop areas, bushland and pastures.	November - April	Poisonous if swallowed; may irritate eyes and skin.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut and paint the canes - paint brush applicator	undiluted	Non-crop areas.		Suitable for outliers, small infestations or sensitive areas	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Cut stump - note 1:1 provides the best viscosity for sponge application	250mL-1L/1L	Non-crop areas.		Suitable for outliers, small infestations or sensitive areas	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	November - April	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.		Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Non-crop areas, bushland and pastures.		Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)

Bladder campion

Silene vulgaris

COMPETES WITH CROPS AND PASTURES. HARD TO KILL

Perennial herb to 60 cm tall with creeping roots and blue-green basal leaves to 8 cm. Flowers long-stalked with a balloon-shaped calyx below white petals.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	650mL/100L	Pastures, commercial and industrial areas, and other non-crop areas.	August, before flowering.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered
dicamba (500g/L)	Ozcrop Dicamba 500 SL®	I	Spot spray	80mL/100L	Non-crop areas.	August - December while actively growing before flowering	Add a surfactant.	Registered
dicamba (500g/L)	Ozcrop Dicamba 500 SL®	I	Boom spray	1.2L/ha	Non-crop areas.	August - December while actively growing before flowering	Use at least 1500 L/ha water. Add a surfactant.	Registered

Blue mustard

Chorispora tenella

ALERT WEED

COMPETES WITH CROPS

Annual to 60 cm tall with tiny sticky hairs and unpleasant smell. Leaves undivided, with shallowly-toothed margins. Flowers with four mauve petals. Seeds in long pods.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in South Australia. If found, please collect a specimen and report to your regional NRM Authority or Biosecurity SA.							

Bluebell creeper

Billardiera fusiformis and *Billardiera heterophylla*

SMOTHERS NATIVE PLANTS

Climber with permanent woody stems. Oblong dark-green leaves to 6 cm long. Blue, rarely purple or white flowers, followed by sausage-shaped blue berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal					Any.			
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Non-crop areas, including native vegetation and parks.	Any	Cut stems no more than 10 cm above ground and immediately apply a 3-5 mm thick layer. Treat at least 80% of stems including main stems. Do not use in urban home gardens	Registered for this use on woody weeds in general.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	1L/4L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add an organosilicone penetrant. Seedlings or small plants; larger plants will require follow-up treatment.	PER 13371 (exp.2022)

Boneseed

Chrysanthemoides monilifera

WoNS

INVADES BUSHLAND. DISPLACES NATIVE VEGETATION

Woody erect shrub to 2 metres tall. Broad bright green, waxy leaves with some white down. Yellow daisy flower heads followed by green-black berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Uprooting		All.		Pull out by hand or Tree Popper; ensure that the tap root system is removed.	

Burn					Conservation areas, bushland and other non-crop areas.		Large infestations - controlled burn area and treat seedling regrowth with glyphosate or by slashing.	
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	10g/100L	Native pastures, bushland and other non-crop areas.	August - September	Soil active herbicide, may damage desirable vegetation.	Registered
2,4-D amine (475g/L)	Surpass 475®	I	Spot spray	105mL/10L	Pastures, rights of way and industrial areas.	While actively growing.	Hormone type herbicide - use with caution near sensitive crops. Wet foliage thoroughly. Refer to drift warnings on the label.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump - note 1:1 provides the best viscosity for sponge application	Undiluted or up to 1:5	Conservation areas, bushland and other non-crop areas.	Any time	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	August - September	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 10g/100L	Conservation areas, bushland and other non-crop areas.	August - September	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.	Any time	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	Any time	Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)

Box elder

Acer negundo

INVADES NATIVE RIPARIAN VEGETATION

Deciduous tree with spreading branches. Twigs green, later developing grey bark. Leaves in opposite pairs, pinnate with 3-7 leaflets. Flowers tiny, green, without petals. Female trees produce pairs of winged, one-seeded fruits.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens	Registered for this use on woody weeds in general.
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	Any time	Fell tree and apply herbicide immediately to the cut stump.	PER 12932 (exp. 2021)

Bridal creeper

Asparagus asparagoides

WoNS

SMOTHERS NATIVE PLANTS

Herbaceous climber with perennial rhizome and tubers. Stems twining, hairless, present autumn to spring, with shiny oval pale green cladodes resembling leaves. Tiny white flowers followed by round orange-red berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal		–	Manual removal.		Conservation areas, bushland and other non-crop areas.	June - August	Suitable for very small infestations and outliers only. Ensure that all underground rhizomes are removed. Can cause a high level of soil disturbance.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)

glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	Controls rhizome and vegetative growth. Follow up application over at least 2 years will be required. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Wiper sponge or brush	1L:3L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	1.5g/100L	Non-crop areas.	June - August		PER 13371 (exp.2022)

Bridal veil

Asparagus declinatus

WoNS

SMOTHERS NATIVE PLANTS

Herbaceous climber with perennial rhizome and tubers. Stems twining or sprawling, present autumn to spring, with awl-shaped blue-green foliage. Tiny white flowers followed by large green-whitish berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal		–	Manual removal. Ensure that tubers are removed totally.		Conservation areas, bushland and other non-crop areas.	June - August	Suitable for small plants and outliers only. Can result in a high level of soil disturbance therefore reduce soil disturbance as much as practical.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	800mL + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	Follow up application over at least 2 years will be required. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Wiper sponge or brush	1L:3L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	1.5g/100L	Conservation areas, bushland and other non-crop areas.	June - August	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Broomrapes

Orobanche spp.

ALERT WEED

PARASITE ON BROADLEAF CROP PLANTS

Parasitic annuals with underground rootstocks attached to hosts; no part of the plant is green. Stems briefly emerge in spring. Leafless apart from a few scales. Flowers tubular, cream to blue. Numerous tiny seeds in capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a specimen to confirm identity.							
paraquat (135g/L) + diquat (115g/L)	Raystar Paraquat Diquat SL ®	L	Boom/ spot spray	Rate depends on size and species of host weeds. Consult label.	Fallows and non-crop areas.	Pre-sowing	Controls host weeds. Nonselective. Poisonous to humans, follow safety directions on label.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	up to 1.5 L/ha	Fallows and non-crop areas.	Pre-sowing	Controls early host weed germinations. Nonselective, avoid contact with desirable plants.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom/ spot spray	Rate depends on size and species of host weeds. Consult label.	Cereal crops and pastures.	Post emergence	Controls host weeds. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
clopyralid (300g/L)	Lontrel®	I	Boom/ spot spray	Rate depends on size and species of host weeds. Consult label.	Cereal crops and pastures.	Post emergence	Controls host weeds	Registered
flumetsulam (800g/kg)	Broadstrike®	B	Boom spray	Rate depends on size and species of host weeds. Consult label.	Fallows and non-crop areas.	Pre-sowing	Control host weeds before the growing season.	Registered
flumetsulam (800g/kg)	Broadstrike®	B	Boom spray	25 g/ha	Pastures and non-crop areas.	July - August	Controls annual broadleaf host plants including brassicas. Add 500 mL/100L Uptake® spray oil.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5-7g/ha	Cereal crops.	July - September	Post emergent control of annual broadleaf host weeds including brassicas. Soil active herbicide, may damage desirable vegetation.	Registered

Buffel grass

Cenchrus ciliaris and *Cenchrus pennisetiformis*

INVADES RANGELAND. ELIMINATES NATIVE SPECIES. FIRE HAZARD

Tussock grass, usually perennial, to 1.5 m tall. Leaves flat, to 30 cm long. Seedheads form a dense, hairy cylindrical spike.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
diquat 115g/L+135g/L paraquat	Pacific Diquat/ Paraquat 250®	L	Spot spray.	240-320mL/100L	Non-crop areas.	Up to flowering.	Poisonous if swallowed; may irritate eyes and skin. Thoroughly wet foliage. Use the high rate for denser weed growth.	Registered for this use, but this weed is not on the label.
flupropanate granules (86.9 g/kg)	GP Flupropanate Granular®	J	Granules dispersed on ground	15 kg/ha	Non-crop areas and pastures.	While actively growing.		Registered for this use, but this weed is not on the label.
flupropanate (745g/L)	Taskforce®	J	Boom spray	3L/ha	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 4 months after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Taskforce®	J	Spot spray	300mL/100L	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Taskforce®	J	Wiper	500mL/10L	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Taskforce® + Roundup CT®	J,M	Boom spray	3L + 300-500mL/ha	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. Apply to fresh foliage. Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Use the higher rate if the weed is dense. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)

*Application Rate - with water unless indicated

flupropanate (745g/L) + glyphosate (450g/L)	Taskforce® + Roundup CT®	J,M	Spot spray	300mL + 260mL/100L	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Taskforce® + Roundup CT®	J,M	Wiper	500mL + 260mL/10L	Non-crop areas and pastures.	December - March. After summer rains	Add a non-ionic surfactant. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Boom spray	4.8L/ha	Non-crop areas and pastures.	While actively growing.	Non selective, avoid contact with desirable plants. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing.	Non selective, avoid contact with desirable plants. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	PER 9792 (exp. 2020)
haloxyfop-p (520g/L)	Verdict 520®	A	Spot spray	160mL/100L	Non-crop areas and pastures.	While actively growing.	Weeds must not be moisture stressed. Add Uptake® spraying oil at 500 mL/100 L	PER 9792 (exp. 2020)

Bulbil watsonia

Watsonia meriana var. *bulbillifera*

COMPETES WITH PASTURE AND NATIVE VEGETATION

Perennial growing in winter from a corm. Erect, tough, hairless sword-shaped leaves. Flowering stem to 2 m high in spring with clusters of bulbils. Red tubular flowers 3-4 cm long.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,2-DPA (740g/kg)	Dalapon 740SP Systemic Grasskiller®	J	Spot spray	100g/10L	Non-crop areas	July - August just before flowering stem emerges	Use 10L spray per 100 square metres. Do not graze pasture or cut for stock feed for 2 days after application. Residues in soil may inhibit germination of sensitive plants for 30 days or more.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Sponge application	1L/3L	Conservation areas, bushland and other non-crop areas.	September - November	Suitable for use near waterways - refer to label. Use higher rate for plants 1-2m high. Repeat applications will be required. Non selective, avoid contact with desirable plants. Non-crop situations only.	PER 13371 (exp.2022)

glyphosate (450g/L)	Roundup CT®	M	Sponge application	1L/3L	Conservation areas, bushland and other non-crop areas.	September - November	Non selective, avoid contact with desirable plants. Non-crop situations only.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	September - November	Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness.	PER 13371 (exp.2022)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Associate®	M,B	Spot spray	1L + 10g/100L	Conservation areas, bushland and other non-crop areas.	September - November	Non selective, avoid contact with desirable plants. Non-crop situations only. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	10g/100L	Conservation areas, bushland and other non-crop areas.	September - early November	Soil active herbicide, may damage desirable vegetation. Non-crop situations only.	PER 13371 (exp.2022)

Bundy blackberry

Rubus laudatus

ALERT WEED

INVADES BUSHLAND AND PASTURE. FORMS THICKETS. NOT PRESENT IN SA

Scrambling perennial shrub with prickles. Long stems/canes curve down and form roots at end. Leaves of usually 3 leaflets, bright green above, felted hairy on underside. White flowers followed by berries ripening to red.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA, and seek advice. Collect a pressed specimen to confirm identity.							
glyphosate (450g/L)	Roundup CT®	M	Cut and paint the canes - paint brush applicator	undiluted	Conservation areas, bushland and other non-crop areas.	November - April	Suitable for outliers, small infestations or sensitive areas.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	November - April	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.	November - April	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	November - April	Diesel oil may be replaced with water for ease of application.	PER 12932 (exp. 2021)
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Cabomba

Cabomba caroliniana

WoNS

INVADES PONDS, SHALLOW LAKES AND SLOW MOVING STREAMS

Grows submerged with bright green divided leaves singly along the stems. Tiny flowers just above water level with 6 white petals.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA to confirm identification and obtain advice.							
Manual removal		–	Dredging				Dredge plants out of water and dispose by composting or drying.	

Calomba daisy

Oncosiphon suffruticosum

INVADES ANNUAL PASTURES. UNPALATABLE

Winter annual to 1 m tall. Grey, finely-divided leaves with camomile scent. Numerous small, yellow flower heads.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (450g/L)	Roundup CT®	M	Boom spray	400 - 800mL/ha	Fallows in cropping land.	Before sowing a crop.	Non selective, for use on seedlings less than 8 cm.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL-1.2/ha	Fallows in cropping land.	Before sowing a crop.	Non selective, for use on larger plants over 8 cm.	Registered
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Ally®	M,B	Boom spray	800 -1000mL + 5-7g/ha	Wheat, barley, tritiale and cereal rye crops.	Fallow and pre-planting.	Apply when plants are small. Use higher rates for larger or dense weeds. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered

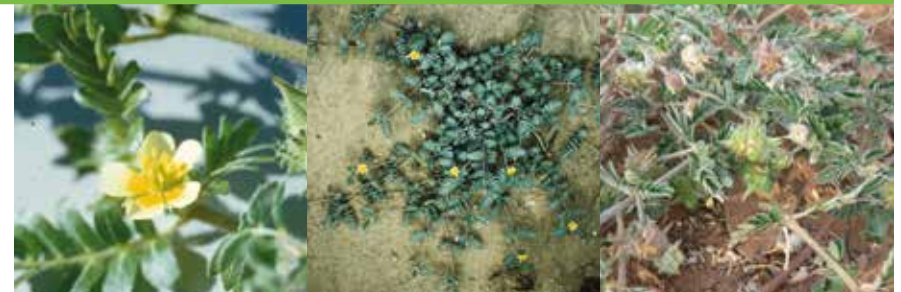
glyphosate (450g/L)	Roundup CT®	M	Boom spray	360mL/ha	Pastures	Before flowering	Spray topping to reduce seed set. Non selective herbicide	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5g/ha	Wheat, barley, triticale and cereal rye crops.	Post emergence	Apply when weeds are small. Soil active herbicide, may damage desirable vegetation.	Registered for this use, but this weed is not on the label.
metsulfuron-methyl (600g/kg)	Ally®	B	Spot spray	5g/ha	Wheat, barley, triticale and cereal rye crops.	Post emergence	Soil active herbicide, may damage desirable vegetation.	Registered for this use, but this weed is not on the label.

Caltrop

Tribulus terrestris

SPINY BURRS. TOXIC TO LIVESTOCK

Prostrate summer annual. Creeping stems from a central root. Blue-green leaves divided into oblong leaflets in 2 rows. Flowers have 5 yellow petals. Burrs with sharp spines.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Competing vegetation			Management to maintain a dense ground cover.		Pastures and amenity areas.	Long term	Caltrop is favoured by bare ground, and does not compete effectively with other plants. Ground cover significantly reduces germination; grass cover crops allow overspraying with selective broadleaf herbicides.	
Mechanical			Cut plants off at root and dispose.		Urban and amenity areas	When noticed.	Scrape off surface soil containing seeds and bury it at least 50 cm deep.	
nonanoic acid (525 g/L)	Slasher Organic Weedkiller®		Spot spray	700mL/10L	Urban areas. Suitable for use in organic gardens.	September - March. Young plants.	Spray to completely cover weed surface. Non persistent, retreatment may be needed for later germinations. Non selective, avoid contact with desirable plants.	Registered for this use on annual weeds in general.
flumetsulam (800g/kg)	Broadstrike®	B	Spot spray	25g/100L	Agricultural non-crop areas.	September - March. Before flowering.	Add 500 mL/100L Uptake® spray oil. Lasts 2-3 months, less if conditions are wet or soil is disturbed.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	500-700mL/100L	Urban areas and other non-crop situations.	September - March. Before flowering.	Treat within 3 weeks of seed germination. Non selective, avoid contact with desirable plants.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	2-3L/ha	Urban areas and other non-crop situations.	September - March. Before flowering.	Treat within 3 weeks of seed germination. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	1.6-2.4L/ha	Fallows.	At beginning of fallow period.	Non selective, avoid contact with desirable plants.	Registered for this use, but this weed is not on the label.

