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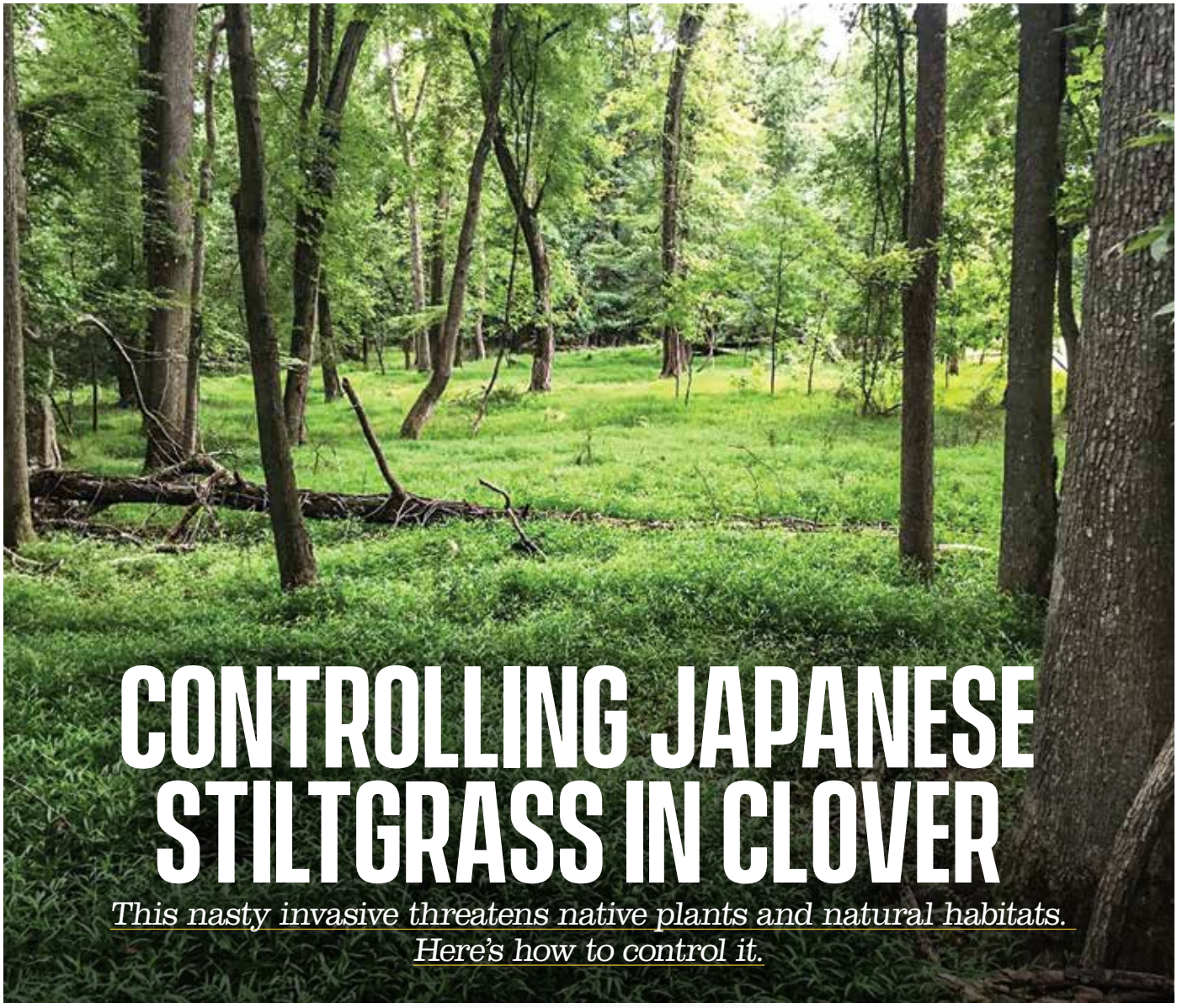

CONTROLLING JAPANESE STILTGRASS IN CLOVER

This nasty invasive threatens native plants and natural habitats. Here's how to control it.

About midsummer, Whitetail Institute starts receiving questions about a thick, fast-growing grass often found in forested areas. The grass is quickly overtaking native vegetation, and deer will not consume it. It doesn't take long to figure out that the customer is referring to the highly invasive weedy grass Japanese stiltgrass.

