

# **Sweet briar**

# Rosa rubiginosa



Sweet briar has pink flowers with 5 petals. (Photo: J. J. Dellow)

- Also known as: eglantine
- This plant should not be sold in parts of NSW

## **Profile**

## How does this weed affect you?

Sweet briar is a native of Europe that now grows throughout the world. Sweet briar can reduce the carrying capacity of land, harbour rabbits, restrict vehicle access and restrict stock movements, especially where it occurs in clumps or patches.

### What does it look like?

Sweet briar is an erect perennial shrub, commonly growing 1.5 to 2 m high but can be up to 3 m.

Many stems arise from a shallow, perennial rootstock. They are smooth when young and become rough and woody as the plant ages. They arch towards the top and have numerous backward curving flat thorns up to

1.5 cm long.

The leaves are pinnate and have an apple-like fragrance. They consist of 2 to 4 pairs of oval leaflets plus one terminal leaflet. The leaflets have serrated margins and short prickles on the leaf stems.

Flowers usually appear in late spring and are pink or white with 5 petals and long green sepals or leaflike structures at the flower base. They form in loose clusters at the ends of the branches and are also fragrant.

The fruits are orange-red in colour, oval shaped with short spines and contain numerous, yellow, irregularly shaped seeds. The sepals remain attached to the fruit.

The extensive roots are at least 1 m long and are usually confined to the top 30 cm of soil.

#### Where is it found?

The plant is widespread in NSW but is more common in the cooler, high rainfall areas. The worst infestations are usually found on the tablelands and cooler slopes.

## How does it spread?

Sweet briar is spread mainly by birds or animals eating the fruit and distributing the viable seed. Fruits and seeds can also be spread by run-off in steep country along creeks and streams. The seeds can remain viable in the soil for up to 4 years. Root pieces and disturbed crowns of sweet briar can also produce new growth or suckers.

## What type of environment does it grow in?

Sweet briar often invades unimproved grasslands and disturbed bushland. It prefers well-drained areas of moderate fertility with little competition and light grazing. The weed can grow on most soil types.

Generally, it is confined to areas in NSW with an annual rainfall greater than 600 mm. However, in lower rainfall areas, infestations can still occur in moist gullies and protected sites.

Infestations are often heaviest in hilly and rocky country around trees on creek banks and along fence lines.

#### References

Clements B, Dellow JJ and McCaffery AC (2005). Sweet briar, Primefact 88. NSW DPI, Orange.

The authors would like to acknowledge the comments made by Tony Cook and Clare Edwards regarding the technical content of this publication.

#### More information

- PlantNET NSW FloraOnline, Rosa rubiginosa. Royal Botanical Gardens and Domain Trust. (https://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Rosa~rubiginosa)
- Weed futures: Determining current and future weed threats in Australia, Rosa rubiginosa. Macquarie University. (https://weedfutures.net/species.php?id=1179)

## **Control**

The effective, long-term control of this weed may require the integration of a number of techniques including mechanical removal, pasture management, grazing management, herbicide application, regular monitoring and replacement with appropriate plants.

For invasive, woody weeds such as sweet briar, control is more effective and economical if done when the plants are young.

The control methods used will depend on the infestation size and location. For advice on the most appropriate methods for your situation, consult your local agronomist or council weeds officer.

#### **Mechanical removal**

Established plants can be removed by hand grubbing, bulldozing or tractor and chain. This is easier and more effective when the ground is wet. Deep cultivation can be effective on arable land as it exposes and kills the bulk of the root system.

However, it can be difficult if the bushes are large or dense. After the initial removal, further cultivations in summer will ensure the remaining root system is exposed and killed. Normal autumn cultivations before sowing pastures or crops will kill any remaining seedlings.

The site should be monitored regularly and any regrowth should be treated with repeat cultivations or by spraying with an appropriate herbicide once it is a sufficient size (refer to the chemical label).

### **Pasture management**

Vigorous perennial pastures provide competition to reduce the invasion of sweet briar. In suitable sites, they should be established as soon as possible after the removal of the weed infestation but not after the application of residual herbicides.

Consult your local agronomist for advice on pasture establishment and appropriate pasture management. For further information refer to a range of NSW Department of Primary Industries (DPI) publications available at any DPI office or www.dpi.nsw.gov.au/agriculture.

## **Grazing management**

Grazing management is also useful in controlling sweet briar. Sheep will readily graze young seedlings and help prevent their establishment.

Cattle are not as good at preventing seedling establishment and an increase in sweet briar infestations is often noticed after graziers switch from sheep to cattle.

