



Sweet Grass (Wiingashk) Project

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Sweet grass: a braided circle of renewal

Individual sheaves of unbraided sweet grass break easily when bent, but sheaves of braided sweet grass are resilient enough, even when tinder dry, to be bent into a circle. When its head touches its roots the braid has no beginning or end, only the continuity, renewal, and eternity symbolized by the circle.

INTRODUCTION

Sweet grass is an aromatic grass that is of cultural importance to the Ojibwa and other Native people throughout North America. In the Ojibwa language it is called 'wiingashk'. This name comes from the root words 'wii' which means spicy or aromatic and also to bind or twist, plus 'gashk', referring to herb. The scientific name for sweet grass, *Hierochloe*, is derived from the Greek words 'hieros' meaning sacred and 'chole' meaning grass. This name is related to the northern European custom of putting sweet grass in front of church doors on saints' days (Norstog 1960), attesting to the ritual importance of this plant in European cultures.

In this report we provide a description of the natural history and cultural significance of sweet grass in the ceded territories, describe our sweet grass project, and provide advice for planting a sweet grass garden. Although there are 23 species of sweet grass throughout the world, unless otherwise stated, we are referring to *Hierochloe odorata*, the species native to the Great Lakes Region, including the territories ceded in the treaties with the Chippewa (Fig. 1).

NATURAL HISTORY AND CULTURAL SIGNIFICANCE OF SWEET GRASS

Natural history

It is easiest to recognize sweet grass early in the summer because it is one of the first grasses to flower in our area. Flower heads with 20-30 individual flowers emerge from tightly curled leaf sheaths in mid- to late-May, before most of the leaves are expanded (Fig. 2). These loose flower heads turn a reddish-brown color as they expand and mature later in the summer.

Sweet grass leaves are shiny on the underside, and the color ranges from bright green in the spring to greenish-brown or golden later in the summer. As in some other grass species, the base of the leaves is wrapped in a thin brownish-purple sheath. The leaves of sweet grass have a spicy, sweet odor from a chemical compound called coumarin (Gould 1968), which to some people smells like vanilla. Often you can catch a waft of its odor while walking or driving by a patch on hot sunny days.

