Gorse *(Ulex europaeus)*

Photo: Monica Seiler

Overview

Gorse is a member of the legume (pea) family and is also known as 'furze'. It grows into a bushy shrub up to 7 metres, but in the Hills and Fleurieu region usually only grows to around 2 to 3 metres in height.

Originating from western Europe it was introduced into Australia as a hedge plant and a potential fodder shrub. Since then it has become one of Australia's worst weeds and has been listed as a Weed of National Significance.

Favouring higher rainfall districts, gorse in South Australia can be found throughoutt he Hills and Fleurieu region.

Gorse is a declared plant under the *Landscape South Suatralia Act 2019*. Its sale or transport is prohibited throughout the state and landholders are required to control Gorse on their properties.

Description

Gorse is an evergreen perennial shrub that produces an extensive root system. Its leaves are dark green in colour, and like its stems, they end in a sharp pointed spine. Young stems are hairy and ribbed while older stems have a light brownish bark.

Plants produce bright yellow pea-like flowers that cover its form and have a distinctive coconut-like smell. With each flowering it produces numerous hairy pea-pod shaped seed capsules each of which can contain between two to six seeds.

Gorse can be confused with some native species but the combination of spiny leaves, spiny stems, bright yellow pea-like flowers with a coconut-like smell make it distinguishable as gorse

Ecology

Gorse is not restricted to any particular type of soil but is most competitive on poor alkaline soils. It generally requires rainfall above 500 mm a year to do well and can live up to 30 years.

Gorse starts flowering at around 18 months and can flower twice a year in autumn and spring, although it mostly tends to flower only once in spring in South Australia. In cooler areas it has been known to flower in autumn.

It is spread by seeds, which are relatively large and not equipped for wind dispersal. The seeds are ejected with considerable force when the heat of the sun bursts open their seed pods. They can also be spread by birds.

Seeds are hard coated and studies suggest that Gorse seed can remain viable for up to 80 years in the soil. Even if all gorse seedlings are destroyed regularly, gorse will re-occur for many years. This is a major difficulty in achieving long-term control.

Impacts

Gorse significantly impacts agriculture and the environment, readily invading pasture and native vegetation.

Once established it forms dense prickly thickets that can dominate and exclude other plant species. These thickets can dramatically reduce the stock carrying capacity of pasture, reduce biodiversity, act as a harbour for rabbits and foxes, and because of its high flammability increase bushfire risk.

It can also impact forestry plantations, interfering with their establishment and reducing operational access.

Management and control

Long-term control of gorse requires an integrated approach using as many control methods that suit the situation as possible. Controlling gorse is not a short-term activity.

Follow up control after the initial work has been undertaken is essential. It may take many years before a successful level of control is achieved.

When starting to control gorse the aim is to try and prevent further seed set or spread of seed. Landholders should first undertake control of individual or smaller isolated patches of gorse, working back towards the larger infestations.

Only by reducing and eventually eliminating the seed bank can gorse be considered removed from a site.

Mechanical

Mechanical control is particularly useful in removing large amounts of above-ground growth and opening up gorse infestation sites. There are a number of mechanical techniques that can be used but all require access to the correct equipment.

Grooming, using a special rotating groomer is particularly effective in mulching larger plants down to their stumps.

Grubbing with an excavator, or bucket on a tractor, can be used to break plants off at ground level. Pulling plants out with a chain and tractor can also remove above-ground growth.

Slashing of smaller plants can keep growth down and reduce seed set but it is not effective in stopping seed set.

After mechanical control has taken place some form of follow up control of regrowth and seedlings will be required. Soil disturbance will stimulate the germination of seedlings. This follow up control will need to be maintained for a number of years.

Whichever mechanical option is used consideration needs to be given to any soil disturbance so that it does not cause any undue erosion issues.

Burning

In circumstances where it is safe, fire may be an option to burn patches of gorse.

Burning will not adequately control gorse and other methods will be required to completely destroy infestations. Mature plants will resprout from below ground stumps after burning. Care is especially needed with follow up control after fire is used, as fire will stimulate massive seed germination.

