

Silverleaf Nightshade FACTSHEET



What is Silverleaf Nightshade?

Silverleaf nightshade (*Solanum elaeagnifolium*) is a common perennial weed spreading across NSW affecting broadacre crops, horticulture crops and pastures.

NSW WeedWise has reported silverleaf nightshade as a 'Weed of National Significance'. Reports show the valuable nutrients and water taken up by silverleaf nightshade can reduce crop yields by 50-70% under dense infestations.

Weed identification:

Silverleaf nightshade, shown below, can be identified, according to NSW WeedWise (2018), by:

- Star-shaped flowers with five purple or white coloured petals (commonly light purple).
- Leaves silvery-green on the topside.
- Stems covered in spines.
- Berries are green striped when young, and mature berries are orange/yellow.
- Deep interconnected root system.

Why is Silverleaf Nightshade popping up everywhere?

Silverleaf nightshade spreads rapidly mainly due to its ability to reproduce both vegetatively and by seed. Additionally, it is a desert weed, well suited to the local environment.

Deep root system

A silverleaf nightshade root system consists of two components:

- Main vertical taproot (reaching up to 3-4m deep).
- Lateral horizontal shoots connecting to nearby shoots (appearing like individual plants).

New shoots can arise from shoot buds, and from root fragments as small as 1cm. Root fragments can remain viable for up to 15 months. Cultivating areas with silverleaf nightshade only spreads the weed across the paddock.

Mass seed production

Silverleaf nightshade produces 60 berries a season, each berry containing up to 50 seeds. Under the approximated 80% germination rate, a single plant can produce 2400 new seedlings if let flower.

Livestock movement

Seeds can remain viable for up to 31 days after sheep ingestion and plant parts can get stuck on wool due to stem spines.

Poor channel bank management

Berries can float in water, and unfortunately management along irrigation lines can be poor. Silverleaf nightshade commonly grows and spreads on Griffith/Yenda/Leeton channel banks.



Figure 1. Sourced from *Silverleaf Nightshade Australian Best Practice Management Manual 2018 (2018)*, Heap and Wu.

Key Points

- Silverleaf nightshade is mostly spread by cultivation, livestock grazing and by set seed.
- Weed can reduce crop yields by 50-70%.
- Broadacre farmers can retain healthy continuous cropping systems incorporating deep taproot crops to outcompete seedlings.
- Quarantining livestock for a minimum of 7 days significantly reduces spread.
- Avoid cultivation to prevent spread.
- Use a variety of approaches to decrease seedling growth and seed bank over time.

Best management practices

Silverleaf nightshade is best controlled using an integrated weed management plan and not relying on herbicides. Surveying paddocks and employing new cultivating practices can reduce spread.

Managing spread in broadacre crops and grazed pastures:

- Before sowing a new crop, farmers should ask suppliers about the risk of seed contamination to be prepared for infestation.
- Preventing spread of infested paddocks to clean paddocks can be impractical but beneficial long term.
- Clean machinery before leaving an infested paddock, removing both fragments of the weed and any berries.
- Livestock fed in infested paddocks can be quarantined in a small secure area for 7 days before moving to a clean paddock to limit spread. Further, do not let livestock graze on fruiting plants.
- Avoid cultivation in areas of infestation to prevent spread and maintain a healthy crop or pasture to outcompete weed seedlings.
- Continuous cropping systems including deep taproot crops, like canola, significantly reduces silverleaf nightshade numbers.
- Farmers can spray silverleaf nightshade early summer to prevent flowering and late summer/early autumn to maximise translocation to the root system.
- For more advice on herbicides available, ask your local Yenda Producers branch.

Managing spread in horticultural crops and vineyards:

- Growers managing multiple blocks or leasing/borrowing farm equipment should clean machinery, removing both fragments of the weed and any berries.
- Avoid cultivation interrow and sow or maintain a cover crop. Before sowing a new cover crop, consider a deep-rooted cover crop to outcompete new seedlings. Bare ground is open for weed infestation.
- Monitoring channels for berries is important and employing methods to remove berries prior to watering.
- Unfortunately for horticultural crops and vineyards the herbicides available for use are limited for control.
- For more advice on herbicides available, ask your local Yenda Producers branch.

Growers, however, can utilise slashing at appropriate times to limit seed production. Slashing before flowering can reduce the seed bank.

Defending your fence lines

On the fence line, silverleaf nightshade can be sprayed with a variety of products, however, farmers are best to discuss control options with their neighbours. For more information, ask your local Yenda Producers branch.



Figure 2. Excavated silverleaf nightshade root system on Eyre Peninsula SA, sourced from *Silverleaf nightshade Australia Best Practice Manual 2018 (2018)*, Heap and Wu.

Further information

Most of the information used in this factsheet has been sourced from *NSW WeedWise and the Silverleaf Nightshade Australian Best Practice Manual 2018*.

For further information, please contact NSW WeedWise on 1800-680-244, or ask an agronomist at your local Yenda Producers branch.