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MINNESOTA FARM MANAGEMENT SERVICE NOTES

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Prepared by the Farm Management Group at University Farm, St.Paul, Minn.

MEETING THE HAY AND PASTURE SHORTAGE

As a result of the loss of hay and pasture seedings during the dry spring and summer of 1926, numerous farmers are faced with the problem of finding crops that may be used for hay and pasture during the same season they are needed. While there are few crops as satisfactory as the usual biennial and perennial grasses and legumes, some of the emergency crops discussed below are fairly satisfactory.

Crops for Hay and Roughage

Fodder Corn: For many years farmers in most sections of Minnesota have been accustomed to depend largely upon fodder corn as an emergency hay substitute. It has great advantages in low seed cost, abundant yield and in the farmer's knowledge of how to handle the crop. It makes a fairly palatable and useful feed for cattle, sheep and horses until warm weather comes in the spring. After that it is not relished by livestock. The rate of seeding varies from one peck to one-half bushel per acre. The best practice seems to be to seed thinly enough so that there will be a good supply of small ears. Twenty to twenty-five pounds per acre should give a fair amount of ears and the stalks should be sufficiently fine to make good fodder. Farmers frequently use large growing Southern corn for fodder. The better practice is to use seed of the varieties that are little or no later than those grown for ear corn. The tips and butts of the corn planted for ears make good seed for fodder purposes.

Sudan Grass: Sudan grass has been used by a few farmers in the southern third of Minnesota during the past several years with excellent results. It is a member of the sorghum family and like sorghum is a warm weather crop. It makes a luxuriant growth when the weather is favorable for corn. The hay is superior to millet for either cattle or horses and the yield in southern Minnesota is usually larger. It is seeded with a drill from May 10 to 15 at the rate of 20 to 25 pounds per acre. The land should be clean and well prepared. It should be cut when in blossom. If the weather is favorable, Sudan grass may be cut with the binder and cured in shocks.

Millet: Next to fodder corn, millet has been used more generally in the northwest than any other emergency hay crop. Seed is usually cheap and it is adapted to any section of the state. It may be seeded up to June 25. It is seeded with a drill or broadcast at the rate of about a half bushel or three-quarters bushel per acre. It should be cut while it is heading out in order to make a hay that is about equal in value to timothy. Late cut millet is very poor hay for any livestock and is particularly objectionable for horses, due to bad effect on the kidneys. Suitable varieties are Common, Siberian and Hungarian.

Oats: Oats cut just as they begin to turn make a hay for cattle, horses or sheep that is equal to early cut timothy and superior to millet. Portions of oat fields that have lodged or fields that show a heavy percentage of wild oats or sow thistle may be used for this purpose. If one anticipates a shortage of hay, a larger acreage of oats than usual may be seeded. Then as much as necessary may be cut for hay. The later varieties make the larger yields of hay. In Alberta, Canada, it is common to cut oats for hay with a binder and to cure them in small shocks. Oats and Canada field peas in mixture are frequently recommended as a hay crop.

In that case about one and a half bushels of peas and an equal quantity of oats are used. The pea seed is usually expensive and it is doubtful if the mixture is worth enough more than oats alone to warrant the extra seed expense.

If oats are seeded early on rich ground with a view to cutting for hay, it would be desirable to sow 10 pounds of scarified sweet clover with them in sections having sufficient lime for this crop. The oat hay in such cases would usually have sufficient clover in it to improve both the quality and quantity of the hay. Oat hay mixed with sweet clover would be equal in feeding value to a good grade of mixed clover and timothy. Such a field would usually provide considerable fall pasture, or if not needed for pasture, one might in a favorable year get a small fall crop of first year sweet clover hay.