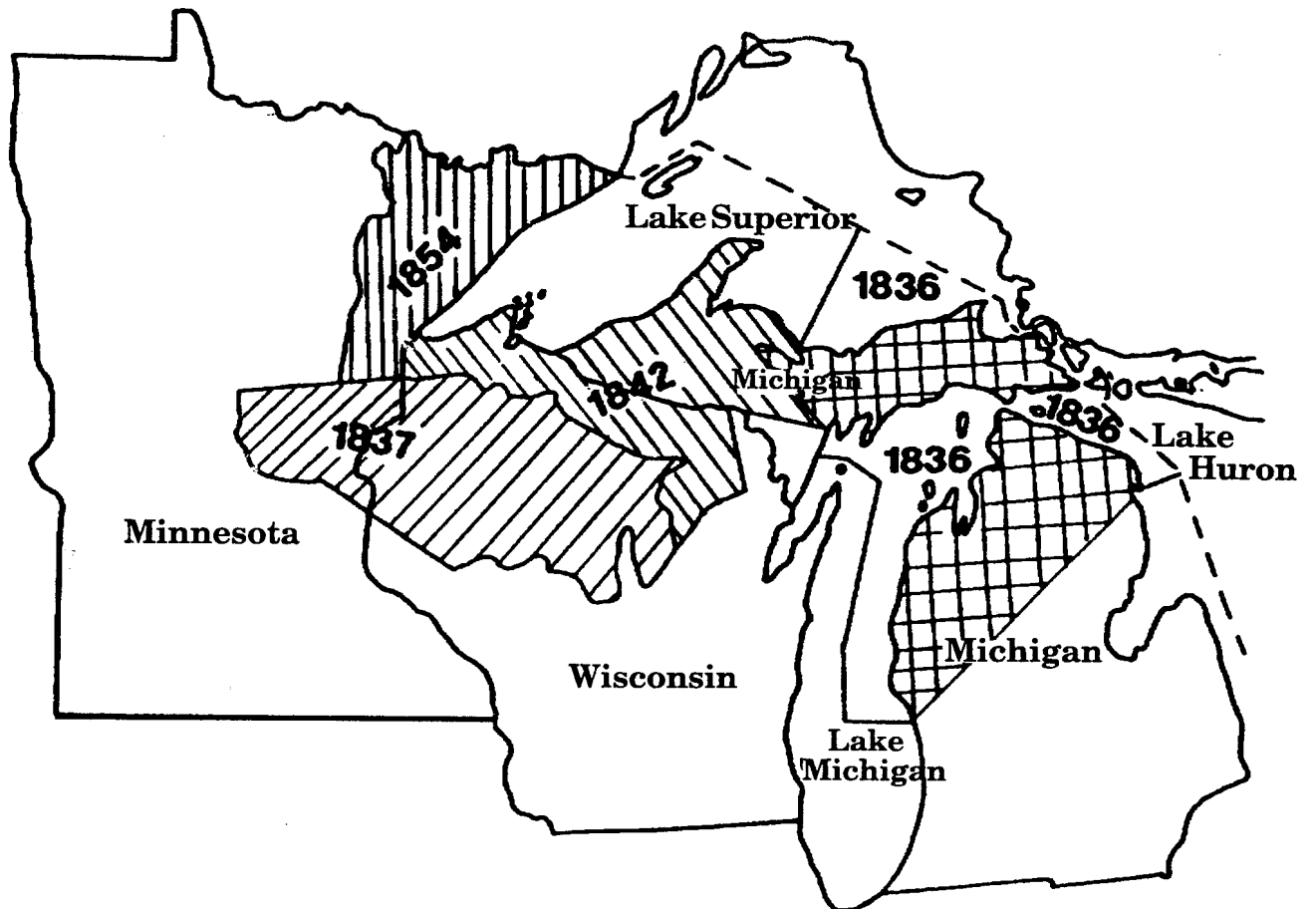


Figure 1. Areas ceded in the 1836, 1837, 1842, and 1854 Chippewa Treaties.

