Reed Canarygrass for Wet Lowland Areas of Michigan
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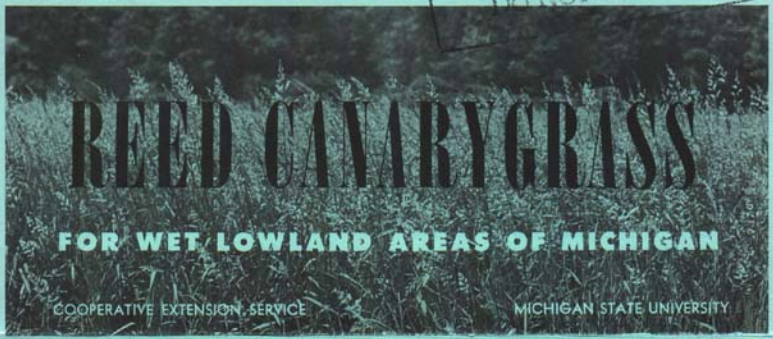

By Carter M. Harrison[1] and John F. Davis[2]

A LARGE ACREAGE of potentially fertile muck land in Michigan grows very little palatable forage because of poor drainage. Approximately five million acres, or 1 out of every 8 acres in Michigan, is muck.[3] Though muck areas on many Michigan farms are small, they comprise some of our most potentially productive soils. Generally speaking, these areas are covered with a marsh type vegetation which is unpalatable and therefore unproductive as pasture (Fig. 1, Page 2).

Reed canarygrass will grow on these wet, lowland areas. Because of this location, the grass will be somewhat sub-irrigated during the summer months when rainfall is limited. Used as pasture, the grass will produce green, succulent feed after the upland pastures have become dry and dormant.

Organic soil areas which will grow good corn should be planted to bromegrass rather than canarygrass. Wet mineral soils should be drained and planted to other legume-grass mixtures or topdressed to encourage wild white clover.

Advantages of Reed Canarygrass

1. Makes good use of farm land which, in the past, has been considered wasteland because it was too wet.

2. Lengthens the pastures season for most farms by furnishing additional pasture good for five to six and one-half months.

3. Produces green, succulent pasture feed after most upland pastures have dried up, or are unavailable.

4. Makes a good orchard mulching and packing material.

5. A good stand, well fertilized, will carry three head of livestock per acre or will produce a heavy yield of hay, grass silage, or bedding.

Description

Reed canarygrass is a hardy, coarse, leafy perennial which tends to grow in dense bunches and spreads underground by short creeping rootstocks.

The seeds are oblong, blackish, brown or gray in color, smooth, and free from chaff. Well matured, clean seed weighs 44 to 48 pounds per bushel.

The seeds mature at the top of the plant first and then successively downward. The seed shatters very readily, especially if the weather is dry, warm, and windy at ripening time.

Adaption

This grass does best in moist, cool climates. It makes its best growth on fertile, moist, swampy soils and is especially suited to swampy locations or muck lands which frequently overflow.

Reed canarygrass will establish and persist on both wet and dry mineral soils, but the production will be unsatisfactory in comparison to other legumes and grasses. It is only partially adapted to alkali or salt marshes, but seems to be well adapted to most of the wet muck areas in the northern half of the United States.

Acreage and Kinds of Areas

The size of areas most commonly used for reed canarygrass in Michigan is between 5 and 8 acres.

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[3]The term "muck" in this bulletin refers to all types of organic soils. At present only a very small acreage of such muck land is under cultivation.

