

Invasive plants and animals



## Honey locust

### Ornamental varieties

*Gleditsia triacanthos* var. *inermis*

**DECLARED CLASS 1**



Honey locust cultivar, Rubylace (© [2006] www.NZPlantPics.com)



Potential seed production of honey locust trees



Thorns are produced by some ornamental varieties as they age

Honey locust is a highly invasive, exotic tree. Due to the potential impacts of infestations in agricultural and natural environments, all varieties of *Gleditsia triacanthos* have been declared Class 1 weeds in Queensland and have been targeted for eradication.

While honey locust is commonly known for its large crucifix-shaped thorns, a range of mostly thornless ornamental varieties has been developed.

Common commercial names include: 'Christie', 'Elegantissima', 'Emerald cascade', 'Halka', 'Imperial', 'Impercole', 'Inermis', 'Limegold', 'Majestic', 'Mirando', 'Moraine', 'Rubylace', 'Shademaster', 'Skycole', 'Skyline', 'Spectrum', 'Summerlace', 'Sunburst', 'Suncole', 'Skyline' and 'Trueshade'.

These varieties are still found in many urban gardens. It is illegal to keep, sell or supply honey locust or their reproductive materials in Queensland, but honey locust cultivars are often purchased without knowledge of their pest status from nurseries in other states and brought into Queensland.

Cultivated honey locust varieties are recognised for their beauty and have in the past been used as shade and feature trees. Never the less, they pose the same economic and environmental threats as their thorny counterparts, with the potential to form dense groves, taking over pasture land and out-competing native species.

Despite their 'thornless' tag, ornamental honey locust often throw thorny progeny and begin to

produce barbed thorns of up to 15 cm long as they age. In addition, many plants are produced by grafting cuttings of 'thornless' cultivars onto the root stock of 'wild' varieties. When the roots are damaged or the tree is cut down, these grafted plants produce thorny suckers.

## Description

The honey locust is a deciduous, leguminous tree. Some reach 20–30 m in height, although cultivars vary in size, form and leaf colour (see descriptions in Table 1 over page).

From spring to autumn the honey locust bears prolific fern-like bi-pinnately arranged leaves. These leaves are 10–25 cm long with about twelve opposite paired leaflets per leaf (each leaflet is 1.5–2.5 cm long). In autumn the leaves turn a golden yellow and are lost in preparation for the winter months.

The honey locust produces hanging clusters of insignificant greenish-yellow flowers between October and November, and some cultivars produce 20–30 cm long brown pods that remain on the tree throughout winter.

## The problem

Weeds like honey locust put considerable pressure on farming ventures and threaten natural environmental systems.

Ornamental honey locust trees have in the past been deliberately promoted and planted in Queensland. They are still available through interstate nurseries and by on-line order, although it is illegal to knowingly supply them to a Queensland gardener.

The seeds have hard, impenetrable coats and can remain viable for 20 years or more. This makes eradication very difficult and allows groves of honey locust trees to re-establish many years after the parent trees have gone.

### Environmental

Honey locust is an invasive tree capable of out-competing and replacing native vegetation. It can create dense monocultures and so provide restricted habitat for native fauna. The sharp barbs of thorny varieties can seriously injure wildlife. Introduced pest animals such as foxes, cats and rabbits also find refuge in the dense thickets, causing secondary pest problems.

### Agricultural

Honey locust trees spread rapidly from seed. If not controlled, they 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 long, strong spines some varieties grow can inflict serious injuries and lead to infection in humans, pets, livestock and native animals. They can also cause damage to vehicles and equipment

and remain a safety hazard even once the plant has died.

## Distribution

Nearly all commercially available honey locust cultivars were developed from the thornless species, *Gleditsia triacanthos f. inermis*, which is native to the central and eastern United States of America.

Although not as resilient as the 'wild' variety of *Gleditsia*, ornamental varieties are currently free of insect pests and disease in Australia and are extremely drought tolerant. Climatic modelling suggests honey locust has the potential to spread throughout South East Queensland, especially on the alluvial soils of the Brisbane Valley and Darling Downs.

Prior to 1993 when an eradication program was initiated by the Department of Primary Industries and Fisheries, heavy infestations of honey locust occurred in the Warwick, Clifton and Allora areas of the Darling Downs and at Toogoolawah in the Brisbane Valley.



Honey locust flower



Seed pods (20–30 cm)

## Declaration details

Honey locust (*Gleditsia* spp.) is a declared Class 1 plant under the Queensland *Land Protection (Pest and Stock Route Management) Act 2002*. Class 1 weeds are those that have the potential to become very serious pests in Queensland in the future and are subject to eradication from the state. Landowners must take reasonable steps to keep land free of Class 1 pests. It is a serious offence to introduce, keep or supply a Class 1 pest and penalties of up to \$60 000 apply.