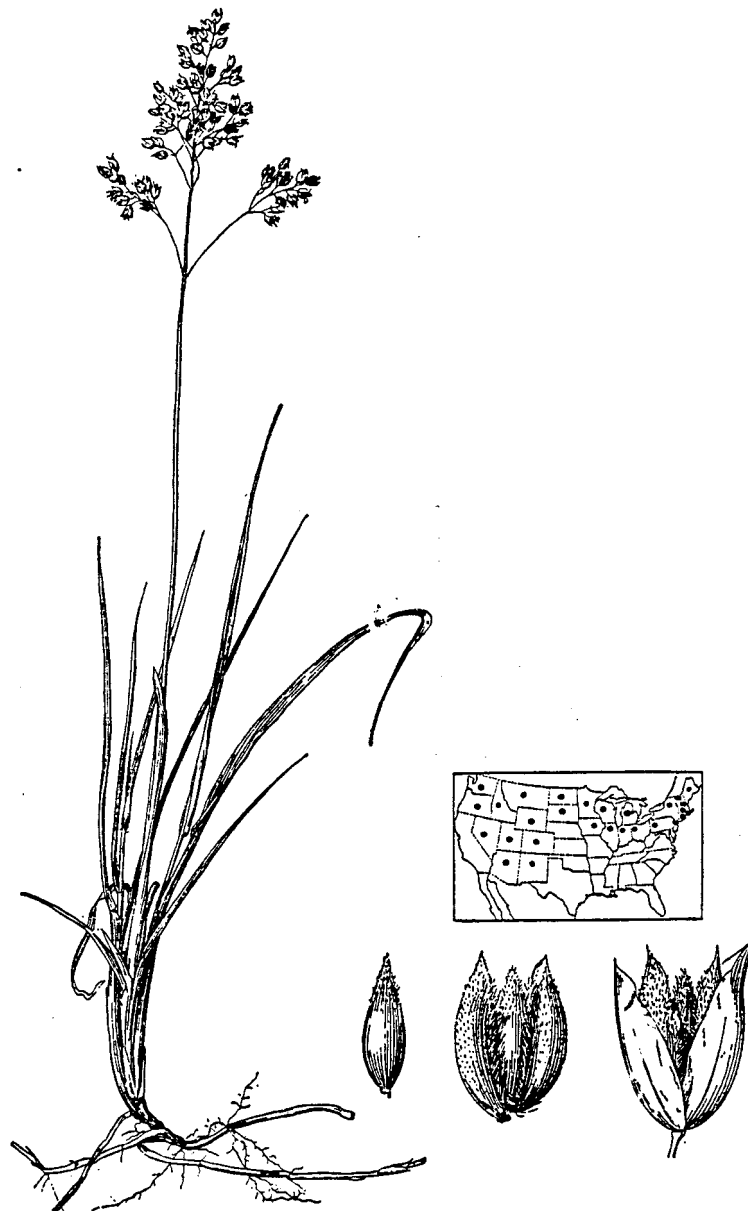


Figure 2. *Hierochloa odorata*. Plant, x1/2; spikelet, florets, and fertile floret, x5.
(From Hitchcock 1950).

Sweet grass usually grows to 1½ to 3 feet tall, but it has been observed to reach a height of 4 feet in central Ontario. The plants are perennial and reproduce asexually by sending up new shoots every year from buds on the underground stems called rhizomes. Sexual reproduction in this species appears to be very rare, as less than about 5% of the seeds produced are fertile (Norstog 1960, Weimark 1971, Ferris et al. 1991, and personal observation).

Sweet grass grows in moist meadows and swales, along stream banks, at the edges of forests, in forest openings, and along roadsides and railroad right-of-ways. Its primary requirement is for lots of sunlight. Fire and other types of disturbance are likely to be important for the health and maintenance of sweet grass populations. Fire and grazing do not consume the underground rhizomes, so grasses are able to recover from grazing, mowing, and burning, while benefitting from increased sunlight and nutrient availability.

In addition to *Hierochloa odorata*, there are two other species of sweet grass in the United States, and 20 other species of sweet grass worldwide. Most species grow in the northern hemisphere, in temperate and cool regions, though a few species grow at high latitudes in the southern hemisphere. Only *Hierochloa odorata* grows in the ceded territories. The range of this species is from Labrador to Alaska, south to New Jersey, Ohio, Indiana, Iowa, Oregon and in the mountains of New Mexico and Arizona; and throughout Eurasia (Gray 1950). The counties in the ceded territories from which sweet grass has been collected are shown in Figure 3.

Cultural significance and use

Sweet grass has been used by the Ojibwa for generations. Usually it is braided shortly after it is picked while the stems are still supple. Sweet grass may be sewn onto birch bark and storage containers; it is also made into baskets. Dried sweet grass is used as a purifying smudge by individuals and during ceremonies where its aroma acts like an incense. Sometimes it is mixed with tobacco and other herbs to make 'kinnikinnik'.

Some tribal members grow 'wiingashk' in small garden plots ('gitigaan') near their homes. Others may gather sweet grass from a favorite location while traveling, or receive a braid or two as a gift. Some traders sell sweet grass at pow-wows.

SWEET GRASS PROJECT

Project goals

In response to strong interest from the Ojibwa community, the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) initiated a program to promote the cultivation of sweet grass by tribal members in home gardens. In addition, because the status of wild sweet grass populations is poorly understood, a second objective was to locate wild populations in the ceded territories and assess the need for protection of wild populations and their habitats to allow for sustained gathering.