*Application Rate - with water unless indicated

glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	September - April. Before seed set.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
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Cane needlegrass

Nassella hyalina

ALERT WEED

INVADES PASTURES AND NATIVE GRASSLANDS. SHARP SEEDS

Perennial stipoid grass. Leaves are linear. Seedhead is an open panicle with many spikelets. Seeds have a long awn, which is twice bent. Nut-like stem seeds are also produced in the leaf sheath.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants		Any.	When found.	Inform your local NRM office. Monitor site and undertake follow up control until eradication has been achieved	
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Use the higher rate for dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Cape broom

Genista monspessulana

WoNS

INVADES BUSHLAND. FIRE HAZARD

Erect, evergreen leguminous shrub. Leaves with three downy leaflets. Yellow pea flowers in clusters. Short hairy pods with hard, round seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal					Any.	Seedlings	Hand pull when soil is moist.	
Manual removal					Any	Established bushes	Use a Tree Popper to uproot.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1-1.3L/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered for this use, but this weed is not on the label.
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	250mL/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Conservation areas, bushland and other non-crop areas.	Autumn to winter	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	250mL/100L	Conservation areas, bushland and other non-crop areas.	Spring to early summer before pod formation	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350mL/100L	Conservation areas, bushland and other non-crop areas.	Autumn to winter	Apply thorough foliage spray.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump - note 1:1 provides the best viscosity for sponge application	Undiluted to 1:5	Conservation areas, bushland and other non-crop areas.	Any time	Apply herbicide immediately to the cut stump.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	200mL + 10g /100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	Any time	Apply herbicide immediately to the cut stump. Diesel oil can be replaced with water for easier application.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Add a marking agent.	PER 12932 (exp. 2021)

Cape tulip (one and two leafed)

Moraea flaccida and *Moraea miniata*

TOXIC TO LIVESTOCK. SERIOUS PASTURE WEED

Herb growing in winter from corms. Large flowers with 6 pink to orange petals. *M. flaccida* has one long, flat leaf and long narrow seed pods. *M. miniata* has two or three leaves per plant and clusters of small fleshy bulbils in the leaf axils.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Grub or hand pull.		All.	May - October	Only useful for isolated plants. Pull each plant, ensuring that the underground corms are removed.	
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Ally®	M,B	Boom spray	800mL + 5g /ha	Non-cropping areas.	July - September	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Ally®	M,B	Spot spray	800mL + 5g /100L	Non-cropping areas. Pastures tolerant to metsulfuron-methyl (not clover based pastures).	July - September	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Ally®	M,B	Wiper	800mL + 1g/100L	Pastures tolerant to metsulfuron-methyl (not clover based pastures).	July - September	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered
glufosinate-ammonium (200 g/L)	Fascinate 200 SL®	N	Boom spray	2.0-3.0L/ha	Non-crop areas.	July - August	Non selective, avoid contact with desirable plants. Spray when flower stem begins to grow. Seed set suppression only.	Registered
glufosinate-ammonium (200 g/L)	Fascinate 200 SL®	N	Spot spray	300mL/100L	Non-cropping areas.	July - August	Non selective, avoid contact with desirable plants. Spray when flower stem begins to grow. Seed set suppression only.	Registered

metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5g/ha	Pastures tolerant to metsulfuron-methyl (not clover based pastures).	July - September	Do not spray under susceptible trees. Spray early in the season to kill young plants. Add glyphosate if spraying late in the season to suppress seed set. Soil active herbicide, may damage desirable vegetation.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	20g/ha	Wheat and triticale crops.	Pre-sowing.	Do not use near trees or other desirable vegetation.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	20g/ha	Wheat, barley, oats, triticale and cereal rye crops.	Post emergence.	Do not use near trees or other desirable vegetation.	Registered
2,4-D (475g/L) + metsulfuron-methyl (600g/kg)	Surpass 475® + Ally®	I,B	Wiper	1.65L + 5g /ha	Pasture and cereal crops.	July - September	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered (WA only)
metsulfuron-methyl (600g/kg)	Brushoff®	B	Spot spray	10g/100L	Non-crop areas.	July - September	Do not spray under susceptible trees. Spray early in the season to kill young plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

Carrion flower

Orbea variegata

INVADES NATIVE SHRUBLANDS, UNPALATABLE TO LIVESTOCK

Prostrate succulent with fleshy leafless stems. Large, foul smelling, starfish-shaped flowers mottled dull purple and yellow. Seeds wind-dispersed from large pods.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Hand-pull all stems.				Remove for composting or burning. Only useful for small infestations.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	July - October	Saturate all parts of plant. Non selective, avoid contact with desirable plants. Add Pulse® penetrant and spray oil	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Brush	1L/100L	Conservation areas, bushland and other non-crop areas.	July - October	Apply by brush or weed wand to all parts of plant. Add Pulse® penetrant and spray oil	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Cats claw creeper

Dolichandra unguis-cati

WoNS

SMOTHERS NATIVE VEGETATION IN TROPICAL AUSTRALIA. NATIONAL BAN ON SALE

Vine. Leaves have two leaflets with 3-clawed tendril growing between them. Large, bright yellow bell-shaped flowers. Pods contain numerous papery seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Cut stems, dig out tubers.			Any time	Not a weed in SA, but gardeners may find it necessary to remove an unwanted plant. Cut stems and dispose; dig out the large tubers at the base of plant.	

Chilean needlegrass

Nassella neesiana

WoNS

INVADES PASTURES AND BUSHLAND. SHARP SEEDS

Small perennial tussock grass. Seedhead is an open panicle with many purplish spikelets. Seeds with an awn surrounded at its base by a crown of bristles.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants		Any	When found.	Very small infestations and outliers only	
flupropanate (745g/L)	Tussock™	J	Boom spray	1.5-3L/ha	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 4 months after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)

flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Boom spray	1.5-3L + 300-500mL/ha	Non-crop areas and pastures.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Use the higher rates on dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop areas and pastures.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Use the higher rates on dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Boom spray	2.4L/ha	Non-crop situations	While actively growing, autumn to spring.	Results may be variable - Suppression only. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing, autumn to spring.	Results may be variable. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Boom spray	2.4L/ha	Non-crop situations	While actively growing, autumn to spring.	Results may be variable - suppression only. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing, autumn to spring.	Results may be variable. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop areas and pastures.	While actively growing, autumn to spring.	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Climbing asparagus fern

Asparagus plumosus

WoNS

INVADES BUSHLAND, SMOTHERS NATIVE PLANTS

Perennial climber with rhizome, wiry stems, flattened sprays of fine needle-shaped cladodes giving a fern-like appearance. Small white flowers, producing black berries on female plants.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Manual removal. Ensure that all rhizome is removed.		Conservation areas, bushland and other non-crop areas.	Anytime	Suitable for small plants and outliers only. Can result in a high level of soil disturbance therefore reduce soil disturbance as much as practical.	
glyphosate (450g/L)	Roundup®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants. Non-crop situations only. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	Follow up application over at least 2 years will be required. Non selective, avoid contact with desirable plants. Non-crop situations only. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	1.5g/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non-crop situations only. Not suitable for native vegetation and under desirable trees. Follow up application over at least 2 years will be required.	PER 13371 (exp.2022)

Coastal tea-tree

Leptospermum laevigatum

INVADES NATIVE VEGETATION

Small tree or shrub with papery bark on gnarled trunks. Grey-green oval leaves to 3 cm long. White flowers with 5 petals, wheel-shaped seed capsules with numerous slender seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Cut and grub out.			Any time.	Dispose of tea-tree promptly, or seed will fall as plants dry out. Machinery will be needed to remove large plants. Follow-up to control seedlings.	
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	While actively growing	Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)

Common lantana

Lantana camara

WoNS

INVADES PASTURE AND BUSHLAND IN OTHER STATES. TOXIC TO STOCK. NATIONAL BAN ON SALE

Densely branched scrambling shrub. Flowers in various colour combinations of red, yellow, orange, pink, cream or purple. Rough, hairy ovate leaves. Clusters of shiny, purple-black berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Cut, grub out and dispose.			Any time	Gardeners may find it necessary to remove unwanted plants. Machinery may be needed to remove large plants.	
glyphosate (835g/kg) + metsulfuron-methyl (10g/kg)	Trounce Brush-Pack®	M,B	Spot spray	173g/100L	Non-crop areas and bushland.	While actively growing, not when drought stressed	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered

*Application Rate - with water unless indicated

Coolatai grass

Hyparrhenia hirta

INVADES PASTURES AND BUSHLAND. FIRE HAZARD

Large perennial grass. Leaves to 35 cm long, 5 mm wide, rough like sandpaper. V-shaped pairs of spikelets on branched flowering stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Grub tussocks.		Any	When found.	Pull out each tussock with a spade and dispose.	
flupropanate (745g/L)	Tussock™	J	Boom spray	3L/ha	Non-crop areas and pastures.	July - October	Add a non-ionic surfactant. Apply herbicide solution to the point of run-off from leaf surfaces – 1000-2000 L / Ha. A slow-working residual. Apply early in the season. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Spot spray	300mL/100L	Non-crop areas and pastures.	July - October	Add a non-ionic surfactant. Apply herbicide solution to the point of run-off from leaf surfaces – 1000-2000 L / Ha. A slow-working residual. Apply early in the season. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	July - October	Add a non-ionic surfactant. Apply once per season. A slow-working residual. Apply early in the season.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Boom spray	3L + 300-500mL/ha	Non-crop areas and pastures.	July - October	Add a non-ionic surfactant. Use the higher rate for dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Spot spray	200mL + 1.6L/100L	Non-crop areas and pastures.	July - October	Use the higher rate for dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Wiper	500mL + 60mL/10L	Non-crop areas and pastures.	July - October	Use the higher rate for dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

glyphosate (450g/L)	Roundup®	M	Boom spray	4.8L/ha	Non-crop areas and pastures.	September - May	Apply herbicide solution to the point of run-off from leaf surfaces – 1000-2000 L / Ha. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup®	M	Spot spray	1.6L/100L water	Non-crop areas and pastures.	September - May	Non selective, avoid contact with desirable plants. Variable results.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup®	M	Wiper	2.6L/10L water	Non-crop areas and pastures.	September - May	2-3 repeat treatments will be necessary. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	800mL + 3g /100L	Non-crop areas and pastures.		Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

Creeping knapweed

Rhaponticum repens

COMPETES WITH CROPS AND PASTURES

Perennial herb with deep root system and creeping rhizomes. Leaves blue-green leaves in a basal rosette and along the vertical stems. Mauve thistle-like flower heads.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	1.3L/100L	Non-crop areas.	Late spring to summer	Soil residual. Do not use near desirable vegetation. Do not apply near susceptible crops.	Registered
clopyralid (300g/L)	Lontrel®	I	Boom spray	4L/ha	Grass pastures and fallows	While actively growing, spring to summer.	Do not use on pasture legumes.	Registered (Vic and Qld only)
clopyralid (300g/L)	Lontrel®	I	Spot spray	500mL/100L	Grass pastures and fallows	While actively growing, spring to summer.	Do not use on pasture legumes. Use 200 - 250 L water per hectare.	Registered (Vic and Qld only)
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	1L/100L	Non-agricultural areas.	While actively growing.	Non selective, avoid contact with desirable plants. Repeat application as required. Suppression only.	Product and use are registered, but this weed is not on the label.

*Application Rate - with water unless indicated

Cutleaf mignonette

Reseda lutea

COMPETES WITH CROPS AND PASTURES

Perennial herb with deep root system. Leaves divided into narrow segments. Yellow flowers in erect spikes, and green seed capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Manual removal		Any	At rosette stage.	Suitable for individual plants and small infestations; regrowth from deep roots is likely.	
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	650mL/100L	Pastures and non-cropping areas.	Before flowering	Soil residue do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered
MCPA (500g/L)	Conquest MCPA 500®	I	Boom spray	2.1L/ha	Pastures and non-cropping areas.	At early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Non crop situations. For rates within crops refer to label.	Registered
MCPA (500g/L)	Conquest MCPA 500®	I	Spot spray	140mL/100L	Pastures and non-cropping areas.	At early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray.	7g/ha	Cereal crops.	While actively growing before flowering	Repeat treatment may be required. Soil active herbicide.	Registered
2,4-D (475g/L) + glyphosate (450g/L)	Surpass 475® + Agvantage Glyphosate 450®	I, M	Spot spray	145mL + 1L /100L	Fallows	Summer	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Non-selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.

Cylindropuntia cacti (devils rope, Hudson pear, coral cactus)

Cylindropuntia spp.

WoNS

COMPETE WITH NATIVE VEGETATION. FORMS PRICKLY THICKETS. CAN INJURE ANIMALS

Succulent, shrubby perennials. Stems cylindrical, green, ribbed, leafless with large surface spines. Produce large flowers of various colours. Most produce colourful, fleshy fruits.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Deep burial under 1m of topsoil		Native vegetation, rangeland, pasture and other non-crop areas.	Any time	Remove, collect and bury all fragments. Any that are left or dropped during transport to the burial site will regrow.	
MSMA (800g/L)	Daconate®	Z	Spot spray	1L/40L	Native vegetation, rangeland, pasture and other non-crop areas.	Summer	Apply using a power sprayer when air temp is above 30°C. Thoroughly cover all pad surfaces. Re-spray any regrowth.	Registered
MSMA (720g/L)	Daconate 720®	Z	Spot spray	1.1L/40L	Native vegetation, rangeland, pasture and other non-crop areas.	Summer	Apply using a power sprayer when air temp is above 30°C. Thoroughly cover all pad surfaces. Re-spray any regrowth.	Registered
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Spot spray	1L/60L biodiesel or diesel	Fencelines, forestry, pasture, commercial, industrial and other non-crop areas.	While actively growing	Apply as an over all spray, wetting all parts of the plant to ground level. Do not allow herbicide to contact non-target species.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	500mL/100L	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Apply as thorough foliage spray; follow-up may be needed to treat regrowth.	Product and use are registered, but this weed is not on the label.

*Application Rate - with water unless indicated

triclopyr (600g/L)	Garlon 600®	I	Spot spray	3L/100L	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Poisonous if swallowed; may irritate eyes and skin.	Registered
triclopyr (600g/L)	Garlon 600®	I	Basal bark	800mL/60L biodiesel or diesel	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Poisonous if swallowed; may irritate eyes and skin.	Registered
glyphosate 450g/L	Roundup CT®	M	Stem injection	Undiluted	Conservation areas, bushland and other non-crop areas.	While actively growing	Inject a measured dose of herbicide into the pads using a drill, drenching needle (or similar).	PER 13371 (exp. 2022)
triclopyr (600g/L)	Garlon 600®	I	Stem injection	Undiluted	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Use cordless drill to make holes around the base into the sapwood. Inject herbicide immediately.	PER 12932 (exp. 2021)

Desert ash

Fraxinus angustifolia

INVADES NATIVE VEGETATION ALONG STREAMS

Deciduous tree. Leaves in opposite pairs, pinnate with 3-9 leaflets. Flat, winged single-seeded fruits.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Stem injection	1L/1L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Established ash trees. Drill through bark to cambium layer and apply immediately.	PER 13371 (exp.2022)

glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted or up to 1:4	Conservation areas, bushland and other non-crop areas.	While actively growing.	Fell tree and apply herbicide immediately to the cut stump.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	Any time	Fell tree and apply herbicide immediately to the cut stump.	PER 12932 (exp. 2021)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup Biactive® + Brush-Off®	M,B	Spot spray	1L + 10g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Seedlings.	PER 13371 (exp.2022)

Distichlis (seed bearing forms)

Distichlis spicata

POTENTIAL INVADER OF SALINE WETLANDS

Perennial grass spreading by runners. Short pointed grey-green leaves in two rows. Small seed heads on the end of short leafy stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing.	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Variable results.	PER 9792 (exp. 2020)

Dodder

Cuscuta spp.

ALERT WEED

PARASITE ON LUCERNE AND OTHER CROPS

Annual, leafless climber. Fine tangled white to orange stems attach to host plants. Masses of tiny white flowers in summer. Seeds in globular capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority and obtain advice.							

