

Timber Germplasm switchgrass

Panicum virgatum (L.)



Timber Germplasm switchgrass (*Panicum virgatum*) is a source-identified germplasm released from the Cape May Plant Materials Center (PMC) in Cape May, NJ in 2009. Photo by, USDA NRCS Plant Materials Center, Cape May, NJ.

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Description

Switchgrass (*Panicum virgatum* L.) is native to most of the continental United States east of the Rocky Mountains and is an important component of tallgrass prairies. It is not native in California and the Pacific Northwest. Timber Germplasm is a native, perennial, warm-season bunchgrass that appears genetically to be a lowland type similar to the cultivar ‘Kanlow’. It grows to 6–8 feet (2.0–2.7 m) tall with foliage heights on mature plants reaching 5–6 ft (1.7–2 m). It has round stems and a many-branched, open, 21–24 in (54–61 cm) indeterminate inflorescence. It spreads by seed or by short rhizomes.

Source

Timber Germplasm was selected from six experimental synthetic lines for its ability to produce large amounts of aboveground biomass. The Cape May PMC acquired and tested plant material from North Carolina State in 1991. Taller, higher yielding individuals were selected for this composite collection.

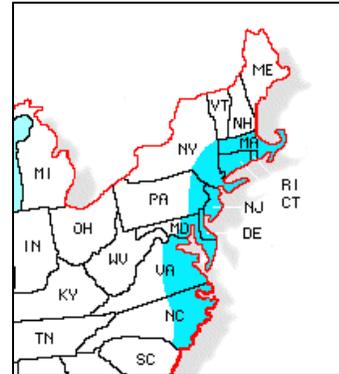
Conservation Uses

This release is intended primarily for biomass production, however it may be used for general conservation if plant

size is not a concern. Timber Germplasm has the potential to produce approximately 8 tons/ac of biomass under ideal growing conditions. However, in most seeded trials in the Mid-Atlantic, estimated yields are between 5–6 tons/ac.

Area of Adaptation and Use

The NJ PMC developed Timber Germplasm switchgrass for use specifically in the Northeast and Mid-Atlantic coasts from Massachusetts south to North Carolina. Timber Germplasm is adapted to both wet/poorly-drained and dry/droughty soil conditions throughout the Mid-Atlantic region. The optimum soil type is a loamy to sandy, well-drained soil.



Map of Timber Germplasm switchgrass area of adaption and recommended area of use.

Establishment and Management for Conservation Plantings

Switchgrass seeding is best done by drilling into a well-prepared conventional seedbed or no-tilled into a killed sod at a ½ inch depth. If broadcasting seed, lightly rake and cultipack the site to provide good seed to soil contact. Solid stands of switchgrass are established using 5–8 pounds of pure live seed (PLS) per acre. In a mixed seeding with other warm-season grasses, lower the rate to 1–3 pounds per acre. The optimum seeding time is mid-April to mid-June. If early cool-season weeds are a problem, suppress weed competition and plant towards the later end of the seeding window (late spring to early summer). On sites where weeds are not a problem, an early spring seeding (April) is best. When mowing weeds, timing should not interfere with ground-bird nesting season in the area—especially if land is under a USDA–NRCS conservation program. If needed, fertilize moderately as determined by a soil test; however, fertilization will also increase weed competition. Amendments may be applied prior to, during, or after seeding. Nitrogen should only be applied after green growth has begun in the second growing season. Optimal soil pH is in the range of 5.5–6.5.

Switchgrass seedlings are slow to establish relative to cool-season grasses such as fescue and ryegrass. Stands that appear poor the first year will most likely improve the second growing season. Two or more years may be required to establish productive stands for seed production. To control weeds mow to the height of 4–6 inches three to four times the first year after planting. Pre and post-emergent herbicides for broadleaf and grassy weeds may be applied, however do not apply post-emergent herbicide until switchgrass has developed at least four leaves.



Photograph of Timber Germplasm switchgrass in second year of establishment from seed.

Hay/Grazing: Do not graze the first year. Begin grazing in a rotational system when switchgrass plants are 18–24 inches tall. Graze no lower than 8–10 inches and allow the plant to recover to 24 inches before utilizing again. Switchgrass will require more rotational grazing and more care in determining cattle stocking rates. It can be no-tilled into a cool-season crop and mixed with partridge pea for wildlife planting.

Ecological Considerations

Switchgrass can be negatively affected by insect and disease such as grasshoppers, flea beetles, leaf and stem rust, as well as spot blotch and anthracnose (Bonos et al., n.d.).

Switchgrass can spread and compete with other native warm-season grasses such as big bluestem, indiagrass, and little bluestem. This can be a particular problem with cultivars used in wildlife plantings and restoration sites. Please consult with your local NRCS Field Office, Cooperative Extension Service office, state natural resource, or state agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at <http://plants.usda.gov>.

Seed and Plant Production

This germplasm does not appear to have any dormancy issues and stands are relatively easy to establish by seeding.

Availability

For conservation use: Limited quantities of seed are available for conservation plantings from specialized seed growers. For sources of supply for Timber Germplasm switchgrass or for more information on the availability, planting and use, contact your local NRCS office or Soil and Water Conservation District.

For seed or plant increase: Timber Germplasm switchgrass is an eastern US source-identified release. Contact the Cape May Plant Materials Center to obtain foundation material for the purpose of large-scale increase.

Literature Cited

Bonos, S., Z. Helsel, and W. Hlubik. n.d. Switchgrass production and use in New Jersey. NJ Cooperative Extension. Fact Sheet 1075.

For more information, contact:

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Citation

Release brochure for switchgrass Timber Germplasm (*Panicum virgatum*). USDA-Natural Resources Conservation Service, Cape May Plant Materials Center. Cape May, NJ 08210. Published February, 2014

For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <http://www.plant-materials.nrcs.usda.gov>

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