Sticky nightshade

Solanum sisymbriifolium

Sticky nightshade has deeply divided leaves and small flowers. (Photo: Nancy Loewenstein, Auburn University, Bugwood.org CC-BY-4.0)

- Also known as: viscid nightshade, litchi tomato
- This plant should not be sold in parts of NSW

Profile

How does this weed affect you?

Sticky nightshade is an invasive plant that:
• competes with crops and pastures
• prevents native plants from growing
• has sharp prickles which can injure people, pets, livestock and native animals
• can make harvesting difficult (for example in vineyards).

Poisoning

Sticky nightshade contains steroidal glycoalkaloids toxins. It is suspected to have caused cattle deaths in the Greater Sydney Region.

What does it look like?

Sticky nightshade is an erect plant to 1.5 m high. Most of the plant is hairy and covered in very sharp prickles. It is an annual or short-lived perennial. Multiple, severe frosts may kill the above ground parts of the plant but it will reshoot from rhizomes in spring. It can flower within 5 weeks of germination or regrowth from rhizomes. Flowering is usually during spring and summer.

Leaves are:

- sticky
- green to yellowish on both sides
- 5–14 cm long and 4–10 cm wide
- deeply lobed, with variable numbers and shapes of lobes
- hairy and prickly on both sides
- on stalks up to 4 cm long.

Prickles are:

- yellow to red and sometimes brown on older prickles
- 1–10 mm long
- on stems, leaves (top and bottom), leaf stalks and at the base of flowers.

Flowers are:

- white or pale bluish-purple
- star shaped with 5 petals that curve backwards and bright yellow anthers in the centre
- 35–50 mm in diameter
- in groups of 4–12
- present spring to summer

Fruit are:

- round berries
- bright red when ripe
- enclosed in a green prickly husk before ripening
- 15–20 mm diameter.

Stems are:

- erect
- green to purplish brown in colour.

Roots:

- are extensive
- produce horizontal underground stems known as rhizomes.

Where is it found?

In NSW, sticky nightshade is mostly found in Western Sydney and the Central Tablelands. Isolated infestations have also been found in all other regions of NSW except te Western region.

It is native to South America.

What type of environment does it grow in?

Sticky nightshade grows in full sun and semi shade. It can grow in a wide variety of soil types and environments but grows best in moist soil conditions.

It grows:
• in pastures

• on cultivated land
• along waterways
• along roadsides
• on steep rocky slopes.

How does it spread?

By Seed

The seeds spread by:
• birds and foxes eating ripe fruit and excreting viable seeds
• dead branches with fruit blowing along the ground dispersing seed
• water as the fruit floats and can be carried in runoff, rivers and streams
• slashers
• movement of contaminated soil and fodder
• movement of soil on cultivation equipment and earthmoving equipment.

Many seeds germinate under the parent plants making infestations denser.

By plant parts

Sticky nightshade can grow from root or rhizome fragments. Branches develop roots where they touch moist soil. The plant fragments are spread by:
• contaminated soil
• cultivation equipment
• earth moving equipment.

References

Deiss, L., Moraes, A., Pelissari, A., Porfirio-Da-Silva, V., & Dominschek, R. (2018). Sticky nightshade infestation and dispersion on an integrated soybean-eucalyptus system at subtropical Brazil. *Planta Daninha*, 36.

Hili, M. P. & Hulley, P. E. (2000). Aspects of the phenology and ecology of the South American weed, Solanum sisymbriifolium, in the Eastern Cape Province of South Africa, *African Plant Protection* 6(2): 53-59.

McKenzie, R. (2012). *Australia's poisonous plants, fungi and cyanobacteria: a guide to species of medical and veterinary importance*. CSIRO.

Sawford, K. (2015). *Suspected sticky nightshade (Solanum sisymbriifolium) intoxication in a Greater Sydney Beef Herd in Flock and Herd Case Notes*. Greater Sydney Local Land Services. Retrieved 28 February 2020 from http://www.flockandherd.net.au/cattle/reader/sticky-nightshade-poisoning.html

Shukla, R., Srivastava, S., & Dvivedi, A. (2015). Solanum sisymbriifolium Lam.(Solanaceae): a new invasive undershrub of the old-fields of north-eastern Uttar Pradesh. *Check list*, 11, 3, Article 1643.