*Application Rate - with water unless indicated

Burn to kill the host plant and destroy the seed bank.					Single spot infestations only.	Whenever detected	Burn to kill the host and destroy the seed bank. Use a weed burner, or burn hay on the spot where safe to do so. Subject to seasonal restrictions on burning.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Non-crop situations.	September - February	Kills the host plants. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	1L/100L	Non-crop situations.	September - February	Kills the host plants. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Agvantage Glyphosate 450® + Brush-Off®	M,B	Spot spray	800mL + 3-5g / 100L	Non-crop situations.	September - February	Kills the host plants such as Noogoora burr. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered

Dog rose

Rosa canina

FORMS PRICKLY THICKETS, INVADES PASTURE

Large deciduous shrub. Erect or scrambling with prickly stems and leaves. Scented, pale pink flowers. Red fruits (hips). Distinguished from sweet briar by smooth flower stalks and fruit.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal							Grub individual plants.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1.5-2L/100L	Non-agricultural areas.	October - January	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label
glyphosate (540g/L)	Roundup Powermax®	M	Spot spray	1L/100L	Non-agricultural areas.	October - January	Non selective, avoid contact with desirable plants. Add a non-ionic surfactant.	Registered for woody weeds in general
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Non-agricultural areas.	October - January	For plants up to 1.5m tall. Add a non-ionic surfactant.	Product and use are registered, but this weed is not on the label
triclopyr (600g/L)	Garlon 600®	I	Basal bark spray	1L/30L biodiesel or diesel	Non-agricultural areas.	While actively growing.	Saturate basal bark.	Product and use are registered, but this weed is not on the label
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Non-agricultural areas.	While actively growing.	Apply herbicide immediately to the cut stump. Diesel can be replaced with water for ease of application.	Product and use are registered, but this weed is not on the label
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted or up to 1:4	Conservation areas, bushland and other non-crop areas.	While actively growing.	Apply to cut stump immediately.	PER 13371 (exp.2022)

glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	800mL-1L + 10g /100L	Conservation areas, bushland and other non-crop areas.	October - January	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	15g/100L	Conservation areas, bushland and other non-crop areas.	October - January	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Conservation areas, bushland and other non-crop areas.	October - January	Add a marking agent.	PER 12932 (exp. 2021)

Dolichos pea

Dipogon lignosus

INVADES BUSHLAND, SMOTHERS VEGETATION

Woody climber. Leaves with three leaflets. Mauve-pink pea flowers. Seeds in short pods.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal							Hand pull seedlings before seed set.	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stems and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems.	Registered
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/4L	Conservation areas, bushland and other non-crop areas.	Any time	Cut stems and apply herbicide immediately.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Seedlings or small plants; larger plants will require follow-up treatment. Add a surfactant.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Dune onion weed

Trachyandra divaricata

INVADES COASTAL SAND DUNES, TOXIC TO STOCK

Perennial with fleshy, strap-like basal leaves. Flower stems to 80 cm, branches spreading laterally among the leaves. Flowers with 6 white tepals. Seeds round in dry capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority and obtain advice.							

Elodea

Elodea canadensis

INVADES PONDS, LAKES AND STREAMS

Aquatic, freshwater, perennial herb. Submerged stems are buoyant with roots at lower nodes.

Narrow, oblong leaves in whorls of 3-4. White flowers attached to long thread-like stems float on surface of water.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice.							
Manual removal			Dredge plants out of water and dispose by composting.		Aquatic habitats	Summer	Monitor site and undertake follow up control until eradication has been achieved	

English/Scotch broom

Cytisus scoparius

WoNS

INVADES BUSHLAND. FIRE HAZARD

Erect, summer-deciduous, woody leguminous shrub. Leaves with 3 leaflets. Stems green, ridged stems becoming leafless. Large yellow pea flowers. Pods to 5 cm long with dark-brown shiny seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal					Any.	Seedlings	Hand pull when soil is moist.	
Manual removal					Any	Established bushes	Use a Tree Popper to uproot.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1-1.3L/100L	Non-agricultural areas.	September - December, before pod formation	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	250mL/100L	Non-crop areas, forests, pastures and rights of way.	September - December, before pod formation	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	250mL/100L	Non-crop areas, forests, pastures and rights of way.	Spring to early summer before pod formation	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Non-crop areas, forests, pastures and rights of way.	Autumn to winter	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350mL/100L	Non-crop areas, forests, pastures and rights of way.	Autumn to winter	Apply thorough foliage spray.	Registered
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Non-crop areas, forests, pastures and rights of way.	September - December, before pod formation	Apply thorough foliage spray.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump - note 1:1 provides the best viscosity for sponge application	Undiluted or up to 1:1	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Cut stems and apply herbicide immediately.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	15g/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump or basal bark application	1L/30L biodiesel or diesel	Nature reserves and other native vegetation, roadsides, urban open space and forests.	While actively growing.	Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)

Espartillo grasses

Amelichloa brachychaeta and *Amelichloa caudata*

ALERT WEED

INVADE PASTURES, BUSHLAND AND RIPARIAN VEGETATION

Perennial tussock grass. Resembles native spear grasses with branched seed heads. Leaves are narrow and ribbed on both sides. Seeds awned and surrounded at the base by a crown of bristles.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Neither species is known to occur in South Australia. Report any occurrence to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants		Any.	When found.	Inform your local NRM office. Monitor site and undertake follow up control until eradication has been achieved	
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)

flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop areas and pastures.	July - September	Apply glyphosate alone to suppress seed set; or for control mix flupropanate with glyphosate. Use higher rate during if the weed is dense. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop areas and pastures.	While actively growing, before flowering.	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Variable results.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop areas and pastures.	While actively growing, before flowering.	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Eurasian water milfoil

Myriophyllum spicatum

ALERT WEED

FORMS DENSE UNDERWATER TANGLES THAT DISPLACE NATIVE AQUATIC SPECIES

Perennial, aquatic herb. Emergent flower spike with tiny pink 4-petalled flowers. Not free-floating as the underwater stems are rooted to the base. Leaves are submerged, feathery and olive-green.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA to confirm identification and obtain advice. Collect a pressed specimen. This species is not yet known to occur in Australia but many native water milfoils look very similar.							

*Application Rate - with water unless indicated

False caper

Euphorbia terracina

INVADES PASTURES. UNPALATABLE TO LIVESTOCK

Perennial herb containing milky sap. Erect, reddish stems to 80 cm tall. Leaves dull green, hairless, pointed. Light green, cup-shaped flowers in branched groups.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Mechanical control							Blade plough or disc	
Establish competitive pastures.								
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Non-crop areas.		Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
norflurazon (800g/kg)	Zoliar 800 DF®	F	Boom spray	2.5 - 5kg/ha	Citrus, vines, nuts, pome and stone fruit crops.	Seedlings only.	Selective residual herbicide. Rate is crop specific, refer to label.	Registered
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	10g/100L	Conservation areas, bushland and other non-crop areas.		Soil active herbicide, may damage desirable vegetation. Add a surfactant.	PER 13371 (exp. 2022)

Field bindweed

Convolvulus arvensis

COMPETES WITH CROPS AND PASTURE

Perennial herb. Trailing/twining stems. Leaves oval, oblong to arrow-head shaped. Flowers are white and funnel-shaped.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	1.3L/100L	Pastures and non agricultural areas.	At bud stage.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Boom spray	5.2L/ha	Non-crop areas.		Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered

MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Spot spray	350mL/100L	Non-crop areas.		Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (500g/L)	MCPA 500®	I	Boom spray	2L/ha	Non-crop areas.	At bud stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Repeat over several seasons.	Registered
MCPA (500g/L)	MCPA 500®	I	Spot spray	1L/500L	Non-crop areas.	At bud stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Repeat over several seasons.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.1L/ha	Pastures and non agricultural areas.		Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product and use are registered, but this weed is on the label for WA only.
2,4-D amine (625g/L)	Amine 625®	I	Spot spray	100mL/100L	Pastures and non agricultural areas.		Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product and use are registered, but this weed is on the label for WA only.

Field garlic

Allium vineale

COMPETES WITH CROPS. CAN TAINT GRAIN

Perennial herb. Leaves are sub-cylindrical and hollow. Loose inflorescences with bell-shaped, pink or greenish flowers and numerous bulbils on erect, hollow, cylindrical stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
dicamba (500g/L)	Kamba 500®	I	Boom spray	8.8L/ha	Non-crop areas.	Spring, before bulbil formation.	Use at least 1500L/ha water. Re-spray later if bulbils are formed.	Registered
dicamba (500g/L)	Kamba 500®	I	Spot spray	600mL/100L	Non-crop areas.	Spring, before bulbil formation.	Re-spray later if bulbils are formed.	Registered
metsulfuron-methyl (600g/kg)	Raystar Metsulfuron 600 WG®	B	Boom spray	15g/ha	Pasture renovation and some grass pastures	July - August	Apply at bulb exhaustion stage. Add a surfactant. More than one year of application may be needed for control. Soil active herbicide, may damage desirable vegetation.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	7g/ha	Cereal crops.	1-2 leaf stage.	Soil active herbicide, may damage desirable vegetation.	Product and use are registered, but this weed is on the label for Victoria and Tasmania only.

*Application Rate - with water unless indicated

metsulfuron-methyl (600g/kg)	Ally®	B	Spot spray	7g/ha	Cereal crops.	1-2 leaf stage.	Soil active herbicide, may damage desirable vegetation.	Product and use are registered, but this weed is on the label for Victoria and Tasmania only.
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Fireweed

Senecio madagascariensis

WoNS

INVADES DEGRADED PASTURES, AND OTHER DISTURBED AREAS. TOXIC TO LIVESTOCK

Annual or biennial herb. Variably toothed and divided leaves with stem-clasping bases. Yellow daisy flowerheads in loose clusters, each with 12-15 florets.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Fireweed is not yet known in South Australia but occurs in the eastern States. Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
bromoxynil (200g/L) + diflufenican(25g/L)	Jaguar®	C,F	Boom spray	500mL	Pasture	Up to the four leaf stage.		Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350mL/100L		Flowering stage	Apply thorough foliage spray. Non-crop areas, pastures and rights of way.	Registered

Flax-leaf broom

Genista linifolia

WoNS

INVADES BUSHLAND. FIRE HAZARD.

Erect, evergreen leguminous shrub. Soft, hairy ribbed stems. Leaves with three downy leaflets. Yellow pea flowers in clusters. Short hairy pods with hard, round seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal					Any.	Seedlings	Hand pull when soil is moist.	
Manual removal					Any	Established bushes	Use a Tree Popper to uproot.	

triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	250mL/100L	Non-crop areas, forests, pastures and rights of way.	September - December, before pod formation	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	250mL/100L	Non-crop areas, forests, pastures and rights of way.	Spring to early summer before pods formed	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Non-crop areas, forests, pastures and rights of way.	Autumn to winter	Apply thorough foliage spray.	Registered
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350mL/100L	Non-crop areas, forests, pastures and rights of way.	Autumn to winter	Apply thorough foliage spray.	Registered
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	15g/100L	Conservation areas, bushland and other non-crop areas.	September - December, before pod formation	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Nature reserves and other native vegetation, roadsides, urban open space and forests.		Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Nature reserves and other native vegetation, roadsides, urban open space and forests.	September - December, before pod formation	Add a marking agent.	PER 12932 (exp. 2021)

Fountain grass

Cenchrus setaceus

INVADES PASTURES AND BUSHLAND

Perennial tussock grass. Grey-green leaves. Long flower spikes with dull purple bristles.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop situations.	While actively growing	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop situations.	While actively growing	Non selective, avoid contact with desirable plants. May give variable results.	PER 9792 (exp. 2020)

Gamba grass

Andropogon gayanus

WoNS

FORMS DENSE STANDS IN TROPICAL AUSTRALIA. GENERATES HOT FIRES. NATIONAL BAN ON SALE

Tall perennial grass. Stems and leaves are hairy. Loosely branched hairy inflorescences held high above the leaves.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Gamba grass is not known to occur in South Australia. Report any occurrence to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity.							
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Gazania

Gazania spp.

INVADES BUSHLAND, CROPS AND VINEYARDS

Perennial herb forming tussocks or with creeping stems. Leaves are simple and narrow, or deeply divided; dark green above and felted with white hairs below. Large daisy flowerheads in yellow, white, orange or pink.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing	Surfactant or spray oil may be added.	PER 13371 (exp.2022)

Giant arrowhead

Sagittaria montevidensis

ALERT WEED

INVADES WETLANDS AND WATERWAYS

Aquatic perennial with creeping underwater stems and large arrowhead-shaped leaves emerging from the water. Flowers with three white petals, on branched stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not currently known to be present in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity.							
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Non-crop areas including waterways.	While actively growing	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.

*Application Rate - with water unless indicated

Giant reed

Arundo donax

INVADER OF WETLANDS

Giant perennial grass with leaves in two rows up bamboo-like stems to 3 m tall. Flower heads like dense white plumes at top of stem.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Non-crop areas including waterways.	While actively growing	Suitable for use near waterways - refer to label. Most effective if used on regrowth after cutting. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.

Gorse

Ulex europaeus

WoNS

SPINY THICKETS COMPETE WITH PASTURE AND NATIVE VEGETATION

Spiny, densely branched shrub to 2 metres tall. Leaves tiny, on green spine-like twigs. Large, golden-yellow pea flowers. Oblong hairy pods contain hard round seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Burning	Fire						Fire can be useful in reducing dense thickets of gorse to allow follow-up spraying of regrowth. Seek advice.	
Slashing	Slashing						Slashing will not kill gorse but may improve the results of follow up herbicide treatment. Regrowth needs to be approximately 0.5-1 m high before undertaking follow up spraying.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Non-crop areas.	While actively growing.	Suitable for use near waterways - refer to label. Add Pulse® penetrant. Non selective, avoid contact with desirable plants.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	250mL/100L	Pastures and non-crop areas..	Spring to summer	On growth 1 to 1.5 metres tall. Add a non-ionic surfactant.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Pastures and non-crop areas..	Summer to autumn	If plants are taller than 1.5 metres or if treating in autumn. Add a non-ionic surfactant.	Registered

triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	500mL/100L	Pastures and non-crop areas..	Winter	Brownout may not be complete until following summer. Add a non-ionic surfactant.	Registered
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Non-crop areas including native vegetation.	Any time	Cut stems less than 10 cm from ground and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems.	Registered
metsulfuron-methyl (600g/kg)	Associate®	B	Spot spray	15g/100L	Native pastures, rights of way, commercial and industrial areas.	While actively growing, any time of the year except spring.	Bushes up to 2 m tall. Add an organosilicone penetrant. Soil active herbicide, may damage desirable vegetation.	Registered
glyphosate (835g/kg) + metsulfuron-methyl (10g/kg)	Trounce Brush-Pack®	M,B	Spot spray	173g/100L	Non-crop areas, bushland and pastures.	While actively growing, any time of the year except spring.	Add an organosilicone penetrant. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Registered
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Weedmaster Duo® + Brush-Off®	M,B	Spot spray	1L + 3g/100L	Conservation areas, bushland and other non-crop areas.	December - April	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	September - February	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Stem injection	Undiluted or up to 1:1	Non-crop areas.		Use drill to make holes around the base into the sapwood. Inject herbicide immediately.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.		Cut stems, apply herbicide immediately.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170 mL/100L	Nature reserves and other native vegetation, roadsides, urban open space and forests.	September - February	Apply thorough foliage spray. Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Nature reserves and other native vegetation, roadsides, urban open space and forests.	Any time	Diesel can be replaced with water for ease of application.	PER 12932 (exp. 2021)

Ground asparagus

Asparagus aethiopicus

WoNS

INVADES BUSHLAND, SMOTHERS NATIVE PLANTS

Spreading perennial growing from rhizomes. Wiry stems with narrow oblong leaf-like cladodes. Small white flowers, producing orange-red berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Dig out, ensuring that all the rhizome is removed.			Any time	Suitable for small plants and outliers only. Minimise soil disturbance as far as practicable.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non selective, avoid contact with desirable plants. Non-crop situations only. Follow up application over at least 2 years necessary.	PER 13371 (exp.2022)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup CT® + Brush-Off®	M,B	Spot spray	800mL + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	Follow up application over at least 2 years necessary. Non selective, avoid contact with desirable plants. Non-crop situations only. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	1.5g/100L	Conservation areas, bushland and other non-crop areas.	June - August	Non-crop situations only. Not suitable for native vegetation and under desirable trees. Follow up application over at least 2 years necessary.	PER 13371 (exp.2022)

Hoary cress

Cardaria draba

COMPETES WITH CROPS AND PASTURES

Perennial herb with creeping roots. Broad blue-green leaves. Stems topped with clusters of white flowers. Heart-shaped seed capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Cultivation and pasture management					Pastures.		Aim to increase competition from perennial pasture species.	
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	1.3L/100L	Grass pastures and non-crop situations.	Rosettes	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. May require repeat applications.	Registered
2,4-D (475g/L)	Surpass 475®	I	Boom spray	1.8L/ha	Cereal crops.	Rosettes	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D (475g/L)	Surpass 475®	I	Boom spray	1.9 - 2.15L/ha	Grass pastures.	Rosettes	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D (475g/L) + glyphosate (450g/L)	Surpass 475® + Roundup®	I, M	Boom spray	1.8L + 1.2L/ha	Fallow or pre-planting.	Rosettes	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Non-selective, avoid contact with desirable plants.	Registered
2,4-D (475g/L) + glyphosate (450g/L)	Surpass 475® + Roundup®	I, M	Spot spray	120mL + 800mL /100L	Fallow or pre-planting.	Rosettes	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Non-selective, avoid contact with desirable plants.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.4L/ha	Cereal crops	Rosettes.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.7L/ha	Pastures.	Rosettes and pre-flowering.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	20g/ha	Cereal crops	When fully emerged.	Post emergence, for suppression only. Do not use near trees or other desirable vegetation.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	1.2L/ha	Commencing a fallow.	Late rosettes to early flowering.	Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	400mL/100L	Fallows.	Late rosettes to early flowering.	Non selective, avoid contact with desirable plants. Cultivation can begin 7 days after spraying.	Product and use are registered, but this weed is on the label for ACT, NSW, Tasmania and Victoria only.

