

DRAFT WRITTEN FINDINGS OF THE WASHINGTON STATE NOXIOUS WEED CONTROL BOARD

SCIENTIFIC NAME: *Miscanthus sinensis*

SYNONYMS: *Eulalia japonica*, *Miscanthus condensatus*, *Miscanthus purpurascens*, *Miscanthus sinensis*, var. *condensatus*, *Miscanthus sinensis*, var. *formosanus*, *Miscanthus sinensis*, f. *glaber*, *Miscanthus sinensis*, var. *gracillimus*, *Miscanthus sinensis*, var. *purpurascens*, *Miscanthus sinensis*, var. *variegatus*, *Miscanthus sinensis*, var. *zebrinus*, *Saccharum japonicum*, *Xiphagrostis condensatus* (Global Invasive Species Database.)

COMMON NAMES: Maiden grass, plume grass, bristle miscanthus, eulalia, pampas grass, Japanese silver grass, Chinese silver grass, eulalia grass, Chinese fairy grass, zebra grass, miscanthus, susuki (Global Invasive Species Database.)

FAMILY: Grass family, Poaceae

LEGAL STATUS: Considered for Class C. On Washington's monitor list since 2014.

DESCRIPTION AND VARIATION

OVERALL HABIT:

Miscanthus sinensis is a perennial, rhizomatous, tall (1.5 to 2 meters), erect, clumping, C4 bunchgrass. It forms dense clumps and produces abundant aboveground biomass (Stewart *et al.*, 2009).

STEMS:

Miscanthus sinensis produces thick stems, called culms. Stem heights generally range from 1 to 2 meters, but some cultivars can reach up to 4 meters (Heděnek, *et al.*, 2014). The culms can be yellow or green (Meyer, 2004).



Miscanthus sinensis. Chris Evans, University of Illinois.

LEAVES:

The leaves are long and blade-like, with a distinct, white central vein (midrib) that is a key identifying feature. As the plant matures through the season, the lower leaves often turn brown and senesce (Meyer, 2004). There is immense diversity among ornamental cultivars, which have been selected for foliage characteristics such as horizontal yellow bands (e.g., 'Zebrinus'), creamy white leaf margins (e.g., 'Morning Light'), white stripes along the midrib (e.g., 'Dixieland'), and fine, narrow green leaves (e.g., 'Gracillimus') (Avanesyan & Lamp, 2022).

FLOWERS:

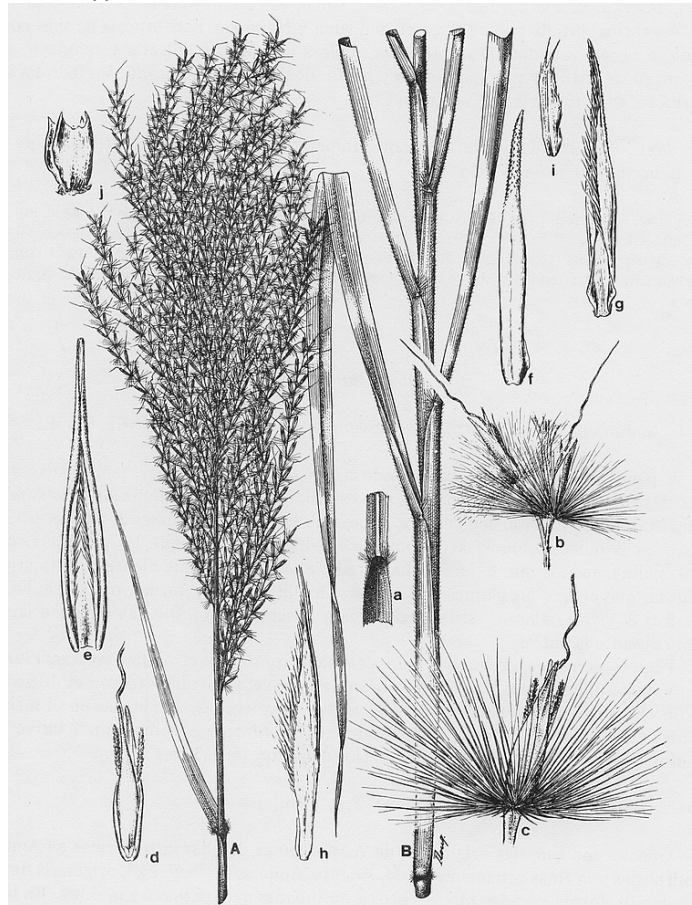
The inflorescences (flower clusters) of *Miscanthus sinensis* are large, showy, feathery plumes (panicles) which typically appear from late summer through autumn (Verhoff, 2014; Meyer, 2004). The panicles are beige or dull tan and are composed of many small spikelets (the basic flower unit of a grass). Each spikelet in the wild-type form has a small, bristle-like appendage (awn) and is surrounded by fine, silky hairs that aid in wind dispersal (Meyer, 2004). Delayed flowering is observed for varieties growing in northern latitudes due to the accumulation of heat units (Bonin, *et al.*, 2017).

