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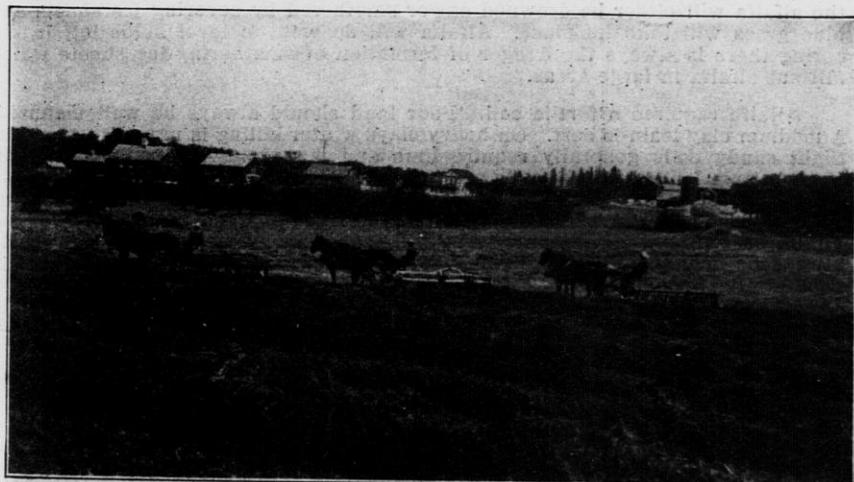
WISCONSIN BANKERS' FARM BULLETIN

HOW TO GROW ALFALFA

By

L. F. GRABER

COLLEGE OF AGRICULTURE OF THE
UNIVERSITY OF WISCONSIN



MAKING ALFALFA HAY EASILY.

By using power machinery the proprietors of this Wisconsin farm are able to harvest their 175 acres of alfalfa with the minimum of labor and expense.

File this bulletin where you can find it

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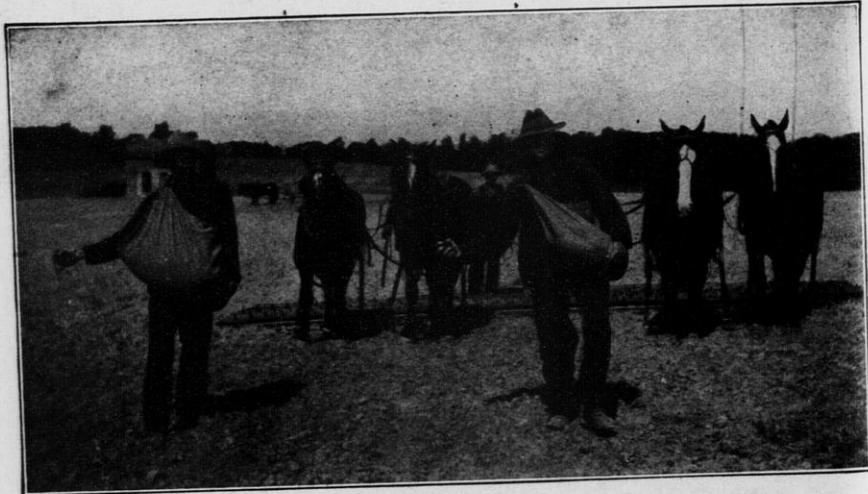
How To Grow Alfalfa.

Are you an alfalfa grower? Most every farmer is interested in growing alfalfa. Some have tried it and failed. Many have succeeded and are reaping the benefits of this wonderful crop for live stock farms. As a hay crop it excels all others in yields, feeding value, drought resistance and soil enrichment. Yet it is not advisable to attempt to grow alfalfa under all circumstances. It is a rather particular crop, requiring certain soil conditions and proper treatment. The beginner in alfalfa growing must first of all be a student of alfalfa. He must study the crop and learn its requirements. If he is not willing to pay attention to such important details as inoculation, liming, proper seeding methods, cutting at the proper stage and others to be mentioned he had better not try to grow alfalfa.