*Application Rate - with water unless indicated

Horehound

Marrubium vulgare

COMPETES WITH PASTURES. UNPALATABLE.

Perennial herb, densely covered in white hairs. Leaves in opposite pairs, broad, crinkled. Tiny, white flowers. Small burrs in dense clusters.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Manual Removal				Grub individual plants, ensuring the complete removal of the root system from the soil. Plough infested area, ensuring plants are turned over with roots completely removed from the soil. Follow up control on any new growth.	
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Boom spray	4-7 L/ha	Grass pastures and non-cropping areas.	August - September	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Repeat after 4 weeks if necessary.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Spot spray	470mL/100L	Grass pastures and non-cropping areas.	August - September	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Repeat after 4 weeks if necessary.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.4L/ha	Cereal crops.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Slashing or burning old growth to promote fresh growth before spraying may increase kill rate.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	2.2-3.2L/ha	Grass pastures.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Slashing or burning old growth to promote fresh growth before spraying may increase kill rate.	Registered
dicamba (500g/L)	Kamba 500®	I	Boom spray	280-560mL/ha	Grass pastures.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Add surfactant. Do not apply to legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Boom spray	560mL-1.1L/ha	Grass pastures.	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Do not apply to legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Spot spray	40mL/100L	Grass pastures.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Do not apply to legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Spot spray	76mL/100L	Grass pastures.	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Do not apply to legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Boom spray	1.2L/ha	Non-crop areas	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Use at least 1500 L/ha water. Add surfactant.	Registered

dicamba (500g/L)	Kamba 500®	I	Spot spray	80mL/100L	Non-crop areas	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Add surfactant.	Registered
MCPA (500g/L)	MCPA 500®	I	Boom spray	2.1L/ha	Grass pastures and non-cropping areas.	Autumn	Seedlings only. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Will damage clovers and medics in pasture.	Registered
2,4-D ethyl hexyl ester (680g/kg)	Genfarm 2,4-D Ester 680 LV Herbicide®	I	Boom spray	800mL-1.15L/ha	Cereal crops.	Seedlings	Hormone type herbicide - use with extreme caution near sensitive crops - refer to drift warnings on the label. Cropping. Seedlings or suppression of established plants only.	Registered
2,4-D ethyl hexyl ester (680g/kg)	Genfarm 2,4-D Ester 680 LV Herbicide®	I	Boom spray	1.7-3.3L/ha	Grass pastures	May to August	Hormone type herbicide - use with extreme caution near sensitive crops - refer to drift warnings on the label. Slashing or burning old growth to promote fresh growth before spraying may increase kill rate.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	1.2-1.6L/ha	Fallows.	Start of fallow.	Non selective, avoid contact with desirable plants. Slashing or burning old growth to promote fresh growth before spraying may increase kill rate.	Product and use are registered, but this weed is not on the label.
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L /100L	Non-cropping areas.	Autumn	Young plants only. Slashing or burning old growth to promote fresh growth before spraying may increase kill rate. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
glyphosate (540g/L) + metsulfuron-methyl (600g/kg)	Ozcrop Glyphosate 540K® + Ally®	M,B	Spot spray	500mL + 5g/100L	Non-cropping areas.	Autumn	Slashing or burning old growth to promote fresh growth before spraying may increase kill rate. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	Products and use are registered, but this weed is not on the label.
2,4-D amine (625g/L) + metsulfuron-methyl (600g/kg)	Amine 625® + Ally®	I,B	Spot Spray	500mL + 5g / 100L	Non-cropping areas.	September - November	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Soil active herbicide, may damage desirable vegetation.	Product and use are registered, but this weed is not on the label.

Horsetails

Equisetum spp.

ALERT WEED

INVADES PASTURE AND WETLANDS. TOXIC TO LIVESTOCK

Perennial with deep creeping rhizomes. Erect, hollow, finely ribbed shoots with rings of scale leaves. Spores produced in cones at the top of stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity.							
			Grub individual plants.		Any	When found.	Report to NRM authorities first. Grub and follow up with inspections after 6 and 12 months; horsetail has rhizomes that may be 2 metres deep.	

*Application Rate - with water unless indicated

Hydrocotyle

Hydrocotyle ranunculoides

ALERT WEED

INVADES WETLANDS, BLOCKS STREAMS

Emergent perennial. Round or kidney shaped leaf blades float at surface or emerge above water on long stalks leading to underwater stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity. Hydrocotyle is not known to occur in South Australia.							
Manual removal			Dredge plants out of water and dispose by composting.		Aquatic habitats	When found.	Monitor site and undertake follow up control until eradication has been achieved	

Hymenachne

Hymenachne amplexicaulis and *Hymenachne calamitosa*

WONS

INVADES TROPICAL WETLANDS. NATIONAL BAN ON SALE

Perennial aquatic grass to 3 m tall with thick creeping stems, forming roots at the joints. Leaves to 45 cm long with broad bases clasping around the stem. Seed-head dense and spike-like, to 50 cm long.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity. Hymenachne is not known to occur in South Australia.							
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	Actively growing	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Innocent weed

Cenchrus longispinus and *Cenchrus spinifex*

COMPETES WITH IRRIGATED CROPS. BURRS INJURE ANIMALS

Annual summer-growing grasses to 70 cm tall with soft hairless leaves. Seed heads of several burrs about 7 mm wide with sharp spines.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Grazing					Pastures.	December - January	Prevents seed set	
Manual Removal					Small infestations.	Any time	Grub each plant and dispose securely to avoid dropping burrs. Follow up in the next season or after summer rains.	
trifluralin (480g/kg)	Treflan 480®	D	Boom spray	1.2L/ha (light and medium soils) 1.7L/ha (heavy soils)	Lupins, sunflowers, soybeans	Pre-sowing.	Pre-emergent control in certain broadleaf crops. Spray from 4 weeks to just before sowing takes place.	Registered
chlorthal-dimethyl (750g/kg)	AgProtect Chlorthal 750 WG®	D	Boom spray	9-15 kg/ha	Vegetable crops.	At time of sowing or transplanting.	Pre-emergent control. Use lower rate on lighter soils. Use at least 450 L water/ha.	Registered
chlorthal-dimethyl (750g/kg)	AgProtect Chlorthal 750 WG®	D	Boom spray	11-15 kg/ha	Lucerne and perennial grasses	Autumn or early spring.	Pre-emergent control. Use at least 450 L water/ha.	Registered
fluazifop-p (128g/L)	Fusilade Forte 128 EC®	A	Boom spray	1.24L/ha	Lucerne	Growing actively at 3-5 leaf stage before tillering starts	Selective herbicide to kill grasses. Apply in not less than 100 L/ha. Apply when lucerne is past the 2 to 3 trifoliate leaf stage. Do not graze or cut for stock feed for 6 weeks after application.	Registered
fluazifop-p (128g/L)	Fusilade Forte 128 EC®	A	Boom spray	2.5L/ha	Citrus, grapes and stonefruit crops.	Growing actively at 5 leaf to early tillering.	Selective herbicide to kill grasses. Apply in not less than 200 L/ha	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL-1L/ha	Fallows, pre-sowing.	Summer	Prior to cultivation and sowing a crop or pasture. Use higher rates on larger plants. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	December - January	Non selective, avoid contact with desirable plants.	PER 13371 (exp. 2022)

*Application Rate - with water unless indicated

Italian buckthorn

Rhamnus alaternus

INVADES FOREST, WOODLAND AND COASTAL VEGETATION

Shrub to 4 metres high. Leaves oval, leathery, dark-green and glossy. Flowers small, green. Female plants have red berries, ripening to black



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Uprooting		All.	Any time	Suitable for small plants. Pull out by hand or Tree Popper; ensure that the tap root system is removed.	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems. Do not use in urban home gardens.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump	1L/4L	Conservation areas, bushland and other non-crop areas.	Any time.	Apply herbicide immediately to cut stump.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Effective on seedlings. Add a surfactant.	PER 13371 (exp.2022)
glyphosate (450g/L) isopropylamine salt	Roundup CT®	M	Stem injection by drill	Undiluted	Conservation areas, bushland and other non-crop areas.	Any time.		PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Stem injection by drill	1L/1L	Conservation areas, bushland and other non-crop areas.	Any time.		PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Basal bark spray	1L/30L biodiesel or diesel	Conservation areas, bushland and other non-crop areas.	While actively growing.	Saturate bark on trunk and any branches from ground level to up 30 cm. Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)

Khaki weed

Alternanthera pungens

INVADES PASTURES. SPINY SEEDS

Summer growing perennial herb with a deep tap root system. Stems prostrate, hairy. Leaves broad ovate in opposite pairs. Round clusters of tiny flowers along upper stem. Pale sharp-tipped bracts form a burr around seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Grub individual plants		Any	When found.	Ensure the complete removal of the tuber and tap root. Dig beside the root 100 mm down or more. Destroy any burrs found.	
2,4-D amine (300g/L) + picloram (75g/L)	Kojak 75D®	I	Spot spray	600mL/100L	Non-crop situations.	Summer.	Treat plants in full leaf. Hormone type herbicide - use with caution near sensitive crops.	Registered
dicamba (500g/L)	Kamba 500®	I	Spot spray	9mL/15L	Non-crop situations.	Before flowering	Hormone type herbicide - use with caution near sensitive crops.	Product and use are registered, but this weed is on the label for WA only.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	1L/1L	Non-crop situations.	Before burrs mature	Cut plants off at the crown of the roots and apply immediately to the fresh cut on the roots. Weed wand or paint brush application is useful	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Non-crop situations.	Before burrs mature	Won't kill the root system, ongoing treatment required. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Kochia

Bassia scoparia

COMPETES WITH PASTURES AND CROPS

Annual herb to 2 metres tall. Stems numerous, erect, densely branched. Leaves alternate on stems, narrow, bright green but turning red with age. Flowers tiny, green, in axils of upper leaves.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity. Kochia is not known to occur in SA.							

*Application Rate - with water unless indicated

Lagarosiphon

Lagarosiphon major

ALERT WEED

BLOCKS STREAMS, LAKES AND RESERVOIRS

Aquatic, freshwater perennial herb, free floating in deep water. Submerged stems with roots at lower nodes. Leaves are narrowly oblong and curved back, alternately arranged in a spiral on the stem. Flowers not found.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity. Lagarosiphon is not known to occur in SA.							
Manual removal			Dredge plants out of water and dispose by composting.		Aquatic habitats	Summer	Seek advice from the regional NRM Authority first. Monitor site and undertake follow up control until eradication has been achieved.	

Leafy elodea

Egeria densa

ALERT WEED

INVADES PONDS, LAKES AND STREAMS

Aquatic, freshwater, perennial herb. Submerged stems are buoyant with roots at lower nodes. Narrow, oblong leaves in whorls of 3-8. White flowers are attached to long thread-like stems and float on surface of water.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to occur wild in South Australia but may be growing in ponds or aquaria. Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice.							
Manual removal			Dredge plants out of water and dispose by composting.		Aquatic habitats	Summer	Monitor site and undertake follow up control until eradication has been achieved	

Lincoln weed

Diplotaxis tenuifolia

COMPETES WITH CROP AND PASTURE. UNPALATABLE

Deep-rooted perennial herb. Leaves alternate, deeply divided. Yellow, 4-petalled flowers. Strong taste, used in salads as wild rocket.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D amine (475g/L)	Surpass 475®	I	Boom spray	2.15L/ha	Arable land when no crop present; grass pastures.	Early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (475g/L)	Surpass 475®	I	Boom spray	425mL -1.8L/ha	Cereal crops	Early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Rate depends on stage and species of the crop. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.7L/ha	Cereal crops	Early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Spot spray	170mL/150L	Cereal crops	Early rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (500g/L)	Conquest MCPA 500®	I	Boom spray	700mL/ha	Arable land when no crop present.	Rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (500g/L)	Conquest MCPA 500®	I	Spot spray	7mL/10L	Crops, pasture and non-crop situations.	Rosette stage.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	15g/ha	Wheat or triticale crops.	Pre-sowing	Herbicide is incorporated in soil by sowing. Do not use near trees and other desirable vegetation.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	20g/ha	Wheat, barley, oats, triticale and cereal rye crops.	Post-emergence.	Do not use near trees and other desirable vegetation.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	7g/ha	Wheat, barley, triticale and cereal rye crops.	Late winter to spring.	Weeds emerging after spraying may not be controlled. Soil active herbicide, may damage desirable vegetation.	Registered

*Application Rate - with water unless indicated

Madeira vine

Anredera cordifolia

INVADES BUSHLAND ALONG WATERCOURSES

Soft-stemmed creeper. Leaves fleshy, ovate, 2 to 8 cm long. Drooping spikes of small, white, fragrant flowers. Warty aerial tubers on the branches.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Cut stems and grub out the tubers at their base.			Any time	Grub individual plants and monitor regrowth.	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Non-crop situations.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens.	Registered for this use on woody weeds in general.

May or hawthorn

Crataegus monogyna

INVADES BUSHLAND

Winter deciduous shrub or small tree with twigs ending in spines. Leaves are wedge-shaped with 3-7 lobes. White flowers with 5 petals. Fruits round, bright red, fleshy.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Cut stump/ basal bark	1L/60L biodiesel or diesel	Non-crop situations.	Spring to autumn.	Use on medium to large hawthorns.	Registered
2,4-D amine (475g/L)	Surpass 475®	I	Spot spray	105mL/10L	Pastures, rights of way and industrial areas.	While actively growing.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted	Conservation areas, bushland and other non-crop areas.	Spring to autumn.	Use on medium to large hawthorns.	PER 13371 (exp.2022)

glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L+ 10g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add an organosilicone penetrant and spray oil. Non selective, avoid contact with desirable plants. Soil active herbicide.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30 biodiesel or diesel	Nature reserves and other native vegetation, roadsides, urban open space and forests.	Spring to autumn.	Use on medium to large hawthorns.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Nature reserves and other native vegetation, roadsides, urban open space and forests.	While actively growing.	Add a marking agent. Poisonous if swallowed; may irritate eyes and skin.	PER 12932 (exp. 2021)

Mesquite

Prosopis spp.

WoNS - ALERT WEED

INVADES RANGELANDS, FORM SPINY THICKETS

Shrubs and trees. Bipinnate leaves with thorns at base. Long, dense clusters of yellow flowers resembling wattle. Seeds in large, lobed pods.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity.							
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Basal bark	1L/60L biodiesel or diesel	Rangelands and native vegetation.	Any time	Suitable for shrubs and small trees. For smaller plants and shrubs spray the trunk from the ground up to 30cm. For large trees spray from the ground up to 100cm.	Product and use are registered, but this weed is not on the label.
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Cut stump	1L/60L biodiesel or diesel	Rangelands and native vegetation.	Any time	Suitable for large trees. Apply herbicide immediately after cutting the stump.	Product and use are registered, but this weed is not on the label.
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Rangelands and native vegetation.	Spring - summer	Do not spray plants bearing pods.	Product and use are registered, but this weed is on the label for NSW, NT, Qld and WA only.

