



WILD RICE ESTABLISHMENT

Conservation Sheet

644b

Natural Resources Conservation Service (NRCS)

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each male flower instead of three. The stem is hollow, but is partitioned with cross-walls at the nodes and at various intervals in the internodes.

GROWTH CHARACTERISTICS

Wild rice grain, or seed, sprouts under water in late April or early May, producing a single root and submerged thin ribbon-like leaves. In June, leaves that float on the surface of the water are produced. During this time, adventitious roots sprout near the first few nodes of the stem, and in early July leaves appear above the water. The heads appear by the end of July with female flowers at the top and male flowers at the bottom. Female flowers usually are pollinated by another plant. The grain is approximately 1/2 inch long and 1/16 inch wide, although the size varies by variety and location. The topmost grain on the wild rice head ripens first and the grains below it ripen over a period of about 10 days. As the grains ripen, then fall from the plant into the water.

WHAT IS WILD RICE?

Wild rice, *Zizania aquatica*, is a robust member of the grass family and is unrelated to common or cultivated rice, *Oryza sativa*. Botanists describe three varieties in Michigan. *Zizania aquatica* var. *aquatic* is rare in Michigan and found only in the southern part of the state, *Zizania aquatica* var. *angustifolia* is the common variety found throughout the state, while *Zizania aquatica* var. *interior* is found throughout the state however is uncommon.

DESCRIPTION

Wild rice is found in lakes, borders of streams, ponds, and inland and coastal fresh marshes. Like common or cultivated rice, wild rice grows in flooded soils where the water is shallow, usually from 6 inches to 5 feet in depth.

Wild rice *Zizania aquatica* var. *austifolia*, is a tall, annual aquatic grass three to six feet high with a plume-like top bearing slender rod-like seeds. Leaves vary from 1 to 4 cm. wide, are elongated, ribbon-like and with rough edges. Flower clusters are up to 2 feet long, their lower branches with dangling short-lived male spikelets, their upper branches with upright one-flowered female spikelets. The grain or seed is surrounded by a hull, like oats, and usually has a terminal awn or beard at the end of the hull. The hull is removed when the grain is processed. Structurally, wild rice differs from most other grasses in having six stamens in

GROWING CONDITIONS

Wild rice, being sensitive to its environment, is a difficult plant to establish in one year because: 1) it has specific site requirements, 2) the young plants are relished by muskrats and deer, and 3) a majority of the seed is often eaten by migratory birds. Because of this sensitiveness to the environment, sites for the introduction of wild rice should be carefully chosen. Physical and chemical conditions that appear best for the growth of wild rice in Michigan are:

1. Shallow clear water, 1 to 3 feet deep.
2. Organic soil 6 inches or more in depth and preferably with some calcareous material such as snail shells, etc.
3. A slight movement of water through the area during the growing season. Best location is near the mouth of a stream.
4. Fluctuations of water level less than 6 inches throughout the growing season when the wild rice is in the floating-leaf stage.
5. An absence of carp *Cyprinus Carpio*
6. Waters having a PH of 6.8 to 8.8; a sulfate ion concentration of under 10 ppm and a total alkalinity of 40-200ppm.
7. Continuous concentrations of 0.4 ppm of dissolved oxygen during seed germination. Low oxygen levels aid in breaking the dormancy of the seed.

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Generally, wild rice does not do well in landlocked ponds (those having no outlet), waters salty to taste, strongly alkaline or on white marl bottom soil. If these conditions exist, consider planting another plant.

SEED SOURCES

Seed of wild rice can be purchased from a number of reliable sources or collected from wild populations. Many nurseries in the Great Lakes region which specialize in wildlife foods, will carry wild rice. Always try to find a source which is as near as possible to the planting site. One should not confuse the wild rice available in the grocery store with that used for planting. Wild rice from a grocery store has been heat treated and hulled and will not germinate.

Seed of wild rice must be kept cool and moist until time of planting. It can be stored in double burlap sacks and submerged in a lake or stored in a cool root cellar and arranged so that water will drip on it. Seed that has dried will not germinate. Poor germination will result if the water freezes. Protect the seed from muskrat or rodent damage.

PLANTING

Wild rice should be planted in the fall prior to freezing or in the spring following the ice break-up. Generally, the fall plantings are recommended for Michigan. Seeding rates vary depending on the method of seeding. For broadcast spreading water 1 to 3 feet deep, use 50 pounds per acre. If seeding into a prepared seedbed, use 25 pounds per acre.

Natural stands of wild rice vary tremendous from year to year in plant populations and seed production. In order to establish a stand, **one should plan on seeding every year for over a three year period.** Very seldom are stands established with one year of seeding.

Wild rice is often times planted in paddies for commercial seed production. For further information on the planting of wild rice in paddies see Michigan Biology Tech Note #6 Wild Rice Production in Constructed Paddies.

Wild rice was an important part of the diet of native Americans. French voyageurs and explorers chanced upon a new taste sensation when, in 1650, they first encountered the wild rice cultivated by the Indians of mid-America. They called it *folle avoine* or "wild oats". The native americans called it *manomin* or "good berry".

Wild rice is also important to a wide range of wildlife species including mallards, teal, black ducks, muskrats, and migratory songbirds.

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UTILIZATION