



**Biology Technical Note # 21**

**Sweetgrass Collection, Propagation, and Harvest**

**Date: July, 2014**

**Purpose:**

This document was produced by the staff at the Rose Lake Plant Materials Center in East Lansing, MI and the Bridger Plant Materials Center in Bridger, MT. The purpose of this document is to provide recommendations for the collection and propagation of sweetgrass [*Hierochloe odorata* (L.) P. Beauv.]. It also provides recommendations on techniques for harvesting the leaves of sweetgrass during the growing season.

## Sweetgrass [*Hierochloa odorata* (L.) P. Beauv.] Collection, Propagation, and Harvest

Sweetgrass, also known as wiingash and vanilla grass, is a moderately tall, rhizomatous perennial. The fragrance of the leaves is due to the presence of coumarin, a natural anticoagulant. The geographic range of this grass is quite extensive, with populations found throughout the United States, Canada, and Eurasia. In the Great Lakes region and in the Northern Great Plains and Rocky Mountains, it is usually found in wet meadows, low prairies, edges of sloughs and marshes, bogs, shaded stream banks, and lakeshores.

### Sweetgrass Identification:

Distinguishing sweetgrass from other grass plants can be a challenge. Here are a few tips to help with sweetgrass identification:

- Sweetgrass has white rhizomes (underground stems).
- Leaves have a rough edge and have very shiny, hairless undersides.
- Often has a reddish-purple color near the base of the plant.
- Sweetgrass flowers very early in the growing season (March – May) before most grasses start flowering.



Sweetgrass rhizome with new shoot



Sweetgrass leaves – shiny, hairless



Sweetgrass flowers



Sweetgrass seed head

### Plant Collection and Separation:

Collecting sweetgrass plants for transplanting from a field or garden is relatively easy (see a video demonstration here: [https://www.youtube.com/watch?v=4UdQ6\\_ZtPwc](https://www.youtube.com/watch?v=4UdQ6_ZtPwc)). Insert a shovel into the ground so that the tip is deeper than the rhizome and root zone. In most cases the rhizomes and roots will be 10 inches deep or less. Try to remove as large a clump of sweetgrass as possible, minimizing rhizome and root breakage. Carefully remove the soil from around the rhizomes and roots by soaking the root mass until soil disperses into the water, and keep the plants moist until transplanting. If collecting sweetgrass from a garden area for transplant to another location, dig plants in a pattern so that the remaining plants will be able to fill in the disturbed area within 1 to 2 years.

A soil test prior to transplanting is recommended. Apply phosphorus, potassium, and other nutrients – except nitrogen - as recommended by the soil test. Nutrient applications should follow recommendations for cool season grasses in your area. Nitrogen can be applied after establishment is complete.

If the planting stock needs separating, ensure that each “plantlet” has a rhizome or rhizome bud. Each plant or rhizome should be shallowly planted (so the green, leafy material is above the soil surface) in full sun in a light, loose soil. Plantlets that are field-planted should be planted on 2- to 3-foot centers (absolute minimum 1 foot); they will fill in and make solid stands of sweetgrass in 1 to 3 years. Cut the leaves of the plantlets to 3 or 4 inches in height after transplanting. This will encourage root development and reduce moisture stress on the plant.

Plants must be kept moist, and need to receive frequent watering. Plants may need to be protected from herbivores, such as rabbits or gophers.



Sweetgrass with root system exposed



Sweetgrass planted with green tissue above soil surface

### Plant Maintenance and Foliage Harvesting:

After the plants have established and grown to a minimum height of 4 to 6 inches (to avoid damaging small seedlings), routinely weed and remove unwanted vegetation. This will reduce competition for light, nutrients, and water, and encourage vigorous plant growth and development. Sweetgrass prefers a moist environment, so regularly water the site, especially in low precipitation areas. The rhizomes develop early and new shoots will emerge during the first growing season. The grass will continue to spread if left undisturbed.

Nitrogen fertilizer is not recommended in the first year of establishment, as weeds would reap the most benefit during that time. Plants should receive nitrogen fertilizer starting the year after establishment. Fertilize based on recommendations for cool season grasses in your area.