*Application Rate - with water unless indicated

Mexican feathergrass

Nassella tenuissima

ALERT WEED

INVADES PASTURES AND BUSHLAND. SHARP SEEDS

Small perennial tussock grass with fine, inrolled leaves. Long fine awns give the seeding heads a feathery appearance.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report any occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a specimen to confirm identity. The sale or transport of Mexican feathergrass is prohibited, and should be reported.							
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Pastures and native vegetation.	Spring	Add a non-ionic surfactant. A slow-working residual. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Pastures and native vegetation.	Spring		PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Pastures and native vegetation.	Spring	Use higher rate if the weed is dense. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Pastures and native vegetation.	Spring	Non selective, avoid contact with desirable plants. Variable results.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Pastures and native vegetation.	Spring	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Miconia

Miconia spp.

INVADES TROPICAL FORESTS. NATIONAL BAN ON SALE

Small trees. Large oval leaves are dark green with three longitudinal veins and a pattern of pale lateral veins. Flower white to pink in large panicles. Small purple berries with numerous tiny seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to be growing outdoors in South Australia. The sale or transport of any Miconia species is prohibited, and should be reported to Biosecurity SA.							

Mimosa

Mimosa pigra

WoNS

INVADES TROPICAL WETLANDS. NATIONAL BAN ON SALE

Small tree resembling a native wattle. Bipinnate leaves with thorns at base. Flowers pink, in ball-shaped clusters. Seeds in small flat pods.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to be growing outdoors in South Australia. The sale and transport of mimosa is prohibited, and should be reported to Biosecurity SA.							

Mirror bush

Coprosma repens

INVADES COASTAL VEGETATION

Dense shrub to 3 m tall with shiny dark-green oblong leaves. Produces either small orange berries, or male flowers with dangling cream-green stamens.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Uprooting		All.	Any time	Suitable for small plants. Pull out by hand or Tree Popper; ensure that the tap root system is removed.	

*Application Rate - with water unless indicated

picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems. Do not use in urban home gardens.	Registered for this use on woody weeds in general.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted	Conservation areas, bushland and other non-crop areas.	July - October	Apply when weed is actively growing.	PER 13371 (exp.2022)

Muskweed

Myagrum perfoliatum

COMPETES WITH BROADACRE CROPS. SEED CONTAMINANT

Winter annual herb. Leaves variable in shape, with stem-clasping bases. Yellow flowers in spikes. Fruit is club-shaped, ridged and slightly warty.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
diquat 115g/L+135g/L paraquat	SpraySeed 250®	L	Boom spray	1.2-3.2L/Ha depending on size of rosettes	Fallows and pre-planting	Rosettes to 20 cm wide	Non selective, avoid contact with desirable plants. Poisonous to humans, follow all safety directions on label.	Registered
glyphosate (470g/L)	Nufarm Weedmaster DST®	M	Boom spray	minimum 1.4L/ha, refer to label	Fallows and pre-planting	Up to rosette stage	Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
2,4-D ethyl hexyl ester (680g/L)	LVE 2,4-D 680®	I	Boom spray	800mL/Ha	Cereal crops	Up to rosette stage	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product and use are registered, but this weed is on the label for Victoria only.
2,4-D ethyl hexyl ester (680g/L)	LVE 2,4-D 680®	I	Spot spray	8mL/10L	Cereal crops	Up to rosette stage	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product and use are registered, but this weed is on the label for Victoria only.

Nightstock

Matthiola longipetala

COMPETES WITH BROADACRE CROPS. SEED CONTAMINANT

Winter annual herb to 50 cm, covered with hairs like felt. Leaves lobed, grey-green. Flowers with four dull purple petals, strongly perfumed at night.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
diflufenican (50 g/L) + MCPA (250 g/L)	Nican-M®	F,I	Boom spray	1L/ha	Cereal crops and pasture	Winter, up to 4 leaf stage	Apply in 70-100 L/ha water. Do not graze or cut for stock feed for 7 days after application.	Registered
diflufenican (500 g/L)	Brodal® Options	F	Boom spray	200mL/ha	Clover-based pastures and field legumes	Winter, up to 4 leaf stage	Consult label for tolerance of various crops and clover cultivars. Apply in 70-100 L/ha water. Do not graze or cut for stock feed for 7 days after application.	Registered

Noogoora burrs

Xanthium strumarium sp. agg.

COMPETES WITH PASTURE AND RIPARIAN VEGETATION. BURRS CONTAMINATE WOOL

Summer-growing erect annual to 2 m tall. Leaves stalked, shallowly 3-lobed, to 15 cm wide, rough-textured. Flowers inconspicuous, green. Burrs covered in small hooked spines, with two beaks at the tip.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Boom spray	2.8-4L/ha	Grass pastures.	While actively growing, before flower and burr formation	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Grass pastures. Use higher rates on larger plants or plants in late flower.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Spot spray	190-270mL/100L	Grass pastures.	While actively growing, before flower and burr formation	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Grass pastures. Use higher rate on late flowering or larger plants.	Registered
MCPA (750g/L)	Agritone 750®	I	Boom spray	1.35L/ha	Cereal crops and grass pastures.	Young seedlings.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	500-700 mL/100L	Non-crop situations.	While actively growing, before flower and burr formation	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for NSW and Qld only.

*Application Rate - with water unless indicated

glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	2- 3L/ha	Non-crop situations, fallows or pre-planting.	While actively growing, before flower and burr formation	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for NSW and Qld only.
glyphosate (450g/L)	Roundup CT®	M	Boom spray	1.2-1.6L/ha	Fallows or pre-planting.	While actively growing, before flower and burr formation	Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for NSW and Qld only.
glyphosate (450g/L) + 2,4-D amine (475g/L)	Roundup CT® + Surpass 475®	M, I	Boom spray	400 mL -1.2L/ha + 1.1 -1.7L/ha	Grass pastures and non-cropping areas.	While actively growing, before flower and burr formation	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Products and use are registered, but this weed is on the label for NSW and Qld only.
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	800mL -1.1L/ha	Non-cropping areas.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Non-agricultural areas.	Product and use are registered, but this weed is on the label for NSW, ACT and Qld only.
2,4-D amine (625g/L)	Amine 625®	I	Spot spray	10mL/10L	Grass pastures and non-cropping areas.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Spray seedlings only.	Product and use are registered, but this weed is on the label for NSW, ACT and Qld only.
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	7.5g /100L	Grass pastures and non-cropping areas.	While actively growing, before flower and burr formation	Seedlings or before early flowering. Use higher rate when plants are beyond early flowering or add glyphosate. Soil active herbicide, may damage desirable vegetation.	Product and use are registered, but this weed is on the label for NSW only.

Nutgrass

Cyperus rotundus

INVADES PASTURES, CROPS AND GARDENS, VERY HARD TO KILL

Perennial sedge to 60 cm high with chains of brown underground tubers. Leaves grass-like, shiny, dark-green. Seed heads green, compact.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1L/100L	Non-crop situations	Feb-April, after flowering has begun.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Repeat treatments necessary.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	6L/ha	Arable land	Feb-April, after flowering has begun.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Follow-up treatments necessary.	Registered

glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	Split application 700mL/100L + 700mL/100L	Arable land and non-crop situations	First application when at least 20% of plants flowering. Second application 6-8 weeks later.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Follow-up treatments necessary.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	Split application 3L/ha + 3L/ha	Arable land	First application when at least 20% of plants flowering. Second application 6-8 weeks later.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Follow-up treatments necessary.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	800mL/L	Non-crop situations.	Feb-April, after flowering has begun.	Non selective, avoid contact with desirable plants. Follow- up treatments necessary.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Boom spray	4.8L/ha	Non-crop situations	Feb-April, after flowering has begun.	Non selective, avoid contact with desirable plants. Follow- up treatments necessary.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Spot spray	Split application 600mL/100L + 600mL/100L	Arable land.	First application when at least 20% of plants flowering. Second application 6-8 weeks later.	Non selective, avoid contact with desirable plants. Follow- up treatments necessary.	Registered
glyphosate (450g/L)	Agvantage Glyphosate 450®	M	Boom spray	Split application 2.4L/ha + 2.4L/ ha	Arable land.	First application when at least 20% of plants flowering. Second application 6-8 weeks later.	Non selective, avoid contact with desirable plants. Follow- up treatments necessary.	Registered
methyl bromide (1000g/kg)	Methyl Bromide 1000® Fumigant		Soil injection	100g/square metre	Non-crop situations.	Any	Highly poisonous fumigant, classed as Toxic Gas 2, Class 8A Insecticide. Can only be applied by a licenced operator.	Registered

Olive (feral)

Olea europaea (excluding cultivated trees)

INVADES BUSHLAND. FIRE HAZARD

Evergreen tree to 15 metres high, often multi-stemmed. Leaves grey-green, glossy above, silvery underneath. Flowers small, creamy, with 4 petals. Fruits green, ripening to blue-black.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
triclopyr (600g/L)	Garlon 600®	I	Basal bark	2L/60L biodiesel or diesel	Bushland, pastures and other non-crop areas.		Plants up to 5cm basal diameter	Registered
triclopyr (600g/L)	Garlon 600®	I	Cut stump	2L/60L biodiesel or diesel	Bushland, pastures and other non-crop areas.	Any time	Apply immediately after cutting.	Registered
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation and other non-crop areas.	Any time	For seedlings and saplings. Cut stump and apply 3-5 mm thick layer immediately.	Registered for this use on woody weeds in general.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted	Conservation areas, bushland and other non-crop areas.	Any time	Effective on smaller plants only.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Stem injection	Undiluted, or up to 1:1	Conservation areas, bushland and other non-crop areas.	While actively growing	Place herbicide in holes drilled around trunk.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 10g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing	Add organosilicone penetrant and spray oil. Suitable for controlling seedlings and saplings. Follow up control may be required. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.	Any time	Apply immediately after cutting.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Stem injection	1L/1L	Conservation areas, bushland and other non-crop areas.	While actively growing		PER 13371 (exp.2022)

metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	15g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing	Add a surfactant. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Stem injection	Undiluted	Bushland, pastures and other non-crop areas.	While actively growing	Place herbicide in holes drilled around trunk.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Bushland, pastures and other non-crop areas.	While actively growing	Add a marking agent. Suitable for controlling seedlings and saplings.	PER 12932 (exp. 2021)

Opuntia cacti (prickly pear/wheel cactus)

Opuntia spp. (except *O. ficus-indica*)

WoNS

COMPETE WITH NATIVE VEGETATION. FORMS PRICKLY THICKETS. CAN INJURE ANIMALS

Succulent, shrubby perennials. Stems flattened pad-shaped segments, leafless with long surface spines. Flowers large with numerous petals in various colours. Most produce red, fleshy fruits.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Deep burial under 1m of topsoil		Native vegetation, rangeland, pasture and other non-crop areas.	Any time	Remove, collect and bury all fragments. Any that are left or dropped during transport to the burial site will regrow.	
MSMA (720g/L)	Daconate 720®	Z	Spot spray	1.1L/40L	Native vegetation, rangeland, pasture and other non-crop areas.	Summer	Apply using a power sprayer when air temp is above 30°C. Thoroughly cover all pad surfaces. Re-spray any regrowth.	Registered
triclopyr (240g/L) + picloram (120g/L)	Access®	I	Spot spray	1L/60L biodiesel or diesel	Fencelines, forestry, pasture, commercial, industrial and other non-crop areas.	While actively growing	Apply as an over all spray, wetting all parts of the plant to ground level. Do not allow herbicide to contact non-target species.	Registered for this use on woody weeds in general.

*Application Rate - with water unless indicated

triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	500mL/100L	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Apply as thorough foliage spray; follow-up may be needed to treat regrowth.	Registered
triclopyr (600g/L)	Garlon 600®	I	Spot spray	3L/100L water	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing		Registered
triclopyr (600g/L)	Garlon 600®	I	Basal bark	800mL/60L biodiesel or diesel	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Plants up to 10cm basal diameter; also cover all pads with spray.	Registered
MSMA (720g/L)	Daconate 720®	Z	Stem injection	Inject 2 to 4mL undiluted into 4th pad	Non-arable and pastoral land	Summer	Suitable for wheel cactus (<i>Opuntia robusta</i>). Inject a measured dose of herbicide into the pad using a sheep drenching needle (or similar).	PER 84519 (exp. 2022)
glyphosate 450g/L	Roundup CT®	M	Stem injection	Undiluted	Conservation areas, bushland and other non-crop areas.	While actively growing	Suitable for wheel cactus (<i>Opuntia robusta</i>) and other opuntoid cacti. Inject a measured dose of herbicide into the pad using a drill, drenching needle (or similar).	PER 13371 (exp. 2022)
glyphosate 450g/L	Titan Glyphosate 450 Herbicide®	M	Stem injection	Inject 2 to 4mL undiluted into 4th pad	Non-arable and pastoral land	While actively growing	Suitable for wheel cactus (<i>Opuntia robusta</i>). Inject a measured dose of herbicide into the pad using a sheep drenching needle (or similar).	PER 84519 (exp. 2022)
triclopyr (600g/L)	Garlon 600®	I	Stem injection	Undiluted	Native vegetation, rangeland, pasture and other non-crop areas.	While actively growing	Use cordless drill to make holes around the base into the sapwood. Inject herbicide immediately.	PER 12932 (exp. 2021)

Orange hawkweed

Hieracium aurantiacum

INVADES PASTURE IN THE HIGH COUNTRY OF THE EASTERN STATES, WHERE UNDER ERADICATION.

Low-growing perennial herb. Leaves oblong, hairy, mostly basal. Flowerheads are orange daisies, grouped at the top of a leafless stem. Seeds on parachutes spread by wind.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to be growing wild in South Australia. The sale and transport of orange hawkweed is prohibited, and should be reported to Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Hand pull.			Any time	Remove plants from garden, collect and destroy any seed heads.	

Ornamental asparagus

Asparagus africanus

WoNS

INVADES BUSHLAND, SMOTHERS NATIVE PLANTS

Perennial climber growing from rhizomes. Wiry stems with needle-like cladodes. Tiny white flowers followed by orange-red berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Dig out.		All.	Any time	Suitable for small plants and outliers only. Minimize soil disturbance as much as possible, but ensure that all rhizome is removed.	
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	June - August	Surfactant or spray oil may be added. Non selective, avoid contact with desirable plants. Follow up applications will be required for at least 2 years.	PER 13371 (exp.2022)
glyphosate (360g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	M,B	Spot spray	1L + 3g /100L	Conservation areas, bushland and other non-crop areas.	June - August	Add a surfactant. Non selective, avoid contact with desirable plants. Follow up applications will be required for at least 2 years. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	1.5g/100L	Conservation areas, bushland and other non-crop areas.	June - August	Add a surfactant. May cause damage to native vegetation; use with care under desirable trees. Follow up applications will be required for at least 2 years.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Pampas grasses

Cortaderia spp.

ALERT WEED

INVADES BUSHLAND. DISPLACES NATIVE VEGETATION. FIRE HAZARD

Giant perennial tussock grasses. Leaves tough, grey-green with sharp serrated edges. Tall, fluffy flower spikes to 4m, may be pink at first, fading to white.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Mechanical removal			Grub out whole tussock with rhizome.			Any time	Large plants need machinery such as a bobcat to remove.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1 - 1.3L/100L	Non-crop situations.	While actively growing.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Repeat treatments necessary.	Registered
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1.3L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add spray oil. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Parkinsonia

Parkinsonia aculeata

WoNS – ALERT WEED

INVADES WATERCOURSES IN SEMI-ARID REGIONS.

