Annual Crops for Hay and Pasture
Michigan State University Extension Service
C.R. McGee
Issued April 1942
4 pages

EXTENSION BULLETIN 238 APRIL 1942

ANNUAL CROPS *for* HAY AND PASTURE

By C. R. Megee

MICHIGAN STATE COLLEGE
EXTENSION DIVISION
EAST LANSING

Michigan State College of Agriculture and Applied Science and U. S. Department of Agriculture cooperating. R. J. Baldwin, Director Extension Division. Printed and distributed under acts of Congress, May 8 and June 30, 1914.

ANNUAL CROPS FOR HAY AND PASTURE

C. R. MEGEE

FOR HAY

SOYBEANS

This crop is adapted only to sections where corn can be grown successfully for grain, and is usually unsatisfactory on light, unproductive, sandy soils. It is high yielding, high in protein, and when well cured has about the same feeding value as alfalfa.

Varieties—Manchu is the leading variety in Michigan. Mandell, Sciota, Illini, Dunfield, and other medium varieties are suitable. The Mandarin, Cayuga and other very early-maturing varieties produce less plant growth and are less desirable for hay. Late-maturing varieties such as the Virginia and the Mammoth Yellow are unsuitable in that they are not ready to harvest until late September, when the weather is much less desirable for hay making.

Cultural Practices—Soybeans should be planted early, preferably by May 20 so that the crop will be ready to harvest by late August when the weather is more favorable for hay making than in September. If there is no weed problem there is little difference in the hay yields whether the seed is planted solid, in rows 28 inches apart, or 35 inches apart. Stems of the plant may be very coarse if the rows are 42 inches apart. Unless the soybeans start growth rapidly soon after planting, weeds may be a serious problem. This is especially true when the seed is planted solid or in rows 14 inches apart. When the seed planted in rows 28 inches apart or 35 inches apart, weeds can be controlled effectively by cultivation. The rotary hoe or spike-toothed harrow, used immediately after planting and again soon after the soybeans are up, is very beneficial, especially when the soybeans are planted solid. The practice of killing two or three crops of weeds while preparing the seedbed and before the crop is planted is also very beneficial. Ordinarily, a hay comparatively free of weeds will be obtained by planting in rows 28 inches apart and cultivating twice. Inoculation of the seed should be practiced. The strain of bacteria used to inoculate soybeans is different from that used for the inoculation of other legumes grown in Michigan.

Harvesting—Soybeans are ready to harvest when the beans are from one-half to two-thirds grown in the pod and before the leaves turn yellow and start to drop off. If the field is free from grasses and weeds, one of the most satisfactory methods is to harvest with the grain binder and cure in open shocks. If grasses and weeds are present, this method is very unsatisfactory, and it will be necessary to harvest with the mowing machine and cure in windrows and possibly in cocks.

OATS AND PEAS

This mixture can be grown in the Upper Peninsula and the northern part of the Lower Peninsula, and is very productive on the heavier and more fertile soils. It may be grown in the southern part of the Lower Peninsula if planted early. Peas do not produce well during hot, dry weather or on light, sandy soil. A mixture of one bushel of oats and one bushel of peas sown at the rate of from two to three bushels per acre as early in the spring as the seedbed can be prepared usually produces a hay with somewhat the same feeding value as clover. It should be harvested when the oats are in the late milk or early dough state and the peas are forming in the pod.

MILLETS

The millets require a warm growing season, but the time from planting to harvest for hay is only 60 or 70 days so they could be grown reasonably far north. Probably no other crop is more dependable on light, sandy soil or during a dry year as is millet. Best yields, of course, are obtained on the fertile loams. The feeding value is not so good as that of well-cured timothy hay.

Varieties—The German variety of Fox-tail millet is preferred on upland soil, while the Hungarian is preferred on muck and lowlands. Proso is used for grain. See Extension Bulletin No. 231.

Cultural Practices—Millet is usually sown during June, preferably by the 20th, at the rate of 25 to 30 pounds of seed per acre. It is ready to harvest for hay during mid summer and should be cut immediately after blooming. Millet hay containing mature seed is objectionable for horses.

SUDAN GRASS FOR HAY

This crop is used much more frequently for pasture than for hay. Information concerning cultural practices will be found on page 4 of this circular. Sudan grass decreases very rapidly in protein content, digestibility and percentage of leaf from the pasture stage (14 to 18 inches high) till it reaches maturity. In the pasture stage it contains approximately 17 or 18 per cent protein. As the heads come out of the "boot," the protein drops to about 10 per cent. When the seeds approach maturity the plants contain from 3 to 5 per cent protein. As the protein and digestibility drop, the dry matter per acre increases so that it is impossible to get the maximum yield and maximum feeding value at the same time. Sudan grass cut soon after the heads are out of the "boot" makes a fairly satisfactory hay, not so desirable as well-cured soybean hay but superior to millet hay.

OTHER ANNUAL CROPS FOR HAY

Spring-sown oats or a mixture of fall-sown rye and hairy vetch may be used for hay. The cultural practices of those crops are well known. Korean lespedeza is an annual legume used in southern states. Very seldom does it make sufficient top growth to warrant its use for either hay or pasture purposes in Michigan.

ANNUAL PASTURE CROPS

SUDAN GRASS

The soil and season requirements for Sudan grass are essentially the same as for corn. Unless the soil is in at least a moderate state of productivity and well supplied with moisture and the season moderately warm, results are not likely to be satisfactory. Sudan grass does not produce well on light, droughty or unproductive soil or when the season is unusually cool. Under conditions favorable for growth, Sudan grass has a high-carrying capacity, is palatable, makes a recurring growth and has a grazing period from early July until frost. It roots more deeply than the millet and is seldom pulled up by grazing.

Cultural Practices—The seedbed should be prepared the same as for corn. If sown by May 20 and the season is favorable it should be ready to pasture the first week of July. From 20 to 25 pounds of seed per acre is the usual amount sown. A grain drill set to sow two pecks of wheat will deliver approximately this amount of seed.

Pasturing—Judging from past performances there has been little if any danger from Prussic acid poisoning from Sudan grass in Michigan. There are sections of the United States where Prussic acid poisoning has caused considerable trouble. Analyses show that the Prussic acid content of Sudan grass is low and the plants are safe to pasture after they have reached a height of approximately 18 inches. Even though there is usually no danger from poisoning in Michigan, a higher yield of pasturage will be obtained if the Sudan is not grazed until it has made 14 to 18 inches of growth.

RAPE

This is a very satisfactory annual pasture crop for hogs and sheep. It should be sown during the early spring either alone or with oats at the rate of 3 to 6 pounds of seed per acre. The Dwarf Essex variety is preferred. Some imported lots not of the Dwarf Essex variety have given very unsatisfactory results. If conditions are favorable rape makes a recurring growth which furnishes pasture throughout the summer until frost.

OTHER ANNUAL CROPS FOR PASTURE

Early sown rye provides satisfactory pasture during the late fall and spring. It is more productive than winter wheat and more hardy than winter barley. Winter rye sown during the spring is unproductive. Both oats and barley provide satisfactory June pasture. Unless growing conditions are very favorable the pasturing season of soybeans is relatively short but is considered satisfactory while it lasts.

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