

Blackberry control on organic farms

Robyn Neeson Organic Farming Liaison Officer, Yanco

Introduction

Blackberry (*Rubus fruticosus* agg. species) is a declared noxious weed within NSW. Under the [Noxious Weeds Act 1993](#), this means that landholders are required by law to control the weed. Blackberry is also listed as one of Australia's Weeds of National Significance (WoNS).

The weed is listed as a Class 4 noxious weed which means that the growth of the plant must be managed in a manner that reduces its numbers, spread and incidence and which continuously inhibits its reproduction, and the plant must not be sold, propagated or knowingly distributed.

Being organic does not exclude a farmer from having to comply with noxious weed legislation, even if this involves the use of chemicals.

Control options for organic farms

Control options for blackberry should take an integrated approach which can involve utilising a range of practices.

Non-chemical options available to organic farmers include biological control, mechanical (slashing / mulching, scalping), grazing and burning.

In some situations chemical control may be the only option and organic growers will need to follow specific protocol when considering this option.

Prevention

Infestations of blackberry are usually a symptom of larger land and water management issues. Once controlled, changes in land management over a number of years may be required to prevent blackberry infestation returning.

The most important part of blackberry management is keeping uninfested areas clean. This can involve establishing and maintaining

rapidly growing improved pasture or native grasses and shrubs to out-compete blackberry seedlings, or an over-storey of plants that provide dense shade. Re-vegetation should consist of species which are appropriate to the area and intended future land use e.g. pastures for grazing areas and indigenous plants for native ecosystems and along water courses.

Other tips for preventing re-infestation include:

- Identify existing infestations in nearby land and assess the risk of the infestation spreading.
- Quarantine infestations (e.g. fence off) to restrict the dispersal of seed and cane / root fragments by humans and livestock. This may also involve controlling seed vectors such as rabbits and foxes.
- Reduce the habitat suitable for blackberry establishment. Often blackberries establish adjacent to fallen logs/branches/large rocks. If possible remove these obstructions.
- Ensure that appropriate hygiene measures are applied to vehicles, machinery and equipment that are used in clearing infestations.
- Regularly inspect clean areas for blackberry seedlings and remove isolated plants and small infestations as soon as they are detected.

Early detection

If detected early it is possible to hand weed small blackberry plants. Hand weeding could include chipping or using a mattock. Seedling blackberries can be hand weeded provided their initial cane is no longer than one metre long.

The key issue for early detection is identifying the likely establishment areas on a farm. By regularly inspecting these areas and taking immediate action more laborious methods of control are likely to be avoided in future years.

Some areas that are likely to establish blackberries include:

- Along the edge of waterways, gullies etc.
- Beside logs and fallen branches
- Along fence lines
- In nooks, such as crevices between rocks
- Under trees.

Biological control

Strains of the leaf rust fungus (*Pragmidium violaceum*) were approved for release in Australia in 2004. These strains are harmless to native *Rubus* species and commercial berry varieties. The fungus is commercially available for release (see References and Contacts).

The rust acts by attacking the blackberry plants over spring and summer, with younger leaves, flower buds, unripe fruit and green parts of the canes being affected and eventually resulting in reduced vegetative spread and depletion of the plant's root reserves. Defoliation caused by the fungus allows better light penetration through thickets to potentially more desirable understorey species.

Blackberry regrowth stimulated by summer slashing / grazing is particularly susceptible to the rust fungus.

The rate of success in controlling blackberry with the rust fungus is highly variable and climate dependent. Rust spores are spread by wind and require humidity to germinate. The rust has been shown to have the most significant impact in higher rainfall localities (above 800mm annual rainfall) and where the average monthly daily temperatures for January are about 20°C. For more information see References and Contacts.

Mechanical control

Mechanical control options for blackberry include slashing / mulching, scalping and burning.

Slashing or mulching if undertaken regularly, (fortnightly, monthly) as opposed to an irregular, haphazard approach, forces the plant to regrow and use up reserves stored in the root system. Repeated consistently this weakens and will eventually kill the plant. This practice is limited by machinery access issues. Brush cutting may be an option for smaller inaccessible thickets.

Scalping refers to the practice of using specialised earthmoving equipment to destroy thickets and involves scraping to a depth of 20 to 30 cm to remove the vegetation, crown and majority of the roots. A root rake is often utilised as a follow up to expose any remaining roots. The dug up vegetation is then dried and burnt. This practice, whilst effective is limited by the ability of machinery to access the infestation as well as the potential



Above: An excavator mounted flail mower is used to mow down and mulch a high and potentially inaccessible thicket to the ground.

disturbance caused to the soil which may slow regeneration with favourable species.