Small tree. Spiny with zig-zag branches. Long green leaf stalks with tiny leaflets. Bright yellow flowers. Pods are light brown and swollen around each seed.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Mechanical removal			Grub out whole tussock with rhizome.			Any time	Large plants need machinery such as a bobcat to remove.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1 - 1.3L/100L	Non-crop situations.	While actively growing.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants. Repeat treatments necessary.	Registered

glyphosate (450g/L)	Roundup CT®	M	Spot spray	1.3L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add spray oil. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
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Parrot feather

Myriophyllum aquaticum

INVADES PONDS, SHALLOW LAKES AND SLOW MOVING STREAMS

Submerged aquatic perennial with rhizomes. Leaves bright green, feather-like, in whorls of 4-6 evenly spaced along the stems. Flowers inconspicuous, in leaf axils emerging from water.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA and obtain advice. Collect a pressed specimen to confirm identity.							
Manual removal			Dredge plants out of water and dispose by composting.		Aquatic habitats	Any time		

Parthenium weed

Parthenium hysterophorus

WoNS – ALERT WEED

COMPETITIVE IN PASTURE. TOXIC AND ALLERGENIC TO LIVESTOCK AND HUMANS

Erect summer-growing annual herb to 2 metres tall. Pale green, deeply lobed leaves with fine hairs. Small, white daisy flowerheads in clusters on stem tips.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants			Any time	Inform your regional NRM Authority. Monitor site and undertake follow up control until eradication has been achieved	
dicamba (500g/L)	Kamba 500®	I	Spot spray	40mL/100L	Non-crop situations.	Rosette stage	Do not apply to crops or legume-based pastures.	Registered

*Application Rate - with water unless indicated

metsulfuron-methyl (600g/kg)	Ally®	B	Spot spray	5g/100L		Seedlings to 4 leaf stage.	Soil active herbicide, may damage desirable vegetation.	Product and use are registered, but this weed is on the label for NSW only.
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Perennial ragweed

Ambrosia spp.

INVADES ROADSIDES, CREEK BANKS AND PASTURE. ALLERGENIC.

Perennial herb to 2 m tall from a woody rootstock. Erect stems, deeply lobed aromatic leaves. Elongated spikes of greenish-yellow cup-shaped flower heads.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Grub individual plants.		Any	Any time	Obtain advice from your regional NRM Authority.	
dicamba (500g/L)	Kamba 500®	I	Spot spray	600mL/100L	Non-crop situations.	While actively growing.	Do not apply to crops or legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Boom spray	8.8L/ha	Non-crop situations.	While actively growing.	Use at least 1500 L/ha water. Do not apply to crops or legume-based pastures.	Registered

Perennial thistle

Cirsium arvense

COMPETES WITH PASTURES

Erect perennial herb. Extensive root system. Stems are ridged. Leaves have wavy, spiny margins and are white-woolly underneath. Flowers are red-purple to pink, and surrounded by layers of purplish bracts. Fruit is smooth and shiny with ring of feathery white hairs.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	650mL/100L	Grass pastures and other non-crop situations.	Budding stage.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops.	Registered

clopyralid (300g/L)	Lontrel®	I	Spot spray	250mL/100L	Grass pastures and fallow.	December -January.	Add a surfactant. Hormone type herbicide - use with caution near sensitive crops.	Product and use are registered, but this weed is on the label for Victoria and Tasmania only.
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1L/100L	Grass pastures and non-cropping areas.	Flowering stage.	Do not cultivate before spraying. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is on the label for Victoria and Tasmania only.

Plumerillo

Jarava plumosa

ALERT WEED

INVADES PASTURES AND NATIVE VEGETATION

Perennial tussock grass. Leaves are narrow and inrolled. Seeds heads plume-like with twisted hairy awns.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to occur outside suburban Adelaide. Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants		Any	When found.	Inform your regional NRM office and obtain advice. Monitor site and undertake follow up control until eradication has been achieved	
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Use higher rate if the weed is dense. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)

*Application Rate - with water unless indicated

glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Non selective, avoid contact with desirable plants. Variable results.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop situations.	While actively growing, autumn to spring.	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Poison buttercup

Ranunculus sceleratus

POISONOUS TO LIVESTOCK

Annual herb. Leaves bright green, glossy and deeply divided into three lobes. Flowers have five small yellow petals, each forming numerous tiny, flattened green achenes (seeds) with small beaks.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	500-700mL/100L	Non-cropping situations.	While actively growing.	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
MCPA (340g/L) + Dicamba (80g/L)	Kamba M®	I	Spot spray	470mL/100L	Grass pastures and non-cropping areas.	While actively growing.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered

Poison ivy

Toxicodendron radicans

ALLERGENIC GARDEN PLANT

Deciduous, woody creeper with white toxic sap. Leaves with three leaflets, on long stalks, turning deep red in autumn. Not known to be in SA.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Not known to occur in South Australia.							
Manual removal			Cut and grub out roots.		Gardens		Avoid contact with the toxic latex by wearing gloves, long sleeves and eye protection.	

Polygala

Polygala myrtifolia

INVADES AND COMPETES IN COASTAL VEGETATION

Evergreen shrub to 4 m high. Leaves are oblong to oval. Pea-like flowers are mainly purple with a pair of large petal-like wings, and three petals, the lowest with a brushlike crest. Seeds in capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal					Any.	Seedlings	Hand pull when soil is moist.	
Manual removal					Any.	Established bushes	Use a Tree Popper to uproot.	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems. Do not use in urban home gardens.	Registered for this use on woody weeds in general.
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Nature reserves and other native vegetation, roadsides, urban open space and forests.	October - January	Add a marking agent.	PER 12932 (exp. 2021)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	August - September	Surfactant or spray oil may be added. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Pond apple

Annona glabra

WoNS

INVADES MANGROVE SWAMPS IN NORTHERN AUSTRALIA. NATIONAL BAN ON SALE

Tree to 12 m high. Leaves ovate, 8–15 cm long with a pointed tip, light to dark green. Flowers green with six overlapping petals. Fruit large, round, green to yellow. Not known to be in SA.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not expected to be growing outdoors in South Australia but could be in glasshouse cultivation. Collect a pressed specimen to confirm identity. The sale and transport of pond apple is prohibited, and should be reported to Biosecurity SA.							

*Application Rate - with water unless indicated

Prickly acacia

Acacia nilotica subsp. *indica*

WoNS

FORMS PRICKLY THICKETS IN PASTORAL ZONE

Small spiny tree. Leaves bipinnate, finely hairy, with a pair of spines at the base. Flower heads globular, yellow, resembling a native wattle.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to be growing outdoors in South Australia. Collect a pressed specimen to confirm identity. The sale and transport of prickly acacia is prohibited, and should be reported to Biosecurity SA.							

Primrose willow

Ludwigia peruviana

ALERT WEED

INVADES AND OBSTRUCTS STREAMS

Aquatic shrub emerging from water to 2 m tall. Leaves are narrow with stalkless base and prominent veins. Yellow, four-petaled flowers.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity. Not yet known to occur in South Australia but established in the eastern States.							
Mechanical removal			Grub individual plants			Any time	Inform your regional NRM authority. Ensure all parts of the plant are removed from the site and destroy by burning or deep burial. Monitor site and undertake follow up control until eradication has been achieved.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot Spray	1L/100L	Aquatic and wetland habitats.	Early flowering but before autumn change of colour.	Ensure thorough coverage is achieved. Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered (as general woody weeds)
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Aquatic and wetland habitats	Early flowering but before autumn change of colour.	Cut stem and apply a 3-5 mm thick layer immediately. Ensure all parts of the plant are removed from the site and destroy by burning or deep burial.	Registered for this use on woody weeds in general.

Ragwort

Senecio jacobaea

COMPETES WITH PASTURES. TOXIC TO LIVESTOCK

Biennial with tough branching stems. Leaves pinnately lobed, bright green, with unpleasant smell. Bright yellow daisy flower heads in flat-topped clusters. Not known to be in SA.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity. Not yet known to occur in South Australia but established in the eastern States.							

Rhus tree

Toxicodendron succedaneum

ALLERGENIC GARDEN PLANT

Small deciduous tree with white toxic sap. Leaves pinnate, turn deep red in autumn. Small cream-green flowers followed by dry berries.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Cut		Gardens	Winter	Cut down the rhus tree and dispose safely; do not incinerate or compost. Avoid contact with the toxic latex by wearing gloves, long sleeves and eye protection. Seek advice from regional NRM or local Council.	

Rubber vine

Cryptostegia grandiflora

WoNS

SMOTHERS NATIVE VEGETATION IN TROPICAL AUSTRALIA. NATIONAL BAN ON SALE

Evergreen woody climber with milky sap. Leaves glossy, oval, to 10 cm long. Large pink flowers. Seeds in pairs of large pods. Not known to be in SA.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not expected to be growing outdoors in South Australia but could be in glasshouse cultivation. Its sale and transport is prohibited, and should be reported to Biosecurity SA.							

*Application Rate - with water unless indicated

Sagittaria

Sagittaria graminea

WoNS

INVADES WETLANDS AND WATERWAYS

Aquatic perennial with creeping underwater stems and narrow oval leaves emerging from the water. Flowers with three white petals, on branched stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA.							
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Aquatic and wetland habitats	Summer	Confirm ID before spraying. Seek advice from an NRM Officer. Apply herbicide to individual mats only - do not broadcast spray over water. Repeat control monthly until infestation eradicated.	Product and use are registered, but this weed is not on the label.

Salvation Jane

Echium plantagineum

COMPETES IN PASTURES. TOXIC TO LIVESTOCK

Annual herb to 80 cm high, covered in short, bristly hairs. Leaves in basal rosettes, broad oval. Flowers purple on a branched stem in spring, each forming four seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	15g/ha	Wheat or triticale crops.	Pre-sowing	Herbicide is incorporated in soil by sowing. Do not use near trees or other desirable vegetation.	Registered
chlorsulfuron (750g/kg)	Glean®	B	Boom spray	15g/ha	Wheat, barley, oats, cereal rye or triticale crops.	Post emergence	Do not spray if rain expected in next 4 hours. Do not use near trees or other desirable vegetation.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL - 1.2L/ha	Before sowing a crop or pasture with soil disturbance by cultivation.	Pre-sowing	Use 1 to 1.2 L rate on plants over 12 cm diameter. Non selective. Avoid contact with desirable plants.	Registered

glyphosate (450g/L)	Roundup CT®	M	Boom spray	1.2 - 1.6L/ha	To commence a fallow, or pre-sowing with minimal tillage.	Fallows	Non selective. Avoid contact with desirable plants.	Registered
MCPA (500g/L) + diuron (500g/L)	MCPA 500® + Farmoz Diuron 500 Flowable®	I	Boom spray	1L + 400mL/ha	Grass pastures	Early winter	Use as a late treatment, only if treatment had to be delayed until winter. Rosettes to 20 cm diameter. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5-7g/ha	Wheat, barley, triticale and cereal rye crops.	Autumn	Soil active herbicide.	Registered
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Boom spray	15g/ha	Native pastures and non-crop areas.	Autumn	Soil active herbicide, may damage desirable vegetation.	Registered
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	5g/100L	Native pastures and non-crop areas.	Autumn	Soil active herbicide, may damage desirable vegetation.	Registered
terbutryn 275g/L + MCPA (160g/L)	Agtryne MA®	C,I	Boom spray	300-500mL/ha	Sub clover based pastures with ryegrass, phalaris or cocksfoot.	Cotyledon to 2-leaf stage	Use the higher rate when weeds are at the two-leaf stage. Do not add a surfactant or spraying oil. Some reduction of clover may occur.	Registered
terbutryn 275g/L + MCPA (160g/L)	Agtryne MA®	C,I	Boom spray	1L/ha	Wheat, barley, and some oat cultivars only.	At 2-6 leaf weed stage, 3-5 leaf crop stage.	Do not add a surfactant or spraying oil. Do not apply to crops undersown with legumes.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray, as a spray-graze treatment	560mL/ha	Pastures.	From 6 weeks after opening rains until the end of August.	Seven days after spraying, graze with sheep at 4-5 times normal rate; full directions on label. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	1.1 - 2.4L/ha	Grass pastures and non-crop areas.	March - June	Not for use on legume pastures. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Refer to label.	Product and use are registered, but this weed is on the label for WA only.
MCPA (500g/L)	MCPA 500®	I	Boom spray	1 - 1.5L/ha, refer to label	Pastures.		Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product and use are registered, but this weed is on the label for NSW and ACT only.
MCPA (500g/L)	MCPA 500®	I	Boom spray, as a spray-graze treatment	350mL - 1.4L/ha	Pastures.		Seven days after spraying, graze with sheep at 4-5 times normal rate; full directions on label. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Product is registered, but this use is on the label for NSW, ACT and Victoria only.
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	When actively growing and before seed set.	Non selective, late season treatment or pre-planting. Avoid contact with desirable plants.	PER 13371 (exp.2022)

Salvinia

Salvinia molesta

WoNS – ALERT WEED

INVADES AND COVERS WATER BODIES.

Aquatic floating fern with oval leaves forming chain-like structures at surface, covered in eggbeater-shaped hairs. Black roots hanging in water.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. In South Australia salvinia is usually found only in garden ponds or aquaria.							
Manual removal			Dredge or skim plants out of the water.		Aquatic habitats	September - April	Seek advice from your regional NRM Authority. Dispose of weed by composting or drying. Monitor site and undertake follow up control until eradication has been achieved	
diquat (200g/L)	Reglone®	L	Spot spray	400mL/100L	Aquatic habitats	September - April	Seek advice from your regional NRM Authority. Apply as an overall spray to wet foliage thoroughly. Clear water is necessary for best results. Add 150 mL Agral® surfactant per 100L. Repeat applications 7-14 days later may be necessary to control dense infestations.	Registered
orange oil (55.2g/kg)	Water Clear®		Spot spray	1L/100L	Water in artificial impoundments and enclosed bodies of water.	September - April	Spray on free floating plants. Do not use in natural water bodies or streams where it will reach natural water bodies. Do not use in dams holding water for human consumption.	Registered

Senegal tea plant

Gymnocoronis spilanthoides

ALERT WEED

INVADES WETLANDS AND OBSTRUCTS MOVEMENT. NOT PRESENT IN SOUTH AUSTRALIA

Perennial with creeping rhizomes. Stems are ribbed and hollow. Leaves are variable in shape. Flowers are white or pale purple in clusters at the ends of branches.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to occur in South Australia. Report to your local NRM Authority or Biosecurity SA and seek advice. Collect a specimen to confirm identity.							