FRUITS/SEEDS:

The fruit of *Miscanthus sinensis* is a small, dry, single-seeded fruit known as a caryopsis (Christian, 2012). These seeds can tolerate drying and remain viable in storage for long periods. A single plant can be extremely prolific, producing anywhere from several hundred to over 100,000 seeds depending on the variety and environmental conditions (Christian, 2012; Madeja, *et al.*, 2012). The seeds reach maturity approximately 30 days after pollination and require alternating temperatures to germinate, a trigger that



Above: Leaf blades. Britt Slattery, USFWS.
Below: Flowering parts illustration. Nicora & Rugolo de Agrasar, 1987.



mimics the natural daily temperature fluctuations in soil (Christian, 2012). The lightweight seeds, with their hairy spikelets (seeds covered by cilia or short, stiff hairs) at the base of the glume (a leafy bract that encloses the florets), are dispersed long distances by wind, often hundreds of meters (Quinn, *et al.*, 2011; Quinn, *et al.*, 2010). Most cultivated varieties are self-incompatible, meaning they require cross-pollination to produce viable seeds (Christian, 2012; Stewart, *et al.*, 2009). Seed set and viability can be highly variable depending on environmental conditions, genetics, and proximity to different genotypes (Verhoff, 2014).

ROOTS:

Miscanthus sinensis possesses a network of short, conspicuous rhizomes (underground stems), which causes the plant to grow in distinct clumps rather than spreading aggressively outward to form a uniform sod (Christian, 2012) and serve as storage organs for nutrients (Meyer, 2004). After beginning to grow the flowering stem, the primary branches of rhizomes start to thicken in diameter (Stewart, *et al.*, 2009).



Root mass and rhizomes. Leslie J. Mehrhoff, University of Connecticut.

SIMILAR SPECIES:

The most similar grass species to *Miscanthus sinensis* on iNaturalist, which occur in Washington, are pampas grass (*Cortaderia selloana*, Class C), Jubata grass (*Cortaderia jubata*, Class C), common reed (*Phragmites australis*, Class B), giant reed (*Arundo donax*, Monitor List), reed canarygrass (*Phalaris arundinacea*, Class C), Ravenna grass (*Tripsidium ravennae*, Class B), fountain grass (*Cenchrus setaceus*), and other *Miscanthus* species, varieties, and hybrids, none of which are native to Washington State.

Miscanthus sinensis can be differentiated from the non-*Miscanthus* species by its size (when blooming, it is shorter than pampas jubata grass), by its inflorescences (the flowering heads can look like a messy fluff made of dashes and hyphens, are not as fluffy as pampa or jubata grasses, but fluffier than reed canarygrass and Ravenna grass), and by its leaves (common and giant reeds both have many leaves that come off of the stems, while *M. sinensis* leaves only visibly come directly from the ground, usually in a clump or bunch).

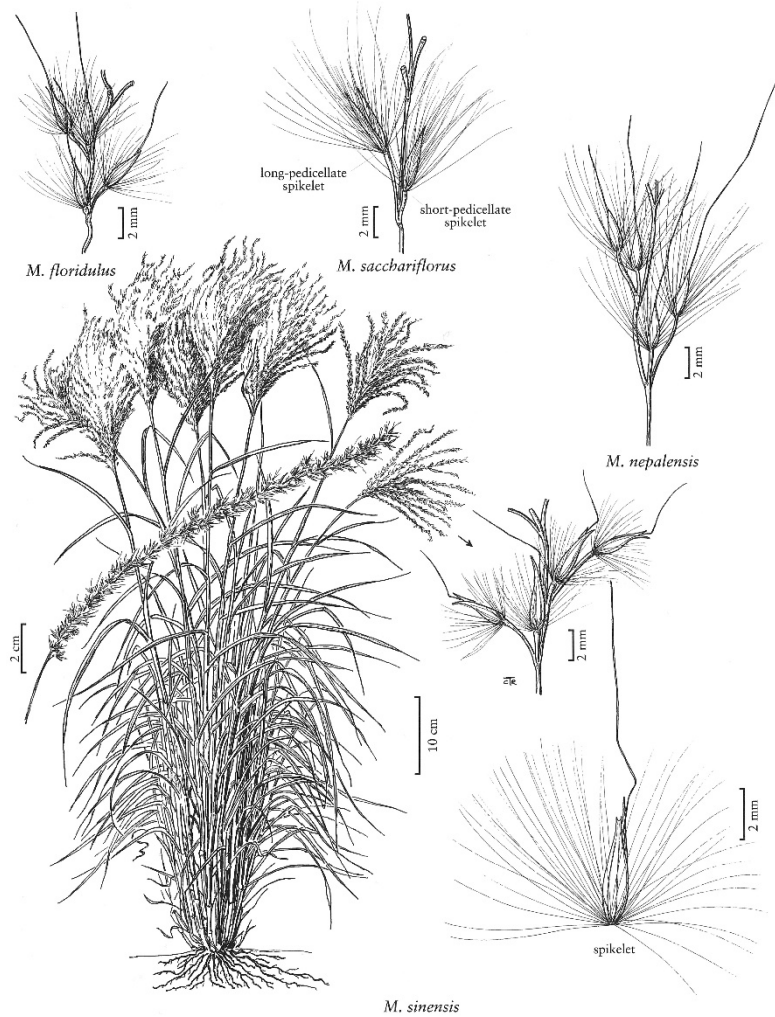


Illustration of several *Miscanthus* species. Cindy Roche & Linda A. Vorobik, Utah State University.

