



Department of Primary Industries

Blackberry

Rubus fruticosus species aggregate



Blackberry fruit are red and dark purple (Photo: Courtesy QDNRM)

- Also known as: black berry, blackberries, black berries
- This plant is a Weed of National Significance
- This plant must not be sold anywhere in NSW

Profile

How does this weed affect you?

Blackberry has already cost around \$100 million to control and in lost production. It:

- quickly infests large areas
- forms dense thickets that restrict:
 - stock access to waterways
 - access via fire trails
- takes over pastures
- is unpalatable to most livestock
- reduces native habitat for plants and animals
- fuels bushfires
- provides shelter for rabbits and foxes

- provides food for introduced species such as starlings, blackbirds and foxes.

Blackberry can have some positives such as:

- edible fruit
- supporting pollinators
- food and shelter for some native animals and birds such as bandicoots and blue wrens
- leaves can be used in herbal medicines.

The *Rubus fruticosus* aggregate

There are lots of different blackberry species. In NSW, the European blackberry (*Rubus fruticosus*) is most common. *Rubus fruticosus* is the collective name for different European blackberry species. Nine species occur in NSW:

- *Rubus anglocandicans*
- *Rubus leucostachys*
- *Rubus polyanthemus*
- *Rubus laciniatus*
- *Rubus ulmifolius* var. *ulmifolius* and var. *anoplothysus*
- *Rubus vestitus*
- *Rubus leightonii*
- *Rubus phaeocarpus*

This weed profile is about the *Rubus fruticosus* species in NSW.

What does it look like?

Blackberry is a shrub with tangled, prickly stems. It can be hard to tell different *Rubus* species apart. Contact your local weeds officer for advice on identification.

Leaves are:

- alternate along the stem
- in clusters of 3 - 5 leaves
- dark green on leaf tops
- lighter green on the underside of leaves
- covered in short, curved prickles
- absent in winter in cooler climates.

Stems are:

- called 'canes'
- up to 7 m long
- vertical, arched or growing along the ground
- covered in sharp prickles (except for *Rubus ulmifolius* var. *anoplothysus*)
- green, purplish or red depending on how much light they get.

Flowers are:

- white or pink
- 2 – 3 cm in diameter
- clustered in a cylinder or pyramid shape
- on the end of canes
- showing from late November to late February.

Fruit are:

- dark coloured berries
- with each berry having 20 – 30 seeds.

Roots are:

- woody
- perennial
- in a crown up to 20 cm wide
- with a main root up to 4 m deep
- with secondary roots that grow horizontally from the crown for 30 – 60 cm, then downwards with thin roots.

Similar looking plants

There are other introduced *Rubus* species that are not part of the *Rubus fruticosus* group:

- *Rubus laudatus*
- *Rubus philadelphicus*
- *Rubus roribaccus* (dewberry, youngberry, boysenberry)
- *Rubus loganobaccus* (loganberry)
- *Rubus ellipticus* (yellow Himalayan raspberry)
- *Rubus rugosus* (keriberry)
- *Rubus niveus*
- *Rubus idaeus* (raspberry).

There are also native *Rubus* species that are not part of the *Rubus fruticosus* group. The native *Rubus pavifolius* is often found growing in association with the *Rubus fruticosus* group.

Where is it found?

Blackberry infests about 9 million hectares of land in Australia. The *Rubus fruticosus* species in NSW grow in different areas:

- *Rubus anglocandicans* is the most common species in wetter areas of the state
- *Rubus leucostachys* is widespread
- *Rubus polyanthemus* is in Kosciuszko National Park
- *Rubus laciniatus* is in wetter areas of the state
- *Rubus ulmifolius* var. *ulmifolius* is widespread
- *Rubus ulmifolius* var. *anoplothyrsus* may be present in NSW
- *Rubus vestitus* is uncommon
- *Rubus leightonii* is uncommon
- *Rubus phaeocarpus* grows in the Kowmung River area.

