

African boxthorn

Lycium ferocissimum



African boxthorn can be an aggressive invader of pastures, roadsides and reserves. It forms impenetrable, sharp-spined thickets, which can cause problems along fence lines and inhibit the movement of stock. Dense infestations will reduce the usability of pasture land and hinder mustering; they may also provide a haven for rabbits.

Many insects breed in the fruit of African boxthorn, including fruit fly, dried fruit beetle and tomato fly.

The taproot can produce new growth when broken, making it difficult to kill by pulling out. Dead plants can still be a problem to stock and tyres, as plants remain spiky for up to 20 years if not burnt.





Declaration details

African boxthorn is a declared Class 2 plant under the *Land Protection (Pest and Stock Route Management) Act 2002*. Declaration requires landholders to control declared pests on the land and waters under their control. A local government may serve a notice upon a landholder requiring control of declared pests.

It is an offence to introduce, keep or supply Class 2 pests without a permit issued by Biosecurity Queensland. Penalties of up to \$40 000 apply.

Description and general information

African boxthorn is a spiny shrub from South Africa. Introduced to Australia in the mid-1800s as a hedge plant, it has since spread into pastures, neglected areas, roadsides, railways and waterways. It produces a dense thicket armed with spines that can form an impenetrable barrier to domestic stock.

African boxthorn is a perennial shrub up to 5 m in height with a deep and extensive branched root system. The main branches are drooped, widely spreading and carry numerous branchlets, each of which ends in a spine.

The main stem has spines to 15 cm while the branchlets carry smaller spines. Branchlets carry small shoots that have clusters of leaves, surrounded at the base by many small, light brown scales. Initially stems are smooth and light brown but become grey and rough as they mature.

Leaves

Leaves are bright green and rather succulent, 3 cm long and 2 cm wide, rounded at the top and tapering to the base.

Flowers

White to pale mauve flowers about 12 mm in diameter hang from short stalks. They occur singly or in pairs in the forks of the leaves. Smooth green berries ripen to a bright orange to red colour and contain numerous light brown, oval, flattened seeds.

Life cycle

Seeds may germinate at any time of the year and will quickly establish a root system to allow young plants to compete with other species.

Plants are at least two years old when they first bear flowers and although this generally occurs in summer, some flowering and fruiting may occur at all times of the year if sufficient moisture is available.

Habitat and distribution

African boxthorn is a native of southern Africa, occurring mainly in non-coastal areas of south-eastern Queensland. It has been recorded as far afield as Hughenden and Charleville. It is an aggressive weed on some of the better soils of the Maranoa and Darling Downs districts.

The plant will grow on all soil types, although it will establish better in lighter soils, particularly along dry creek beds.

Birds and animals will readily spread African boxthorn by eating the berries and excreting viable seed.

Prevention

Birds and animals spread seeds after they eat the fruit. Prevention therefore depends on controlling the plants before they flower and set fruit.

Control

The best form of weed control is prevention. Weed infestations should be treated when small to prevent large-scale establishment.

The best approach is usually to combine different methods. Control may include chemical and mechanical control methods combined with land management practices. The control methods chosen should suit your particular situation.

Mechanical control

Large stands of boxthorn can be cleared by dozing, stickraking or blade ploughing; however, regrowth from seed or remaining roots will occur. Cultivation and herbicides are effective in dealing with seedlings and regrowth.

Physically removing the plant can be beneficial, as dead boxthorn will still provide a haven for rabbits and occupy valuable pasture areas.

Herbicide control

Before using any herbicide, always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label. After herbicide application,

African boxthorn plants often lose their leaves and appear dead but may still recover and produce new leaves. This can occur a number of times before the plant is properly dead, especially if a root-absorbed herbicide is used.

Foliar spray

Overall spray the bushes to the point of run-off. Optimum time for spraying is February–May, when plants are actively growing. Do not spray during hot, dry summer periods.