Where to plant alfalfa. Choose a well drained field having preferably a gentle slope so as to prevent an accumulation of water from melting snow or heavy spring rains. Avoid fields having numerous pockets or depressions as the alfalfa will either be drowned out or smothered by covering ice sheets and blue grass will take its place. Alfalfa will do well on level fields but in the spring there is always the danger of formation of smothering ice sheets which kill out alfalfa in large areas.

Alfalfa requires a fertile soil. Poor land should always be well manured. A medium clay loam is best. On heavy clays winter-killing is more apt to occur. Light sandy soils generally require lime and manure. Alfalfa does well on river bottom lands but peat soils are too sour or acid.

It is best to have alfalfa follow some well cultivated crop like corn, potatoes, tobacco or sugar beets where the soil is freed of weed growth. Never put alfalfa on sod land for the blue grass will cause difficulty. A virgin soil should always be first subdued by growing several cultivated crops to get the soil in good physical condition.



INOCULATE THE SOIL FOR ALFALFA

In most sections of Wisconsin farmers will find it will pay them to inoculate their soil when endeavoring to get an alfalfa field established.

Is it necessary to inoculate the soil? Yes, in most places in Wisconsin it is. Inoculation is not a difficult job and in no case should a farmer "take a chance" in neglecting this important operation, which is so essential in securing a good stand of alfalfa.

Spread a ton of soil taken from a successful alfalfa field or from the roadside where sweet clover is growing, on each acre of the land you are to seed to alfalfa. Do this just before sowing the alfalfa seed, and harrow it in. Then you have introduced the proper alfalfa bacteria in the soil which are so essential in securing a healthy, vigorous growing alfalfa crop. And, remember, a field once properly inoculated is always inoculated.

All farmers are advised to mix a quart of alfalfa seed per acre with the timothy and clover seed when seeding down, as this will get a few alfalfa plants established in the field which will become bacteria distributors and thus inoculate the soil for future crops of alfalfa.

A fair inoculation can be obtained by securing some alfalfa soil direct from the Experiment Station or from some good alfalfa field, and then mix equal parts of soil and alfalfa seed by weight. Sow the soil and seed mixture by hand. For limited areas of one or two acres, this method of inoculation is practical.

In some instances cultures for inoculating alfalfa seed previous to sowing have given good results. These can be secured free by any farmer if he will write Professor Karl F. Kellerman, Bureau of Plant Industry, Washington, D. C.

Shall we lime the land? Alfalfa will not do well on sour or acid soil. Before growing alfalfa, the soil should be tested with blue litmus paper which can be secured from a druggist. Take a handful of moistened earth from a few inches beneath the surface of the ground and press into a ball. Break this mud ball into halves and place a strip of blue litmus on one of the halves and cover with the other. After five minutes examine the litmus paper, and if it has changed in color from blue to a distinct pink or becomes spotted with pink spots, the soil is acid and needs lime for successful alfalfa growing.

On sour soils from two to four tons of air-slaked lime or ground limestone rock or marl or lime refuse should be applied. Whatever form is used it should always be applied to the surface of plowed land and harrowed or disced in. It may be put on in the fall or early spring—prior to seeding the alfalfa. Lime distributors are desirable when large areas are limed but with small acreages it can be conveniently spread with a shovel.

What is the best method of seeding? For the beginner seeding the alfalfa alone gives the best results. The soil is plowed in the fall or early spring and limed if necessary. Then the field is disced and harrowed often enough up to the first of June or July to clean the land of weeds. On average fields this weed killing process need not be continued later than the first week in June, but with a weedy soil it is well to harrow and disc until July or August. The field is then inoculated and the alfalfa seeded at not less than 20 pounds per acre. With a favorable season one crop or two crops of hay are sometimes secured before September 1, but this is entirely dependent on the rainfall and our soil conditions.

Seeding with a nurse crop. Especially on fields which have grown alfalfa successfully seeding with a nurse crop gives good results. Fall plow if the land is not too hilly and washing is apt to occur. If spring plowed the soil should be rolled after seeding so as to make a compact seed bed which is very essential for the alfalfa. A light harrowing after rolling is necessary to form a loose mulch which prevents rapid drying and evaporation. A light seeding of not over one bushel of barley or oats per acre is highly important. Heavy seedings of the nurse crop are very dangerous and usually crowd the alfalfa so as to stunt its development and a poor stand results. If barley is used as a nurse crop it may be cut for grain. Oats ripens later and must be cut for hay so as not to check the growth of the alfalfa.

