

AUGUST 2011

STEVE'S Weed of the Month

Silverleaf Nightshade

Also Known As: white horsenettle, purple nightshade, tomato weed, trompillo

Silverleaf Nightshade is a Class A Noxious Weed: Non-native species that are limited in distribution in Washington. State law requires that these weeds be **eradicated**.

Silverleaf Nightshade (*Solanum elaeagnifolium* Cav.), Native to southwestern United States and northern Mexico is an upright, branched perennial herb that grows 1–3 feet tall. The plant is covered with tiny star like hairs that give it a silvery green or yellowish-green appearance. Stems are armed with a few slender, yellow spines. The leaves of silverleaf nightshade are alternate along the stem, have wavy margins, and are lance-shaped to narrowly oblong. Blue to violet (rarely white) flowers are about an inch wide and have 5 fused petals and showy yellow anthers that protrude from the flower center. The flowers grow in clusters along branches of the flowering stem, with the earliest flower growing alone at the tip of the main stem. The fruits are orange-yellow to dark colored, globe-shaped berries (resembling miniature tomatoes) that often persist into the winter and contain about 75 tiny brownish seeds per berry. The plant has extensive horizontal rhizomes and roots that can grow very deep (6–10 feet). Root fragments as small as half an inch can regenerate and sections of taproot can remain viable for up to 15 months. The plant can spread by seed, root fragments, and creeping roots that give rise to bud shoots.



Photo by: Florida Division of Plant Industry Archive, Florida
Dept of Agriculture & Consumer Services, Bugwood.org

Silverleaf nightshade typically occurs in semi-arid regions on coarse-textured, sandy soils. It inhabits rangeland, pastures, orchards, roadsides, waste areas, and cultivated fields. The plant reduces crop yield and pasture production by competing with desired plants for soil water and nutrients. The species is poisonous to livestock; sheep are more resistant to the toxins and goats are unaffected. Silverleaf nightshade can also harbor plant pests, such as lygus bugs and the Colorado potato beetle.



Photos by: Richard Old, Xid Services, Inc. Bugwood



Photo by: Karan A Rawlins, University of Georgia, Bugwood.org



Photo by: Richard Old, XID Services, Inc. Bugwood.org



Photo by: Julia Scher, USDA APHIS PPQ, Bugwood.org



Photo by: Florida Division of Plant Industry Archive, Florida Dept of Ag & Consumer Services, Bugwod.org



Photo by: Joseph M DiTomaso, University of Cal-Davis, Bugwood.org

Control Methods

Physical/Mechanical Control: Mowing silverleaf nightshade encourages the plant to regrow multiple shoots, although removing above-ground parts every 2 weeks can prevent seed production. Cultivation must be frequent and thorough to control silverleaf nightshade. Reduced tillage agriculture produces longer root fragments, which result in more shoots and faster growth, making weed control more difficult.

Cultural Control: Shade from crop canopies can be a useful control tool, but this method works only if the nightshade is first sufficiently inhibited so that the shade crop has a chance to thrive; shade levels between 63% and 92% are needed to prevent seed production.

Chemical Control: The plant is difficult to control with herbicides because of its extensive root system. Herbicides used to control silverleaf nightshade include glyphosate, dicamba, 2, 4D and triclopyr, all to be applied before bud stage. Regrowth will occur and control will be variable based on the herbicide used.

More information can be found in the PNW Weed Management Handbook

Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Biological Control: While several biological control agents have been investigated, none are currently available for release. The most promising organism is a foliar nematode, *Orrina phyllobia*, which causes leaf and stem galling.

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