Miscanthus species, varieties, and hybrids are difficult to identify between each other, especially due to the wide variety of cultivars in gardens and their ability to hybridize. Meyer, 2004, does note that *M. sinensis* has a light midvein on the leaves which can differentiate it from other similar species.

HABITAT:

In its native range in East Asia, *Miscanthus sinensis* is a pioneer species that colonizes open grasslands, especially on upland slopes after disturbances like fire or mowing (Stewart, *et al.*, 2009). In its introduced range, *M. sinensis* are typically found in highly disturbed, open-canopy areas such as roadsides, railroad rights-of-way, forest edges, abandoned agricultural fields, as well as less common locations such as forest understories (Dougherty, *et al.*, 2015; Hager, *et al.*, 2015). It is highly tolerant of

a wide variety of conditions, including low soil fertility and a broad range of soil pH (from acidic 4.2 to alkaline 7.3) (Dougherty, *et al.*, 2015; Meyer, 2004). This tolerance allows it to thrive in habitats where many native plants cannot.

BIOLOGY

GROWTH AND DEVELOPMENT:

Germination is most successful with alternating day-night temperatures (Christian, 2012). Studies on *M. sinensis* have identified a base temperature for germination of about 8.3°C (47°F) (Dougherty, *et al.*, 2015). The seedlings grow slowly in their first year, making them susceptible to being outcompeted by weeds, but established plants are remarkably resilient (Song, *et al.*, 2016). *M. sinensis* is highly tolerant of environmental stress; it is considered drought-tolerant and, for a C4 grass that typically prefers high light, it is unusually shade-tolerant, capable of maintaining growth in forest understories with as little as 5% of full sunlight (Horton, *et al.*, 2010; Dougherty, *et al.*, 2015). Fertilization does not significantly affect yield, as the plants efficiently mobilize nutrients from deep soil layers via their extensive root systems. Its peak biomass production occurs in late summer, around September. As a perennial, it dies back to the ground in the fall, first moving nutrients from the leaves and stems into its rhizomes to fuel the next season's growth (Stewart, *et al.*, 2009).



Seeds and awns. Steve Hurst, USDA NRCS PLANTS database.

REPRODUCTION:

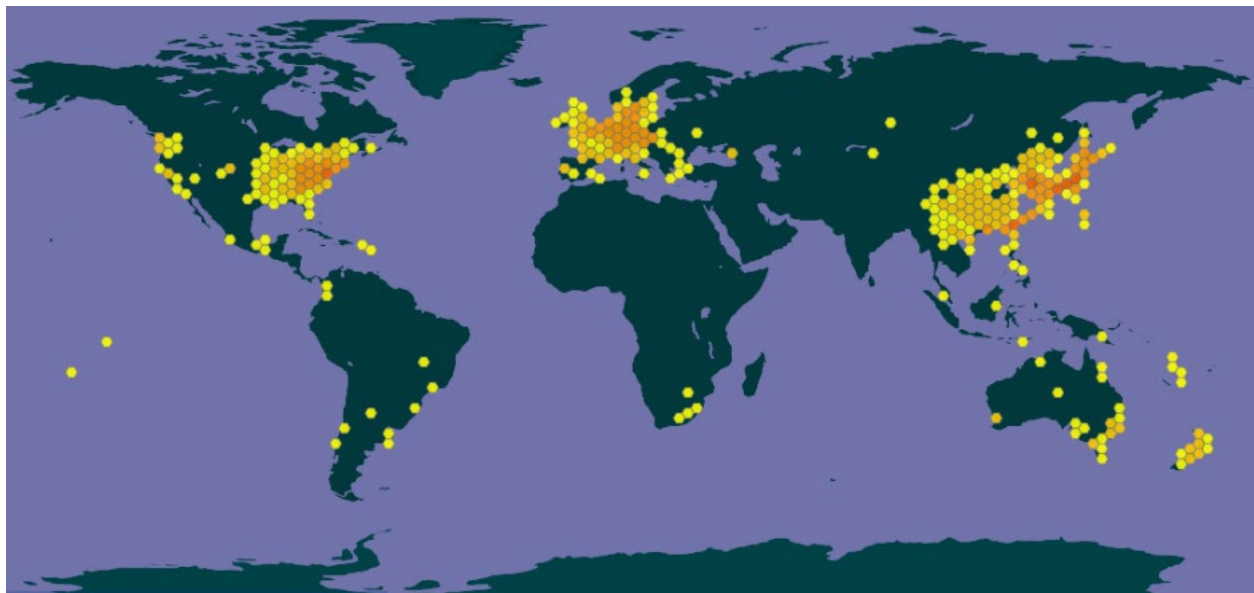
Miscanthus sinensis is self-incompatible, meaning an individual plant cannot self-pollinate and requires pollen from a different genetic individual to produce viable seed (Verhoff, 2014; Meyer, 2003). This is a crucial aspect of its invasiveness. A single, isolated ornamental cultivar poses a low risk of sexual reproduction. However, when different cultivars are planted near one another or when escaped populations contain multiple genotypes, cross-pollination occurs, leading to prolific seed production (Meyer, 2004). Small, founding populations often experience a "lag phase" in their invasion because of this pollen limitation, but as the population grows in size and density, seed production increases, and the invasion can accelerate rapidly (Verhoff, 2014). A single mature individual can hypothetically produce over 100 flowering panicles and approximately 1,800 spikelets per panicle (Quinn *et al.*, 2011). This results in immense propagule pressure, with naturalized populations potentially producing billions of spikelets per year (Dougherty, 2014; Quinn *et al.*, 2011).