The leaves will reach a length of approximately 12 to 24 inches and can be harvested once or twice a year. The foliage is very relaxed and it will be necessary to carefully lift the leaves and cut the stems close to the ground (leave 1 to 2 inches of plant stem). Some sources recommend snapping the leaves off at ground level. BE CAREFUL NOT TO DISTURB THE ROOTS IF THIS METHOD IS USED.

The actual number of leaf harvests per year will depend on climatic conditions, seasonal timing, and the sweetgrass population being propagated. Plan the final harvest (late summer in northern climates) so that there will be adequate time for the plants to prepare for the onset of cold temperatures and winter conditions. If this natural hardening-off process does not occur, it will eventually have a detrimental effect on the long-term persistence and survival of the stand.

### References:

Anonymous. 2000. Sweetgrass Management Guide. New York Sea Grant Extension. SUNY College. Buffalo, NY.

Leif, J. 2010. Plant fact sheet for sweetgrass [*Hierochloe odorata* (L.) P. Beauv]. USDA-Natural Resources Conservation Service, Rose Lake Plant Materials Center, East Lansing, MI 48823.

Lesica, P. 2012. Manual of Montana Vascular Plants. Botanical Research Institute of Texas, Fort Worth.

Lichvar, B. 2011. Taxonomy and the National Wetland Plant List. Castilleja--Publication of the Wyoming Native Plant Society. Volume 30, No. 4 (December).

Skinner, Q. 2010. A Field Guide to Wyoming Grasses. Education Resources Publishing, Cumming, GA.

Winslow, S. R. 2004. Sweetgrass Care Guide. USDA-NRCS Plant Materials Center in Bridger, MT.

Winslow, S.R., M.E. Majerus, and L.K. Holzworth. 2005. Release Brochure: Spirit Germplasm Selected Class Sweetgrass. USDA-Natural Resources Conservation Service, Bridger Plant Materials Center, Bridger, MT 59014, and Bozeman, MT 59715.

Stevens, M. and S.R. Winslow. 2007. Plant guide for sweetgrass [*Hierochloe odorata* (L.) Beauv.] USDA-Natural Resources Conservation Service, National Plant Data Center and Bridger Plant Materials Center, Bridger, MT 59014.

Winslow, S. R. 2010. Propagation of 'Spirit' Sweetgrass.

[https://www.youtube.com/watch?v=4UdQ6\\_ZtPwc](https://www.youtube.com/watch?v=4UdQ6_ZtPwc). Verified May 14, 2014.

Photo Credits: John W. Leif, USDA-NRCS, East Lansing, MI, Ecoseeds.com, Prairie Moon Nursery, Susan R. Winslow, USDA-NRCS, Bridger, MT .

Prepared by:

John W. Leif, Manager, USDA-NRCS Rose Lake Plant Materials Center, East Lansing, MI  
Susan R. Winslow, Agronomist, USDA-NRCS Bridger Plant Materials Center, Bridger, MT

Technical Review by:

John Durling, Agronomist, USDA-NRCS Rose Lake Plant Materials Center, East Lansing, MI  
Joel Douglas, USDA-NRCS Regional Plant Materials Specialist, Central NTSC, Ft. Worth, TX  
Joe Scianna, USDA-NRCS Bridger Plant Materials Center, Bridger, MT



**Production field of Spirit germplasm sweetgrass at the Bridger, MT Plant Materials Center**

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers. If you believe you experienced discrimination when obtaining services from USDA, participating in a USDA program, or participating in a program that receives financial assistance from USDA, you may file a complaint with USDA. Information about how to file a discrimination complaint is available from the Office of the Assistant Secretary for Civil Rights. USDA prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex (including gender identity and expression), marital status, familial status, parental status, religion, sexual orientation, political beliefs, genetic information, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.)

To file a complaint of discrimination, complete, sign, and mail a program discrimination complaint form, available at any USDA office location or online at [www.ascr.usda.gov](http://www.ascr.usda.gov), or write to: USDA, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410. Or call toll free at (866) 632-9992 (voice) to obtain additional information, the appropriate office or to request documents. Individuals who are deaf, hard of hearing, or have speech disabilities may contact USDA through the Federal Relay service at (800) 877-8339 or (800) 845-6136 (in Spanish). USDA is an equal opportunity provider, employer, and lender. Persons with disabilities who require alternative means for communication of program information (e.g., Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).