Invasive Plant Identification and Control Outline

Common Names: nepalese brown top, japanese grass, mary's grass, basket grass (1), chinese packing grass, vietnamese grass, jew grass, flexible seagrass, japanese wire grass, asian stilt-grass (5).

Taxonomy: Japanese stilt-grass (*Microstegium vimineum* (Trin.) A. Camus.

Family: *Poaceae* (1)

Genus: *Microstegium*, one species (6)

Synonyms: *Andropogon vimineum* Trin., and *Eulalia viminea*

Duration: Annual (1)

Stem: Stems vary in color ranging from green, to purple and to brown. They are slender and wiry, exhibiting alternate branching near the base and adventitious rooting at the nodes. The stem is covered by the sheathing leaves and can be up to four feet long (4).

Height: *Microstegium vimineum* can grow anywhere from 0.5 feet to 3 feet in height (1).

Leaves: Leaves are pale green in color (3), are alternately arranged, with flat blades, and are sparsely hairy on both surfaces along the margins. They typically measure 2-4 inches long and 0.25-0.75 inches wide. One distinguishing characteristic of *M. vimineum* is that it has a whitish and off center mid-vein running down the blade (1).

Flower: Flowers occur in thin, terminally spiked racemes between August and October, with the racemes measuring up to three inches long (1). The racemes tend to be in pairs, but can also be in sets of three (4).

Seed: Seeds are yellow to red in color (4), elliptical in shape, thin and measure roughly three millimeters long. They reach maturity between September and December, with the seed stalks partially remaining throughout the winter months. Each plant has the ability to produce between 100 and 1,000 seeds (1), which can remain viable in the soil for at least three years (3).

Dispersal: Seed dispersal is primarily facilitated by animals, water, deposition with fill dirt and human influence along roads and other corridors (3). *M. vimineum* spreads rapidly into disturbed areas but can also invade undisturbed areas by forming satellite populations brought in by animals or other dispersal mechanisms (4).

Habitat: This species has the ability to persist under a variety conditions from full sun to deep shade (3), but vigorously colonizes alluvial floodplains, along roads and trails and damp fields where light is abundant (1). Regardless of its location, japanese stilt-grass poses a severe threat to native understory vegetation (3).

Range: Stilt-grass has established in 16 states in the eastern U.S, extending from New York to Florida (3).

Control Methods: Following control measures or other disturbances, adequate fall and winter ground cover should be provided to help prevent stilt grass seeds from germinating the following spring. Restored areas should be re-seeded with native vegetation, such as switch grass, sedges, rushes, deer tongue, cardinal flower, and jewel weed (5), or should be covered with leaf mulch to minimize soil exposure. Mulching with rich composted animal manures should also be done help restore soil conditions to their original state (8).

Biological Control: There are currently no biological predators of *M. vimineum* that have been documented in scientific literature. However there are accounts of grazing animals and livestock being used to control and eliminate stilt grass populations. Chickens have been documented as the best animals for control because they readily eat the grass while simultaneously adding organic material to the area helping mitigate disturbance (8). Other grazing animals, such as deer and cattle, do not like stilt grass and must be coaxed into eating the plant by spraying the them with sugar water (8).

Mechanical Control: *M. vimineum* can be controlled mechanically by hand pulling or mowing with a weed whip. Both controls are best if implemented prior to seed set in September (1), and should be repeated for several years until the seed bank is exhausted (1). Plants that have set seed should be bagged and removed from the site to ensure that seed dispersal will not occur.

Chemical Control: Suggested chemical control options include the application of Glyphosate or Vantage herbicides. For large populations, Glyphosate is a non-selective pre-emergent herbicide and should be applied as a two percent solution (eight ounces per three gallons of mix), with a surfactant, during late summer. Vantage is another non-selective glyphosate herbicide designed for foliar application (7), and should be used on smaller populations when more selective control is desired (1). When using herbicides be sure to follow all directions and warning labels indicated on the product.

Disclaimer: Rural Action does not endorse any of the products mentioned. These recommendations are only provided as a guide. Rural Action does not assume any liability from the use of these recomendations or products.

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