

Green cestrum

Neil Griffiths

District Agronomist, NSW DPI, Tocal, Paterson

Dr Chris Bourke

Principal Research Scientist (Poisonous Plants),
NSW DPI, Orange Agricultural Institute

Introduction

Green cestrum (*Cestrum parqui*) is a large poisonous shrub belonging to the Solanaceae family. The plant is also known as green poison berry or Chilean cestrum.

Green cestrum was originally introduced into Australia from South America as an ornamental shrub for gardens. Since that time, it has become naturalised in areas of south-eastern Queensland, eastern New South Wales (NSW) and parts of Victoria and South Australia.

Impact

Green cestrum is a vigorous plant that can out-compete other vegetation. Green cestrum is toxic to animals including cattle, sheep, horse, pigs, poultry and humans.

Habitat

Green cestrum is normally found along watercourses and in non-crop areas where it usually grows in small to medium-sized thickets.

Distribution

In NSW, green cestrum is found in the Hunter Valley, the outer metropolitan areas of Sydney, the North Coast and the north-west, central west and south-west of the State.

Description

Green cestrum is a medium-sized perennial shrub growing 2–3 m (Figure 2). It usually has many light-green, brittle stems.



Figure 1. Green cestrum is a Class 3 noxious weed in NSW. Photo: G. Wisemantel.



Leaves

The shiny-green leaves are 20–30 mm wide and 80–100 mm long. They have smooth edges, are pointed at each end and are arranged alternately along the branch. The leaves produce a pungent, foul smell when crushed.



Figure 2. Green cestrum shrubs can grow 2–3 m high. Photo: G. Wisemantel.

Flowers

Green cestrum flowers from late spring to autumn. The flowers are normally yellow but may have a green tinge. Flowers grow in clusters at the end of branches (Figure 1 and 3). The flowers produce an unpleasant perfume during the day but can smell quite sweet in the evening.

Individual flowers are 20–25 mm long, and are trumpet-shaped – opening into five, six or seven small, triangular lobes.



Figure 3. Green cestrum flowers are normally yellow but may have a green tinge. Photo: G. Wisemantel.

Fruit

Clusters of shiny, black, egg-shaped berries 7–10 mm long are produced during summer and autumn (Figure 4).

The berries each contain several wrinkled seeds which are about 3–5 mm long. The dark pulp of the berries will stain fingers a purple colour if they are squashed.

Berries remaining on the bush during winter will shrivel and become dull black or grey.



Figure 4. Green cestrum berries. Photo: G. Wisemantel.

Life cycle

Green cestrum seeds germinate mainly in autumn with young plants taking two or more years to flower and set seed. Mature plants will flower and seed each year. Seeds from these plants can remain dormant in the soil for many years.

Established plants are semi-deciduous, losing most of their leaves during winter and producing rapid new growth in spring.

Green cestrum will sucker freely from its base if stumps are not treated after cutting. The plant will also grow from sections of the fleshy root which remain after a plant has been partly dug or pulled out.

Spread

Green cestrum originally spread from gardens where it was grown as an ornamental plant. In areas where it is now naturalised, it is spread most commonly in droppings from birds that have eaten the berries. Seed is also readily spread along watercourses during floods.

Control and management

Total eradication of green cestrum requires a combination of control techniques and frequent follow up work.

Once a single control event occurs green cestrum can have vigorous regrowth from stumps or roots not removed or from dormant seed in the ground. Monitor control areas for regrowth and if necessary retreat the area using another form of control.

New infestations should be destroyed before they flower and produce berries.

Physical control

Green cestrum can be controlled by repeated cutting down, digging or pushing out by mechanical equipment. All the yellow roots must be removed and destroyed appropriately to prevent regrowth. The roots can be burnt.

Chemical control

Herbicides are often the most effective and economical way of controlling green cestrum. However, only a registered herbicide should be used to control green cestrum infestations. For a list of registered herbicides and application methods see the *Noxious and Environmental Weed Control Handbook* available from NSW DPI or at www.dpi.nsw.gov.au/weeds

Take care not to contaminate watercourses near clumps of green cestrum. Also, ensure that spray drift does not affect desirable plants in areas being treated and that operators follow the recommended safety precautions when handling and using herbicides.