Other methods of seeding alfalfa. Where a crop of early potatoes has been grown the alfalfa may be seeded after their harvest but not later than August 15. Seeding alfalfa after this date nearly always results in failure as the crop

does not get sufficient growth before the first killing frost to withstand the winter. In those sections where canning peas are grown and harvested in June or the first part of July the soil may be disced and harrowed and inoculated immediately after the peas are harvested and the alfalfa seeded at the rate of 20 pounds per acre with good results. Seeding alfalfa after a grain crop has been cut is dependent for success on the amount of rainfall. Too often the soil is so dry at this time that it is impossible to work up a good seed bed prior to August 15.

Where a crop of tobacco or sugar beets has been raised and the land practically freed of weeds the alfalfa may be seeded alone in the early spring and two, sometimes three, good cuttings are secured the first year.

When should alfalfa be cut? To maintain a good stand of alfalfa nothing is so important as to cut the crop at the proper time. The first cutting will come in the early part of June—a trying time to cure the hay. The proper cutting stage is when the plants have just begun to bloom and the little shoots or sprouts at the crowns have made their appearance and are on the average not over an inch in length. To delay the cutting of alfalfa until the entire field is in blossom is a very poor practice. At this stage the little shoots or sprouts at the base of the stem which produce the second crop will have grown three to five inches in length. In mowing these will be clipped off and the second growth delayed two or three weeks. The third cutting will then not be ready until the middle or latter part of September. If the third crop is harvested at this time the alfalfa seldom secures sufficient growth before cold weather to withstand the winter. Many failures are due to late fall cutting. Alfalfa should never be cut after September 5.

Curing alfalfa hay. The best hay is made by cocking the alfalfa and covering it with hay caps, which insures protection against rains. The hay is bunched usually on the same day it is cut when in a good wilted condition. By allowing it to cure in this manner for two days, the leaves and stems dry out uniformly, with little loss, and you get a bright green hay of the best quality.

When alfalfa hay is harvested on a large scale, or if labor is scarce, hay caps are not always used. After the hay is well wilted, it is raked into long windrows with a side-delivery rake and allowed to cure here for two days. It may be loaded with a drum hay loader or hauled in with sweep rakes. Alfalfa hay will stand more rain than either timothy or clover.

Why alfalfa fails. During the past three years over one thousand reports on alfalfa growing in Wisconsin have been received by the Alfalfa Order—Wisconsin's Alfalfa Grower's Association. These reports clearly show that the principal causes for failures with alfalfa in Wisconsin are as follows:

1. Failure on part of farmer to inoculate the soil.
2. Attempting to grow alfalfa on sour or acid soils without liming the land.
3. Poor preparation of the seed bed and improper methods of seeding.
4. Weeds—heavy growths of which crowd out the alfalfa.
5. Too thick seeding of the nurse crop. Not over one bushel of grain should be sown with the alfalfa and if oats is used it should be cut for hay.
6. Late seeding. Seeding after August 15 is a dangerous practice. Sufficient growth is often not secured before cold weather sets in so that the alfalfa may stand the winter.
7. Late cutting. Cutting alfalfa after the first week in September has resulted in serious winter-killing of many otherwise good stands of alfalfa. Alfalfa should have at least six to eight inches growth to afford sufficient winter protection.
8. Pasturing. Late and close pasturing are particularly dangerous.
9. Poor soils. Although alfalfa is a great soil enricher it requires at least a medium fertile soil. Poor soils should be well manured.
10. Low, flat, poorly drained soils. Alfalfa requires a well drained field. On flat, heavy clay soils which hold water from melting snows and heavy rains in the early spring alfalfa may be heaved out by alternate freezing and thawing weather. A sloping field which will provide ample run-off for surface water is more desirable.