



# Lantana

*Lantana camara*

**DECLARED CLASS 3**



## Description

Lantana is a heavily branched shrub that can grow as compact clumps, dense thickets and as a scrambling and climbing vine.

The stems are square with small, recurved prickles along the edges. The leaves are bright green above, paler beneath, mostly about 6 cm long, with round-toothed edges. Leaves grow opposite one another along the stem.

Flowers appear throughout most of the year in clustered compact heads about 2.5 cm in diameter. Flower colours vary from pale cream to yellow, white, pink, orange, red, lilac and purple. Original forms have glossy rounded fruits that are fleshy and purplish-black when ripe.

## The problem

Currently lantana covers 4 million hectares from coastal New South Wales to north Queensland. Lantana has now spread into the Northern Territory and Western Australia and has the potential to invade Victoria.

Lantana forms dense thickets that smother and kill native vegetation. The thickets are impenetrable for animals, people and vehicles. As lantana is a woody shrub its presence helps create hotter bushfires.

Lantana is spread mostly by fruit eating birds and people. The presence of lantana in native bushland increases soil fertility in areas that have normally low fertility and this encourages further exotic weed invasions.

For rural production lantana poses problems of stock poisoning, as some forms are highly toxic when eaten. Also, lantana will replace desirable pasture grass species.

## Distribution and habitat

Lantana is native to the tropical and sub-tropical regions of Central and South America. It is found throughout most coastal and sub-coastal areas of eastern Australia, from north Queensland to southern New South Wales. Lantana grows in a wide variety of habitats, from exposed dry hillsides to wet heavily shaded gullies.

## Toxicity

Many lantana types are poisonous to stock. Because the plant is so variable it is not easy to tell which ones are the poisonous ones. It is better to treat all forms as potentially poisonous. The toxins in lantana include the triterpene acids, lantadene A (rehmannic acid), lantadene B, and their reduced forms. Most cases of lantana poisoning occur in stock newly introduced into areas where toxic lantana is found. Stock bred on lantana-infested country avoid lantana unless forced to eat it due to lack of food. Young animals introduced to lantana areas are most at risk.

Symptoms of lantana poisoning depend on the amount and type of lantana consumed, and under some circumstances, the intensity of light to which the animals are exposed. Early symptoms include head swaying side to side, loss of appetite, constipation, and frequent urination. After a day or two the eyes and the skin of the nose and mouth start yellowing with jaundice and the muzzle becomes dry and warm. The eyes may become inflamed and have a slight discharge. The animal also becomes increasingly sensitive to light. Finally, the muzzle becomes inflamed, moist and very painful ("pink nose"). Death commonly occurs 1–4 weeks after symptoms occur. In an acute form, death occurs 3–4 days after eating the plant.

If animals show any of the early symptoms, they should be moved to lantana-free areas and kept in the shade and monitored.

Care should be taken when introducing new or young animals into a paddock if lantana is present. Ensure they have enough feed to prevent them eating lantana in amounts sufficient to produce poisoning. During drought, animals should not be placed in lantana-infested areas without alternative food.

## Management program

Always commence control programs in areas of light infestations and work towards the denser

infestations. Using a mix (integration) of methods gives the best results.

Treatment of large lantana infestations with herbicides is not economically feasible. Fire, dozing/stickraking, slashing/cutting can reduce dense infestations and makes spot treatments with chemicals more economically effective.

The use of fire as part of a management program is recommended for the control of dense infestations.

A suggested control program is:

- exclude stock to establish a fuel load
- burn when you can get a permit
- sow improved pastures (consult your local Department of Primary Industries Extension Agronomist for advice)
- continue to exclude stock until pasture has established and seeded
- burn again in the hot dry months before rain and spot spray regrowth when it is vigorously growing between 50 cm and 1.5 m tall (see Table 1).

Follow-up controls after each burn, with spot spraying or mechanical methods, are essential for the next few years.

## Mechanical control

Stickraking or ploughing will remove standing plants. Regrowth from stumps and/or seedlings requires another ploughing.

Grubbing of small infestations and along fence lines can be useful, though this is time consuming if more than a few plants are present. Seeds will germinate on the site for several years and must be grubbed to prevent wasting the initial effort of controlling the parent bush.

It is acknowledged that not all sites are suitable for mechanical control options, such as very steep inclines or gullies.

## Fire

Regular burning will reduce the number of plants. Pasture establishment can be achieved by seeding into burnt areas. This provides competition for lantana regrowth and fuel for future fires. Fire is often used as a pre-treatment to herbicides (see Management Program).

However, fire is not recommended in some rainforest, wooded or plantation areas.

## Herbicide control

Herbicide recommendations for lantana are shown in Table 1 (see back page).

Red-flowered lantanas are the most difficult to control while the pink-flowered ones appear the easiest.

Basal bark spraying and cut stump methods give good results at any time of year against single stemmed lantana. Variable results will be obtained

if care is not taken to control each stem on multi-stemmed varieties.

Overall spraying of foliage (in Autumn) to the point of run-off is recommended when treating actively growing plants less than 2 metres in height.

**Landholders and contractors are reminded to check if the property is situated in a hazardous area as defined in the *Agricultural Chemicals Distribution Control Act 1966*.**

## Biological control

Since 1914, 30 biological control agents have been introduced into Australia in an attempt to control lantana. Seventeen agents have established, of which four insect species are important. These insects have reduced the vigour and competitiveness of lantana in some areas.

The so called "sterile" ornamental lantana varieties produce pollen which may cross-pollinate seed producing lantana and produce new varieties in the wild. Importing and selling new varieties runs the risk of making it even more difficult to control lantana.