PHOSPHATE AND POTASH APPLICATION RATES FOR REED CANARYGRASS

Pounds available phosphorus per acre by Bray P soil test	Pounds P_2O_5 per acre recommended	Pounds potassium per acre by 1 N ammonium acetate soil test method	Pounds K_2O per acre recommended
5	75	50	130
15	50	100	100
30	30	150	80
50	20	250	40

In a farm survey conducted by Michigan State University, only one farmer reported a field of over 40 acres, while more than three-fourths reported fields of less than 12 acres. All the fields studied had wet, mucky soils along rivers or in depressed lowland areas. Flooding for 10 to 60 days during the spring was a common occurrence on 88 percent of the fields. Seven percent of the fields were reported as flooded for an average of 11 days each fall. Apparently flooding for these periods is not harmful. 50 percent of the fields were drained by open ditches and 20 percent by tile. Thirty percent of the fields had no drainage.

Growing Canarygrass

A fine, smooth, well-packed seedbed is preferred whenever possible. The attempts to get a stand on marsh grass sod or any other unprepared seedbed have been largely unsuccessful.

Most of the areas where canarygrass should be grown in Michigan are wet in the spring, and seedbed preparation is difficult. As a rule, the best time to prepare a seedbed in poorly drained areas is in the dry part of the summer, when these areas can be worked down to a good firm seedbed. Regular muck-breaking plows are most frequently used on the wetter areas. Upland plows are occasionally used on drier sites. Generally, crawler-type tractors pull the muck plows, and wheel-type tractors the upland plows.

Fertilizer Requirements

Fertilizer should be applied according to soil tests. Under poor drainage conditions, from 30 to 70 pounds of nitrogen per acre may be needed.

If the pH of the soil is 6.5 or lower, 2 to 4 pounds of copper should be added with the fertilizer, (once every 6 to 10 years). Where the pH of the soil is 7.0 or higher, annual applications of 10 pounds of manganese per acre should be applied with the fertilizer. (On mucks with a pH below 4.5, lime should be applied at the rate of 2 to 6 tons per acre, depending upon the degree of acidity.)

When To Seed

Where possible, an early spring seeding is preferred. The seedbed should be prepared during the previous summer or fall, and the seed sown in late March or early April when the top one or two inches of soil has thawed. The freezing and thawing of the ground will cover the seed sufficiently. Late fall seedings, after growing weather has passed, will make it possible

Fig. 1. This type of farming area can be made highly productive when established to reed canarygrass

to get the seed on the ground and it will not germinate and grow until early the next spring.

Frequently the areas on which canarygrass is to be sown are under water or too wet to sow, except in the dry summer period. In such a case, seed should be sown between August 15 and September 1, so that the seedlings will get sufficient start to overwinter successfully. Avoid late spring or early summer seedings if possible. Late summer seedings should be rolled or cultipacked to firm the seedbed, making good contact between seed and soil for quick germination.

Buying Seed

Select mature seed as indicated by a large proportion of dark gray to brown seeds, and few light colored or immature seed. Germination should exceed 85 percent and the seed should be free from harmful weed seeds. Germination of seeds over one year old should be carefully checked before planting. When buying seed, check the label for germination and weed seed present.

Sowing The Seed

To get a more even stand, broadcasting or drilling the seed solid is preferable to sowing in rows. Row seeding uses less seed, but the hay or pasture forage will be coarser. Seed the grass alone, rather than with a nurse crop. On most areas in Michigan where canarygrass should be sown, nurse crops will only complicate getting canarygrass started.

In order to sow the recommended 4 to 6 pounds of reed canarygrass seed per acre, adjust the grain drill to the same setting necessary to deliver 12 pounds of alfalfa or sweet clover per acre. Excellent stands are obtained when the seed-distributing tubes on the drill are adjusted to drop the seed just behind the disks of the drill. Then cultipack immediately after seeding. Frequently a roller or cultipacker insures a seeding which otherwise might fail. Be sure to cover the seed no deeper than ¾ to ½ inch, if making a late summer seeding.

If good seed is used, there is no advantage in seeding at heavier rates. Sometimes mixing the canarygrass seed with timothy aids materially in distribution. A mixture of one-half timothy and one-half canarygrass makes for more efficient and even distribution. Reed canarygrass is slow to become established. The timothy fills in until the canarygrass gets started. Then the canarygrass gradually crowds out the timothy.

