

Badhara bush

Gmelina elliptica



Native to Asia, badhara bush is a highly variable thorny shrub or small tree. It has been introduced as a cultivated ornamental to the world's warmer regions. Badhara bush forms dense thickets, shading out useful pasture species and preventing stock movement. It also has significant impacts on natural areas, decreasing biodiversity and causing lasting environmental effects.

Legal requirements

Badhara bush is a category 3 restricted invasive plant under the *Biosecurity Act 2014*. It must not be given away, sold, or released into the environment. The Act requires everyone to take all reasonable and practical measures to minimise the biosecurity risks associated with invasive plants under their control. This is called a general biosecurity obligation (GBO). This fact sheet gives examples of how you can meet your GBO.

Badhara bush is under an eradication project, therefore, sightings should be reported to Biosecurity Queensland on 13 25 23 as soon as possible after being found.

At a local level, each local government must have a biosecurity plan that covers invasive plants in its area. This plan may include actions to be taken on badhara bush. Some of these actions may be required under local laws. Contact your local government for more information.

Description

Badhara bush is a highly variable thorny shrub or small tree, growing 2–4 m high (occasionally up to 10 m). The stems are usually yellowish or brownish-white, and branches are usually armed with pairs of spines.

Leaves are dark green above, paler below and in opposite pairs, usually with one of the pair smaller than its companion. Leaves are generally oval-shaped, 1–10 cm long, 1.5–6 cm wide and pointed at the apex. Younger leaves are three-lobed while older leaves are elliptical, with sparse hairs on the underside.

Flowers are yellow and tubular, generally around 5 cm long. Fruit is yellow (when ripe) and pear-shaped and about 1.5 cm across. The fruit has four chambers in which seed can be found, though usually only two chambers have fully developed seed.

Life cycle

Badhara bush germinates following the first summer rains. Seedling growth is slow at first but increases rapidly as the season advances. The first flowers tend to appear in the second or third year after germination. Flowering mainly occurs from October to July, with a small number of plants flowering all year.

The fruiting period is mainly from December to August with the time from bud to mature fruit 110 to 130 days.

Methods of spread

Badhara bush spreads mainly by the bitter but edible seeds which birds and other animals spread in their droppings. Its woody taproot can also produce suckers, particularly after disturbance, allowing colonies of the shrub to spread.

Habitat and distribution

Badhara bush occurs naturally throughout much of Asia, although it has been introduced to warmer regions of the world, particularly as a cultivated ornamental. The only known infestations in Queensland occur within a 150 km radius of Rockhampton.

Control

Managing badhara bush

The GBO requires a person to take reasonable and practical measures to minimise the biosecurity risks posed by badhara bush.

No herbicide is currently registered in Queensland. However, an off-label use permit (Permit No. PER82307) allows use of glyphosate 360g/L and metsulfuron-methyl 600 g/kg to control environmental invasive plants in non-cropping areas, bushland and forests.

The removal of adult plants stimulates seed germination and these seedlings must be removed before they produce further seeds.

More information

For more information contact Biosecurity Queensland on 13 25 23 or visit biosecurity.qld.gov.au.

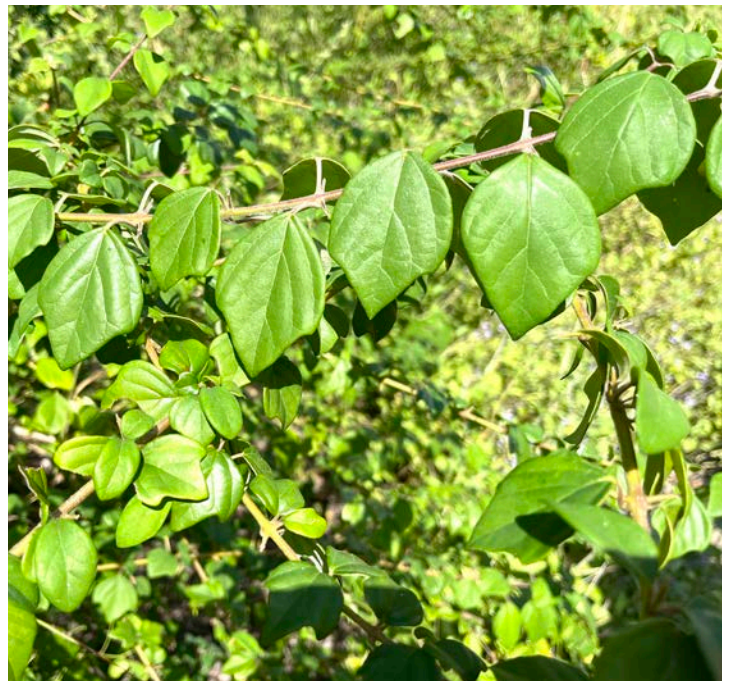
Table 1. Herbicides registered for the control of badhara bush

Situation	Herbicide	Rate	Comments
Forests including: native vegetation areas bushland reserves revegetation areas national park areas	Glyphosate 360 g/L (e.g. Weedmaster Duo) + Metsulfuron-methyl 600 g/kg (e.g. Associate)	Tank mixes of 2 L glyphosate + 15 g metsulfuron-methyl per 100 L water plus wetting agent	Foliar spray Apply with handgun or backpack sprayer. Use sufficient spray volume for thorough coverage.
Non cropland including rights- of-way, open spaces, commercial and industrial areas, domestic and urban areas, public service areas, botanic gardens (Permit PER82307)		Tank mixes of 1:1.5 glyphosate + 1 g metsulfuron-methyl per 1 L water	Cut stump Stems should be cut close to ground level and treated immediately.

Read the label carefully before use. Always use the herbicide in accordance with the directions on the label.



Badhara bush flower and fruit



Badhara bush leaves



Badhara bush leaves and spines

Fact sheets are available from biosecurity.qld.gov.au. The control methods recommended should be used in accordance with the restrictions (federal and state legislation, and local government laws) directly or indirectly related to each control method. These restrictions may prevent the use of one or more of the methods referred to, depending on individual circumstances. While every care is taken to ensure the accuracy of this information, the department does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.