Soybeans: Fodder corn, Sudan grass, millet and oat hay all have the disadvantage that they make a hay that is low in protein, the same as do timothy and wild grasses. On the other hand, soybeans make a hay that in protein content is similar to alfalfa and clover. Soybeans should be planted so that they can be cultivated readily. This may be done with a corn planter or with a grain drill in which the spouts not needed are covered up. The usual rate of seeding is 30 to 45 pounds per acre. Suitable varieties for southern Minnesota are Manchu, Habaro, Elton and Chestnut. For central Minnesota, Chestnut is the best variety. They should be planted as soon as possible after corn planting. Soybeans should always be inoculated unless they have been previously grown on the same field.

The chief objections to soybeans for hay are difficulty of curing and the high cost of seed. The best method of curing is to put in small cocks as soon as wilted and leave until dry. Farmers who do winter dairying should endeavor to provide their milk cows with at least one feed per day of high protein hay thruout the winter. This will require at least a ton of such hay per cow. If there is not sufficient alfalfa or clover in sight in the central and southern part of the state, soybeans will enable one to meet this requirement. Soybeans may ordinarily be expected to yield one and a half to three tons of hay per acre according to the season, soil and variety. Farmers who are short of hay should plant several substitute crops, then the weather is pretty certain to be a favorable for some of them.

Crops fof Annual Pastures

It is much easier to remedy a shortage of hay by planting substitute crops than to provide adequate pasture. It is almost impossible to provide good pasture early in the season from spring seeded crops. Winter rye is about the only temporary crop that makes a good early pasture. Some seedings of winter rye were made last fall with a view to using it for pasture purposes.

One of the best annual forage crops is small grain and sweet clover seeded as early in the season as possible. A suitable mixture would be two bushels of oats and twelve pounds of scarified sweet clover. In sections where there is not sufficient lime for sweet clover, the sweet clover might be replaced with four pounds of alsike clover and six pounds of timothy. There may be some advantage in replacing part of the oats with winter rye as winter rye seeded in the spring does not show much of a tendency to head out. A small grain and sweet clover mixture could be expected to provide fair pasture by June 15. A clean corn stubble disked but not plowed will be a more suitable place than plowed land as it will provide the firm seedbed that is so necessary in getting stands of grass and clover.

Sudan Grass: Sudan grass is used extensively as an emergency pasture crop in the southern portion of the corn belt. Farmers in Minnesota have had little experience with it, but it is probably one of the best annual crops in southern Minnesota to provide pasture between July first and frost. If it is to be used for pasture, it should be seeded about May 15. The livestock should not be turned on it until the Sundan grass has made a good growth.

Rape: Dwarf Essex rape makes an excellent pasture for hogs and sheep. It should be seeded at the rate of about five pounds per acre as early in the spring as possible. An acre of rich ground will easily provide pasture for three sows and their litters. It has the great advantage that the seed expense is very low and the pasture lasts until the ground freezes up. Some farmers prefer to mix a bushel of oats with the rape. This may make the pasture a few days earlier. A heavy seeding of oats tends to smother out the rape. Farmers who foresee a shortage of legume hay and who have been accustomed to use alfalfa for hog pasture would do well to save all the alfalfa for hay and replace the alfalfa hog pastures with rape.

Old Alfalfa Fields: A farmer who is short of cattle pasture and who has an old alfalfa field that has become partly seeded with other grasses might do well to use the alfalfa field for pasture and to depend on soybeans, Sudan grass, oats and fodder corn for hay. This suggestion is made because of the fact that it is easier to provide substitute hay crops than cattle and horse pasture crops. Alfalfa alone as a pasture feed is likely to cause losses from bloat, but there is usually little difficulty after the alfalfa has become mixed with grasses.

Fields with a Half Stand: Farmers who seeded sweet clover for pasture and secured only half a stand would do well to leave the field and as soon as conditions will permit go over the field with a drill and seed oats and additional sweet clover. If additional sweet clover is seeded in 1927 the field should not be plowed until the following spring after growth is well started. If first year sweet clover is plowed under in the fall or in the following spring before growth starts, there may be difficulty with sweet clover as a weed in the small grain and corn fields. In seeding such a mixture, if there is any doubt as to the supply of lime in the soil, it would be well to replace four pounds of the sweet clover with two pounds of alsike.

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