Ladino clover-reed canarygrass mixtures have not shown much success. The Ladino is greatly reduced the first winter by freezing and heaving, and may almost completely disappear by the end of the third year.

Establishing Reed Canarygrass

The cost of breaking up muck areas and establishing them to reed canarygrass on a custom basis will vary considerably depending on the condition of the area. Costs for fitting, seeding, seed, and fertilizer generally average between $30.00 and $60.00 per acre.

New seedlings should not be pastured or cut during the seeding year because the plants establish themselves slowly. If annual weeds are thick, they should be clipped relatively early to keep them from reseeding, and to reduce competition with canarygrass.

Fig. 2. Drill the seed solid for uniform stand. Cultipack immediately after seeding.

Management For Pasture

Reed canarygrass is primarily a pasture plant. It is long-lived and, because it grows in wet areas, has a long grazing season and produces an abundance of succulent forage. Reed canarygrass can be pastured the entire season, but becomes unpalatable when it gets too coarse.

In the farm survey, 95 percent of the farmers who pastured reed canarygrass reported it should be kept below 12 inches in height in order to get the most from the pasture. Pasturing was started on over three-fourths of the fields when the crop reached a height of 12 inches – usually during May. Sixty-eight percent of the farmers reported that they attempted to hold the pasture at this height by keeping enough livestock on it, while 32 percent mowed or clipped the excess growth.

Reed canarygrass should be stocked heavily enough to keep up with the new growth, or the plants become large, tough, and unpalatable.

Livestock should be confined on the reed canarygrass pasture and not given their choice of several kinds of pasture at the same time. Giving livestock their choice may result in inefficient use of the canarygrass. Even though canarygrass is not as palatable as alfalfa or smooth bromegrass, it is much more palatable and nutritious than most of the native vegetation on poorly drained areas in Michigan.

Carrying Capacity

The carrying capacity of reed canarygrass can be judged by the performance of 60 fields of reed canary pasture, totaling more than 640 acres checked in the 1949 survey. The survey showed that, on the average, 3 animal units per acre were pastured for 4.8 months. Fifty-two percent of the fields were pastured longer than five months. Once established reed canarygrass provided pasture for the entire season.

Canarygrass For Hay

Reed canarygrass should be harvested for hay when the first heads begin to appear. Hay at this stage should contain from 10 to 12 percent protein. As the plants mature, the quality of the roughage becomes poor.

Reed canary hay is about equal to timothy hay in feeding value for livestock. A good grass silage can be made from reed canary with a protein content ranging from 17 percent (cut early) to 10 percent when the grass is headed out.

Getting Rid of the Grass

Because this grass spreads by underground rootstocks, chemical control with Dalapon (dowpon). Amitrole-T, or Atrazine may be necessary in order to control a well-established stand, if cultivated crops are to be grown on the same area. But as a pasture the grass is long-lived and will seldom spread to nearby cultivated fields.

Producing Seed

Reed canarygrass does not mature uniformly. The first seeds ripen at the top of the flower, and shatter as they ripen. Varying with the season, heads begin to appear the first part of June, and the seed is ready to harvest the last of June or the first part of July. The amount of seed harvested by farmers ranges from 40 to 300 pounds per acre.

The most commonly used harvester is a light combine with a raised table. Usually, special screens in the combine are unnecessary, but cylinder speeds are reduced and wind intakes are cut to a minimum. Concaves should be set to prevent removal of the seed coat at threshing time.

After harvesting, the seed requires drying. Precautions should be taken to prevent overheating and spoiling. Since much of it is green when harvested, seed should be transferred to the drying area as soon as possible after combining. Green seed standing in sacks for any length of time will overheat. The seed may be spread out thinly over barn floors and shoveled over three or four times a day to keep it from spoiling.

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