ALFALFA MEANS MONEY IN THE BANK FOR GROWER

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growing season. Sowings made in spring, early summer, late summer and even early fall have been successful under Deschutes Valley conditions, but taking all factors into consideration, spring sowing has proved the best. Investigations in the Deschutes Valley show that the majority of successful stands have been sown in May and June. Perhaps from May 15 to June 15 would be the most desirable time to sow, though of course, due allowance must be made for weather conditions. A few good stands have been obtained where the seed was sown late in August, but these for the present must be regarded as exceptions to the general rule.

No set rule as to the amount of seed to sow per acre can be given. This depends largely on the quality of the seed and its germination per cent. Obviously much less seed germinating 97 per cent need be sown to secure a good stand than of seed testing as low as 80 per cent.

A survey of a number of Deschutes Valley alfalfa growers show amounts ranging from 8 pounds per acre to 20 pounds per acre. The latter quantity however, is a rare exception and need not be considered. When good seed is used, from 8 pounds to 12 pounds is sufficient, and ten pounds is a good average to use. One very excellent stand in the valley was secured from seven pound seeding. The general error is to seed too heavy rather than to lightly. Good tested seed should be used, however, so that one may know exactly what he is sowing. Ten pounds of seed germinating 50 per cent will not be sufficient.

Whether or not to use a nurse crop is a popular question among Central Oregon farmers. Actual experiments over a wide territory show that equally good stands have been obtained with and without a nurse crop. The chief advantage of a nurse crop is that some hay is obtained the first year, while if alfalfa is seeded alone, no crop is obtained until the second year. Under irrigation a nurse crop of oats, barley or wheat may be used to good advantage. Oats is more commonly used for this purpose in Central Oregon than other small grains, chiefly because it stands more water. Fifty pounds of oats or barley is sufficient. Wheat is inclined to shade the young alfalfa less than the other grains.

If the nurse crop gets too thick and appears to shade the alfalfa too much, it can be cut for hay. If conditions are all favorable, the nurse crop can be allowed to mature grain. A nurse crop helps to keep down the weeds if the soil is foul, especially when sowed rather early in the spring. The better developed new sown alfalfa becomes before the hot, dry weather of summer, the more chance it has of withstanding the winter successfully. In light soil which is apt to blow, a nurse crop is advisable with alfalfa in order to protect the young plants from the drifting sand. In clean, rich soils, free from weeds and with no tendency to blow, a good stand can be secured by sowing without a nurse crop. Where there is likely to be a shortage of sufficient water, the alfalfa sown alone will have a better chance of making a good stand than if a nurse crop is used, as there is usually no more moisture than is needed by the alfalfa.

Alfalfa may be planted with the drill or it may be broadcasted. The ordinary grain drill with the grass seeder atachment is all right, if care is taken that the seed is not planted too deep. The most popular method in Central Oregon is to broadcast and then to harrow in, or to broadcast ahead of the grain drill. There is less danger of getting the seed too deep when this method is followed. The little hand sowers also give good satisfaction. Several good stands in the Deschutes Valley have been secured by broadcasting in May into a stand of young fall wheat and then harowing in, and applying the irrigation water. Late in August, or even in early September, alfalfa has been successfully sown into the stubble where fall grain has been removed. The seed is harrowed into the stubble and then irrigated. As in nearly all farm practices, there is no "best" way, equally good results are obtained by following various methods.

After seeding, if the soil is in good condition as regards tilth and moisture, the alfalfa field will require no more care until it is time to irrigate. At this time the alfalfa plants should be three or four inches high, or until the crop begins to shade the soil. It is better to postpone the first irrigation as long as possible and then irrigate heavily. At this stage of growth this usually proves more satisfactory than several light irrigations. The later irrigation does not check the growth of the crop as the earlier irrigation often does, since the weather is warmer and the water is warmer.

After the crop becomes established, the number of irrigations will depend on the depth and nature of the soil, method of applying water, amount of rain, wind and similar factors. On the lighter soils of the valley a greater number of irrigations will be necessary than where the soil is heavier. Irrigation is commonly applied twice each cutting, though several of our best alfalfa growers give six irrigations per season. Two moderate irrigations usually result in a little better yield than is secured from a single, heavy irrigation. The general appearance, and more particularly the color of the plant, are the best guides, perhaps, as to when water is neded. A good rule is to wait until the crop is in real need and then irrigate thoroughly. When healthy and vigorous, alfalfa is of a light green color, but when the supply of moisture is insufficient, the leaves take on a darker and duller shade and begin to droop.