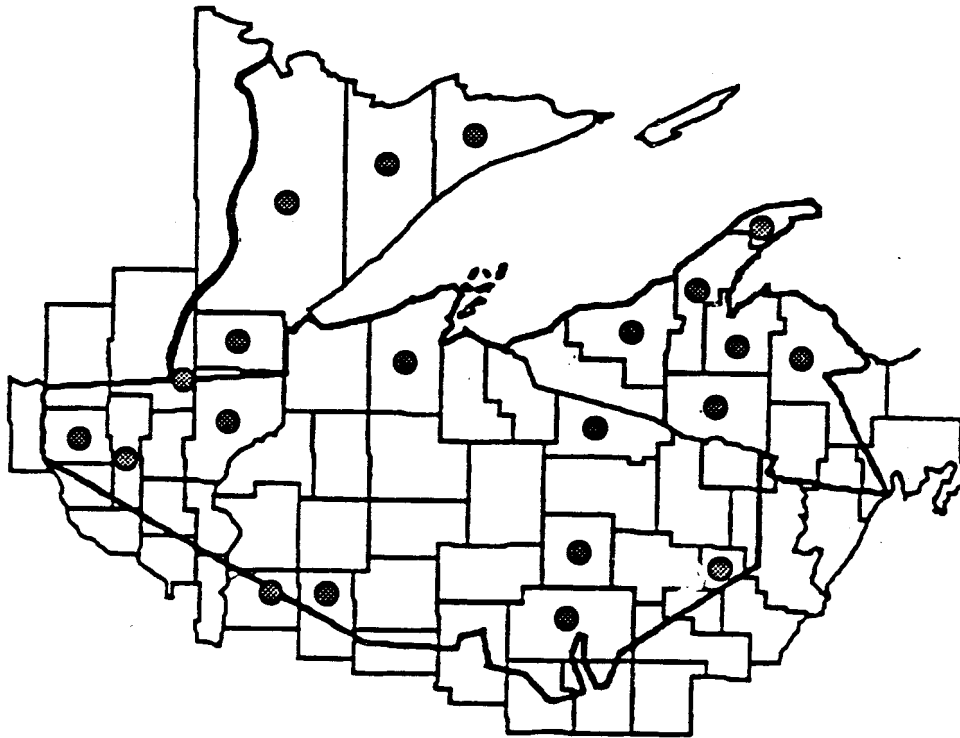


Figure 3. Counties in the ceded territories where sweet has been collected. (From Meeker 1993).

‘Wiigashk gitigaan’

The project began in the spring of 1992 when 13 volunteers living on eight Chippewa reservations expressed an interest in receiving sweet grass plugs. A set of instructions for picking a suitable garden site, planting, and growing sweet grass plugs was developed and provided to participants. Each garden plot was visited by GLIFWC staff at least once during the summer to determine if the transplanting was successful. In 1993 three new volunteers started plots, and several more gardens were started in 1994. The initial plantings were with sweet grass plugs obtained from wild plant nurseries, but in subsequent years participants were encouraged to use plugs obtained from wild sweet grass growing locally. The success of this project has already been realized. Sweet grass cuttings are being collected and existing gardens are reproducing well enough to provide plugs for future gardens.

Requests for sweet grass plugs continue to come in, and in 1995 we will continue to help interested gardeners locate locally adapted sweet grass to transplant into home gardens. We also encourage people to share sweet grass plugs from their gardens with others who are interested in starting gardens.

Wild sweet grass

Efforts to locate wild populations of sweet grass began in 1994. Populations known from previous years were visited and new populations were noted. Patches of sweet grass were found to be common along roadsides in northern Wisconsin, the western Upper Peninsula of Michigan, and near Fond du Lac in Minnesota, but only two isolated populations were found (one in the Moquah Barrens, WI, the other on private land near Baraga, MI).

The apparent lack of sweet grass growing away from roads and railroad right-of-ways may be due to the fact that more area was covered while traveling by car, but a similar pattern was noted in a study of sweet grass distribution in Ohio (Norstog 1960). While road-side sweet grass may not be desirable for ceremonial and medicinal uses, it does not appear that sweet grass is rare in the ceded territories. At this time we are not planning extensive work to monitor these roadside populations, however we are interested in learning more about sweet grass growing in less disturbed settings. In 1995 we will continue to collect information about the distribution of sweet grass in the ceded territories.

