

## SILVERLEAF NIGHTSHADE CONTROL

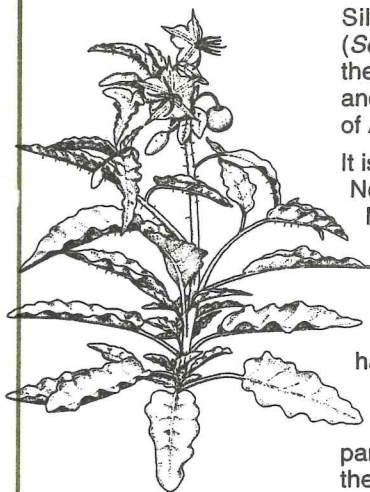


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Tasmanian Department of  
Agriculture

Silverleaf nightshade or white horsenettle (*Solanum elaeagnifolium*) is a weedy member of the potato family. It originated in North America, and is now a serious weed in California and parts of Australia.

It is a major weed of both crops and pastures in New South Wales and Victoria, especially the Murray valley irrigation area.

A few scattered outbreaks have been found in WA. Because it is difficult to control and its potential to spread and become a major problem weed, it is a declared plant in this state. It has the potential to be as serious a threat to cereal growing as skeleton weed.

Silverleaf nightshade competes with crops, in particular summer-growing crops, and reduces the yield of both crops and pastures by shading and competition for moisture and nutrients.

All parts of the plant are poisonous, especially the ripe berries, but no stock losses have been recorded in Australia. Sheep graze the green leaves without suffering adverse effects. However hungry cattle have died after eating the berries in the USA.

Sheep are less susceptible than cattle and may be important in the spread of the weed. Goats appear to be highly tolerant.

Silverleaf nightshade is found mainly on loamy or clay-loam soils between the 300 mm and 500 mm rainfall isohyets.

The seed coat contains substances which inhibit germination. These are removed by heavy rain-

fall, flooding or by passage through the digestive tract of sheep.

The seeds also require fluctuating temperatures in the 20°C to 30°C range before germinating. They may remain viable in the soil for up to 10 years. Seeds may be spread by floodwaters, attached to wool or hair and internally in the gut of birds or other animals.

Silverleaf nightshade may also be spread by root fragments following cultivation or earth moving.

The plant produces new shoots in late spring. It begins to flower in November or December, continuing until March. Seeds ripen from four to eight weeks after flowering.

Silverleaf nightshade is a woody, herbaceous plant superficially similar in appearance to native flannel bush. It grows up to one metre in height. The stems are usually covered with sharp spines. The leaves are lance shaped, 25 to 100 mm long and vary in width from 6 to 25 mm. Both leaves and stems appear grey-green in colour due to a dense covering of fine hairs.

The flowers are usually purple, with a yellow centre, but the petals may be white. The fruit resembles a small tomato. It is up to 12 mm in diameter and is initially green but changes to orange-yellow on ripening.

Elimination of silverleaf nightshade is a long term project because of the dormancy of the seeds and it's capacity to regrow from root fragments. It will be necessary to spray plants each year and to carefully check infestations for many years.

### Control

<b>Biological control</b>	No successful agents have yet been identified	
<b>Mechanical control</b>	Cultivation and grubbing should not be attempted as this may cause the plant to spread from root fragments.	
<b>Chemical control</b>	There is no effective selective herbicide for use in crops. Therefore it is essential to eradicate small infestations before they can spread.	
Tordon 50-D® (picloram and 2,4-D)	KNAPSACK: 20 ml/litre Add 1.5 ml/litre of wetting agent	Treat a zone about two metres in diameter around parent plants to control shoots arising from root suckering. This rate is equivalent to 22 litres per hectare and will kill all plants in the area sprayed. Annual grasses will return after about 12 months and legumes after two to three years.
<b>Others</b>	Trial work is in progress with herbicides not previously tested.	

### Further Information

For advice on drawing up a silverleaf nightshade eradication program for your property, contact your local Agriculture Protection Board district officer.