

HOME COURSE IN SCIENTIFIC AGRICULTURE

SEVENTEENTH ARTICLE. ALFALFA AS A FOR- AGE PLANT.

By R. A. MOORE of the University of Wisconsin Agricultural Experiment Station.

ALFALFA can truly be called the queen of forage plants. No other forage combines so many essentials of merit as alfalfa. No other plant has carried with it more gratification to the dairy farmer nor flits such a long felt want. No forage plant is more readily relished by farm animals or exercises a more beneficial effect upon the soil.

To determine how extensively alfalfa was grown by the Wisconsin Experiment association requests were sent to 500 to report on the acreage grown by them in 1911. A summary of 240 reports received shows that the



Photo by Long Island agricultural experiment station.

ALFALFA PLANT, SHOWING EXCELLENT ROOT SYSTEM WITH BACTERIA (NITROGEN) NODULES.

members reporting grew a total of 2,324 acres, or an average of 9.6 acres each.

For instance, twenty years ago alfalfa was practically a stranger in Wisconsin, but its introduction and dissemination have gone on at such a rapid pace that it seems safe to estimate that there are at least 25,000 acres now grown in the state.

Ex-Governor Hoard of Wisconsin was the first man in his state to recognize the great importance of alfalfa as a forage plant, and he has grown alfalfa and disseminated knowledge regarding it continuously for the past twenty years. It is safe to say that Mr. Hoard has grown more alfalfa than any other man in the state.

Alfalfa is noted for its high feeding value and the great fondness farm animals have for it. It belongs to the legume family, or leguminosae, to which the common red clover belongs.

Alfalfa through its large root growth exerts a beneficial effect upon the soil on which it grows and through its power to feed on the soil elements and secure moisture at great depth below the surface is able to stand severe droughts and maintain itself upon the soil for many years without the necessity of reseeded.

When it is desired to plow an alfalfa field the strong root growth of the alfalfa will severely interfere with the plowing unless the plowshare is kept sharp.

Except where alfalfa has become thoroughly established upon the farm, no attempt has been made to encourage a regular rotation with other crops. On account of the special care given to the selection and proper fitting of the field for alfalfa it has seemed advisable to leave the alfalfa on the same field as long as it produced well.

As soon as conditions are unfavorable and the field becomes patchy and crowded with June grass and white clover it is best to cut the alfalfa late in the season and then plow. The field the following season should be put into corn or some other cultivated crop and intensive cultivation practiced to subdue weeds. The year following the intensive cultivation the field can be sown to alfalfa to advantage.

The weight of green forage obtained per acre from alfalfa for the season is approximately double that of clover, three times the weight of timothy and five times the weight of bromegrass. The proportions for hay are nearly as great in favor of alfalfa as in the case of green substance.

Alfalfa yields three times as much total protein per acre as clover, nine times as much protein as timothy and twelve times as much protein as bromegrass.

At \$20 a ton for the hay good alfalfa will yield forage valued at \$150 an acre. Land that will grow alfalfa is readily worth \$200 an acre. As alfalfa is a perennial plant, if established under the proper environments, it will continue to grow and give three or four cuttings a year for many years.

The seed is somewhat like red clover,

only a little larger and not so plump. It is yellow or an olive green. There are several varieties of seed, with a great variation in price according to the variety. Experiments at the Wisconsin station show that of all northern grown seeds not grown under irrigation methods the preference was for the seed showing best germination regardless of variety.

Caution should be exercised as to the location of the field. Alfalfa can be grown on a wide variation of soils, yet on its first trial on a farm it is best to sow on high, well drained land. A rich clay loam on top of gravel or limestone is the ideal location, but it will grow on all types of soil, varying from a heavy clay to a medium sandy loam, if other conditions are favorable. A gentle slope should be selected. On level land water will gather on the surface from rains or melting snow, and if freezing weather follows ice will form and smother the plants. The fields will then become patchy and should be plowed and reseeded. For the same reason a creek or river bottom that is subject to overflow should not be selected, as the alfalfa plants, if submerged for a few hours, will die from suffocation. Land that has the water line only two or three feet below the surface should be avoided, as the plant needs well drained soils.

The natural home for alfalfa is on limestone soils or soils that have a goodly supply of carbonate of lime in them. No matter how favorable other conditions may be, if the soil is sour and gives a strong acid reaction it will be necessary to neutralize the acidity to some extent before it will be possible to get the best results.

Acid land can occasionally be determined by plants such as sheep sorrel and mare's tail that thrive thereon. It can always be determined by testing with blue litmus paper which can be obtained from the druggist. Take some moist earth from a few inches beneath the surface of the ground and press it firmly over a strip of litmus paper. Do not handle the litmus paper when the hands are moist, as the perspiration from them may cause the paper to show an acid reaction when no acid is present in the soil. After the paper has remained in the soil for ten or fifteen minutes, if it has changed in color from a blue to a pink or red, the soil is acid, and this acidity should be corrected to a certain degree before alfalfa can be grown to advantage.

The beginner should sow only a small acreage until he has studied the conditions of the farm in relation to this crop. One or two acres are sufficient to start with. Land that has been in young sod the previous year and then run to potatoes, corn, peas or some root crop where clean culture was practiced is most suitable. This should be fall plowed seven or eight inches deep, so as to have a deep, mellow seed bed.