It is necessary to have the fields dry enough to permit the use of machinery for cutting the crop, and consequently they can not be irrigated just before cutting. Usually it is considered the best practice to irrigate as late as possible before cutting and irrigate again after the crop is removed, if more water is required. Light soils, if not irrigated before cutting, may not retain enough moisture to start the new crop and maintain its growth until the old crop is removed. It is also true that cutting and watering check the plant growth and if not watered before cutting, valuable growing time is lost.

Alfalfa requires relatively more water than most crops on account of its continued heavy growth. Under good average conditions, the water requirement of alfalfa will run from 24 to 30 inches of irrigation water per season. Under conditions of poor soil, poor fertility and careless practice, it may run much higher. It is believed that winter-killing may result from very cold, open, dry winters. Moisture in the soil is supposed to prevent winter-killing, and a late irrigation, after the plants stop growing, may accomplish this purpose.

To adequately treat of the scientific feeding value of alfalfa would require a book in itself, and no attempt to discuss the subject will be made here. It is possible that at some future time this phase of the utilization of alfalfa will be covered in a booklet by itself. In passing, it may be said that alfalfa is one of the most highly nutritious and palatable of feeds for all classes of farm animals. It is especially desirable for dairy cows producing heavy flows of milk, on account of its high protein content. It is perhaps the best roughage for fattening beef cattle as its lack of bulkiness enables the animals to consume sufficient quantities for rapid gains. It is the ideal hay for sheep, especially when cut just as it commences to bloom, but is apt to cause bloat if used as pasturage. It may be fed to hogs in the green state, as a soiling crop, as alfalfa meal, or as pasturage, and is especially desirable for breeding hogs, while alfalfa and grain fed pork can not be excelled. It is a good hay for horses and reports as to itsinjurious effect on the kidneys do not appear well substantiated by experimental data.

Alfalfa makes an excellent feed for all kinds of poultry, especially when fed as a meal in a mash during the winter months. It is reported that the heaviest yields of honey per stand of bees in the West are secured in sections showing the greatest acreage of alfalfa.

—W. S. S.—

FREEING IDAHO OF GROUND SQUIRRELS

Idaho farmers saved over $1,250,000 in crops during 1918. Twenty-two counties and 4,025 farmers cooperated with the Biological Survey of the United States Department of Agriculture in stamping out the squirrel pest, and as a result 277,751 acres were cleared of the rodents.

It is estimated that this ground squirrel eradication work in Idaho saved at least 5 per cent of the total crops of that state which formerly went to pay the yearly rodent tribute. As one farmer phrases it, "I used to consider that the squirrels had a mortgage on 25 per cent of my crops as they devoured one-fourth of all I produced. Now after I have cleared my farm of squirrels, I harvest and save 100 per cent of all the crops I grow.

In Bonneville County, Idaho, 114 farmers distributed 6,223 pounds of poisoned oats over 11,871 acres, and as a direct and immediate result saved $41,265 worth of farm crops which otherwise would have been consumed by the squirrels. In the eradication campaign, one farmer in this county distributed poison bait over one of his fields and less than one hour later when he returned to the field he counted 278 dead ground squirrels, 6 rabbits, and 10 rock chucks which had fallen prey to the deadly bait.

Idaho farmers formerly used strychnine sulphate prepared in a variety of ways to poison ground squirrels, but because this material proved unsatisfactory, the use of powdered strychnine (alkaloid) is now practiced in the organized campaigns. This poison acts very rapidly through the mouth and cheek pouches instead of through the stomach. It is prepared by mixing 1 tablespoonful of gloss starch in ½ teacup of cold water and then stirring this combination into ½ pint of boiling water to make a thin clear paste. Then 1 ounce of powdered strychnine (alkaloid) is mixed with 1 ounce of baking soda in a littlewater and stirred with the starch into a smooth, creamy mass, free of lumps. Then ¼ pint of heavy corn syrup, 1 tablespoonful of glycerine and one scant teaspoonful of saccharin dissolved in a little warm water are stirred together. This solution is spread over 12 quarts of oats and mixed thoroughly in order to coat each kernel. One quart of this poison is sufficient for 40 to 60 baits. The material—scattered one teaspoonful to a place—should be distributed along the clean, hard surfaces near the squirrel holes where it will not endanger live stock and where there is no chance for the rodents to waste the material by tramping over it or by covering it with refuse from their holes, as would occur were the bait to be placed directly in their burrows.

The saccharin and corn sirup are used to make the bait palatable, while the baking soda retards solution of the strychnine and thus aids the saccharin in hiding its bitter taste. The starch cements the poison evenly over the oat or barley grains and the glycerine prevents the poison from drying and dusting off the grain. Oats or barley are used because the ground squirrels for whom the bait is intended are particularly fond of these grains. This bait is much better than the strychnine sulphate poison formerly used, because it is more effective and can be stored in quantity for comparatively long periods without deterioration.

