



Honey locust

McConnel's curse or bean tree

Gleditsia triacanthos

DECLARED CLASS 1



Honey locust is an aggressive exotic tree. It can smother pastures and native vegetation, and inflict painful injuries to humans and livestock with its long spines.

The tree is a prolific seeder and can spread rapidly forming dense thickets. It is a major threat to the environment and sustainable pasture production. Honey locust tree is a declared plant which means it must be destroyed and cannot be sold anywhere in Queensland. This includes all ornamental cultivars and 'thornless' varieties.

Description

Honey locust is a deciduous, leguminous tree growing to 20 m tall. From spring to autumn it bears prolific green leaves (10 cm long), with about twelve opposite paired leaflets per leaf. In October-November it bears creamy, yellow hanging flower stalks (10 cm long) that develop into 20–30 cm long brown pods. Some varieties have separate male and female plants, while other varieties are bisexual. The plant seeds prolifically every 1–2 years and the pods are relished by stock.

The trunk and limbs of 'wild' trees bear very large crucifix like spines that can grow more than 50 mm. In the past, nurseries have sold grafted ornamental, thornless varieties of honey locust. There are many ornamental varieties of honey locust, including 'Rubylace', 'Sunburst', 'Moraine', 'Shademaster' and 'Inermis'. These so-called 'thornless' varieties produce thorns at a later date or throw thorny progeny. This means that these varieties are subject to the same controls as the 'wild' type (i.e. must be destroyed and cannot be sold anywhere in Queensland).

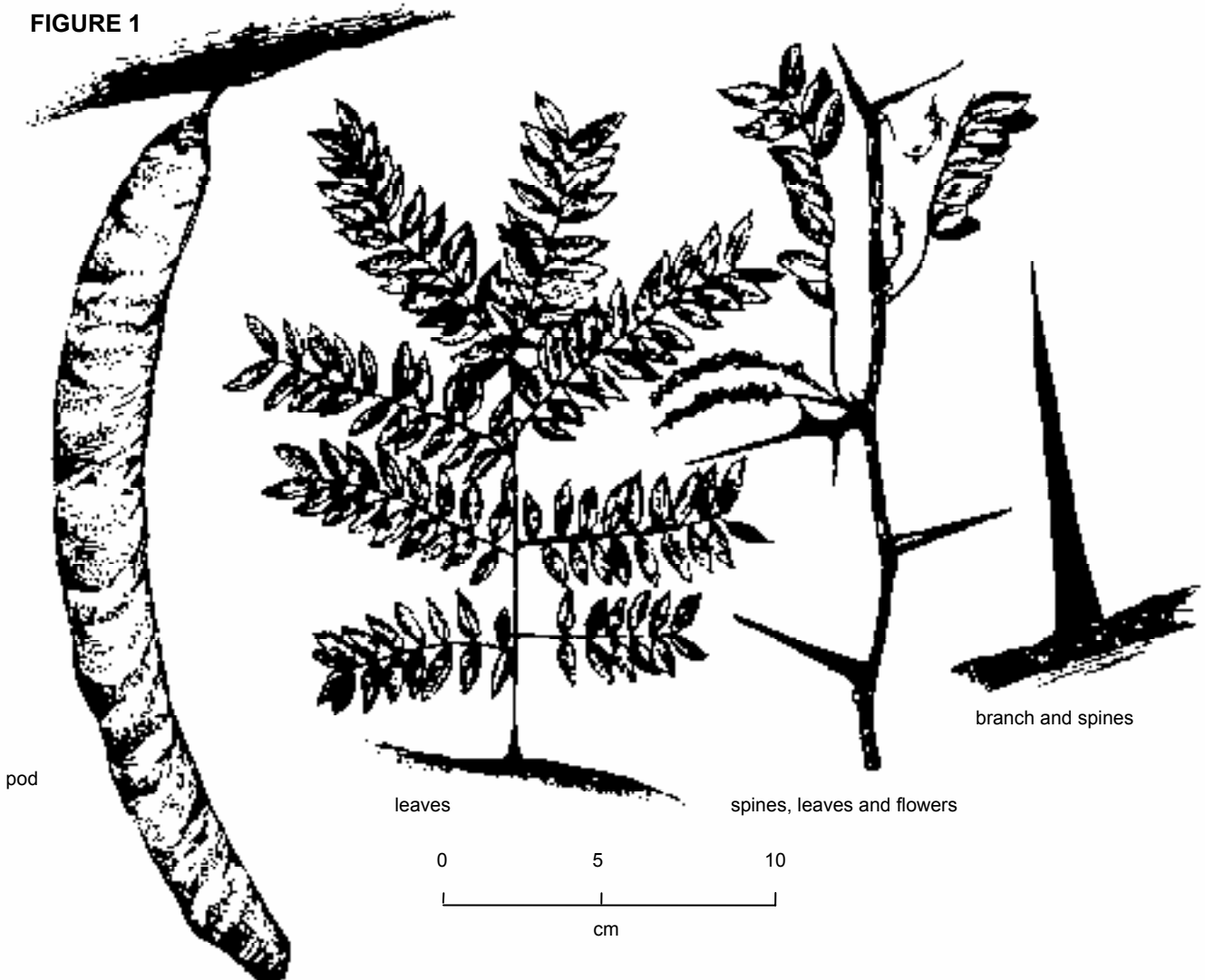
The problem

Honey locust is a large rapidly growing tree. In the past it has been deliberately promoted and planted in Australia as a fodder tree and garden ornamental.

Although beneficial in the short-term as stock feed, the long-term consequences of its growth and spread are counter-productive.