M. sinensis can reproduce vegetatively through clumping rhizomes, though primarily reproduces by seed (Christian, 2012). For the sterile *M. x giganteus* (a hybrid between *M. sinensis* and *M. sacchariflorus*, which is heavily rhizomatous) this is the only method of reproduction. Small fragments of rhizomes can be transported by human activity (e.g., road maintenance machinery) or natural forces (e.g., floods), establishing new plants (Hager, *et al.*, 2015).

GEOGRAPHIC DISTRIBUTION

NATIVE DISTRIBUTION

Miscanthus sinensis is native to East Asia, including Japan, China, and Korea (Hager, *et al.*, 2014).



Worldwide distribution. Global Biodiversity Information Facility.

NON-NATIVE DISTRIBUTION

Miscanthus sinensis is naturalized in at least 25 states, concentrated primarily in the eastern U.S. along the Appalachian corridor (Quinn, *et al.*, 2010; Dougherty, *et al.*, 2015). There are infestations in the Western U.S. and Hawaii (DiscoverLife.org). It has also been introduced and is naturalized in various European countries (Bylak, *et al.*, 2025), from Sweden to Italy and from the United Kingdom to Poland. There are known populations in South America, South Africa, New Zealand, and Australia (Global Biodiversity Information Facility), where it is known as Eulalia (Global Invasive Species Database).

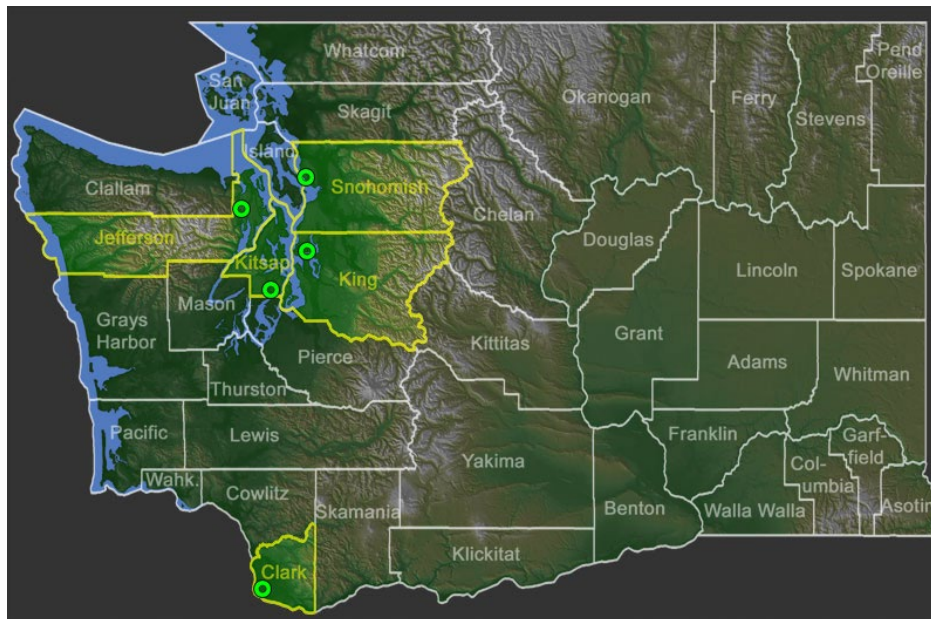
HISTORY:

Miscanthus sinensis was first introduced to the United States as an ornamental plant in the late 1800s, with records dating back to 1893-1895 in North Carolina and 1894 in Washington D.C. (Avanesyan & Lamp, 2022). It has since naturalized in over 25 states across the eastern US, primarily along the Appalachian corridor, and has spread westward into states like Illinois (Christian, 2012; Dougherty, 2014; Hager, *et al.*, 2014; Quinn, *et al.*, 2010). The earliest record in the Consortium of Pacific Northwest Herbaria Washington is from Snohomish County, in 2004.

