Bathurst burr

Xanthium spinosum

Photos: Crop weeds of northern Australia, Department of Primary Industries, Queensland

History

Bathurst burr was first introduced into Australia in the early 1800's from South America, as a result of contaminated grain or livestock imports. It is a common weed in many parts of the world and reduces agricultural productivity.

Although bathurst burr is not a declared weed, its control is recommended.

Description

Bathurst burr is an erect, much branched annual herb, up to 1 m high but usually 30 cm to 60 cm.

Leaves are dark green on the upper surface, a paler green on the under surface, up to 7 cm long and usually three lobed.

Stems are branched with one or two 3-pronged yellow spines at the base of each leaf stalk.

Flowers are creamy green and small, developing into straw coloured burrs, 1 to 1.5 cm long, with numerous yellow hooked spines. Each burr contains 2 seeds.

The problem

Heavy infestations occur where the ground has been disturbed, such as on roadsides, old cultivation paddocks and irrigated pastures or watercourses.

Bathurst burrs contaminate wool, necessitating heavy skirting, and increasing processing costs.

This weed also competes successfully with many summer crops, and can act as a host for some fungal diseases of horticultural plants. Seedlings are poisonous to domestic stock animals, causing death in some circumstances.

Life cycle

Bathurst burr usually germinates during late spring to early summer, produces burrs in February and dies in early winter. However, some seeds can germinate out of season and mature plants can be found at any time of the year.

Of the two seeds present in each burr, only one will germinate in a single season. The other seed will remain dormant for two or three years, sometimes longer.

The hooked spines of bathurst burr will readily attach to the fur or wool of animals and other fibrous material such as clothing, making it easily dispersed. Burrs are also able to float and can spread along watercourses.

Distribution

Bathurst burr is widespread in Australia, occurring in all states and the Northern Territory. It is particularly widespread in Queensland, occurring in southern, western and central areas, but is seldom important in the tropics. It prefers drier areas such as well-drained contour banks and lighter soils.

Control

Control methods include cultivation, which is effective in the seedling stage, or spraying with suitable herbicides (refer to table below). Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label.

Spraying is most effective on young plants and should occur before any burrs are formed, to prevent seeding. Once removed, establishing competitive healthy pastures or crops will assist to prevent re-establishment of the weed.

There are numerous biological control agents, such as the Bathurst burr seed-fly, *Euaresta bullans*, and the rust, *Puccinia xanthii*, which have limited effectiveness.

Further information

Further information is available from the vegetation management/weed control/environmental staff at your local government.

TABLE 1 – HERBICIDES REGISTERED FOR THE CONTROL OF BATHURST BURR

Situation	Herbicide	Rate	Comments
Winter cereals	2,4-D amine (500 g/L)	0.7-1.7 L/ha	Boom spray when young
Cotton	Flurometuron (500 g/L)	1.3-7.2 L/ha	Boom spray when young Refer to label for critical comments
Fallow cropland, rights of way, non crop areas	MCPA (500 g/L)	2 L/ha	Boom spray young seedlings only Refer to label for critical comments
	Glyphosate-trimesium e.g. Touchdown®	1.6-2.4 L/ha boom or 400-560 ml/100 L water spot spray	Spray to the point of runoff.
	2,4-D amine (300 g/L) + picloram (75 g/L) e.g. Tordon® 75-D	1 L/ha	Aircraft or boom application DO NOT apply two months prior to sowing winter cereals
	Fluroxypyr (200 g/L) e.g. Starane 200	75 ml/100 L water	Apply only to young, actively growing plants to the point of runoff.
Pasture	MCPA (500 g/L)	2 L/ha	Spot spray. Damage to legumes can occur.
	Fluroxypyr (200 g/L) e.g. Starane 200	75ml/100 L water	Spray young, actively growing plants to the point of runoff.
	2,4-D amine (500 g/L)	0.4L/100 L water	Spot spray. Apply to young, actively growing weeds, ensuring thorough coverage.
	MCPA (340 g/L) + dicamba (80 g/L)	190-270 ml/100L	Spray when young and actively growing
Sorghum	2,4-D amine (500 g/L)	0.5-1 L/ha	Boom spray when young
	2,4-D amine (300 g/L) + picloram (75 g/L) e.g. Tordon® 75-D	1L/ha	Aircraft or boom spray when young.
Turf, ovals/parks	2,4-D amine (500 g/L)	2-4 mL/1L	Spot spray when young
Dry channels, drains	Glyphosate-trimesium e.g. Touchdown®	1.6-2.4 L/ha boom or 400-560 ml/100 L water spot spray	Do not allow water to return to drains/channels within 4 days of application