Honey locust tree is considered a serious pest due to its invasiveness and environmental, economic and social impacts.

FIGURE 1



Environmental

Honey locust is an invasive tree capable of out-competing and replacing native vegetation. It can often create dense monocultures and hence provide restricted habitat for native fauna. The sharp barbs on its branches can also injure wildlife.

Honey locust can also provide a haven for introduced pest animals such as foxes, cats and rabbits.

Agricultural

Honey locust spreads rapidly from seed. If not controlled, it can destroy pastures by smothering the more desirable grass species. The plant can form dense thickets, particularly along waterways, preventing stock access to water.

Safety

The plant's long, strong spines can inflict serious injuries and infections to humans and livestock (see Figure 1). They can also cause damage to tractor, quad bike and other vehicle tyres, restricting vehicle movement near infestations. Even when the plant has died, spines can continue to inflict injury.

Habitat and distribution

History

Honey locust was originally introduced from North America and planted in Queensland in 1907 as a fodder and ornamental tree. It was first reported as a pest in 1955 at Cressbrook Creek (Esk Shire). Honey locust exists naturally across the USA from Mexico in the south, to Ontario, Canada in the north.

Present distribution

Honey locust can grow in most soil types but prefers alluvial flood plains along river systems. Impenetrable thickets of this thorny weed have smothered large areas of highly productive alluvial grazing land near Toogoolawah.

Heavy infestations occurred on the Darling Downs in the Clifton/Allora area and at Toogoolawah. Scattered infestations and individual ornamental plants are found around Monto, on the Eastern Darling Downs from Toowoomba to New South Wales and in the Arcadia, Stanley, Bremer and Logan Valleys.

The Department of Natural Resources and Water initiated an eradication project in 1993 involving departmental staff, local governments and landholders. All major infestations have now been treated. Follow-up programs through local government and landholders continue to control isolated infestations and regrowth from new seedlings. As new seedlings take up to two years to set seed there is adequate time for follow-up control and possible eradication.

Potential distribution

Honey locust tree is an extremely drought tolerant, adaptable species and is presently free of insects and disease. Its potential for spread over large areas is enormous.

There are no reasons, climatic or otherwise, why honey locust tree should not spread throughout south-east Queensland, especially on alluvial soils in the Brisbane Valley and Darling Downs. Seed is spread by:

- grazing stock eating pods and passing seed in dung
- floodwaters transporting floating pods
- people planting it as an ornamental or for fodder.

Declaration details

Honey locust (*Gleditsia* spp.) is a declared Class 1 plant under the Queensland *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.

Control

The spread of weeds threatens the sustainability of agriculture and other land uses. Weeds also devastate native plants and animals.

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

Management strategies

Although honey locust is a useful fodder tree when young, older trees can reproduce at an uncontrollable rate. If left uncontrolled, a population explosion may occur, threatening sustainable pasture production and the environment. This has been evident in established infestations near Esk and Warwick. Eradication of isolated trees can prevent this situation occurring elsewhere.

Grazing

Continual grazing suppresses seedlings but can also assist in spreading seeds into new areas. Grazing can be a useful follow-up control method after herbicide treatment to control seedlings and regrowth, providing the plants do not bear seed pods.

For the control of dense infestations on grazing land, burning followed by spot spraying is an economical control method.

Mechanical control

Bulldozing

This methods breaks plant at or above ground level. Once broken, honey locust will vigorously produce regrowth from broken bases and roots. Follow-up with some other form of control such as cultivation or herbicide is necessary.

Cultivation

On arable land, dozing following by deep ploughing can control dense infestations, only if followed by regular cropping and/or spot spraying of regrowth. If cultivation is abandoned, reseeding from nearby trees can be a problem.

Herbicide control

Table 1 shows the herbicides registered for honey locust control. Before using any herbicide always read the label carefully. All herbicides must be applied strictly in accordance with the directions on the label.

Once a honey locust tree has been killed by herbicides it is quickly invaded by borers. By the time the tree falls, the borers have reduced it to a shell and it will shatter. Blockages of watercourses are of minimal concern. The thorns do not break down as quickly and remain a danger to humans and other animals walking through the area where the trees were. As safety is a concern, removal of the dead trees will help to eliminate these problems.

Further information

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



Basal barking

TABLE 1 – HERBICIDES REGISTERED FOR THE CONTROL OF HONEY LOCUST

Situation	Tradename/ Herbicide	Rate	Comments ²
pastures non-agricultural land	fluroxpyr ¹ (Starane 200®)	1.5 L/100 L diesel	Basal bark for plants up to 10 cm basal diameter. Treat circumference of stem to a height of 45 cm from the ground.
		3 L/100 L diesel	Basal bark for plants 10-20 cm basal diameter. Treat circumference of stem to a height of 45 cm from the ground.
		5 L/100 L diesel	Basal bark for plants greater than 20 cm basal diameter. Treat circumference of stem to a height of 45 cm from the ground.
		0.5 L/100 L water	High volume spraying. Apply to plants to 2 m high
	75 mL/15 L water	Knapsack spraying. Apply to plants to 2 m high	
	triclopyr + picloram (Access®)	1 L/60 L diesel	Basal bark stems up to 5 cm thick. 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.

- Notes**
1. Do not graze treated pastures for 7 days after application.
 2. Honey locust trees can be successfully controlled when basal barking with Starane 200® in both actively growing and dormant stages.

Fact sheets are available from NRW service centres and the NRW Information Centre phone (07 3237 1435). Check our web site <www.nrw.qld.gov.au> to ensure you have the latest version of this fact sheet. The control methods referred to in this Pest Fact 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 utilisation 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 of Natural Resources and Water does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.