Landholders should be aware of any fire restrictions before using fire as a control method.

Grazing

Sheep and goats will graze gorse but only on young plants or on the new soft, fresh growth on adult plants before spines are formed. Grazing will not remove gorse but it can be moderately successful in suppressing soft regrowth. For herbicide spraying to be effective, plants should not be heavily grazed as this will minimise chemical uptake.

Herbicides

Herbicides can be applied to gorse in two ways; as a foliar spray or as a cut stump application. Whichever method is used it works best if applied when the plants are actively growing.

In situations where removal of the above-ground growth is not an issue then foliar spraying can be used on mature gorse bushes. Foliar spraying is best done when plants have fresh green shoots. It does require good access to each bush as complete spray coverage is required to achieve good control.

Although more labour intensive, the cut and swab herbicide application method offers better levels of control, particularly in situations where there are not high numbers of mature gorse plants. This method is also best for sites where gorse is in amongst other vegetation and off-target damage from spraying is an issue. Note, that stumps must be **cut very low, at soil level,** to prevent resprouting

When it comes to follow up control of gorse regrowth or seedlings, spraying them with a herbicide offers a very effective and quick way to undertake control.

For chemical control options, visit:
https://pir.sa.gov.au/biosecurity/weeds/controlling-weeds/gorse

Landholders should always read the label of any herbicide to ensure it is suitable for its intended purpose and can be used safely.

Hygiene

Good hygiene procedures will prevent new seed being introduced to gorse-free areas or areas where active control is being undertaken. All vehicles, machinery, tools and footwear should be checked for soil or mud and cleaned before entry into gorse-free areas and before leaving gorse infested areas.

Creeks and rivers can also act as pathways for seed spread so gorse should be kept away from watercourses to prevent seed being carried downstream.

Biological control

Gorse has a number of natural insect enemies that have been released in Australia as biological control agents to help reduce the vigour of gorse plants. These biocontrol agents will not eradicate gorse because they require the survival of some plants to complete their life cycle. However when they are successful, biocontrol can have significant impacts on the ability of gorse to thrive.

They are a useful addition to other forms of control in helping to keep gorse in check where implementing other control is difficult.

In the Hills and Fleurieu region there are four gorse biocontrol agents. Gorse seed weevil (*Exapion ulicis)* and gorse spider mite (*Tetranychus lintearius*) have become widely established in the region. Gorse thrip (*Sericothrips staphylinus*) and gorse soft shoot moth (A*gonopterix ulicetella*), although present in the region are currently only of limited extent.

These biocontrol agents have varying degrees of success.

Timing of control

The chart below shows the optimum time for each control method and may be used as a guide to help with planning control programs. However local conditions should be taken into account to ensure control will be effective. Herbicides are best applied when the plants are actively growing.

Declarations

The following sections of the Landscape South Australia Act apply to gorse in the Hills and Fleurieu region:

- 186(2) Cannot transport the plant or anything carrying it
- 188(1) Cannot sell the plant
- 188(2) Cannot sell any produce / goods carrying the plant
- 192(2) Landowner must control the plant on their land
- 194 Regional Landscape Board may recover costs for control of weeds on roadsides from adjoining landowners

Method	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mechanical	■	■	■	■	■	■	■	■	■	■	■	■
Burning					■	■	■	■	■	■	■	
Grazing	■	■	■	■	■	■	■	■	■	■	■	■
Herbicide – foliar spraying	■	■	■					■	■	■	■	■
Herbicide – cut and swab	■	■	■	■	■			■	■	■	■	■

Further information

Further information is available through Landscapes Hills and Fleurieu

Mount Barker Office: Cnr Mann & Walker streets, Mount Barker, 5251 (08) 8391 7500

Email: hf.landscapeboard@sa.gov.au

LANDSCAPE SOUTH AUSTRALIA HILLS AND FLEURIEU

Keep in touch with our activities through **Facebook @HFLandscapeSA**

landscape.sa.gov.au/hf

Nov 2023