Landcare Notes

Bathurst Burr

Department of Primary Industries

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Common and Scientific Names

Bathurst burr

Xanthium spinosum Linnaeus

Origin and distribution

Bathurst burr originated in South America (probably Argentina) and is now a cosmopolitan weed in warm temperate and semi-arid regions of the world. It was introduced to Australia in the 19th Century and has been declared a noxious weed in all States. Bathurst burr is found throughout most of Victoria but is most prevalent in the northern districts.

Description

An erect, much branched, mainly summer-growing annual herb commonly 30 to 60 cm high, occasionally to 1 m, reproducing by seed. Most germination occurs after rain or irrigation in late spring and summer. Older plants produce burrs in February while late germinating plants produce them when only a few weeks old. Plants generally die early in winter but mature plants may be found at any time of year.

Stems - Greenish yellow with fine short hairs, armed at the base of each leaf and stem node with one or two triple-pronged yellow spines which are 1.5 to 2.5 cm long.

Leaves - up to 7 cm long, alternate and divided into three lobes; dark green and shiny above with prominent pale veins, downy and pale green or whitish beneath.

Flowers - creamy green, small and inconspicuous, wind pollinated, appearing from February to July. Female flowers occur beneath the leaf axils; male flowers at the ends of stems.

Fruit - an ovoid, straw-coloured, hairy burr, 1 to 1.5 cm long and 4 to 5 mm wide, covered with many yellow-orange hooked spines and sometimes with one or two straight terminal beaks. When ripe the burr is hard and woody. Other species of *Xanthium* found in Australia have burrs which are considerably larger.

Seeds - flat, brown or black, 1 cm long, two in each burr. Seed may remain dormant in the soil for three years.

Roots - branched taproot to over 3 m depth, often with extensive lateral roots.

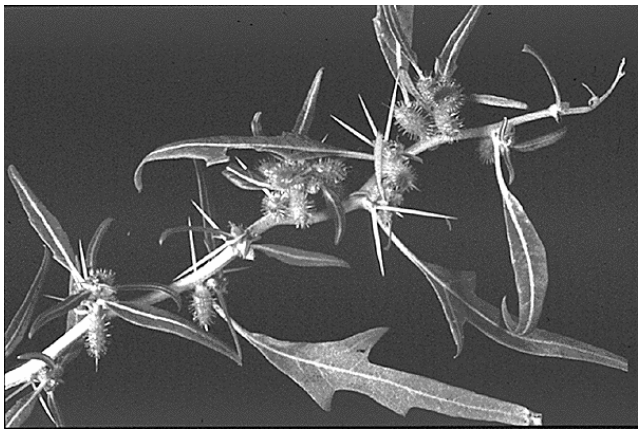

Figure 1. Bathurst burr.

The problem

Bathurst burr is common in pastures (particularly around stock yards and watering points) and infestations occur frequently along water courses. It is rarely grazed by livestock because of the long spines. The burrs are one of the most common contaminants of wool. They become entangled in the neckline and belly wool, requiring severe skirting and devalue the product. Burrs also cause irritation to shearers and damage shearing equipment. Spines on the burrs damage the feet of sheep and other animals.

Bathurst burr is a prevalent weed of summer crops such as grapes, tomatoes and sunflowers where it can form dense stands, and may interfere with manual harvesting operations. It can also act as a host for a number of fungal pathogens found in horticulture, and causes contact dermatitis in some people.

Hydroquinone is present in the seed and persists in the young plants, making the seedlings toxic to sheep, goats, cattle, horses, pigs and poultry. Poisoning may result in nausea, vomiting, depression and death, but is not a major problem in Australia.

Dispersal

The burrs attach to the coats of animals and to other fibrous material by their hooked spines. Dispersal in the fleece of sheep is common. The fruits float and are readily dispersed in water. Seed harvested from summer crops is sometimes contaminated with weeds such as Bathurst burr, which may be spread in this way.

