

The Introduction, Spread, and Control of Non-Native, Invasive Species in Tennessee Forests: Japanese Stiltgrass

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JAPANESE STILTGRASS (*MICROSTEGIUM VIMINEUM*)

Japanese stiltgrass, also known as Nepalese browntop, Mary's grass, basketgrass, and Japanese grass, arrived in the United States from Asia as a dried packing material in the early 1900s. The seeds from the packing material escaped and have spread into most states east of the Mississippi River. Stiltgrass is an annual, shade tolerant grass that inhabits, reproduces, and spreads in moist, disturbed areas. Seed spread is facilitated by water, animals, fill dirt, contaminated hay, and other human influences usually associated with road construction. The grass is adapted to shady, riparian areas and along woodland roads, openings, and the edges. Once established, the grass can spread to adjacent, undisturbed areas. Stiltgrass will respond vigorously to increased sunlight once established. The grass grows up to three feet tall and forms a thick mat that folds over to the ground once it dies in the fall. The dead grass mat suffocates ground vegetation, covering stiltgrass seed for germination the following spring, preventing additional seed colonization of other vegetation, and thus displacing and replacing resident vegetation.



Japanese stiltgrass frequently occurs on roadsides and margins of fields and woodlands in partial light conditions
Photo Credit: Richard Gardner, Bugwood.org

Stiltgrass spreads primarily by seed since it is an annual grass. The grass can produce up to 1,000 seeds per plant annually and the seed remains viable in the soil for five or more years. Controlling flowering and eventually seed production is the best method to prevent the spread of stiltgrass. Hand pulling, mowing, or use of herbicide before flower and seed formation in September and October are recommended. If mowing or hand pulling is conducted too early, the grass will generate new flowers and produce seed.

Even with control of the plant before flowering, the viable seed already present on the ground will continue to germinate for several years and will require annual treatments for control of the grass.

Most selective grass herbicides such as clethodim, sethoxyn, and fluzifop-p will control Japanese stiltgrass if applied before flowering and seeding and will not influence broadleaf ground vegetation. Non-selective grass herbicide such as glyphosate is effective in control but will also impact other vegetation. Glyphosate should only be applied when stiltgrass provides a solid cover over the ground vegetation. Pre-emergent herbicides (oryzalin and dithiopyr) are effective when applied during winter to early spring before seed germination. Successive annual applications of herbicide are necessary to control viable seeds residing in the soil. Refer to the University of Wisconsin Extension weblink below to evaluate herbicide application choices.

The best method of stiltgrass control is to impede seed production to prevent its spread. Germination of viable stiltgrass seed that is already present in the soil should continue annually with herbicides until the seed supply is depleted.



*Infestation of Japanese stiltgrass.
Photo Credit: Richard Gardner, Bugwood.org*



*Folding of Japanese stiltgrass after the growing season in a
planted reforestation area. (Inset) Japanese stiltgrass folded
over planted seedlings. Photo Credit: Christopher Oswlat*

FURTHER REFERENCE WEBLINK

University of Wisconsin Extension

<https://cdn.shopify.com/s/files/1/0145/8808/4272/files/A3924-27.pdf>

Missouri Dept. of Conservation

<https://mdc.mo.gov/sites/default/files/2020-05/JapaneseStiltgrass.pdf>