Sweet briar is highly palatable to goats so they can be very successful in controlling infestations. They will readily graze both established plants and seedlings, continually defoliating all accessible stems and eventually ringbarking them. This kills established plants and prevents seedlings from establishing.

#### **Chemicals**

Only use registered herbicides according to the label directions.

Herbicides can be applied to sweet briar in many different ways. The most appropriate form of herbicide application will depend on the location, size and maturity of the infestation.

Treated infestations should be regularly monitored for regrowth because seedlings, spray errors and root shoots (suckers) can occur over a period of years. Regrowth should not be treated with an appropriate herbicide until it is of sufficient size (refer to the chemical label).

#### **Foliar Spray**

Applying chemicals through foliar spraying is more effective when the plant is actively growing.

Foliar spraying is the most commonly used method of control. For effective control spray the whole bush thoroughly when soil moisture is adequate and the plant is actively growing. This will vary depending on location but is generally during late spring to early autumn. The plant should be in full leaf, prior to leaf fall (refer to the chemical label for the most appropriate time). Insufficient herbicide coverage is a common mistake and is probably the largest cause of survival.

A systematic approach is required when spraying. Spraying should commence at the top of the bush and work down to the base. Seedlings and suckers around the drip zone of the plant also need to be treated.

For effective results, DO NOT treat infestations during hot, dry, summer periods or when the plant is stressed from drought, waterlogging, cold or without leaf.

#### **Basal Bark Treatment**

Basal bark application of chemicals should be to the complete base of every stem to a height of 30–40 cm above the ground.

This technique is less effective but is appropriate for infestations in environmentally sensitive locations. It is most suited for small bushes with stems less than 5 cm in diameter.

Spray an appropriate herbicide mixed with diesel around the COMPLETE BASE OF EVERY STEM to a height of 30–40 cm above the soil surface. Check the chemical label for the correct mixing ratio.

Ensure that stems and bark are not wet at the time of application as water will repel the diesel mixture. Basal bark treatments also work best if plants are actively growing.

#### **Cut Stump Treatment**

In cut stump applications it is important to apply the chemical immediately to the cut stem.

This technique is labour intensive but is also appropriate for small infestations in environmentally sensitive locations. It is most suitable for large plants with a stem diameter greater than 5 cm.

Cut each stem off 15 cm above the soil surface. Liberally apply an appropriate herbicide mixed with diesel (check the chemical labels for the correct mixing ratio) to the cut surface within 30 seconds of the cut being made.

If the herbicide is not applied immediately, the plant will heal the cut, the chemical will not be translocated through the plant and control will not be effective.

## **Root Application**

Great care must be taken when using this technique.

Many desirable trees, in particular eucalypts, are susceptible to the residual herbicides used for this control method. DO NOT use these chemicals within a distance of at least twice the height of adjacent desirable trees or shrubs.

To control sweet briar, apply an appropriate residual herbicide directly under the plant near the base. The herbicide should be applied under the soil to prevent degradation by sunlight and possible contamination of surface run-off after rain. It is most effectively applied when the soil is moist.

Deep-rooted plants may need to be retreated after 2 years if they are still partially green.

## **Herbicide options**

#### **WARNING - ALWAYS READ THE LABEL**

Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this information. To view permits or product labels go to the Australian Pesticides and Veterinary Medicines Authority website www.apvma.gov.au

See Using herbicides (http://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control) for more information.

#### 2,4-D 300 g/L + Picloram 75 g/L (Tordon® 75-D)

Rate: 650 mL in 100 L of water

Comments: Full leaf as an overall spray.

Withholding period: Do not graze or cut crops (except sugar cane 8 weeks) or pastures for stock food for 7

days after application.

Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

## Glyphosate 360 g/L (Various products)

Rate: 1.5-2.0 L in 100 L of water

Comments: Spray to wet all foliage, from late flowering to leaf fall. Use higher rate on bushes over 1.5 m high

Withholding period: Nil.

Herbicide group: 9 (previously group M), Inhibition of 5-enolpyruvyl shikimate-3 phosphate synthase (EPSP

inhibition)

Resistance risk: Moderate

## Glyphosate 360 g/L (Various products)

Rate: 1 part per 9 parts water

Comments: Gas gun / Splatter gun application. Apply 2 by 5 mL doses per 0.5 m of bush height.

Withholding period: Nil.

Herbicide group: 9 (previously group M), Inhibition of 5-enolpyruvyl shikimate-3 phosphate synthase (EPSP

inhibition)

Resistance risk: Moderate

#### Hexazinone 250 g/L (Velpar® L)

Rate: Undiluted (4 mL per spot)

Comments: One spot per metre of height. Do not apply near desirable trees.