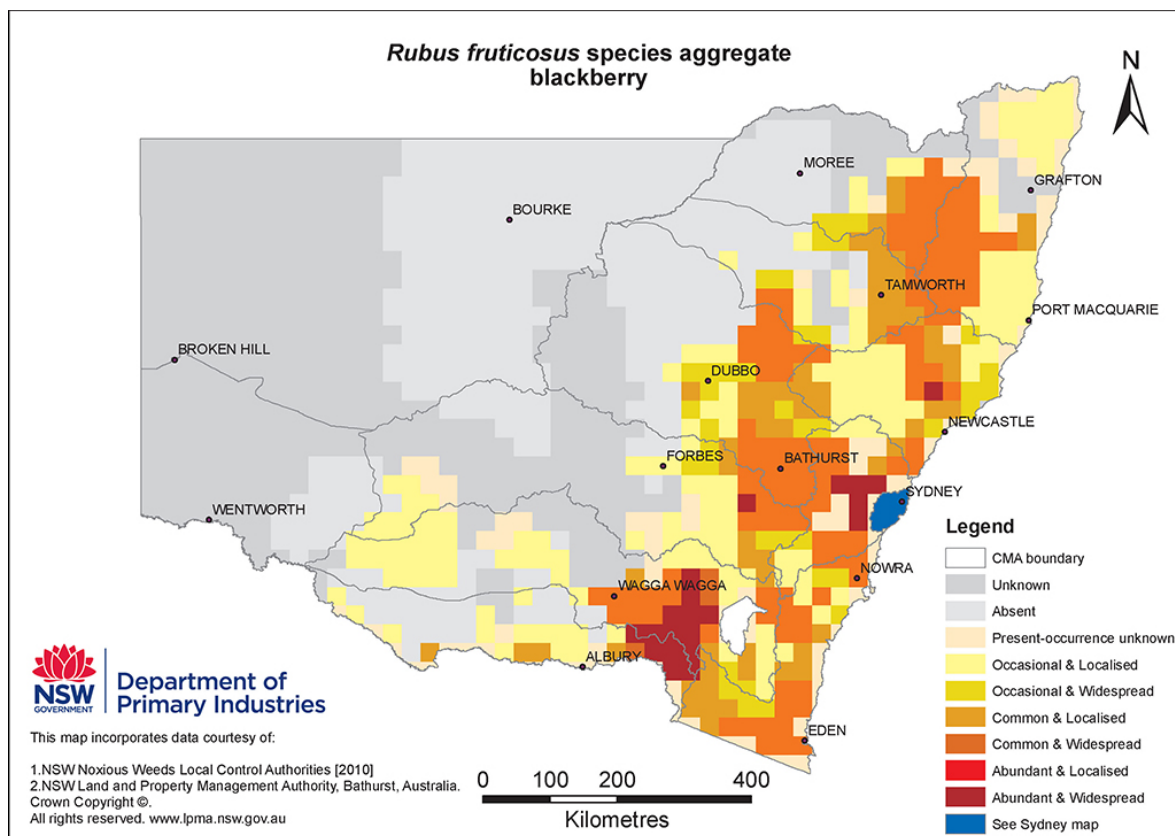
What type of environment does it grow in?

Blackberry likes:

- temperate climate with a warm summer and cool winter
- annual rainfall of at least 700 mm.

Blackberry can grow in drier climates if it has access to water e.g. along a riverbank. It does not like heavy shade.

Distribution map



How does it spread?

Seeds

Blackberry produces a lot of seeds. There can be up to 13,000 seeds per square metre under a blackberry bush at the end of a fruiting season. Birds and animals feeding on the berries spread the seeds in their droppings. Seeds also spread by water and with soil.

Vegetatively

When first year canes (primocanes) touch the ground, they sprout roots and become new 'daughter' plants. The next year, primocanes produce short canes with flowers and berries on the end.

References

- Audit, A. W. (2002). Australian Water Resources Assessment, (National Land and Water Resources Audit). Natural Heritage Trust, Canberra, Australian Capital Territory: Author.
- Bruzzese, E., & Lane, M. (1996). Blackberry management handbook. In Blackberry Management Workshop (1993: Keith Turnbull Research Institute.. Dept. of Conservation and Natural Resources.
- NSW Department of Primary Industries Weed Management Unit (2009). *Blackberry Control Manual: Management and control options for blackberry (Rubus spp.) in Australia*. Department of Primary Industries, Victoria.
- Page, A. R., & Lacey, K. L. (2006). Economic impact assessment of Australian weed biological control. CRC for Australian Weed Management.