In the early spring run the disk over the land and then follow with a fine tooth harrow at weekly intervals until about June 1, so the weeds will sprout and be killed. The alfalfa seed is then sown without any nurse crop, using twenty pounds per acre. The practice of sowing alfalfa with a nurse crop is being displaced by the method of sowing the seed alone and with much better results. Where the land is extremely weedy it is advisable to summer fallow and sow to alfalfa the first week in August. If weedy land should be plowed after the crop is removed and a fine tooth harrow run at intervals to kill weeds through the latter part of summer and early fall. For best results one ton of earth per acre should be scattered immediately preceding the sowing of the alfalfa seed.

Occasionally the alfalfa will come into bud and hesitate to blossom. Sprouts will then immediately start at the base. It should be cut when those conditions prevail, even though no blossoms appear.

In the afternoon of the same day of cutting, if weather has been favorable, the alfalfa can be raked and put into small cocks. The cocks should not be left standing in the field more than two or three days during wet weather without moving or the alfalfa plants underneath the cocks will be partially or completely smothered. By running a pitchfork into a cock of alfalfa near the bottom one can easily move the pile. If alfalfa is exceedingly green when cocked or rainy weather sets in it will heat unless the cocks are opened every day or two. In favorable weather no more difficulty will be experienced in curing alfalfa than in curing heavy growths of clover. A much better quality will be secured if the crop is cured under hay caps.

The importance and popularity of the plant are such that the present acreage in Wisconsin will probably double in the next three years. For the past twelve years the department of agronomy of the Wisconsin experiment station has carried on experiments and issued bulletins bearing upon the culture of alfalfa. The call for information has been so great that the last bulletin is entirely exhausted, and necessity demands a new edition.

An association of select alfalfa growers and experimenters, known as the Alfalfa Order of the Wisconsin Experiment association, has been recently organized. The aim and purposes of the organization are to grow alfalfa and disseminate knowledge regarding it. The association is co-operating closely with the college of agriculture so as to secure information from numerous experiments and tests to benefit all alfalfa growers of the state.

The organization now has a membership of 500, and sixteen tons of seed have been purchased by the members of the season of 1912. From the large numbers engaged in this co-operative work much useful information can be secured that will be of great benefit to the alfalfa growers in general.

Farm and Garden

DO YOU GROW SWEET CORN?

No Crop Responds Better to Good Treatment Than This One.

Every truck farmer knows that the first early sweet corn in the market pays as great a profit as any crop grown.

It is usually sold by the hundred and marketed in sacks containing that number of ears. The fodder remaining after the crop is sold is nearly as valuable as timothy hay. The best profit comes from the earliest acres, says a writer in the Farmer's Review. Sweet corn cannot be shipped a great distance, as it deteriorates rapidly:



Photograph by Long Island agricultural experiment station.

SWEET CORN AND LIMA BEANS.

therefore the local grower does not have such competition as does the grower of less perishable products.

Sandy or light loam soil, with an open subsoil, is best for this crop.

The very best seed of the best and most popular varieties should be provided. Home grown seed, well selected and well cured, will pay big profits on the cost of labor employed for this work. The first plantings must be made early in the season, and seed only of the greatest vitality will withstand the unfavorable weather conditions that are likely to prevail at this season.

The cultivation of this crop should be thorough, and no crop will respond sooner to good treatment.

To succeed in growing sweet corn for the early market a liberal amount of plant food must be provided at the right time and in available form.

This means cover crops and an increased use of commercial fertilizers.

Roosters not needed, loafing hens, boarding cows, small litter sows, run down soil—these are what hold a farmer down.—Iowa Homestead.

Dry Feed or Wet Mash?

The wet mash of cornmeal and bran that used to be the standard morning feed of the farm flock seems to be going out of style in favor of the hopper full of a mixture of dry ground grain. The new plan is better for large flocks, but for a small flock the wet mash has advantages. For one thing it is easier to keep up the water supply than where the fowls are given all dry grain. Another point is that the constant presence of dry feed attracts rats, while the wet mash as usually fed will be eaten up clean.—American Cultivator.

Handle Manure Once Only.

It should be the rule never to handle manure more than once. When removed from the barn or feeding shed, it should be loaded at once into the spreader and hauled to the field. If the farm is small and the amount produced is only at the rate of one or two loads a week, the convenience and improvement of taking it directly from the stable and spreading it at once on the field will certainly justify driving the manure spreader slowly.—Orange Judd Farmer.

ALL AROUND THE GARDEN.

As soon as the cutting of rhubarb stalks is over give the ground a good dressing of manure.

Cauliflower can be grown more easily than cabbage. It is always in demand at good prices.

Wild strawberries have the most delicious flavor. They are easily transplanted to the garden.

Do not neglect to mark the wild flowers now which you wish to transplant later in the border.

In some sections of the country the practice of mulching potatoes is followed by a number of growers.

Pick the blossoms of pansies, nasturtiums and sweet peas every day. If allowed to seed they cease to bloom.

Very fine fruit and large yields can be secured from tomatoes by setting posts and running horizontal wires similar to the grape trellis.

Where the soil is strong a good crop of vegetables may be raised between the rows of trees in the young orchard. This means cultivation and manuring.—Farm Progress.

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