**TABLE 1 – COMMON CULTIVATED HONEY LOCUST VARIETIES FOUND IN AUSTRALIA**

Common name	Description
Elegantissima	Very compact, almost shrub-like; grows 3.5–4.5 m. Attractive fine fern-like foliage.
Emerald Cascade	Weeping form. Rich dark green foliage turns bright yellow in autumn.
Halka; Christie	High, rather narrow crown; horizontal branching structure. Fine foliage, turns yellow in autumn.
Imperial; Impcole	Round spreading form with wide spreading branching habit; grows 9 m tall x 9 m wide.
Mirando	Dwarfed cultivar with spreading, twisted branches.
Moraine	Tall tree with rounded crown and broadly spreading lower branches. Dense, deep green ferny foliage, turns yellow in autumn.
Rubylace	Medium sized tree grows to 8 m. Distinctive red-tipped foliage in spring turning a bronze-red through summer and deepening in colour in autumn.
Shademaster	Upright tree with ascending branches and a rounded crown; grows to 9m. Dark green foliage that persists late in autumn before turning golden; usually pod less although can begin producing pods after 15 years.
Skyline; Skycole	Very symmetrical, erect, broadly pyramidal crown; spreading to upright branching habit; grows to 9 m. Foliage dark green and turning to amber in autumn.
Sunburst; Suncole	Broad oval crown with very irregular growth habit; grows 7–9 m. Bright yellow new foliage maturing to a fresh lime-green; clusters of yellow-green fragrant flowers.
Truershade	Broadly oval/domed crown with branch angles close to 45 degrees and widely spreading lower branches.

**EXAMPLES OF HONEY LOCUST TREE CULTIVARS SHOWING SOME OF THE DIVERSITY OF TREE FORMS THAT HAVE BEEN PRODUCED**



Imperial cultivar (© Horticultural Photography TM)



Emerald cascade cultivar (© Horticultural Photography TM)



Skyline cultivar (autumn colouration) (© Horticultural Photography TM)



Skyline cultivar foliage (spring) (Northwest Shade Trees)

## Control

A variety of mechanical and chemical means of control are available (refer to the 'Honey locust' fact sheet, PP47, for further information).

However, the removal of large ornamental honey locust trees from residential areas is best done using the cut stump method (see Table 2). This allows the tree to be completely removed.

It is vital the cut surface is treated with herbicide as honey locust trees readily regrow. If the tree being removed is a grafted variety, the new shoots will most likely be thorny.

Where possible, remove honey locust trees when they are not in seed. If seed pods are present, make sure they are carefully collected before the tree is mulched or moved off site. Contact a Local Government Weeds Officer or Primary Industries and Fisheries Land Protection Officer to have the seeds disposed of correctly.

## Further information

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

**TABLE 2 – HERBICIDES REGISTERED FOR THE CONTROL OF HONEY LOCUST**

Situation	Herbicide/ tradename	Rate	Comments <sup>2</sup>
Pastures Non-agricultural land	Fluroxypyr 200 g/L <sup>1</sup> (Starane 200®; Flagship 200®; Comet 200®; Agcare Fluroken 200®; Restrain 200®; Neon 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. Wet bark to point of run-off.
		3 L/100 L diesel	Basal bark for plants 10–20 cm basal diameter. Treat as described above.
		5 L/100 L diesel	Basal bark for plants greater than 20 cm basal diameter. Treat as described above. Old rough bark will require more spray than smooth young bark.
		5 L/100 L diesel	Cut stump application – use this rate for all plant sizes. Cut plant <15 cm above ground and apply chemical to cut surface and sides of stump immediately (<15 seconds).
		0.5 L/100 L water	High volume spraying. Apply to obtain full coverage of the leaves and stems of plants to 2 m high. Wet plant the point of run-off.
		75 mL/15 L water	Knapsack spraying. Treat as described for high volume spraying technique.
	Triclopyr 240 g/L + picloram 120 g/L (Access®)	1 L/60 L diesel	Basal bark for 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.
Minor use permit (PER7485) <sup>3</sup>	Glysofphate 360 g/L (Round-up®)	1 L/2 L water	Drill, frill, axe or stem injection. These application methods require that the chemical reaches the sapwood within 10–15 seconds of the cut or drill hole being made.
Non-agricultural areas, bushland, forests, wetlands, coastal and adjacent areas	Glysofphate 360 g/L (Round-up®)	1 L/12 L water	Cut stump application (as described above); or paint basal green bark and/or crown.
		Triclopyr 200 g/L + picloram 100 g/L  (Tordon Double Strength®)	500 mL/100 L water

### Notes

1. Do not graze treated pasture for seven days after application.
2. Honey locust trees can be successfully controlled when basal barking with fluroxypyr in both actively growing and dormant stages.
3. Restricted to use by pest control operators, members of environmental groups and people employed as or working under the supervision of local and state government officers.

Fact sheets are available from DPI&F service centres and the DPI&F Information Centre phone (13 25 23). Check our web site <[www.dpi.qld.gov.au](http://www.dpi.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 Primary Industries and Fisheries does not invite reliance upon it, nor accept responsibility for any loss or damage caused by actions based on it.