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W264 Horsenettle

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Pasture Weed Fact Sheet

UT Extension
W 264

Horsenettle

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Horsenettle *Solanum carolinense* L.

Classification and Description

Horsenettle, also called Carolina horsenettle or bullnettle, is a herbaceous perennial that is a member of the nightshade family (Solanaceae). Some familiar members of this family include tobacco, tomato and potato. This native of southeastern North America is found throughout Tennessee; it is particularly troublesome in grass pastures and hay fields. Horsenettle plants emerge each spring from seed or from rhizomes. The cotyledons or seed leaves of seedlings are small; they are glossy green on the upper surface and light green on the underside. Both surfaces are void of hairs, but the leaf margins are hairy. Mature plants can grow to heights of up to 3 feet. The leaves are alternate, 2.75 to 4.75 inches long and approximately 1 to 3 inches wide with lobed margins. The upper leaf surfaces are deep green, while the lower surfaces are lighter green. Both surfaces are hairy, while the leaf midrib and petiole have sharp prickles. Fibrous hairs arise from a central taproot and from creeping rhizomes. Flowers of horsenettle are borne in clusters. The five white to pale-violet petals give the flowers their characteristic star shape. Anthers at the center of the flower are yellow. Horsenettle fruit are round berries approximately 3/8 to just over ½ inch in diameter. The berries are initially green and turn yellow as the plant matures. Each berry contains 40 to 120 flat, smooth seed.

Problems in Pastures and Hay Fields

Horsenettle is low in palatability; therefore, cattle and most other animals will tend to graze around it unless the stocking rate is high and grass is limited. They will also sort through infested hay bales, trying to avoid horsenettle plants. Both of these reduce grazing or feeding efficiency - the cattle spend too much time looking for grass rather than eating it. Due to the sharp prickles, horsenettle can also cause mechanical mouth and esophageal injury if consumed. While cases of animal poisoning are relatively rare in Tennessee, horsenettle is a toxic plant. The toxic principles in horsenettle are glycoalkaloids (alkaloids + sugars). The glycoalkaloid solanine is typically found in horsenettle. Plant toxicity can vary widely depending upon environmental conditions. Unripe berries are generally more toxic than ripe ones. Berries are more toxic than leaves, which are more toxic than stems and roots. Toxicity is usually higher in late summer to fall than in the spring.

Management in Pastures and Hay Fields

As is the case with most other weeds, prevention is an important component of an overall management plan. In the case of horsenettle, feeding infested hay is the one of the primary ways the weed is introduced into a field. If possible, buy clean hay of known origin. Monitor areas around hay rings for development of problems and, if possible, spot treat these areas before the weed spreads to the rest of the pasture. Also, because horsenettle seed can pass intact through an animal's gastrointestinal tract, avoid immediate movement of cattle from heavily infested pastures to uninfested ones if at all possible. Clipping will slow the growth of the plant and, over time, deplete carbohydrate reserves in the roots and rhizomes and stimulate the growth of new, more palatable grass; however, clipping will not control horsenettle.

Timely application of a herbicide is usually required for effective control. Several herbicides such as 2,4-D, Banvel/Oracle (dicamba), and Rangestar/Weedmaster (2,4-D + dicamba) will give various degrees of weed top kill but they do little to the roots and rhizomes. Currently, the University of Tennessee recommends Milestone (aminopyralid) or ForeFront (aminopyralid + 2,4-D), or Grazon P+D (picloram + 2,4-D) in approved counties. Grazon P+D is a restricted-use herbicide. University of Tennessee research has shown that the optimum time for application of these herbicides is at the flowering stage, prior to formation of berries. Be sure to thoroughly read the herbicide label prior to application. Also, consult the Pasture and Forage section of Publication 1580, *Weed Control Manual for Tennessee,* for application rates and instructions, precautions and other useful information. A copy can be obtained at your local UT Extension office.

References

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