Serrated tussock

Nassella trichotoma

WoNS – ALERT WEED

COMPETES WITH PASTURES. NOT PRESENT IN SOUTH AUSTRALIA

Perennial grass forming tussocks. Leaves thread-like, tightly rolled, with fine serrations near the base. Loose, drooping flower heads. Seeds small with long awns.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not currently known to occur in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants.		Any	Before seed set.	Monitor site and undertake follow up control until eradication has been achieved.	
flupropanate (745g/L)	Tussock™	J	Boom spray	1.5-2L/ha	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Spot spray	100-200mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Boom spray	1.5-2L + 250-420mL/ha	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Use higher rate if the weed is dense. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup®	J,M	Spot spray	150-200mL + 270mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Apply glyphosate alone for seed set suppression; or for control mix flupropanate with glyphosate. Use higher rate if the weed is dense. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

*Application Rate - with water unless indicated

glyphosate (450g/L)	Roundup CT®	M	Boom spray	2.24-3.2L/ha	Non-crop situations.	While actively growing, autumn to spring.	Use the lower rate on infertile lightly textured soils; use the higher rate on fertile basalt soils. Suppression only if serrated tussock plants are not actively growing with long green leaves. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	560-1000mL/100L	Non-crop situations.	While actively growing, autumn to spring.	Use the lower rate on infertile lightly textured soils; use the higher rate on fertile basalt soils. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L	Non-crop situations.	While actively growing, autumn to spring.	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Silverleaf nightshade

Solanum elaeagnifolium

WoNS

COMPETES WITH CROPS AND PASTURES

Perennial with woody rootstock and deep spreading roots. A few small prickles on stems and leaves. Leaves oval-oblong, silvery-green with felted hairs. Flowers blue-violet flowers with yellow stamens. Berries green turning yellow.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Manual Removal		Any	Any time, but plants should be no more than a year old.	Excavate soil to the depth of the root system, remove all shoots and roots. Permission to excavate may be required. Plants established for more than a year may have roots to 1 to 2 m deep.	
Mowing/Slashing			Mowing/Slashing		Crop stubble, pasture and non-crop areas.	When green shoots present.	Carry out slashing before berry formation. Repeat as required throughout season. Does not control the root system.	
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	650mL/100L	Non-cropping areas, pastures, commercial and industrial areas and rights-of-way.	Spring to Autumn. Berries present may form viable seeds.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Boom spray	15L/ha	Non-cropping areas, pastures, commercial and industrial areas and rights-of-way.	Spring to Autumn. Berries present may form viable seeds.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered

2,4-D (300g/L) + picloram (75g/L) + aminopyralid (7.5g/L)	FallowBoss Tordon®	I	Boom spray	15L/ha	Non-cropping areas, pastures, commercial and industrial areas and rights-of-way.	Spring to Autumn. Berries present may form viable seeds.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
fluroxypyr (333g/L)	Starane Advanced®	I	Spot spray	300mL/100L	Non-cropping areas, pastures, commercial and industrial areas and rights-of-way.	Beginning of flowering (best) to early berry set.	Wait until the majority of shoots have emerged. Follow up treatment of regrowth is critical for best control.	Registered
fluroxypyr (333g/L)	Starane Advanced®	I	Boom spray	450-600mL/ha	Summer fallows.	Beginning of flowering (best) to early berry set.	Add Uptake® spray oil. Wait until the majority of shoots have emerged. Follow up treatment of regrowth is critical for best control.	Registered
fluroxypyr (333g/L) + 2,4-D amine (625 g/L)	Starane Advanced® + Amine 625®	I	Boom spray	225mL/ha + 1.2-1.6L/ha	Grass pastures.	Beginning of flowering (best) to early berry set.	Add Uptake® spray oil. Follow up treatment of regrowth is critical for best control. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the 2,4-D label.	Registered
glyphosate (540g/L)	Knockout Pro 540®	M	Boom spray	6L/ha	Non-crop situations.	Spring to Autumn. Berries present may form viable seeds.	Add organosilicone penetrant. Non selective, avoid contact with desirable plants.	Registered
glyphosate (540g/L)	Knockout Pro 540®	M	Spot spray	1.35L/100L	Non-crop situations.	Spring to Autumn. Berries present may form viable seeds.	Add organosilicone penetrant. Non selective, avoid contact with desirable plants.	Registered

Skeleton weed

Chondrilla juncea

COMPLETES WITH CROPS

Perennial herb with creeping roots. Leaves deeply toothed, in a basal rosette. Flowering stems wiry, almost leafless. Numerous, small, yellow flower heads.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	650mL/100L	Pastures and non-crop situations.	Winter	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Suppression only. Follow up spray with glyphosate.	Registered
2,4-D (300g/L) + picloram (75g/L) + 2,4-D amine (625g/L)	Tordon 75-D® + 2,4-D amine 624	I	Boom spray	300mL + 375mL/ha	Pastures and non-crop situations.	Winter	Soil active herbicide, may damage desirable vegetation. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Suppression only	Registered
2,4-D (300g/L) + picloram (75g/L) + 2,4-D amine (625g/L)	Tordon 75-D® + 2,4-D amine 625	I	Boom spray	300mL + 375mL/ha	Wheat, barley, oat or triticale crops.	Post emergent, young weed rosettes with up to 8 leaves.	Soil active herbicide, may damage desirable vegetation. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Suppression only	Registered
2,4-D (475g/L)	Surpass 475®	I	Spot spray	180mL/150L	Crops.	Winter	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Suppression only	Registered
2,4-D (475g/L) + glyphosate (450g/L)	Surpass 475® + Roundup CT®	I, M	Boom spray	760mL -1.1L + 1L/ha	Conservation tillage.	November - January	Suppression only. Hormone type herbicide - use with caution near sensitive crops. Add LI700® surfactant. Refer to drift warnings on the label. Any glyphosate herbicide may be used, at the label rate. Non-selective, avoid contact with desirable plants.	Registered
bromoxynil (200g/L) + diflufenican(25g/L)	Jaguar®	C,F	Boom spray	1L/ha	Wheat, barley, triticale or cereal rye crops; pasture.	Up to 4 leaf stage	To provide control until harvest only.	Registered
clopyralid (300g/L)	Lontrel®	I	Boom spray	300mL/ha	Canola crops.	2 to 8 leaf crop stage.	Will provide control until harvest and reduce density in following season. Use with caution near sensitive crops, refer to drift warnings on the label.	Registered
clopyralid (300g/L) + MCPA (500g/L)	Lontrel® + MCPA 500®	I	Boom spray	500mL + 1L/ha	Cereal crops.	5 leaf to late tillering crop stage.	.Spray when rosettes are 5-15cm. Will provide control until harvest only. Use with caution near sensitive crops, refer to drift warnings on the label.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	7g/ha	Wheat, barley, cereal rye or triticale crops.		Soil active herbicide, may damage desirable vegetation. Suppression only.	Registered

Spiny rush

Juncus acutus

INVADES WETLANDS AND PASTURE. UNPALATABLE AND OBSTRUCTS MOVEMENT

Perennial forming large tussocks. Leaves cylindrical, ending in a sharp spine.

Flowers brownish green in dense clusters. Seed capsules egg-shaped but pointed, about 5 mm long.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Grub individual plants.		Any	Any time.	Bag to minimise seed spread. Monitor site and undertake follow up control as necessary.	
Mechanical removal			Slash.		Any	Summer	Use hedge trimmer with the blade set close to the ground. Follow up with glyphosate to control regrowth.	
Cultivation					Pastures and before cropping.	Any time	Effective on young rushes.	
glyphosate (360 g/L)	Roundup Biactive®	M	Wiper equipment	1L/2L	Pastures and non-crop areas.	While actively growing	Non-selective. Where there is a large proportion of dead foliage, pre-slashing is recommended. Allow adequate re-growth before treatment. Best results are achieved at lower speeds and where two applications are made in opposite directions (double pass). Add an organosilicone surfactant.	Registered

Swamp oak

Casuarina glauca and *Casuarina obesa*

INVADES NATIVE RIPARIAN VEGETATION

Evergreen tree to 15 m tall forming dense colonies by suckering. Drooping, ribbed green branchlets with scale leaves at the joints. Female trees produce winged seeds in cones. Male trees produce pollen in drooping spikes to 5 cm long.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
triclopyr (300g/L) + picloram (100g/L) + aminopyralid (8g/L)	Grazon Extra®	I	Spot spray	350mL/100L	Non-cropping areas, forests, pastures, commercial and industrial areas and rights-of-way.	plants 1 to 3 m tall	Nonselective, avoid contact with desirable plants.	Registered

*Application Rate - with water unless indicated

triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Native vegetation and roadsides.	Any time	Apply to cut stump immediately	PER 12932 (exp. 2021)
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Sweet briar

Rosa rubiginosa

PRICKLY THICKETS COMPETE WITH PASTURE.

Large semi-deciduous shrub, erect or scrambling with prickly stems and leaves. Pale pink scented flowers. Red fruits (hips) with glandular hairs on their stalks.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal						October - January	Grub individual plants, or use a Tree Popper.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1.5-2L/100L	Conservation areas, bushland and other non-crop areas.	October - January	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered
glyphosate (540g/L)	Knockout Pro 540®	M	Spot spray	1-1.35L/100L	Conservation areas, bushland and other non-crop areas.	October - January	Use higher rates for plants larger than 1.5m. Non selective, avoid contact with desirable plants.	Registered
triclopyr (300g/L) + picloram (100g/L)	Grazon DS®	I	Spot spray	350mL/100L	Non-cropping areas, forests, pastures, commercial and industrial areas and rights-of-way.	October - January	For plants up to 1.5 metres tall. Thoroughly wet foliage with the spray.	Registered
triclopyr (600g/L)	Garlon 600®	I	Basal bark	1L/30L biodiesel or diesel	Non-cropping areas, forests, pastures, commercial and industrial areas and rights-of-way.	October - January	Plants up to 5 cm stem diameter. Diesel can be replaced with water for ease of application.	Registered

triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Non-cropping areas, forests, pastures, commercial and industrial areas and rights-of-way.	October - January	Diesel can be replaced with water for ease of application.	Registered
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted or up to 1:4	Conservation areas, bushland and other non-crop areas.	October - January	Apply to cut stump immediately	PER 13371 (exp.2022)
glyphosate (450g/L) + metsulfuron-methyl (600g/kg)	Roundup® + Brush-Off®	B,M	Spot spray	800mL to 1L + 10g /100L	Conservation areas, bushland and other non-crop areas.	October - January	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	15g/100L	Conservation areas, bushland and other non-crop areas.	October - January	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Native vegetation, roadsides, urban open space and forests.	October - January		PER 12932 (exp. 2021)

Sweet pittosporum

Pittosporum undulatum

INVADES NATIVE FOREST

Evergreen tree to 13 m tall. Leaves broad, hairless, with wavy edges. Flowers cream, strongly scented, with 5 petals. Orange fruits with many sticky seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens.	Registered for this use on woody weeds in general.
glyphosate (450g/L)	Roundup CT®	M	Cut stump	Undiluted	Conservation areas, bushland and other non-crop areas.	Any time	Apply to cut stump immediately	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

glyphosate (450g/L)	Roundup CT®	M	Stem injection	Undiluted	Conservation areas, bushland and other non-crop areas.	Any time	Drill into stem and inject herbicide.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Roundup®	M	Cut stump	1L/1L	Conservation areas, bushland and other non-crop areas.	Any time	Apply to cut stump immediately	PER 13371 (exp.2022)
glyphosate dual salt (360g/L) + metsulfuron methyl (600g/kg)	Roundup® + Brush-Off®	B, M	Spot spray	1L +3g/100L	Conservation areas, bushland and other non-crop areas.	While actively growing	Seedlings and small plants. Add a surfactant. Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)
triclopyr (600g/L)	Garlon 600®	I	Basal bark	1L/30L biodiesel or diesel	Native vegetation, roadsides, urban open space and forests.	Any time		PER 12932 (exp. 2021)

Tamarisks

Tamarix parviflora and *Tamarix ramosissima*

INVADE COASTAL AND RIPARIAN VEGETATION

Small trees to 6 m tall. Branchlets covered in grey-green scale leaves that exude salt. Flowers small, very numerous, pale pink.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
triclopyr (600g/L)	Garlon 600®	I	Cut stump	1L/30L biodiesel or diesel	Native vegetation and roadsides.	Any time	Apply to cut stump immediately	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Stem injection	Undiluted	Native vegetation and roadsides.	Any time	Drill into stem and inject herbicide.	PER 12932 (exp. 2021)
triclopyr (600g/L)	Garlon 600®	I	Spot spray	170mL/100L	Native vegetation and roadsides.	While actively growing		PER 12932 (exp. 2021)

Texas needlegrass

Nassella leucotricha

INVADES PASTURES AND BUSHLAND. SHARP SEEDS

Perennial grass with a tussock of narrow basal leaves. Seedhead is an open panicle of many pale green spikelets. Seeds with an awn surrounded at its base by a crown of bristles.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report occurrences to your regional NRM Authority or Biosecurity SA. Collect a pressed specimen to confirm identity.							
Manual removal			Grub individual plants		Any	When found.	Very small infestations and outliers only	
flupropanate (745g/L)	Tussock™	J	Boom spray	1.5-3L/ha	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 4 months after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Spot spray	100-300mL/100L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. If spraying late in the season add glyphosate for faster knockdown. Do not graze or cut for stockfeed for at least 14 days after application. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L)	Tussock™	J	Wiper	500mL/10L	Non-crop areas and pastures.	July - September	Add a non-ionic surfactant. A slow-working residual. Apply early in the season. If spraying late in the season add glyphosate for faster knockdown. Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)
flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Boom spray	1.5-3L + 300-500mL/ha	Non-crop areas and pastures.	While actively growing, autumn to spring.	Add a non-ionic surfactant. Use the higher rates on dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants.	
Residues in the soil may suppress weeds and other susceptible species for one to two years.	PER 9792 (exp. 2020)							

*Application Rate - with water unless indicated

flupropanate (745g/L) + glyphosate (450g/L)	Tussock™ + Roundup CT®	J,M	Spot spray	150-300mL + 270mL/100L	Non-crop areas and pastures.	While actively growing, autumn to spring.	"Add a non-ionic surfactant. Use the higher rates on dense infestations. Apply to fresh foliage. Slashing to promote fresh growth 2-3 weeks before spraying will increase effectiveness. Non selective, avoid contact with desirable plants.	
Residues in the soil may suppress weeds and other susceptible species for one to two years. "	PER 9792 (exp. 2020)							
glyphosate (450g/L)	Roundup CT®	M	Boom spray	2.4L/ha	Non-crop situations	While actively growing, autumn to spring.	Results may be variable - Suppression only. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	800mL/100L water	Non-crop areas and pastures.	While actively growing, autumn to spring.	Results may be variable. Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)
glyphosate (450g/L)	Roundup CT®	M	Wiper	2.6L/10L water	Non-crop areas and pastures.	While actively growing, autumn to spring.	Non selective, avoid contact with desirable plants.	PER 9792 (exp. 2020)

Three corner jack

Emex australis

COMPETES IN PASTURES AND CROPS. SPINY SEEDS. TOXIC

Winter growing annual with prostrate or semi-erect stems. Leaves ovate, stalked, hairless. Flowers tiny, green. Seeds in hard burrs each with 3 spines.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
glyphosate (450g/L)	Roundup CT®	M	Boom spray	400-800mL/ha	Pre-sowing.	Rosettes less than 8 cm diameter	Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL-1.2L/ha	Pre-sowing.	Rosettes more than 8 cm diameter	Non selective, avoid contact with desirable plants.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5-7g/ha	Wheat, barley, triticale and cereal rye crops.	Post emergence	Soil active herbicide, may damage desirable vegetation. Use the higher rate for larger weeds.	Registered

terbutryn 275g/L + MCPA (160g/L)	Agtryne MA®	C,I	Boom spray	1.5L/ha	Wheat, barley, and some oat cultivars only	At 2-6 leaf weed stage, 3-5 leaf crop stage.	Do not add a surfactant or spraying oil. Do not apply to crops undersown with legumes.	Registered
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Boom spray	5-10g/ha	Grass pastures	Up to 6 leaf weed stage.	Established pastures - refer to label. Soil active herbicide, may damage desirable vegetation. Use the higher rate for dense infestations.	Product and use are registered, but this weed is on the label for WA only.

