JAPANESE STILT-GRASS
Microstegeum vimineum

VERMONT INVASIVES

An extensive patch of Japanese stilt-grass preventing natural succession in a wooded understory.

Japanese stilt-grass **smothers native plants** and **prevents regeneration** of forests and fields. This trait dramatically reduces biodiversity, wildlife habitat, and timber value of the land stilt-grass invades.

The Impact

- Japanese stilt-grass (*Microstegium vimineum*) is native to Asia and was first detected near Knoxville, Tennessee, around 1919.
- This plant has been detected in only a handful of locations in Vermont, in the southern Champlain Valley and far southeastern VT.
- Japanese stilt-grass flourishes in full sun to deep shade, and is well adapted to moist or dry conditions.
- It can spread quickly to form extensive patches, displacing native wetland and forest vegetation.
- Where white-tailed deer are abundant, they may facilitate its invasion by feeding on native plant species and avoiding stilt-grass.
- Stilt-grass reproduces exclusively by seed with individual plants producing up to 1,000 seeds that may stay viable in the soil for 3-5 years.
- Infestations change the habitat of the forest floor, making it less hospitable for nesting ground birds and other wildlife.
- Seeds are readily carried by footwear and trailheads on public land are often the first instance of colonization.

Key ID Features

Growth Habit: Sprawling grass that resembles a small, delicate bamboo, up to 3.5 feet tall.

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Leaves: Alternate on stem, 1-3 inches long, smooth, asymmetrical, lance- shaped, with a silvery, off center midrib.

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Flowers/seeds: Delicate stalks of 1, 2, or 3 spikes, bloom in late summer or early fall.

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Roots: Thin, weak system, pulls out of the ground easily, 'stilt' roots descend from nodes along lower stem.

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JAPANESE STILT-GRASS
Common look-alikes:

Whitegrass
Leersia virginica

© Daniel Atha

- Native grass species.
- Leaves longer, narrower relative to length.
- Central leaf vein is not as pale or visible as stilt-grass.

Nimblewill
Muhlenbergia schreberi

© Aaron J. Patton

- Invasive grass species.
- Leaves are much shorter than stilt-grass.
- Forms dense mats of turf, similar to Bermudagrass.

Basketgrass
Oplismenus hirtellus

© Nancy Loewenstein

- Invasive grass species.
- Leaves much wider, with undulating ripples.
- Leaf sheath and stem are noticeably hairy.

Management and Control

Mechanical removal:

Hand pull: Stilt-grass is a weak rooted annual and small populations can be hand pulled any time during the growing season when the ground is soft. Be sure to pull up the entire root system. Pulling is easier and probably more effective in mid-to-late summer when the plants are much taller and more branched. Hand pulling of plants will need to repeated and continued for many seasons until the seed bank is exhausted.

Mowing: Larger infestations can be mowed or weed-whacked when plants are mature but seeds have not yet set. Because stilt- grass is an annual plant, cutting late in the season before the plants would die back naturally avoids the possibility of regrowth.

Chemical removal:

Foliar spray: This method is used for dense populations and best left to a contractor. For extensive stilt-grass infestations, use of a systemic herbicide such as glyphosate is a practical and effective method if used with caution. Glyphosate is a non-specific herbicide that will kill or damage almost any herbaceous plant and possibly some woody plants it contacts. Grass-specific herbicides (graminicides) work very well on stilt-grass and if used correctly can reduce potential damage to woody or broadleaf plants.

Develop an Integrated Pest Management Approach: Use chemical control as only ONE piece of your prevention and management strategy.
The label found on the herbicide container is the law. It indicates the concentrations to use, what PPE to wear, how to apply the product, and what environmental and human health hazards are associated with the chemical.
You need a permit to apply herbicides in or near wetlands. Contact VT DEC at 802-828-1115 for more information.
You need to be certified to apply herbicides on land that you do not own. Hire a contractor to manage large infestations.

A good contractor will be able to help create an effective management plan. For a list of certified contractors, contact the VT Department of Agriculture at 802-828-1732

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Sources: Cornell University Cooperative Extension, The Nature Conservancy of Vermont, BlueRidgePRISM.org, iNaturalist.org, VT Agency of Agriculture, Food and Markets, Native Plant Trust, Purdue University Extension, U.S. Department of Agriculture.