

African boxthorn

Lycium ferocissimum



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 has been recognised in Australia as a Weed of National Significance.

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.



**Queensland
Government**

Legal requirements

African boxthorn 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.

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 African boxthorn. Some of these actions may be required under local laws. Contact your local government for more information.

Description

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

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.

Methods of spread

Birds and animals like rabbits and foxes spread seeds after they eat the fruit.

Habitat and distribution

African boxthorn occurs mainly in non-coastal areas of south-eastern Queensland. It has been recorded as far afield as Hughenden and Charleville. It is an aggressive invasive plant on some of the better soils of the Maranoa and Darling Downs districts.

The plant will grow in 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.

Control

Managing African boxthorn

The GBO requires a person to take reasonable and practical measures to minimise the biosecurity risks posed by African boxthorn. This fact sheet provides information and some options for controlling African boxthorn.

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

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

Mechanical control

Large stands of African 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.

High-volume 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.

Low-volume foliar application

Apply small volumes of high concentrate herbicide mixture by drenching gun, splatter gun, sprinkler sprayer or gas powered gun to plants that are actively growing.

More information

For more information contact your local government or visit biosecurity.qld.gov.au.



Table 1. Herbicides for the control of African boxthorn

Situation	Herbicide	Rate	Comments
Pastures, rights-of-way and non-crop land	Glyphosate as ipa 360 g/L (e.g. Ezycrop Bio Glyphosate 360 Herbicide)	700 mL–1 L/100 L water	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)	600 mL/100 L water	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.
	Other glyphosate formulations. The two formulations listed above are examples. A wide range of glyphosate products are registered for control of African boxthorn. Consult labels for individual products and follow all label instructions.		
	Triclopyr as butotyl 300 g/L + Picloram as hopa 100 g/L + Aminopyralid as hoga 8 g/L (e.g. Grazon Extra®)	500 mL/100 L water	High-volume foliar spray to point of run-off using power spray or knapsack. For use on plants less than 2 m high. 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 water	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 300 g/L + Picloram as hoga 100 g/L (e.g. Fightback®)	500 mL/100 L of water	High volume foliar spray to point of run off. For use on plants less than 2 m high. Apply when bushes have good leaf cover and are actively growing.
	Triclopyr as butotyl 240 g/L + Picloram as ioe 120 g/L (e.g. Access®)	1 L/60 L diesel or Biosafe Biodegradable Herbicide Carrier	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.
Commercial and industrial areas, rights-of-way, around agricultural buildings and pasture situations	Hexazinone 250 g/L ¹ (e.g. CropSure Hexasure 250)	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 high.
Pastures	Tebuthiuron 200 g/kg ¹ (e.g. Graslan®)	2 g/m ²	Residual for root application. Do not use within a distance of twice the height of desirable trees. Consult label.
Grazing pastures, forests and rights-of-way	Picloram as tea 20 g/kg (e.g. Tordon Granules Weed and Brush)	35–45 g/m ²	Residual for root application. Do not apply when plant is stressed and not actively growing. Do not use within a distance of twice the height of desirable trees. Consult label.
Agricultural non-crop areas, commercial and industrial areas, non-crop areas and pastures	Glyphosate (various formulations: consult PER81752)	180 g a.i./10 L	Low-volume/high concentration foliar application. e.g. drench, splatter gun, sprinkler sprayer or gas powered gun. Consult label for appropriate wetting agent and PER81752 for mixing rates for different formulations.
	Metsulfuron methyl 600 g/kg (e.g. Nufarm Associate Herbicide)	20 g/10 L water plus wetter (e.g. Pulse)	Low-volume/high concentration foliar application. e.g. drench, splatter gun, sprinkler sprayer or gas powered gun. Consult label for appropriate wetting agent. Permitted under PER81752.
	Metsulfuron methyl 600 g/kg (e.g. Nufarm Associate Herbicide) plus Glyphosate (consult PER81752)	20 g/10 L mix plus Glyphosate as described in PER81752 plus wetter (e.g. Pulse)	Low-volume/high concentration foliar application. e.g. drench, splatter gun, sprinkler sprayer or gas powered gun. Consult label for appropriate wetting agent and PER81752 for mixing rates for different formulations.

Other herbicides may be registered for use in other situations. Alternatively, low volume/high concentration foliar application (e.g. drench, splatter gun) is permitted under PER81752 (expires 31/03/2024). Notes: ¹Recording of herbicide usage is required on grazing properties over 2000 ha in Great Barrier Reef catchments.

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

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.