Under even the most conservative future climate and spread modelling, *M. sinensis* is predicted to expand along the East side of the Cascades in Oregon and Washington, as well as the Northern Puget Sound, Southwest Oregon, and Northern California (EDDMapS).

WASHINGTON:

The only currently known sightings in Washington are near urban and suburban areas in the Western side of the state, (Burke Herbarium; Consortium of Pacific Northwest Herbaria; iNaturalist) and a confirmed report in the Tri-Cities area, on iNaturalist.



Washington records in the Burke Herbarium Image Database.

NEARBY TO WASHINGTON:

OREGON:

There are known individuals in Western Oregon, near urban and suburban areas (Consortium of Pacific Northwest Herbaria; iNaturalist).

IDAHO:

There are no known infestations in Idaho, but there are some sightings in northern Utah, near urban and suburban areas on iNaturalist.

BRITISH COLUMBIA:

A few reports occur in Southern British Columbia, in urban and suburban areas on both sides of the cascades (Consortium of Pacific Northwest Herbaria; iNaturalist)

CALIFORNIA

On iNaturalist and Calflora, there are a few reports from around California, but primarily near urban and suburban areas.

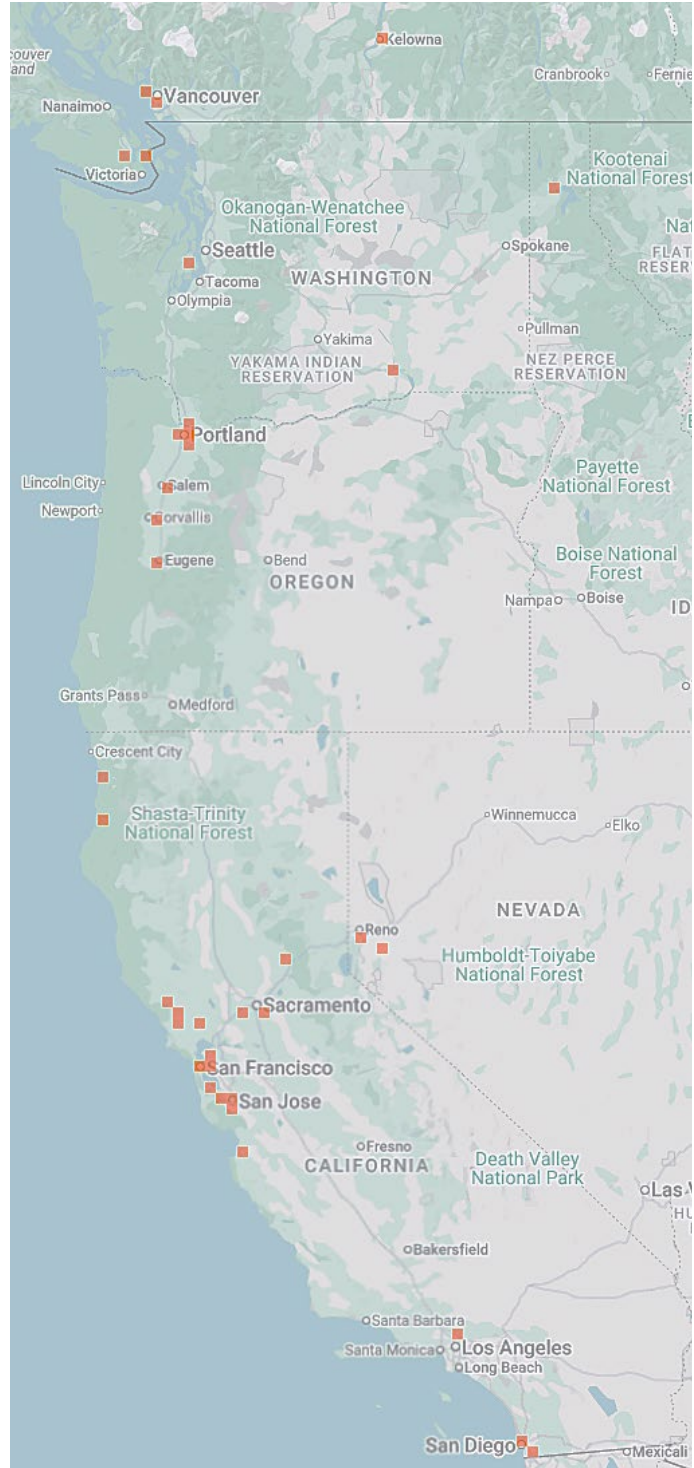
LISTINGS:

Miscanthus sinensis is on most Eastern U.S. state weed laws or lists (EDDMapS). *M. sinensis* has been on Washington's monitor list since 2014.

ECONOMIC AND ECOLOGICAL IMPORTANCE

DETRIMENTAL:

The costs associated with controlling escaped *Miscanthus sinensis* can be substantial, involving labor and herbicides for management on public lands like highways and national parks (Meyer, 2003). One study estimated the cost to eradicate all currently known feral populations in the US could be between \$10 million and \$37 million (Lowry, *et al.*, 2022).



iNaturalist sightings along the West Coast.