Poison ground squirrels as early in the spring as possible say the Federal specialists, as in this way the natural increase of young squirrels is eliminated. The poisoning campaign should be continued throughout the year until the section is free of the pests. The rodents will eat the poison baits at any time. Attention should be given to destroying the squirrels in all their haunts in pastures, uncultivated fields, fence rows, and roads as well as from the cultivated fields where complete extermination of the pests is sought.

HURLS SEEDS LONG DISTANCE

Witch-Hazel Has Record of Forty Feet or More, as Shown by an Experiment.

The curious manner in which the witch-hazel spreads its seeds has been described by Dr. Edward S. Bigelow in his department, "On Nature's Trail," in Boy's Life. He says:

"No other plant can shoot its seeds so far and so violently as this one hurls its seeds. I do not know just how far it can shoot, but in experiments actually made a distance of 30 feet has been reached. The experiment was made in this manner: The fruiting branches were suspended at the end of a room 30 feet long. At the extreme farther end of the room many seeds were found. Some had been shot through an open door, but just how far I do not know. Various other experiments suggest that the seeds may be thrown to a distance of 40 feet or more. The books say that the seed capsule bursts and discharges its contents with great vigor. It certainly does. Experiments with the bursting pods and the flying seeds may be dangerous. I never happened to be hit by the flying missiles, but I should not like to have one strike my eye, especially if the eye were near the capsule. The discharge is accompanied by a snap almost like that of a small pistol. If scouts repeat this experiment, let them not forget this warning."

NO REASON FOR MONOPOLY

If Whales Are to Be Used for Dairy Purposes, Let Whole Country In on It.

An official of the state agricultural department of Oregon recommends the cultivation of the whale for milking purposes, says an article in Thrift Magazine. Enough whales could be raised right in Puget sound, he says, to supply the United States with all the milk she needs. The female whale is a generous creature and gives a barrel of the lacteal fluid at one milking.

This is a timely suggestion, but why keep all the whales in Puget sound? Would not such a plan be selfish, sordid and monopolistic? If we are going to be truly democratic in this country, let's be so in the matter of whales. Let every farmer keep his own whale. What would be more inspiring than to see the happy husbandman arise while the King of Day was still lurking bashfully behind the eastern horizon, grab the family milch barrel and hurry out behind the barn to give old Flossie, the family whale, her morning milkin'? In the spring when the little whalelets begin to show up, think of the gross annual output of poetry that would be inspired in the breasts of our literati. It would be a rank and infamous injustice to let Puget sound have a monopoly of the national supply of dairy whales.

That Black Cat Stuff.

"Superstition is certainly a funny thing," observed the almost philosopher. "Take, for instance, the feller who is scared to see a black cat run across his path.

"He'll argue that there is nothin' supernatural about him and a black cat happening to be near the same place at the same time. An' when it comes right down to tacks there is really nothin' supernatural about a black cat any way you figger it, he'll say—just an excess of black pigment in the coloring matter of the cat's hair, and, besides that, maybe one out of six or eight cats is black.

"He reasons, too, that a black cat's duty probably calls it across the street about the time he happens along. About the time he gets it all figgered out a coal-colored feline darts out of the alley just ahead of him and makes a bee line for the other side of the street and that feller jest about loops the loop trying to head that cat off."—Indianapolis Star.

Birds Destroy Caterpillars.

When the buds open in spring, broods of tiny, hungry caterpillars emerge, only to be preyed upon by the constantly increasing flights of birds that peer, swing, flutter, or hop from twig to twig through all the woods. At this time these caterpillars are not at all noticeable, and are very difficult to find; still, the great majority of them are readily found and eaten by birds, and therefore never become apparent to ordinary observation. As summer comes and the caterpillars grow in size, each brood is reduced in number, until, as they approach full size, a band which erstwhile numbered hundreds of little crawlers has shrunk to a score or two, a "baker's dozen," or even less. When the survivors pupate they are still attacked by birds, and the moths or butterflies as they emerge and try their wings are pursued by their swifter feathered enemies.

Blarney Stone Tradition.

The Blarney stone inscription is getting dim. It reads: "Cormach MacCarthy: fortis me fieri facit, A.D. 1449." The tradition about the stone is, of course, that when the Spaniards were urging the Irish chieftains to harass the English, one Cormach McDermod Carthy, who held the castle, had concluded an armistice with the lord president on condition of surrendering it to an English garrison. Carthy put off his lordship day after day with fair promises and false pretexts, until the latter became the laughing stock of his acquaintances, and the former's honeyed and delusive speeches were stamped with the title of Blarney.