More information

- PlantNET NSW FloraOnline, Solanum sisymbriifolium. Royal Botanical Gardens and Domain Trust. (http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Solanum~sisymbriifolium)
- Weed futures: Determining current and future weed threats in Australia, Solanum sisymbriifolium. Macquarie University. (http://www.weedfutures.net/species.php?id=277)
- Sticky nightshade (branch) model by Rachel Klyve (www.rachelklyve.com) (https://sketchfab.com/models/fa32520eb728446589d6730a5295b3c1/embed)
- Sticky nightshade (regenerating plant) model by Rachel Klyve (www.rachelklyve.com) (https://sketchfab.com/models/16859f9fd6484d5ea9b3a541e9e6ab24/embed)

Control

Early detection

Check for plants regularly because sticky nightshade can flower within 5 weeks from sprouting.

Manual

Chip or dig out small plants and remove all of the roots. Wear appropriate protective clothing, boots and gloves to avoid injury from the prickles.

Cultivation

Avoid cultivating infested areas as it will move root pieces to clean areas. If it is unavoidable, remove all plant fragments and soil from cultivation machinery before moving it from the infested site.

Slashing

Avoid slashing as it can spread the weed. Slashing does not control it because the berries can grow close to the ground below the slash height.

Chemical

Spraying

Spray plants according to the labels and permit for effective control. Thoroughly spray all leaves and stems and spray the plant from all sides if possible.
Spraying will kill the plant but not the viable seeds. Remove the fruit from each plant and dispose of appropriately to avoid adding to the seed bank in the soil.

Disposal

Contact your local council for advice on how to dispose of sticky nightshade.

Herbicide options

WARNING - ALWAYS READ THE LABEL
Users of agricultural or veterinary chemical products must always read the label and any permit, before using the product, and strictly comply with the directions on the label and the conditions of any permit. Users are not absolved from compliance with the directions on the label or the conditions of the permit by reason of any statement made or not made in this information. To view permits or product labels go to the Australian Pesticides and Veterinary Medicines Authority website www.apvma.gov.au

See Using herbicides (http://www.dpi.nsw.gov.au/biosecurity/weeds/weed-control) for more information.

PERMIT 12942 Expires 30/08/2025
Glyphosate 360 g/L with Metsulfuron-methyl 600 g/kg (Various products)
Rate: A mix of 2 L glyphosate 360 herbicide plus 10 g of metsulfuron-methyl herbicide per 100 L of water + Uptake Spray Oil or an equivalent wetter must be used at a rate of 500 mL/100 L.
Comments: Spray actively growing plants, ensure all of the foliage is covered. For use in riparian areas. See permit for further critical comments.
Withholding period: Nil.
Herbicide group: 9 (previously group M), Inhibition of 5-enolpyruvyl shikimate-3 phosphate synthase (EPSP inhibition)
Resistance risk: Moderate

PERMIT 12942 Expires 30/08/2025
Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon® Extra)
Rate: 350 to 500 mL per 100 L of water + Uptake Spray Oil or an equivalent wetter must be used at a rate of 500 mL/100 L.
Comments: Spray actively growing plants, ensure all of the foliage is covered. Only for urban bushlands. Do not use within 5 m of a waterway. Apply a maximum of 2 times per year at a minimal interval of 60 days. See permit for further critical comments.
Withholding period: Where product is used to control woody weeds in pastures there is a restriction of 12 weeks for use of treated pastures for making hay and silage; using hay or other plant material for compost, mulch or mushroom substrate; or using animal waste from animals grazing on treated pastures for compost, mulching, or spreading on pasture/crops.
Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)
Resistance risk: Moderate

PERMIT 12942 Expires 30/08/2025
Triclopyr 300 g/L + Picloram 100 g/L with Metsulfuron-methyl 600 g/kg (Various products)
Rate: A mix of 350 to 500 mL herbicide containing Triclopyr and Picloram plus 10g of herbicide containing metsulfuron-methyl per 100 L of water + Uptake Spray Oil or an equivalent wetter must be used at a rate of 500 mL/100 L.
Comments: Spray actively growing plants, ensure all of the foliage is covered. For urban bushlands and forests. Do not use within 5 m of a waterway. See permit for further critical comments.
Withholding period: Nil.
Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)
Resistance risk: Moderate

Aminocyclopyrachlor 240 g/L (Method® 240 SL)
Rate: 500 mL per 100 L of water
Comments: Spot spray with a handgun, hand-held sprayer or backpack sprayer. Thoroughly and uniformly wet the foliage but avoid spraying to the point of run off.
Withholding period: Nil for domestic grazing. See label for livestock export conditions.
Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)
Resistance risk: Moderate

Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon® Extra)
Rate: 350 mL per 100 L of water + Uptake Spraying Oil or an equivalent wetter at a rate of 500 mL/100 L.
Comments: Spray flowering plants up to 1 m tall. Follow the label as per the instructions for tropical soda apple.
Withholding period: Where product is used to control woody weeds in pastures there is a restriction of 12 weeks for use of treated pastures for making hay and silage; using hay or other plant material for compost, mulch or mushroom substrate; or using animal waste from animals grazing on treated pastures for compost, mulching, or spreading on pasture/crops.
Herbicide group: 4 (previously group I), Disruptors of plant cell growth (Auxin mimics)
Resistance risk: Moderate

Biosecurity duty

The content provided here is for information purposes only and is taken from the *Biosecurity Act 2015* and its subordinate legislation, and the Regional Strategic Weed Management Plans (published by each Local Land Services region in NSW). It describes the state and regional priorities for weeds in New South Wales, Australia.

Regional recommended measure for Central Tablelands from February 2020

Area	Duty
All of NSW	**General Biosecurity Duty** *All pest plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.*
Central Tablelands An exclusion zone is established for all lands in the Central Tablelands region except the identified core infestation area. The core infestation area of the Belubula River Catchment in Blayney Council, Cabonne Council and Cowra Shire Council areas is bounded by roads as described below. • South-east of Cargo Road between Canowindra and Cargo • South of Edinboro Lane – Charleville Road – Four Mile Creek Road – Cadia Road – Orchard Road – Forest Road – Whiley Road – Millthorpe Road on a line passing from Cargo - Spring Terrace - Spring Hill – Millthorpe. • West of Millthorpe Road between Millthorpe and Blayney • North of the Mid-Western Highway and George Russell Drive from Canowindra to Blayney.	**Regional Recommended Measure** *Within exclusion zone: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found. Within core infestation area: Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move,*

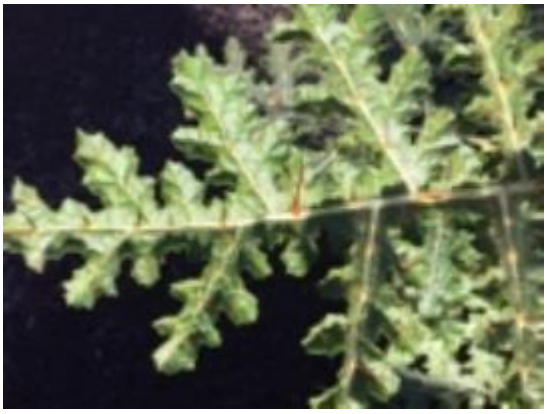
Area	Duty
	carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
Hunter	**Regional Recommended Measure** *Notify local control authority if found. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant.*
North Coast	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
Northern Tablelands	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*
South East	**Regional Recommended Measure** *Land managers should mitigate the risk of the plant being introduced to their land. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant. Notify local control authority if found.*

Sticky nightshade in flower. (Photo: Marita Sydes Local Land Services)

Spines are on the stems, both sides of the leaves and the base of the flowers. (Photo: Marita Sydes Local Land Services)

Sticky nightshade fruit is bright red. (Photo: Marita Sydes Local Land Services)

Sticky nightshade can be spread by waterways. (Photo: Ed Hogan Local Land Services)



Leaves have hairs and prickles on both sides. (Photo: Kevin Watling Castlereagh Macquarie County Council)

Sticky nightshade may have white, pale blue or mauve petals. (Photo: Eleena Markcrow NSW DPIRD)

Sticky nightshade flowers have bright yellow anthers. (Photo: Marita Sydes Local Land Services)

Sticky nightshade can sprout from small rhizome fragments. (Photo: Kevin Watling Castlereagh Macquarie County Council)

A small plant on top of a wheelie bin showing how long the roots are. (Photo: Kevin Watling Castlereagh Macquarie County Council)

Sticky nightshade seedlings at various stages of growth with up to four leaves. (Photo: Dr Hanwen Wu NSW DPIRD)

Close up of sticky nightshade seedlings showing hairy stems and leaves. (Photo: Dr Hanwen Wu NSW DPIRD)

Reviewed 2025