DESCRIPTION

Japanese stiltgrass (*Microstegium vimineum*) also called Nepalese browntop, is an annual grass that's invasive primarily in forested areas. It threatens native plants and natural habitats by its sprawling growth habit and prolific seed production. It forms large, extensive grassy patches that native and natural habitats cannot compete with, thus displacing that vegetation. Where white-tailed deer are overabundant, they can contribute to the spread of Japanese stiltgrass by overgrazing native vegetation, giving the competitive advantage to the Japanese stiltgrass, which is not palatable. It's considered one of the most damaging invasive plant species in the United States. Invasions can also change soil nutrient cycling processes, inhibit tree survival and growth, and reduce light availability. After Japanese stiltgrass dies back in late fall, the thick layer of thatch that's formed is slow to decompose. Infestations of Japanese stiltgrass can also alter soil chemical properties, insect diversity and the abundance of insects in forested areas. A greenhouse experiment showed a rapid rise in soil pH and available phosphorus, which might reduce diversity in soil and microarthropods.

As a warm-season annual grass, Japanese stiltgrass germinates in spring and grows to 2 to 3.5 feet tall. It dies in fall. It

has pale green, alternate, lanceolate leaves that range in length from 1 to 3 inches, with white midveins that are sparsely hairy on both surfaces and along the margins. The throat collar is hairy, with a membranous ligule with a hairy margin. Stems on Japanese stiltgrass are slender and wiry, and can be green, purple or brown. In August through earlv October, the plants have slender flower spikes that are in pairs. After the plant blooms, dry fruits, which are yellow to red, appear. In fall, the plants often appear purple. In winter, the thatch is a bright tan to orange.

Japanese stiltgrass is very shade tolerant. It reproduces by seed, and each plant can produce up to 1,000 seeds that can remain viable in the soil for five years or more. Seeds are very small and can be dispersed by adhering to clothing and animals, as well as by flooding and deposition of fill dirt. Typical habitats include forest edges, roadsides, trails, damp fields, lawns and along ditches. Sunlight and moist soil increase the chances of Japanese stiltgrass establishment and favor its growth. Although Japanese stiltgrass thrives in full sunlight, it's also well adapted to shady conditions. It can establish, grow and produce some seed in as little as 5 percent of full sunlight.

Japanese stiltgrass, a common invasive, has alternate lanceolate leaves.

ORIGIN AND DISTRIBUTION

Japanese stiltgrass was originally discovered in Knoxville, Tennessee, around 1919. It's believed to have been accidentally introduced to the United States through its use as a packing material for porcelain. It's sporadically distributed in the United States throughout most of the East and in the Caribbean, from New York south to Texas, Florida, Puerto Rico and the Virgin Islands. It's currently found in 33 states.

CONTROL

Japanese stiltgrass can be controlled with Arrest Max in any broadleaf forage. The 16-fluid-ounce-per-acre rate should be applied when the grass is about 4 to 6 inches tall. A crop oil concentrate such as SureFire must be included with the mix. Two applications will be needed, with the second application made to treat regrowth or a second emergence of the grass from seed in the soil. This is usually a month or so after the initial treatment. Carefully and regularly monitor the food plot for Japanese stiltgrass regrowth. This needs to be a high priority. Additionally, target small grasses, which will make control efforts more effective.

Japanese stiltgrass is a dense grass that forms a thick canopy, so thorough coverage of the plant is essential. One application of Arrest Max will not work adequately. This grass needs constant attention throughout summer and because of its extensive seed production. Because of the abundance of seed in the soil, plan on controlling Japanese stiltgrass in future summers. This is an effective control option, but to use Arrest Max to its full potential will require intensive managerial effort. Treated grasses are slow to show Arrest Max symptoms. That's the nature of this chemical family of herbicides. Be sure to allow at least two to three weeks for whole plant symptoms to develop.

However, if Japanese stiltgrass has overtaken an area so that a food plot is not salvageable, another option is available. This involves killing the existing vegetation, including your food plots, and spraying a low rate of glyphosate. A rate of 0.25 to 0.50 percent solution of glyphosate plus a 0.5 percent solution of Sure Fire crop oil should be applied to thoroughly wet all foliage. This option should only be used if you want to re-establish your food plots.

CONCLUSION

Japanese stiltgrass is a highly invasive annual weed that can quickly become problematic. However, Arrest Max is an effective herbicide to control it. Applying Arrest Max at the proper time and rate and ensuring adequate coverage will ensure that Japanese stiltgrass will be controlled and will prevent further seedhead production.