Three-cornered garlic

Allium triquetrum

DOMINATES GROUND LAYER UNDER SHADE

Perennial herb with a scent of garlic. White underground bulb with numerous bulblets at base. Fleshy, flat, shallowly channelled leaves are present autumn to spring. Flowers white, bell-shaped, in a group at the top of a 3-sided leafless stem.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Cultivation	Cultivation and pasture improvement.				Arable land and pasture.	Any time	On arable land it can be controlled over 3-4 years of repeated cultivations. In pastures prevent seed production by mowing, slashing or heavy grazing of flowering stems. Combine this with pasture improvement.	
dicamba (500g/L)	Kamba 500®	I	Spot spray	80mL/100L	Non-crop areas	Actively growing, pre-flowering	Do not apply to crops or legume-based pastures.	Registered
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	Actively growing, pre-flowering	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Wiper sponge or brush	1L/3L	Conservation areas, bushland and other non-crop areas.	Actively growing, pre-flowering	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Boom spray	10g/ha	Non-crop areas	Actively growing, pre-flowering	Soil active herbicide, may damage desirable vegetation. Use 400 L water per hectare.	PER 13371 (exp.2022)
metsulfuron-methyl (600g/kg)	Brush-Off®	B	Spot spray	2.5g/100L	Conservation areas, bushland and other non-crop areas.	Actively growing, pre-flowering	Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Three-horned bedstraw

Galium tricornutum

COMPETES IN FIELD CROPS

Winter-growing annual to 50 cm high. Stems 4-sided with recurved hairs along edges and leaves in whorls of 4-8 at each node. Flowers in clusters of 3, minute, green. Fruits of two rounded halves, rough texture.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
carfentrazone-ethyl (240g/L) + MCPA (750g/L)	Affinity Force® + Agritone 750®	G,I	Boom spray	85-100ml + 330mL/ha	Cereal crops	Post emergence	A tank mix. Addition of dicamba may improve control see label.	Registered
flumetsulam (800g/kg)	Broadstrike®	B	Boom spray	25g/ha	Field peas, chickpeas, lentils, lathyrus or serradella.	Post emergence	Weed up to 10 cm high with 6 node stems.	Registered
flumetsulam (800g/kg)	Broadstrike®	B	Boom spray	25g/ha	Cereal crops or lucerne.	Post emergence	Weed up to 10 cm high with 6 node stems. Add Uptake® or a wetter.	Registered
imazethapyr (700g/L)	Spinnaker 700®	B	Boom spray	70-100g/ha	Field peas or faba beans.	Pre-emergence	Refer to label for post-emergence use on some field pea cultivars.	Registered

Toetoe

Cortaderia richardii

ALERT WEED

WEEDS OF FOREST AND WETLANDS. NOT PRESENT IN SOUTH AUSTRALIA

Perennial grass forming giant tussocks. Bluish-green leaf blades with hacksaw edges; sheaths with a waxy bloom. Flower spikes on stems to 5 m above the leaves, pale golden fading to white. Not known to be in SA.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not currently known to be present in South Australia. Report any occurrence to your regional NRM Authority or Biosecurity SA. Collect a specimen to confirm identity.							
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1.3L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Add spray oil. Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Tree heath

Erica arborea

INVADES BUSHLAND

Dense shrub to 3 m tall with needle-like leaves to 5 mm long, and 4 mm long white flowers in dense clusters. Capsules with tiny seeds.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual control							Whack base of plant with hammer and remove lignotuber	
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems.	Registered for this use on woody weeds in general.
glyphosate dual salt (360g/L)	Weedmaster Duo®	M	Stem injection	1L/1L water	Conservation areas, bushland and other non-crop areas.	While actively growing.	Drill into stem and inject herbicide.	PER 13371 (exp.2022)
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	While actively growing.	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Variegated thistle

Silybum marianum

COMPETES IN PASTURE. TOXIC. SPINY LEAVES

Annual or biennial to 2 m tall, all parts with sharp spines. Basal rosette of deeply lobed leaves to 30 cm long, blotched with white veins. Flower heads purple, 3-5 cm wide, in groups at top of erect leafy stems.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	150-300mL/100L	Non-crop areas, pastures, industrial land and rights-of-way.	Rosette stage to pre-flowering.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Use the higher rate on large plants.	Registered

*Application Rate - with water unless indicated

2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Boom spray	2-4L	Non-crop areas, pastures, industrial land and rights-of-way.	Rosette stage to pre-flowering.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Use the higher rate on large plants.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Spot spray	95mL/100L	Grass pastures and non-crop areas.	Actively growing rosettes.	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D amine (625g/L)	Amine 625®	I	Boom spray	560mL-1.6L/ha	Conservation tillage, direct drilling, non-crop areas and fallow maintenance	Pre planting, on actively growing rosettes.	Use higher rates for larger plants. Pasture legumes may be damaged unless well protected by grasses. Spot spraying is preferable. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
clopyralid (300g/L) + MCPA (500g/L)	Lontrel® + MCPA 500®	I	Boom spray	50mL + 1L/ha	Wheat, barley, oats and triticale crops.	Crop stage 4-5 leaf onwards. Thistle rosettes less than 10 cm diameter.	Use with caution near sensitive crops. Refer to drift warnings on the label. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
clopyralid (300g/L) + MCPA (500g/L)	Lontrel® + MCPA 500®	I	Boom spray	50-70mL + 1-1.5L/ha	Fallows and grass pastures.	Rosette stage.	Spray rosettes before stem elongation. Use higher rates on rosettes larger than 30cm in diameter. Use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (500g/L)	MCPA 500®	I	Spot spray	100-133mL/100L	Grass pastures and non-crop areas.	Seedlings	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Use the higher rates for larger plants.	Registered
MCPA (500g/L)	MCPA 500®	I	Boom spray	700 -2L/ha	Grass pastures and non-crop areas.	Seedlings or rosettes	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Use the higher rates for larger plants.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL-1L/ha	Fallows pre planting.	Rosettes to 12 cm diameter.	Prior to sowing a crop or pasture with full soil disturbance by cultivation or sowing with a tined implement. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	1-1.6L/ha	Fallows pre planting.	Rosettes over 12 cm diameter.	Prior to sowing a crop or pasture with full soil disturbance by cultivation or sowing with a tined implement. Non selective, avoid contact with desirable plants.	Registered
glyphosate (450g/L)	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.		Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)

Water caltrop

Trapa natans

ALERT WEED

FORMS DENSE MATS OVER WATER. SPINY FRUITS. NOT PRESENT IN AUSTRALIA

Annual aquatic herb. Can be free-floating or anchored to mud. Rosette of floating, fan-shaped leaves with toothed edges. Has small four-petalled white flowers. Fruits with four sharp spines.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in Australia. Report any occurrence to your regional NRM Authority or Biosecurity SA, and collect a specimen to confirm identity. Its sale and import is prohibited, and should be reported to Biosecurity SA.							
Manual removal			Skim plants off the water and dispose by drying or composting.			Any time	Seek advice from your regional NRM Authority first. Monitor site until eradication has been achieved.	

Water dropwort

Oenanthe pimpinelloides

COMPETES WITH PASTURES

Perennial to 1 m tall, growing from tubers. Leaves finely divided, hairless. Flowers white, in flat-topped clusters on long stalks. Fruits dry, 1-seeded.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Pasture renovation					Heavily infested pasture	Autumn	Sow phalaris and white clover or sub clover by direct drilling.	
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1L/100L	Pasture with scattered water dropwort	Spring	Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.
glyphosate (360g/L)	Roundup Biactive®	M	Boom spray	4L/ha	Pasture renovation	Early October	Direct drill phalaris and white clover or sub clover in the following autumn. Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Product and use are registered, but this weed is not on the label.

*Application Rate - with water unless indicated

Water hyacinth

Eichhornia crassipes

WoNS – ALERT WEED

INVADES AND COVERS CREEKS AND DAMS

Aquatic floating plant with black branching roots trailing underwater. Leaves with shiny oval blade and swollen bases. Large lilac and white flowers held just above the leaves.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not known to be established in South Australia. Report occurrences to your regional NRM Authority or Biosecurity SA. Its sale and import is prohibited, and should be reported to Biosecurity SA.							
Manual removal			Skim plants off the water and dispose by drying or composting.			Any time	Seek advice from the local NRM Authority first. Monitor site until eradication has been achieved.	
diquat (200g/L)	Reglone®	L	Spot spray	400mL/100L	Aquatic habitats	Summer	Seek advice from regional NRM Authority. Caution, the herbicide is toxic to humans. Add 150mL Agral® surfactant per 100L of spray mixture. Apply as an overall spray to wet foliage thoroughly. Repeat applications 7-14 days later may be necessary for control of dense infestations.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Spot pray	10-13mL/1L	Aquatic habitats	Summer; while actively growing	Seek advice from regional NRM Authority. Monitor site until eradication achieved. Use the higher rate on dense infestations. Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered

Water soldier

Stratiotes aloides

ALERT WEED

INVADES AND COVERS STILL WATER. NOT PRESENT IN AUSTRALIA

Aquatic floating plant, submerged to emergent. Long, narrow, tapering leaves with spiny margins. Flowers emerge from water on short stalks, with 3 white petals.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Not yet known to occur in Australia. Report any occurrence to your regional NRM Authority or Biosecurity SA, and collect a specimen to confirm identity. Its sale and transport is prohibited, and should be reported to Biosecurity SA.							
Manual removal			Skim plants off the water and dispose by drying or composting.			Any time	Seek advice from your regional NRM Authority first. Monitor site until eradication has been achieved.	

White weeping brooms

Retama monosperma and *Retama raetam*

INVADE NATIVE VEGETATION

Shrubs to 4m tall with grey-green drooping branchlets, leaves soon lost. White pea flowers to 1 cm long in clusters. Pods 1 cm long, 2-seeded.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. For multi-stemmed plants treat at least 80% of stems including main stems. Do not use in urban home gardens.	Registered for this use on woody weeds in general.
triclopyr (600g/L)	Garlon 600®	I	Basal bark spray	1L/30L biodiesel or diesel		Actively growing	Saturate bark on trunk and any branches from ground level to up 30 cm.	PER 12932 (exp. 2021)
glyphosate (450g/L) as the isopropylamine salt	Roundup CT®	M	Cut stump treatment	1L/1L	Conservation areas, bushland and other non-crop areas.	Actively growing	Apply herbicide to freshly cut stump.	PER 13371 (exp.2022)
glyphosate (450g/L) as the isopropylamine salt	Roundup CT®	M	Spot spray	1L/100L	Conservation areas, bushland and other non-crop areas.	Actively growing	Non selective, avoid contact with desirable plants.	PER 13371 (exp.2022)
glyphosate (360g/L)	Roundup Biactive®	M	Cut stump treatment	1L/1L	Conservation areas, bushland and other non-crop areas.	Actively growing	Apply herbicide to freshly cut stump.	PER 13371 (exp.2022)
glyphosate dual salt (360g/L) + metsulfuron methyl (600g/kg)	Weedmaster Duo® + Brush-Off®	B, M	Spot spray	1L +3g/100L	Conservation areas, bushland and other non-crop areas.	Actively growing	Non selective, avoid contact with desirable plants. Soil active herbicide, may damage desirable vegetation.	PER 13371 (exp.2022)

*Application Rate - with water unless indicated

Wild artichoke

Cynara cardunculus

INVADES ANNUAL PASTURES. SPINY LEAVES

Large perennial thistle with rosette of blue-green leaves to 80 cm long, deeply divided into spine-tipped segments. Stems branching, to 1.5 metres tall, with cobwebby hairs. Flower heads purple, 4-6 cm wide.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Grub plants		All.	Rosette stage	Ensure that the root system is removed to a depth of 150mm.	
MCPA (500g/L)	MCPA 500®	I	Spot spray	140mL/100L	Grass pastures, non-crop areas, fallows, rights of way.	Rosette stage	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (500g/L)	MCPA 500®	I	Boom spray	2.1L/ha	Grass pastures, non-crop areas, fallows, rights of way.	Rosette stage	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label. Refer to label for crop and pasture rates.	Registered
MCPA (750g/L)	Agritone 750®	I	Boom spray	460mL - 1.45L/ha	Grass pastures and non-crop areas.	Rosette stage	Damage may occur to legumes if present. Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Spot spray	125mL/100L	Non-crop areas, fallows, rights of way.	Late winter to spring.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Use double rate at flowering.	Registered
2,4-D (300g/L) + picloram (75g/L)	Tordon 75-D®	I	Boom spray	2.5L/ha	Non-crop areas, fallows, rights of way.	Late winter to spring.	Soil residual. Do not use near desirable vegetation or in waterways. Do not apply near susceptible crops. Use double rate at flowering.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Spot spray	350mL/100L	Non-crop areas, fallows, rights of way.	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
MCPA (340g/L) + dicamba (80g/L)	Kamba M®	I	Boom spray	5.2L/ha	Non-crop areas, fallows, rights of way.	Pre flowering	Hormone type herbicide - use with caution near sensitive crops. Refer to drift warnings on the label.	Registered
dicamba (500g/L)	Kamba 500®	I	Spot spray	100mL/100L	Non-crop areas	Pre flowering	Add a surfactant. Hormone type herbicide - use with caution near sensitive crops. Do not apply to crops or legume-based pastures.	Registered
dicamba (500g/L)	Kamba 500®	I	Boom spray	1.6L/ha	Non-crop areas	Pre flowering	Add a surfactant. Use at least 1500 L/ha water. Hormone type herbicide - use with caution near sensitive crops. Do not apply to crops or legume-based pastures.	Registered

glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	500mL/100L	Non-crop areas, fallows, rights of way.	Rosette stage	Non selective, avoid contact with desirable plants.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	3L/ha	Non-crop areas, fallows, rights of way.	Rosette stage	Non selective, avoid contact with desirable plants.	Registered

Willows

Salix spp.

WoNS

INVADE NATIVE RIPARIAN VEGETATION. CHANGES HABITAT OF STREAMS AND BANKS.

Deciduous trees usually growing near water. Leaves long and narrow or ovate and crinkly. Flowers in green catkins, male and female on separate trees. Seeds small, with woolly hairs.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual Removal			Remove by hand or machinery		Unwanted trees	Any time	Fell willow trees and remove all material. Branches may form new roots, and roots may form suckers.	
glyphosate (360g/L)	Roundup Biactive®	M	Cut stump	Undiluted	Unwanted trees	Actively growing	Trees less than 10 cm basal diameter. Cut stump and apply herbicide immediately. Suitable for use near waterways - refer to label.	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Stem injection (frilling)	Undiluted	Unwanted trees	Actively growing	Suitable for use near waterways - refer to label. Make 5cm oblique cuts to reach sapwood under the bark, in trunk below any branches. Basal diameter 0-25cm 1mL/cut, basal diameter 25-60cm 2mL/cut	Registered
glyphosate (360g/L)	Roundup Biactive®	M	Spot spray	1-1.3L/100L	Unwanted trees	Actively growing	For plants less than 2 metres tall. Use higher rate for plants 1-2 meters high. Suitable for use near waterways - refer to label. Non selective, avoid contact with desirable plants.	Registered
picloram (44.7g/L) + aminopyralid (4.7 g/L)	Vigilant II®	I	Cut stump	Undiluted gel	Native vegetation, gullies, and parks.	Any time	Cut stump and apply 3-5 mm thick layer immediately. Do not use in urban home gardens.	Registered for this use on woody weeds in general.

*Application Rate - with water unless indicated

Witchweeds

Striga spp.

PARASITE ON TROPICAL GRASS CROPS

Parasitic annuals with underground rootstocks attached to grasses. Flowering stems with a few green leaves emerge briefly, flowers red or yellow. Numerous tiny seeds in capsules.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Report	Report any occurrence to your regional NRM Authority or Biosecurity SA, and collect a specimen for the State Herbarium. A parasitic weed of tropical grasses, not yet known to occur in South Australia.							

Yellow burrweed

Amsinckia spp.

COMPETES IN PASTURE. TOXIC TO LIVESTOCK

Slender annual herb to 50 cm high, covered in short, bristly hairs. Basal leaves narrow, to 10 cm long; stem leaves smaller. Flowers yellow, tubular, with 5-petals. Seeds dry, rough, 4 per flower.



CONTROL OPTION	EXAMPLE OF PRODUCT NAMES	HERBICIDE GROUP	APPLICATION METHOD	APPLICATION RATE*	SITUATION	TIMING	COMMENTS	LEGAL STATUS
Manual removal			Manual Removal			When found.	Hand pull individual plants. Ensure plant is not seeding.	
flumetsulam (800g/kg)	Broadstrike®	B	Boom spray	25g/ha	Pastures, cereal and legume crops - refer to label.	Rosettes up to 10 cm diameter.		Registered
glyphosate (450g/L)	Roundup CT®	M	Boom spray	800mL-1.2L/ha	Before sowing a crop or pasture.	Pre-sowing.	Non selective, avoid contact with desirable plants. Cultivate with a tined implement before sowing. Use the higher rates late in the season or when treating under cold/overcast conditions.	Registered
metsulfuron-methyl (600g/kg)	Ally®	B	Boom spray	5 - 7g/ha	Wheat, barley, triticale or cereal rye crops.	Post emergence.	Use higher rate for larger weeds or dense infestations. Soil active herbicide, may damage desirable vegetation.	Registered
terbutryn 275g/L + MCPA amine (160g/L)	Agryne MA®	C,I	Boom spray	1L/ha	Wheat or barley crops.	Post emergence, weed at 2-6 leaf stage, crop at 3-5 leaf stage	Not effective if the weed is past the 12 leaf stage. May also be used on some oat cultivars.	Registered
triasulfuron (750g/kg)	Logran 750WG®	B	Boom spray	30g/ha	Wheat crops	Pre-sowing.	Apply to moist bare soil before sowing.	Registered

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USEFUL WEBSITES

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– Registered products and permit searches:
portal.apvma.gov.au/pubcris
- Australian Herbicide Resistance Initiative (AHRI) – Information on herbicide resistance:
www.ahri.uwa.edu.au
- Biosecurity SA – Primary Industries and Regions SA – Weed identification and weed information:
www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals
- Buffel grass page at Biosecurity SA – Resources:
www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa/weed_id/plant_id_notes/buffel_grass
- Environment Protection Authority – Information regarding safe herbicide use:
www.epa.sa.gov.au
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www.naturalresources.sa.gov.au/adelaidemtloftyranges
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