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FS# 7108AG

Creeping Indigo

Creeping Indigo is a toxic broadleaf legume that reportedly is responsible for several sick and dead horses. It has been identified in Brevard County pastures. It is generally accepted that creeping indigo caused the neurologic syndrome known as “Grove Poisoning.” Problems are commonly observed in late summer or fall. Consumption quantities to cause neurologic and non-neurologic are unclear but consumption of 10 pound in 3 weeks has been suggested as the toxic level of intake.



Indigo spicata showing typical pink flowers and clusters of pods (upper part of image) growing at University of Florida, Gainesville, FL.

Literature suggests that there are two closely related species of Creeping Indigo, *Indigo spicata* and *Indigo hendecaphylla*. Both species are prostrate to sub-erect with branched runners fanning out in all directions from the crown of a white, slender, tapering taproot that may be up to 40” deep. Those familiar with it, report it rarely gets taller than 3 inches. The seed pods are dense downward pointing clusters, stiff and sharp-tipped. In Central Florida, it will freeze but grows back from the tap root system. The inflorescence (flower structure) may be red to salmon colored and resemble a much smaller version of that of Hairy Indigo. It is important to note

that Creeping Indigo is not the same as Hairy Indigo; Hairy Indigo is safe, provides good nutrition, and grows erect (up to 5 feet tall) making a shrub like plant. Creeping Indigo is toxic, is very palatable to livestock, grows prostrate to the ground (usually not over 3 inches tall), and is a vine like plant.

Toxins found in Creeping Indigo

To date, 3-nitropropionate (3-NPA) and indospicine are implicated. Indospicine causes the non-neurologic signs while 3-NPA causes the neurologic symptoms. 3-NPA is metabolized quickly and is unlikely to be found in blood serum and its affect is non-reversible.

Neurological symptoms of Creeping Indigo poisoning

Early signs include personality changes with the animal becoming quieter and less energetic with degrees of depression. Head carriage may be low. Blink response from eyes may be absent or reduced. Animal seems to avoid bright lights and pupils constrict. An abnormal gait develops, which may include, interference of hooves, buckling of joints, weakness “crab-like” gait and abnormal posturing at

rest. The head and body may be twisted to one side. Progression of symptoms can occur from days to weeks.

Non-neurologic symptoms of Creeping Indigo poisoning

May include weight loss, lack of appetite, high heart and respiratory rate, labored breathing, high temperature (rare), hyper-salivation /foaming from the mouth, dehydration, pale mucous membranes, feed retention in cheeks, bad breath, watery discharge, squinting, light sensitivity, corneal opacity, corneal ulceration and neovascularization, severe ulceration of the tongue and gums and prominent digital pulses without other signs of laminitis.

Control

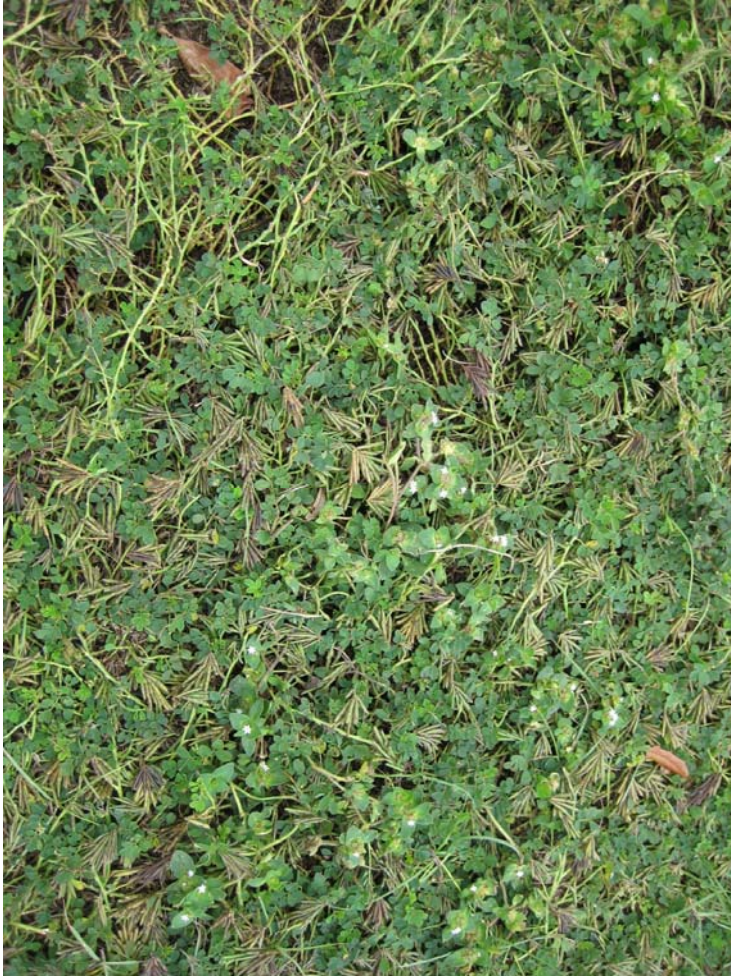
To date, there is no data regarding control of this plant although the herbicide GrazonNext HL at 24 oz. per acre may be the most promising. A ranchette owner in Lake County has had success controlling existing plants with GrazonNext HL at this application rate, but realizes that monthly scouting is necessary to ensure that no plants have escaped treatment.

Learn to locate and recognize the weed in pastures. Lightly frosted and mature seed pods will have a smoky/grey haze appearance in the grass areas. Physically remove plants/seed heads and/or spray pastures. Seeds may remain viable for many years. GrazonNext HL has pre-emergent activity but seeds may germinate after pre-emergent activity has ceased. Retreatment will likely be necessary. Manure from treated fields should not be composted due to the residual activity of aminopyralid in GrazonNext HL .

Manure from animals grazing on infected fields should not be land-spread as the potential for increasing seed distribution is greatly increased. Sanitation of shoes and machinery is necessary to keep from becoming vectors.



Indigo spicata specimens obtained at the University of Florida and authenticated at the UF Herbarium



Indigo spicata. Dense thatch of creeping indigo comprising >40% of a bahiagrass pasture in Ocala, FL. Note the abundant pods and evidence of grazing by horses in the pasture.

Remember that dead plants retain toxicity. Poisonous plants that have been herbicide treated are often sought out by livestock. Because this plant can grow so close to the ground, mowing to remove it and its seed heads can be challenging. Once established, vigilance in scouting is highly recommended.

References

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Creeping Indigo Toxicity

Morton, Julia.1989. Creeping indigo (*Indigofera spicata*forsk.) (Fabaceae) – A hazard to herbivores in Florida. Economic Botany. July/Sept. Issue 3, pp 314-327