Basal bark treatment

Carefully spray around the base of each stem to a height of 30–40 cm above ground level.

Cut stump treatment

Cut each stem off as close to the ground as possible and **immediately** (within 15 seconds) apply the herbicide mixture liberally to the cut surface.

Root application

Apply one of the residual herbicides to the soil between the base of the plant and the drip line, preferably when the soil is wet or rain is expected.

Note: Native trees are very susceptible to these residual herbicides, and they should not be used within a distance of twice the height of adjacent desirable trees.

Further information

Further information is available from your local government office, or by contacting Biosecurity Queensland (call 13 25 23 or visit our website at www.biosecurity.qld.gov.au).

Table 1 Some of the herbicides registered for the control of African boxthorn. Other herbicides may be registered for use in other situations

Situation	Herbicide active ingredient	Rate	Comments
Pastures, rights of way and non-crop land	glyphosate as ipa (360 g/L)	0.7–1 L/100 L	Non-selective herbicide High-volume foliar spray to point of run-off using power spray or knapsack. Use lower rates for young bushes
	glyphosate as K salt (500 g/L) (e.g. Touchdown [®] Hitech)	0.6 L/100 L	Non-selective herbicide High-volume foliar spray to point of run-off using power spray or knapsack. Re-treatment and/or subsequent control of seedlings may be required
	triclopyr as butotyl (300 g/L) + picloram as hopa (100 g/L) (e.g. Grazon Extra [®])	0.5 L/100 L	High-volume foliar spray to point of run-off using power spray or knapsack. For use on plants less than 2 m tall. Apply when bushes have good leaf cover and are actively growing
	2,4-D as tipa (300 g/L) + picloram as tipa (75 g/L) (e.g. Tordon 75-D [®])	1.3 L/100 L	Treat small plants only. High volume foliar spray to point of run-off using power spray or knapsack. Optimum time to spray is prior to bud burst. Spray soil to drip line
	triclopyr as butotyl (240 g/L) + picloram as ioe (120 g/L) (e.g. Access [®])	1 L/60 L diesel	Basal bark stems up to 5 cm thick. Spray bark to 30 cm above ground level Cut stump treatment for larger plants. Cut plant as close to ground as possible and apply herbicide mixture immediately (within 15 seconds) after cut is made

Table 1 (Continued)

Situation	Herbicide active ingredient	Rate	Comments
Pastures, rights of way and non-crop land	triclopyr as butotyl (600 g/L) (e.g. Garlon® 600)	1 L/30 L diesel	Basal bark stems up to 5 cm thick. Spray bark to 30 cm above ground level Cut stump treatment for larger plants. Cut plant as close to ground as possible and apply herbicide mixture immediately (within 15 seconds) after cut is made
Pastures, around agricultural buildings	hexazinone (250 g/L) ¹ (e.g. Velpar®L)	1–4 ml/spot	Residual for root application. Do not use within a distance of twice the height of desirable trees. Use 1 spot for each metre in height for bushes up to 3 m tall
Pastures	tebuthiuron (200 g/kg) ¹ (e.g. Graslan®)	2 gm/m ²	Residual for root application. Do not use within a distance of twice the height of desirable trees Refer to label for critical comments
Pastures, rights of way	Picloram as tea (20 g/kg) (e.g. Tordon Granules®)	35–45 gm/m ²	Residual for root application. Do not apply when plant may be stressed (not actively growing). Do not use within a distance of twice the height of desirable trees

Notes:

¹Recording of herbicide usage is required on grazing properties over 2000 ha in Great Barrier Reef catchments.

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

Fact sheets are available from Department of Employment, Economic Development and Innovation (DEEDI) service centres and our Customer Service Centre (telephone 13 25 23). Check our website at www.biosecurity.qld.gov.au to ensure you have the latest version of this fact sheet. The control methods referred to in this fact sheet 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, DEEDI does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.