Withholding period: No stated withholding period.

Herbicide group: 5 (previously group C), Inhibition of photosynthesis at photosystem II - D1 Serine 264

binders (and other nonhistidine binders) (PS II Serine 264 inhibitors)

Resistance risk: Moderate

#### Metsulfuron-methyl 300 g/kg + Aminopyralid 375 g/kg (Various products)

Rate: 20 g per 100 L of water (always add a Wetter 100 mL/100L)

Comments: Spray to thoroughly wet all foliage but not run-off. Avoid spraying when leaf fall has started or after the end of February. Wetter 1000g/L non-ionic alcohol alkoxylate (TITAN WETTER 1000 or BS1000 or equivalent).

Withholding period: Pastures - Grazing for meat production or cutting for animal feed: Do not graze for 56 days after application. See label for further details

Herbicide group: 2 (previously group B), Inhibition of acetolactate and/or acetohydroxyacid synthase (ALS,

AHAS inhibitors) + 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: High/Moderate

## Metsulfuron-methyl 600 g/kg (Various products)

Rate: 10 g in 100 L of water plus non-ionic surfactant 100 mL per 100 L of spray volume Comments: Apply to actively growing bushes to point of run. Do not apply after end of February. Withholding period: Nil (recommended not to graze for 7 days before treatment and for 7 days after treatment to allow adequate chemical uptake in target weeds).

Herbicide group: 2 (previously group B), Inhibition of acetolactate and/or acetohydroxyacid synthase (ALS,

AHAS inhibitors)
Resistance risk: High

#### Metsulfuron-methyl 600 g/kg (Various products)

Rate: 1 g/L + organosilicone penetrant

Comments: Gas gun / Splatter gun application. Apply during the flowering period. Ensure thorough coverage of all leaves and stems.

Withholding period: Nil (recommended not to graze for 7 days before treatment and for 7 days after treatment to allow adequate chemical uptake in target weeds).

Herbicide group: 2 (previously group B), Inhibition of acetolactate and/or acetohydroxyacid synthase (ALS,

AHAS inhibitors) Resistance risk: High

## Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon® Extra)

Rate: 350 or 500 mL in 100 L of water

Comments: Foliar application for plants up 1.5m tall

Withholding period: Where product is used to control woody weeds in pastures there is a restriction of 12 weeks for use of treated pastures for making hay and silage; using hay or other plant material for compost, mulch or mushroom substrate; or using animal waste from animals grazing on treated pastures for compost, mulching, or spreading on pasture/crops.

Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

#### Picloram 44.7 g/L + Aminopyralid 4.47 g/L (Vigilant II ®)

Rate: Undiluted

Comments: Cut stump application. Apply a 3–5 mm layer of gel onto stems less than 2 cm diameter. Apply 5 mm layer on stems above 2 cm diameter.

Withholding period: Nil.

Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

### Triclopyr 240 g/L + Picloram 120 g/L (Access™)

Rate: 1.0 L in 60 L of diesel (or biodiesel such as Biosafe).

Comments: Basal bark application for plants with stems up to 5 cm diameter at the base. Cut stump application for plants with stems up to and more than 5 cm diameter at the base. Apply herbicide immediately after the cut. Do not treat in winter.

Withholding period: Nil

Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

Triclopyr 300 g/L + Picloram 100 g/L (Various products)

Rate: 350 or 500 mL in 100 L of water

Comments: Full leaf to ripe fruit prior to leaf fall. Use higher rate on bushes over 1.5 m high.

Withholding period: Nil.

Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

Triclopyr 600 g/L (Garlon® 600)

Rate: 1.0 L in 30 L of diesel

Comments: Basal bark application for plants with stems up to 5 cm diameter at the base. Cut stump

application for plants with a diameter up to, or more than 5 cm at the base.

Withholding period: Not required when used as directed. If use is off-label check permit. Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)

Resistance risk: Moderate

# **Biosecurity duty**

The content provided here is for information purposes only and is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia.

Area	Duty
All of NSW	General Biosecurity Duty All pest plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.
North West	Regional Recommended Measure Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
Northern Tablelands	Regional Recommended Measure Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.



The fruits of sweet briar are orange-red in colour and are attractive to birds. (Photo: A. Clemson)



A cluster of three sweet briar flowers. (Photo: A. Clemson NSW DPI)



A mature sweet briar bush with multiple thorny stems from the base. (Photo: J. J. Dellow)

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