To improve control, a number of agents are being released and their impact assessed.

**It is important to remember that biological control is only one tool in the control of lantana. Biological control alone should not be relied upon for managing lantana infestations, but consideration given to integrating different control techniques.**

The four most important biological control agents are:

- sap-sucking bug (*Teleonemia scrupulosa*)
- leaf-mining beetle (*Uroplata girardi*)
- leaf-mining beetle (*Octotoma scabripennis*)
- seed-feeding fly (*Ophiomyia lantanae*)

### Sap-sucking bug (*Teleonemia scrupulosa*)

This small, mottled coloured bug feeds on the underside of leaves, growing tips and flower buds, causing the leaves to become distorted and to drop in summer and autumn. It also stops the plant from flowering.

*Teleonemia* is found in dry areas from Cairns to Wollongong.

### Leaf-mining beetle (*Uroplata girardi*)

The adult beetles are dark brown, shelter in curled leaves and feed on the upper leaf surfaces. Larvae feed in leaves causing blotches to spread across the leaf. This beetle reduces plant vigour and can suppress flowering.

*Uroplata* is found in most lantana infestations from north Cape Tribulation to Sydney and also around Darwin, except in very dry or high altitude areas.

### Leaf-mining beetle (*Octotoma scabripennis*)

Adults of this species feed on the upper leaf surface. Larvae feed and mine the centre of the leaf and cause blotches. This activity reduces plant vigour and can suppress flowering.

*Octotoma* is found in most lantana infestations, from Atherton to Wollongong.

### Seed-feeding fly (*Ophiomyia lantanae*)

*Ophiomyia* is a small, black fly that feeds on flowers and lays eggs on the green fruits. The maggots of the fly eat the seed and make the fruit unattractive to birds, reducing seed spread.

*Ophiomyia* is found from Cape Tribulation to Eden in New South Wales and also around Darwin and Perth.

**Please note: Landholders are advised not to worry about collecting established insects for distribution. These insects are present in most areas that are climatically suitable. Landholders may contact departmental staff regarding new agents and releases will be made where appropriate.**

## Declaration details

All lantana species are declared Class 3 plants under the *Land Protection (Pest and Stock Route Management) Act 2002*. Lantana species cannot be sold and landholders may be required to control these plants if they live next to an environmentally significant area.

## Further information

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



TABLE 1 – HERBICIDES FOR CONTROL OF LANTANA

Method of application: trade name	Herbicide preference	Rate	Optimum stage or time	Remarks
<b>Foliar (overall) spray</b>				
Fluroxypyr Starane 200®)	1 <sup>a</sup>	0.5 to 1 L/100 L water	When plant actively growing	Thorough wetting of plants is required, higher rate for larger plants.
Glyphosate (Roundup) (Glyphosate 360®)	1	1 L/100 L water	As above	Wet plant thoroughly. Glyphosate affects any green plant it comes into contact with.
Picloram + 2,4-D (Tordon 75-D®)	2	0.65 L/100 L water	March–May. During active growth	Wet plant thoroughly, Legumes affected if sprayed.
Dichlorprop Lantana (Lantana DP600®)	2	0.5 L/100 L water	As above	Must thoroughly wet all leaves. Note: Please refer to product label for situation details.
Picloram + Triclopyr (Grazon DS®)	2	0.35 – 0.5 L/100 L water <sup>b</sup>	As above	Wet plant thoroughly. Use the higher rate on larger plants. Legumes may be affected if sprayed.
2,4-D amine (Amicide 500®)	3	0.4 L/100 L water	As above	Red-flowered lantanas are more resistant to 2,4-D. Will kill young legumes.
Metsulfuron methyl, (Brush-off®) (Brushkiller 600®) (Lynx 600®)	3	10 g/100 L water <sup>b</sup>	As above	Results variable. Not found effective in tropics. Follow up sprays necessary.
Metsulfuron methyl + glyphosate (Cutout®)	3	95 g/100 L water	Autumn	Apply to bushes up to 2 m tall. Spray to thoroughly wet all foliage and stems. Spray should penetrate throughout the bush.
Metsulfuron methyl + glyphosate (Trounce®)	3	173 g/100 L water	Autumn	Apply when actively growing. Do not apply during periods of stress.
<b>(i) Basal bark (ii) Cut stump</b>				
Triclopyr (Garlon 600®)	1	1 L/60 L – diesel	Any time. Best results when actively growing	(i) Apply to base 40 cm of every stem. Must ensure complete coverage around stem. (ii) Cut close to ground level. Immediately apply herbicide.
2,4-D Ester (AF Rubber Vine Spray®)	2	2.5 L/100 L diesel	As above	As above.
Picloram + Triclopyr (Access®)	1	1 L/60 L – diesel	As above	As above.
<b>Aerial</b>				
Picloram + Triclopyr + 2,4-D) (Grazon DS® plus 2,4-D amine (500 g/L)	2	1.5 L + 7.5 L/ha	When plant actively growing	Helicopter only. Minimum of 200 L water per ha. Follow-up respray will be required. Do not burn within 6 months of treatment.
<b>Hand broadcast</b>				
Tebuthiuron (Graslan®)	3	2 g/m <sup>2</sup>	All year round	Usually does not kill if clayey soil; suppression only. Will affect all plants other than grasses. Do not use near watercourses. Will persist in the soil up to 3–5 years.

<sup>a</sup> Herbicide preference – the rating is on the basis of efficacy of control (1 = highest preference)

<sup>b</sup> Add 2 mL of wetting agent/litre of water spray solution

® = Registered trade name



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.

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