Mulch

Mulch can be used to suppress seedling growth after chemical or physical control. Mulch also retains moisture in the soil and provides protection for native plants that can be sown to replace the green cestrum plants.

Competition

After the removal of green cestrum plants, a vigorous pasture or appropriate native species should be established to compete with any green cestrum seedlings and regrowth.

Consult your local agronomist or council weeds officer for advice on suitable species and establishment methods for the situation.

Livestock poisoning

Green cestrum frequently causes 'sudden death' in livestock and is highly toxic to all animal species and humans. Although cattle are the most commonly affected animals, deaths have also occurred in goats, sheep, horses, pigs and poultry.

Green cestrum poison known as carboxyparquin causes severe liver damage and as a consequence survivors of cestrum poisoning experience elevated blood ammonia levels which then cause brain damage. Signs of poisoning include diarrhoea, abdominal pain, depression, disorientation, walking with a stagger, irritability, weakness, going off their feed, lying on the ground, and finally a period of coma or terminal convulsions.

Animals that have eaten green cestrum may die within hours or may remain sick for several days before they die. Often animals that appeared healthy 24 hours beforehand will be found dead for no apparent reason.

All parts of the plant are poisonous but as palatability is low it is not often eaten. Livestock poisoning usually occurs when other feed is scarce and animals are forced to eat cestrum, but spasmodic episodes of poisoning have been known to occur at other times.

Bushes that have been cut down or killed with herbicide will retain poison in their leaves, branches and berries. In fact, recently sprayed wilting plants are more palatable than fresh healthy plants and potentially can cause more deaths.

Livestock should always be removed from any paddock where a cestrum control program is under way and not returned until the leaf material has disintegrated or been removed.



Figure 5. All parts of the green cestrum plant are poisonous. Photo: G. Wisemantel.

Legislation

Green cestrum is a Class 3 noxious weed under the *NSW Noxious Weeds Act 1993* in many areas of NSW.

Class 3 control requirements are that 'the plant must be fully and continuously suppressed and destroyed'.

The responsibility for the control of noxious weeds on private land rests with the owner or occupier of the land. This responsibility extends to the middle line of any adjacent watercourse, river or inland water (tidal or non-tidal).

A full list of noxious weeds and requirements under the Noxious Weeds Act can be found at www.dpi.nsw.gov.au/weeds

Acknowledgements

This Primefact is an updated edition of Griffiths, N. (2004) *Green Cestrum* Agfact P7.6.44, 3rd edition. NSW Agriculture.

Technical reviewers: George Wisemantel, Greater Taree County Council and Bruce Watt, Central Tablelands RLPB. Photos provided by George Wisemantel, Greater Taree County Council. Editing by Annie Johnson, Annette McCaffery, Birgitte Verbeek, William E. Smith and Barry Jensen.

References

Croft, D. and Holding, D. (2004) *A community approach: Green Cestrum*. Factsheet. Cooperative Research Centre for Australian Weed Management. www.weeds.crc.org.au

Publications Available

A complete list of NSW DPI weed publications can be found at www.dpi.nsw.gov.au/weeds

Printed copies are available by contacting the NSW DPI Bookshop, on 1800 028 374 or visit www.dpi.nsw.gov.au/bookshop



Figure 6. Green cestrum. Photo: G. Wisemantel.

© State of New South Wales through NSW Department of Primary Industries 2008. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute NSW Department of Primary Industries as the owner.

ISSN 1832-6668

Check for updates of this Primefact at: www.dpi.nsw.gov.au/primefacts

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (October 2008). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

Warnings: Pasture improvement may be associated with an increase in the incidence of certain livestock health disorders. Livestock and production losses from some disorders are possible. Management may need to be modified to minimise risk. Consult your veterinarian or adviser when planning pasture improvement.

Legislation covering conservation of native vegetation may regulate some pasture improvement practices where existing pasture contains native species. Contact your Catchment Management Authority office for further information.

Job number 8340