Burning with a flame weeder has shown mixed results for controlling blackberry. However, experience has shown that best results are achieved when flaming is undertaken in early spring when conditions are damp, and leaves flamed sufficiently to turn them black but not charred. This will kill the top growth. Repeated flaming of regrowth will eventually exhaust root reserves and the plant should die.

Use of livestock

Goats and to a lesser extent deer, find blackberry highly palatable and have been used effectively as a short term control option when used at high stocking rates. Grazing is often a useful option where infestations are large and / or inaccessible, but continuous grazing or other control methods will be required to control re-growth.

Careful management of goats is the key to success. Good fencing is required to exclude goats from non-target plants and to prevent them spreading blackberry seed to uninfested areas. Note that supplementary feeding, particularly during cold and wet weather may also be required due to the low nutritional value of blackberry.

The MLA has written an excellent guide to using goats for weed control. (See: References and Contacts).

Whilst goats are effective at removing the above ground parts of blackberry, pigs have been shown to be very effective at digging up and consuming the roots. Once again, careful management is required and use adjacent to watercourses is not recommended in order to avoid pollution and bank erosion.



Above: Goats have been shown to be an effective management option for blackberries. Source: http://doubletroublersanch.com/wp-content/uploads/eating_blackberry-_leaves.jpg

Chemical control options

Organic certification requires that non-chemical methods are used in the first instance however in some situations the use of chemicals may be the only option for organic farmers. Chemical control may be a legal obligation if the weed has to be eliminated.

Spray application without loss of organic certification to the entire farming enterprise is possible provided that:

- Your certifier is immediately informed of the need to spray and a management plan for the infested area is agreed in writing.
- A buffer zone is provided between the treated area and any certified crops or pastures. The size of the buffer area should be determined in consultation with your certifier.
- The area to be sprayed is fenced off to exclude livestock.
- Treated areas are removed from certification for a period equivalent to three times the withholding period of the chemical used or as negotiated with your certifier.

Conclusion

Organic farmers, like other farmers, are required by law (the *Noxious Weeds Act 1993*) to manage the growth of blackberry in a manner that reduces its numbers, spread and incidence and which continuously inhibits its reproduction.

An integrated approach utilising the range of management options described above has been shown to be the most effective means of achieving blackberry control.

References and Contacts

Blackberry – A Weed of National Significance

<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/profiles/blackberry> NSW DPI, 2011.

CRC for Weed Management Factsheet 2005. Release of biological control agents: additional strains of leaf-rust fungus to control blackberry. Ref: 43/2005/fs

Kondinin Group, 2011. Turning the tide against blackberry. Farming ahead August 2011 No. 235. Pages 54-56. See:

http://www.kondinigroup.com.au/web_files/FAH_AUG-2011.pdf

Blackberry Control Manual, found at

<http://www.weeds.org.au/WoNS/blackberry/>

Blackberry Weed Management Guide, go to

<http://www.weeds.gov.au/publications/guidelines/wons/pubs/r-fruticosus.pdf>

Management of Invasive European Blackberry, found at

<http://www.csiro.au/science/Blackberry-Management.html>

MLA. 2007. Weed control using goats. A guide to using goats for weed control in pastures.

<http://www.mla.com.au/CustomControls/PaymentGateway/ViewFile.aspx?Zcbi/sJXSGJLaSmLwP47791jSfV+NqLTfYp7HOx/1BjWgU7vSJm2Y5IZA2bygFt3EYMKKAfsh7d1Tnt3BqiA==>

NSW Department of Primary Industries weed website:

<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds>

NSW DPI. 2010. Blackberry. Primefact 1014.

http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/342254/blackberry.pdf

Victoria DPI. 2010. Blackberry Management. Note Number: LC0381

<http://www.new.dpi.vic.gov.au/agriculture/pests-diseases-and-weeds/weeds/invasive-plant-management/biological-control-of-weeds/blackberry/lc0381-blackberry-management>

WeedBioControl – suppliers of blackberry rust. Website:

<http://weedbiocontrol.com.au/>

Phone: 02 6931 3358; Mobile: 0401 197 035

© State of New South Wales through Department of Trade and Investment, Regional Infrastructure and Services 2011. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Trade and Investment, Regional Infrastructure and Services as the owner.

ISSN 1832-6668

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2011). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Trade and Investment, Regional Infrastructure and Services or the user's independent adviser. Trim ref: V11/2973-2, INT11/74715. FACTSHEET 1137.