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Figure 2 Bathurst burr plant

Management program

Some control methods described in this note are only effective if used in combination with other control options as part of a long-term management program.

If used in isolation, these methods do not effectively destroy the plant, allowing it to re-shoot or continue to grow. Authorised officers from DPI or DSE may direct landowners to undertake specific control activities to ensure methods are used that are capable of destroying plants and preventing their spread.

Where directed to do so, landowners must use the method or methods as directed by the authorised officer. In most cases the landowner will be able to choose from a variety of options appropriate for use in their particular situation.

Eradication of Bathurst burr requires the prevention of seeding for at least four to six years and the elimination of sources of re-infestation. Pasture improvement combined with herbicide treatment is the favoured method of control in grazing lands.

Manual Control

Seedlings and individual plants can often be pulled up by hand. Manual hoeing or slashing should occur before burr formation. Plants with burrs should be collected and burned.

Cultivation

Repeated cultivation of seedlings after each germination is effective on arable land. Mechanical slashing should be undertaken before the burrs have formed. Plants with burrs should be gathered and burned.

Chemical Control

The Australian Pesticides & Veterinary Medicine Authority (APVMA) is responsible for the assessment and registration of agricultural and veterinary chemicals in Australia. As chemical products are registered on a daily basis and renewal of these registrations is undertaken each financial year, there is much change in the registration status of products each year. The APVMA information is available at: **http://www.apvma.gov.au/**

The Chemical Standards Branch (CSB) of the Department of Primary Industries provides information on agricultural chemicals registered in Victoria and their uses. Enquiries will be referred through the Customer Service Centre on 136 186. Information can also be obtained by visiting the CSB website: **www.dpi.vic.gov.au/chemicalstandards**

Under Victorian legislation there are controls on the use of agricultural chemicals. It is the responsibility of the user to be familiar with these controls. These responsibilities are outlined in Agriculture Note AG0520: "Responsible use and handling of farm chemicals".

Farm chemicals are registered for specific uses. Each chemical has a 'product label', which documents the approved use and the approved rate of use within each State of Australia. This label is important in determining the appropriateness of chemical use.

Choose only products registered for use on Bathurst burr in your particular situation. Read the product label carefully and follow all label instructions.

Your chemical retailers can provide information on registered chemical products that are available in their store. They can also supply a 'Material Safety Data Sheet (MSDS)' which outlines the health and safety issues associated with the use of a product.

Legal use of some restricted chemicals requires the user to possess an Agricultural Chemical User Permit (ACUP). Other chemicals have restrictions on their use in Agricultural Chemical Control Areas (ACCA's).

Information on ACUP's, ACCA's and other chemical information can be found at the website:
http://www.dpi.vic.gov.au/chemicalstandards

Use a product containing active constituents or combinations of active constituents registered for use in Victoria to control Bathurst burr in the particular situation in which you need to use chemical control (eg. in

All land managers have a responsibility to control weeds on their property.

pastures). Consult the product label for detailed information.

Biological control

An indigenous Australian blight fungus (*Colletotrichum orbiculare*) occurs on some infestations and is being developed by New South Wales Agriculture as a mycoherbicide. The accidentally introduced rust fungus, (*Puccinia xanthii*) affects both Noogoora burr and Bathurst burr. The Bathurst burr seed fly (*Eurraresta bullans*) was introduced from South America in the 1920s and affects large areas of burr in NSW and Queensland but provides no long-term control.

Further advice

- Contact your local Landcare or Friends group for further assistance and advice.
- Call the DPI/DSE Customer Service Centre on 136 186.
- Contact your local DPI Pest Management Officer for advice on local programs.
- Visit the DPI website at:
  http://www.dpi.vic.gov.au
  and the Weeds Australia website at:
  http://www.weeds.org.au

Reference

Parsons, W.T. and Cuthbertson, E.G. (1992) *Noxious Weeds of Australia.* Melbourne, Inkata Press Melbourne.

Acknowledgements

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Early treatment of new infestations will give you the best value for your weed control dollar.