M. sinensis can form dense, single-species stands that displace native plants, significantly reducing local biodiversity (Hager, *et al.*, 2015). It creates a dense canopy that shades out smaller plants and produces a thick layer of litter that further inhibits native seedling germination. The plant offers little food value for native wildlife, and deer do not eat it, which can increase their browsing pressure on more palatable native plants (Meyer, 2004). Research also suggests it may possess allelopathic properties, releasing chemicals that inhibit the growth of competing plants (Hedenec, *et al.*, 2014).

BENEFICIAL:

As a highly popular ornamental grass, sales of *Miscanthus sinensis* in North Carolina alone totaled nearly \$40 million in 2009 (Dougherty, *et al.*, 2015). As an ornamental grass, it is very popular due to its aesthetic qualities and low maintenance requirements (Christian, 2012; Meyer, 2004). Its primary emerging value is as a bioenergy feedstock. Its high biomass yield, efficiency in nutrient and water use, and ability to grow on marginal lands make it a leading candidate for producing cellulosic ethanol and other biofuels



Ornamental planting in a garden. Chris Evans, University of Illinois.

(Smith, *et al.*, 2015). Furthermore, byproducts like lignin can be used to create valuable phenolic compounds, providing an alternative to petroleum-based products (García, *et al.*, 2010). An alternative for ornamental planting and biofuel products is *M. x giganteus* (a hybrid between *M. sinensis* and *M. sacchariflorus*) which is sterile and only reproduces by rhizome but otherwise has a lot of the same characteristics as *M. sinensis* (Smith, *et al.*, 2015). However, this hybrid can still reproduce in unwanted locations, and has shown invasive qualities in Poland riparian areas, and there is a variety that is not sterile (Pittman, *et al.*, 2015; Smith & Barney, 2014). Historically, it has been used for various purposes in Japan, including thatching material for traditional houses, as livestock feed, and for making yellow dye and charcoal storage bags (Stewart, *et al.*, 2009).

M. sinensis grasslands contribute to soil carbon sequestration and can help reduce nitrogen leaching (Stewart, *et al.*, 2009). It stabilizes easily erodible soils, particularly in volcanic and disturbed coastal areas. Its ability to form symbiotic relationships with arbuscular mycorrhizal (AM) fungi may enhance phosphorus and nitrogen uptake, contributing to its success in nutrient-poor soils. Certain birds and invertebrates also use *M. sinensis* stands for nesting and foraging in its native range (Stewart, *et al.*, 2009). In its native Japan, it is used in managed grazing systems where cattle feed on it, preventing it from overtaking young trees in forestry plantations (Hirata, *et al.*, 2007).

CONTROL

MECHANICAL:

For small or new infestations, digging up individual clumps, ensuring the complete removal of the rhizome system, can be effective. Repeatedly mowing or cutting the plants down during the growing season (2-4 times per year) will deplete the energy stored in the rhizomes and can kill the plant over one to two seasons. However, a single mowing, especially when the plant is dormant in the winter, is ineffective and may even stimulate more vigorous growth in the spring. Mechanical treatment should focus on preventing seedhead formation (Meyer, 2004).



Brush cutting an infestation. Great Smoky Mountains National Park Reserve Management, USDI, National Park Service.

CULTURAL:

Integrated Pest Management, is typically the most effective for controlling invasive *Miscanthus sinensis*. The most important cultural control method is prevention. This includes educating the public and the horticulture industry to avoid planting highly invasive "wild-type" *M. sinensis* and to use sterile cultivars or native alternatives, especially near natural areas. Monitoring for self-seeding is a critical cultural control practice, especially when multiple cultivars are grown together, which increases the likelihood of viable seed production (Meyer, 2004). Buffer zones around biofuel plantations are also proposed to limit spread, though their effectiveness is debated and depends on local conditions (Pittman, *et al.*, 2015). Prescribed burning is not recommended as a standalone control method because it tends to increase the vigor and seed production of *Miscanthus*. It is only useful if followed immediately by chemical application to the regrowth (Meyer, 2004). In specific agricultural contexts, managed cattle grazing has been shown to be an effective method of control, as cattle will readily consume the grass (Hirata, *et al.*, 2007; Meyer, 2004).

BIOLOGICAL:

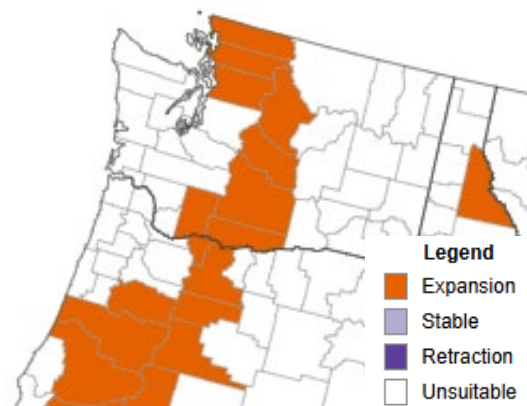
There are no official biological control agents released for *Miscanthus sinensis*.