More information

- Blackberry control on organic farms (web archive) (http://archive.dpi.nsw.gov.au/__data/assets/pdf_file/0019/415900/blackberry-control-organic-farms.pdf)
- NSW Weed Risk Assessment (<https://www.dpi.nsw.gov.au/biosecurity/weeds/strategy/nsw-weed-risk-management-system/wrm-system/blackberry>)
- Weed Control Using Goats: a guide to using goats for weed control in pastures (<https://www.mla.com.au/CustomControls/PaymentGateway/ViewFile.aspx?Zcbi/sJXSGJLaSmLwP47791jSfV+NqLTfYp7HOx/1BjWgU7vSJIm2Y5IZA2bygFt3EYMKKAfsht7d1Tnt3BqiA==>)

Control

Long term control of blackberry is an ongoing process. A combination of control methods and follow up is needed.

Physical removal

Physical control alone is rarely successful because it's hard to remove all the roots. Cultivation often spreads blackberry further. Slashing can help make access through infestations, but promotes regrowth. After slashing, use a follow-up control.

Biological control

The leaf rust fungus *Phragmidium violaceum* is the only deliberately released biological control agent in Australia. It attacks the leaves, and infects flower buds and unripe fruit and stops blackberry producing daughter plants.

Phragmidium violaceum spores need dew, rain or high humidity to germinate. It is most effective when:

- most of the plant's canopy is young leaves
- annual rainfall is greater than 750 mm
- rainfall is evenly spread over the year,
- January temperatures average about 20°C.

Eight different fungus strains of *Phragmidium violaceum* were released in 2000.

Pasture management

Strong, actively growing pastures help prevent blackberry invasion.

Grazing

Goats can make a start on controlling heavy infestations. Goats prefer blackberry over improved pasture species.

Cattle will not control blackberry infestations but can stop daughter plants from establishing.

Sheep may graze blackberry seedlings if there is no other palatable feed around.

Burning

Burning will not kill blackberry. Burning can make infestations more accessible for follow-up treatment.

Chemical control

Herbicides are the most reliable blackberry control method. Use herbicides in combination with other control methods.

There are many herbicides registered for use on blackberry. A mixture of triclopyr + picloram used with or without aminopyralid gives the best long-term control.

Spray healthy, actively growing plants with new leaves on the cane tips. Apply to both the outer and inner leaves.

First year plants are easier to kill with herbicide. Well-established thickets may need more treatments.

After slashing or burning, wait until plants have up to 1 m of regrowth before applying herbicide.

Some blackberry species are more resistant to certain herbicides than others. Identify the species before choosing a herbicide.

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.

Glyphosate 360 g/L (Various products)

Rate: 10–13 mL per 1 L of water

Comments: Flowering to leaf fall. Use higher rate on old, dense infestations.

Withholding period: Nil.

Herbicide group: M, Inhibitors of EPSP synthase

Resistance risk: Moderate

Hexazinone 250 g/L (Velpar® L)

Rate: Undiluted (4 mL per spot)

Comments: Bushes up to 1 m in height.

Withholding period: No stated withholding period.

Herbicide group: C, Inhibitors of photosynthesis at photosystem II (PS II inhibitors)

Resistance risk: Moderate

Metsulfuron-methyl 300 g/kg + Aminopyralid 375 g/kg (Stinger™)

Rate: 20 g per 100 L of water

Comments: Spray to thoroughly wet all foliage, Uptake spray oil or Pulse penetrant should be added.

Withholding period: 3 - 56 days (see label)

Herbicide group: B, Inhibitors of acetolactate synthase (ALS inhibitors) + I, Disruptors of plant cell growth (synthetic auxins)

Resistance risk: High/Moderate

Metsulfuron-methyl 600 g/kg (Various products)

Rate: 10 g per 100 L of water

Comments: Apply when bushes are actively growing. Thoroughly wet all foliage and canes at commencement of flowering.

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: B, Inhibitors of acetolactate synthase (ALS inhibitors)

Resistance risk: High

Metsulfuron-methyl 600 g/kg (Various products)

Rate: 1 g/L + organosilicone penetrant

Comments: Gas gun / Splatter gun application. Thoroughly wet all foliage and canes. Commence application at flowering as this indicates good growing conditions.

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: B, Inhibitors of acetolactate synthase (ALS inhibitors)

Resistance risk: High

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

Rate: 350 or 500 mL per 100 L water

Comments: Treat in late spring to autumn. Use an adjuvant.

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: I, Disruptors of plant cell growth (synthetic auxins)

Resistance risk: Moderate

Picloram 20 g/kg (Tordon® Granules)

Rate: 35–45 g /m²

Comments: Apply granules over an area extending from main stem to 30 cm outside the drip line.

Withholding period: Nil.

Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)

Resistance risk: Moderate

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

Rate: Undiluted

Comments: Cut stump/stem injection application. Apply a 3–5 mm layer of gel for stems less than 20 mm.

Apply 5 mm layer on stems above 20 mm .

Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 Resistance risk: Moderate

Triclopyr 200 g/L + Picloram 100 g/L (Tordon® DSH)

Rate: 500 mL per 100 L of water
 Comments: Late spring to autumn treatment. Use an adjuvant.
 Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 Resistance risk: Moderate

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

Rate: 350 or 500 mL per 100 L of water
 Comments: Late spring to early autumn when bushes are actively growing. Use the higher rate on plants which have been damaged by grazing stock or insects.
 Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 Resistance risk: Moderate

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

Rate: 335 mL per 10 L of water
 Comments: Gas gun / Splatter gun application. Apply to actively growing bushes.
 Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 Resistance risk: Moderate

Triclopyr 600 g/L (Garlon® 600)

Rate: 170 mL per 100 L of water
 Comments: Late spring to early autumn. Actively growing bushes. Do not use under dry conditions.
 Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 Resistance risk: Moderate

Triclopyr 600 g/L (Garlon® 600)

Rate: 280 mL per 10 L of water
 Comments: Gas gun / Splatter gun application. Good control will be achieved, similar to high volume application, where bush size enables good coverage of entire bush. The use of marking agent is recommended.
 Withholding period: Nil.
 Herbicide group: I, Disruptors of plant cell growth (synthetic auxins)
 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	<p>General Biosecurity Duty</p> <p><i>All 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.</i></p>

Area	Duty
All of NSW	<p>Prohibition on certain dealings <i>Must not be imported into the state, sold, bartered, exchanged or offered for sale.</i></p> <p>All species in the <i>Rubus fruticosus</i> species aggregate have this requirement, except for the varieties Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree</p>
Central Tablelands	<p>Regional Recommended Measure <i>Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment.</i></p> <p>Protect conservation areas, natural environments and primary production lands that are free of blackberry</p>
Hunter	<p>Regional Recommended Measure <i>The plant should not be bought, sold, grown, carried or released into the environment. Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread from their land. Land managers to reduce impacts from the plant on priority assets.</i></p>
<p>North West An exclusion zone is established for all lands in the region, except the core infestation area comprising the Gwydir Shire council, Liverpool Plains Shire council and Tamworth Regional council</p>	<p>Regional Recommended Measure <i>Whole of region: The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: Land managers should mitigate the risk of new weeds being introduced to their land; land managers should mitigate spread from their land. Core infestation: Land managers reduce impacts from the plant on priority assets</i></p>
Northern Tablelands	<p>Regional Recommended Measure <i>Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment.</i></p>



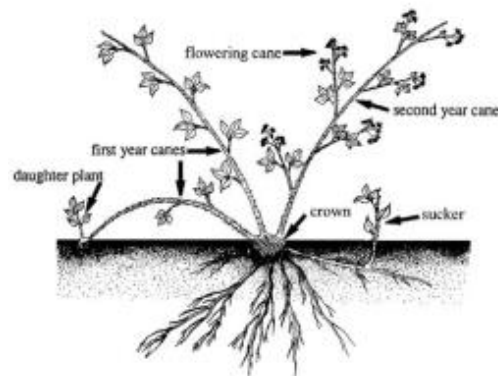
Blackberry flower (*Rubus anglocandicans*) with 5 white petals (Photo: Auld and Medd)



Blackberry leaves covered in black and yellow spots, damage from leaf rust fungus (*Phragmidium violaceum*) (Photo: J J Dellow)



Blackberry forms tall, tangled thickets (Photo: Auld & Medd)



Labelled diagram of the *Rubus fruticosus* aggregate plant parts (Photo: Birgitte Verbeek)



Rubus anglocandicans flower with five white petals, and serrated green leaves (Photo: B. Verbeek)



Light green fruit starting to form on *R. anglocandicans* (Photo: B Verbeek)



A valley infested with blackberry. The shorter light green clumps are *Rubus leucostachys* (Photo: John Hosking)



Red and blue-black blackberry fruit, and serrated green leaves (Photo: John Hosking)



Blackberry infestation blocking access into bushland (Photo: John Hosking)



Close up of blackberry flower with five pink petals (Photo: John Hosking)



Blackberry has thorny stems (Photo: John Hosking)



Thorny blackberry stem and pink flowers (Photo: John Hosking)

Reviewed 2019