As wet prairies have been drained, natural fires suppressed, and fields grow back into forest, open habitat suitable for sweet grass has been replaced with agricultural or urbanized land and forests. While sweet grass is common along roadsides, it may be that more remote populations are on the decline. Because there is not sufficient information about the past or present distribution of this species it is not possible to do more than speculate about this trend. Future work will focus on identifying populations of sweet grass not growing along roadsides and trying to understand the habitat requirements of this species. If these populations appear to be threatened, we would inform land owners in the ceded territories about ways to protect existing populations. This may mean using fire to promote sweet grass in some areas, restoring wetland

habitats, or maintaining some open fields. The ultimate goal of the sweet grass program is to make sweet grass available to all who want to use this cultural and natural resource, while maintaining healthy populations in the wild. It is hoped that along with healthy populations of sweet grass, the cultural traditions will also be kept alive.

GROWING A SWEET GRASS GARDEN

Growing a sweet grass garden is not a new idea. Elders recall that sweet grass and other frequently used herbs were often transplanted to areas around homes for aesthetic reasons and convenience. Plants were given a place to grow and maybe water, and then left to their own to survive and grow. Through this project we are offering tribal members information to help them grow sweet grass gardens (gitigaan). For some growers, it may be a way to do something their grandparents or great-grandparents did.

Site selection and preparation

Selection of a good site is the most important step in successfully growing sweet grass. Although sweet grass can grow in a variety of conditions, sites with moist, sandy soil, plenty of sunshine (at least half a day), and neutral pH provide the best habitat. Because sweet grass can spread aggressively once it gets started you may want to choose a site that is outside of an established flower or vegetable garden.

Once you have chosen a garden site, work the soil as you would to prepare any garden. Dig up the soil to loosen it and thoroughly eliminate existing vegetation, including all roots. If your area has clay or excessively sandy soils, add compost to the bed. If you are planting sweet grass within a lawn, you may want to construct a 5-6 inch deep barrier to prevent the lawn grass from spreading into the sweet grass. It is best not to add fertilizer to a sweet grass garden as that will encourage other highly competitive grasses that can not grow aggressively at lower nutrient levels.

Planting sweet grass

We suggest growing sweet grass from transplanted sod plugs because the quality of seeds is generally poor and they are difficult to germinate. If possible, take plugs of sweet grass from local populations that are genetically adapted to the conditions of your area. A soup can with both ends cut off makes a good plug cutter. For best results, transplant at least 3-5 plugs into your garden. They should be spaced 8-12 inches apart. The best times to plant are in the spring when the ground thaws and in the fall about one month before the first frost. Avoid transplanting during early- to mid-summer when the plants are allocating resources to reproduction rather than root and shoot growth. After planting, give your sweet grass plenty of water for the first week or two until the roots are well established. In the first couple of years it will be important to weed your sweet grass garden every few weeks. Look out for other grasses that look like sweet grass and could quickly take over the garden if they are not weeded out.

Harvesting sweet grass

During the first growing season wait until fall to harvest. In successive years the sweet grass will respond well to 2-3 cuttings per year. Cut the sweet grass leaves instead of plucking them with the roots. This keeps the underground portions of the plant intact so that new shoots can be sent up. Enjoy your garden for many years to come.

LITERATURE CITED

- Ferris, C., R. S. Callow, and A. J. Gray. 1991. Mixed first and second division restitution in male meiosis of *Hierochloe odorata* (L.) Beauv (Holy Grass). *Heredity* 69:21-31.
- Gould, F. W. 1968. *Grass Systematics*. McGraw-Hill Book Company, New York.
- Gray, A. 1950. *Manual of Botany*. American Book Company, New York.
- Hitchcock, A. S. 1950. *Manual of the grasses of the United States*. USDA Misc. Publ. No. 200. United States Government Printing Office, Washington, DC.
- Meeker, J. E., J. E. Elias, and J. A. Heim. 1993. *Plants Used by the Great Lakes Ojibwa*. Great Lakes Indian Fish and Wildlife Commission, Odanah, WI.
- Norstog, K. 1960. The occurrence and distribution of *Hierochloe odorata* in Ohio. *Ohio J. Sci.* 60:388-365.
- Weimarck, G. 1971. Variation and taxonomy of *Hierochloe* (Graminae) in the Northern Hemisphere. *Bot. Notiser.* 124:129-175.