CHEMICAL:

Glyphosate is frequently cited as an effective systemic herbicide. However, multiple applications over successive years are often required for complete eradication, especially for established populations (Everman, *et al.*, 2011; Hager, *et al.*, 2015). Other herbicides like dicamba and halosulfuron have shown minimal injury to *M. sinensis*, while imazethapyr and imazamox caused greater injury in some studies (Everman, *et al.*, 2011). For weed control in cultivated stands of *M. sinensis*, various studies have found it to be tolerant of several common pre- and post-emergence herbicides. This tolerance complicates chemical control efforts where it is invasive (Everman, *et al.*, 2011; Song, *et al.*, 2016).

RATIONALE FOR LISTING

The very traits that make them desirable for economic purposes, such as rapid growth, tolerance to poor conditions, and efficient reproduction, and aesthetic appeal, also contribute to their potential to become invasive weeds when they escape cultivation. The prolific seed production combined with the mature height and ability to grow in a variety of habitats (Meyer, 2004) makes *Miscanthus sinensis* a threat to low desired crops, garden plants, and native vegetation. Under even the most conservative future climate modelling and range shifts, *M. sinensis* is predicted to expand in Washington across the East side of the Cascade Mountains and Northern Puget Sound (EDDMapS).



Future range expansion under most conservative modelling. EDDMapS.

REFERENCES:

1. Avanesyan, A., & Lamp, W. O. (2022). Response of five miscanthus sinensis cultivars to grasshopper herbivory: Implications for monitoring of invasive grasses in protected areas. *Plants*, 11(1). <https://doi.org/10.3390/plants11010053>
2. Bonin, C. L., Mutegi, E., Snow, A. A., Miriti, M., Chang, H., & Heaton, E. A. (2017). Improved Feedstock Option or Invasive Risk? Comparing Establishment and Productivity of Fertile *Miscanthus × giganteus* to *Miscanthus sinensis*. *Bioenergy Research*, 10(2), 317–328. <https://doi.org/10.1007/s12155-016-9808-1>
3. Burke Herbarium Image Collection. *Miscanthus sinensis* search. Retrieved August 22nd, 2025, from <https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Miscanthus%20sinensis>
4. Bylak, A., Bobiec, A., Bobiec, M., Kukuła, K., & Low, T. (2025). Early warning of two emerging plant invaders in Europe. *Scientific Reports*, 15(1), 1–10. <https://doi.org/10.1038/s41598-025-95582-x>
5. Calflora. *Miscanthus sinensis*. Retrieved August 22nd, 2025 <https://www.calflora.org/app/taxon?crn=5596>
6. Christian, E. J. (2012). Seed development and germination of *Miscanthus sinensis*.

7. Consortium for Pacific Northwest Herbaria. *Miscanthus sinensis* search. Retrieved August 22nd, 2025, from <https://www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&ExcludeCultivated=Y&GroupBy=ungrouped&SortBy=Year&SortOrder=DESC&SearchAllHerbaria=Y&QueryCount=1&IncludeSynonyms1=Y&Genus1=Miscanthus&Species1=sinensis&Zoom=4&Lat=55&Lng=-135&PolygonCount=0>
8. Dougherty, R. F., Barney, J. N., Askew, S. D., Welbaum, G. E., & Dougherty, R. F. (2013). Ecology and niche characterization of the invasive ornamental grass *Miscanthus sinensis* Ecology and niche characterization of the invasive ornamental grass *Miscanthus sinensis* (Issue May).
9. EDDMapS. Bristle miscanthus. Retrieved August 22nd, 2025, from <https://www.eddmaps.org/distribution/uscounty.cfm?sub=3052&map=rangeshift>
10. Everman, W. J., Lindsey, A. J., Henry, G. M., Glaspie, C. F., Phillips, K., & McKenney, C. (2011). Response of *Miscanthus × giganteus* and *Miscanthus sinensis* to Postemergence Herbicides . *Weed Technology*, 25(3), 398–403. <https://doi.org/10.1614/wt-d-11-00006.1>
11. García, A., Toledano, A., Andrés, M. Á., & Labidi, J. (2010). Study of the antioxidant capacity of *Miscanthus sinensis* lignins. *Process Biochemistry*, 45(6), 935–940. <https://doi.org/10.1016/j.procbio.2010.02.015>
12. Global Biodiversity Information Facility. *Miscanthus sinensis*. Retrieved August 22nd, 2025, from <https://www.gbif.org/species/8577467> <https://www.gbif.org/species/2706026>
13. Hager, H. A., Rupert, R., Quinn, L. D., & Newman, J. A. (2015). Escaped *Miscanthus sacchariflorus* reduces the richness and diversity of vegetation and the soil seed bank. *Biological Invasions*, 17(6), 1833–1847. <https://doi.org/10.1007/s10530-014-0839-2>
14. Hager, H. A., Sinasac, S. E., Gedalof, Z., & Newman, J. A. (2014). Predicting potential global distributions of two *Miscanthus* grasses: Implications for horticulture, biofuel production, and biological invasions. *PLoS ONE*, 9(6). <https://doi.org/10.1371/journal.pone.0100032>
15. Heděnc, P., Novotný, D., Ust'ak, S., Honzík, R., Kovářová, M., Šimáčková, H., & Frouz, J. (2014). Allelopathic effect of new introduced biofuel crops on the soil biota: A comparative study. *European Journal of Soil Biology*, 63, 14–20. <https://doi.org/10.1016/j.ejsobi.2014.05.002>
16. Hirata, M., Hasegawa, N., Nogami, K., & Sonoda, T. (2007). Evaluation of forest grazing as a management practice to utilize and control *Miscanthus sinensis* in a young tree plantation in southern Kyushu, Japan . *Grassland Science*, 53(3), 181–191. <https://doi.org/10.1111/j.1744-697x.2007.00091.x>
17. Horton, J. L., Fortner, R., & Goklany, M. (2010). Photosynthetic characteristics of the C4 invasive exotic grass *Miscanthus sinensis* andersson growing along gradients of light intensity in the Southeastern United States. *Castanea*, 75(1), 52–66. <https://doi.org/10.2179/08-040.1>
18. iNaturalist. *Eulalia* search. Retrieved August 22nd, 2025, from https://www.inaturalist.org/observations?taxon_id=165474
19. Invasive Plant Atlas. waterhemp. Retrieved August 22nd, 2025, from <https://www.invasiveplantatlas.org/subject.cfm?sub=3052>
20. Lowry, C. J., Matlaga, D. P., West, N. M., Williams, M. M., & Davis, A. S. (2022). Estimating local eradication costs for invasive *Miscanthus* populations throughout the eastern and midwestern

- United States. *Invasive Plant Science and Management*, 15(3), 115–121.
<https://doi.org/10.1017/inp.2022.20>
21. Madeja, G., Umek, L., & Havens, K. (2012). Differences in Seed Set and Fill of Cultivars of *Miscanthus* Grown in USDA Cold Hardiness Zone 5 and Their Potential for Invasiveness. *Journal of Environmental Horticulture*, 30(1), 42–50. <https://doi.org/10.24266/0738-2898.30.1.42>
 22. Meyer, M. H. (2019). *Miscanthus*: Ornamental and Invasive Grass. In *HortScience* (Vol. 39, Issue 4). <https://doi.org/10.21273/hortsci.39.4.792b>
 23. Pittman, S. E., Muthukrishnan, R., West, N. M., Davis, A. S., Jordan, N. R., & Forester, J. D. (2015). Mitigating the potential for invasive spread of the exotic biofuel crop, *Miscanthus × giganteus*. *Biological Invasions*, 17(11), 3247–3261. <https://doi.org/10.1007/s10530-015-0950-z>
 24. QUINN, L. D., ALLEN, D. J., & STEWART, J. R. (2010). Invasiveness potential of *Miscanthus sinensis* : implications for bioenergy production in the United States . *GCB Bioenergy*, 2(6), 310–320. <https://doi.org/10.1111/j.1757-1707.2010.01062.x>
 25. Quinn, L. D., Stewart, J. R., Yamada, T., Toma, Y., Saito, M., Shimoda, K., & Fernández, F. G. (2012). Environmental Tolerances of *Miscanthus sinensis* in Invasive and Native Populations. *Bioenergy Research*, 5(1), 139–148. <https://doi.org/10.1007/s12155-011-9163-1>
 26. Smith, L. L., Allen, D. J., & Barney, J. N. (2015). The thin green line: Sustainable bioenergy feedstocks or invaders in waiting. *NeoBiota*, 25(April), 47–71.
<https://doi.org/10.3897/neobiota.25.8613>
 27. Smith, L. L., & Barney, J. N. (2014). The Relative Risk of Invasion: Evaluation of *Miscanthus × giganteus* Seed Establishment . *Invasive Plant Science and Management*, 7(1), 93–106.
<https://doi.org/10.1614/ipsm-d-13-00051.1>
 28. Song, J. S., Lim, S. H., Lim, Y., Nah, G., Lee, D. K., & Kim, D. S. (2016). Herbicide-based Weed Management in *Miscanthus sacchariflorus*. *Bioenergy Research*, 9(1), 326–334.
<https://doi.org/10.1007/s12155-015-9693-z>
 29. STEWART, J. R., TOMA, Y., FERNÁNDEZ, F. G., NISHIWAKI, A., YAMADA, T., & BOLLERO, G. (2009). The ecology and agronomy of *Miscanthus sinensis* , a species important to bioenergy crop development, in its native range in Japan: a review . *GCB Bioenergy*, 1(2), 126–153.
<https://doi.org/10.1111/j.1757-1707.2009.01010.x>
 30. Verhoff, S. (2014). Pollen limits seed set in small populations of feral *Miscanthus sinensis*, an ornamental grass with invasive potential (Issue October 2013).