

plowed deep, and if not to be irrigated should be subsoiled. With sandy land over very porous subsoil, where irrigation is not practiced, good success often results from seeding on sod. On land of this nature thorough surface preparation without subsoiling will probably give the most satisfactory results. In starting alfalfa the first point claiming consideration is the selection and preparation of the soil. The plowing should, if possible, be done in the fall, and in the arid regions the use of the subsoil plow is almost an imperative necessity.

Without a dense and uniform stand of plants it is not possible to make a high quality of alfalfa hay. If the stand is thin on the ground the stalks will be coarse, woody and indigestible, and in curing, the leaves will dry and fall off before the stems are sufficiently cured. But if the stand is thick, the stems will be fine, and the foliage will be so abundant that the curing process can be effected evenly and without perceptible loss of leaves. Consequently, the one great desideratum in the sowing operation is to have the seed scattered evenly, and in obtaining this result we here in Colorado prefer to use the press-drill.

Of the different modes of seeding with alfalfa the most common method, however, when the conditions are favorable, is to scatter the seed over a surface which has been finely pulverized and not crusted, the sowing being done very early in the spring. The crumbling of the soil after a night's freezing partly or wholly covers the seed, none of which is buried so deep as to prevent germination. The seed is protected with an oily covering or sac, and is not injured by freezing. With enough spring rain to keep the surface moist nearly all will grow; but in most cases all the required conditions for success with this mode of seeding cannot be depended on. The soil, well fitted the previous autumn, may have become so crusted by an open winter as to prevent the seed from becoming covered by the crumbling soil, or an early drought may be fatal to the young alfalfa. Farmers who are familiar with the seasons will decide whether to adopt this mode of seeding or to use a later mode by harrowing. Covering the seed by harrowing prevents a part from growing by burying too deep, but the loss of seed in this way is less than many suppose. It is true that alfalfa seed will not grow if buried over an inch in a heavy soil, or an inch and a half in a light one. With a light harrow not more than half the seed will be buried too deep, and often not more than a third, and if the soil surface has been well pulverized all the rest will grow. The writer has seen old-fashioned farmers "brushing in" broadcasted seed, and the plan worked all right. In his own experience the writer has always used the modern press-drill, with the tubes set at various distances apart, according to the purpose of the crop, whether for pasture, hay or seed. The variance is from four to nineteen inches. Oats or wheat are often put in as a nurse crop—a practice for which many contend, although condemned by others. The oats are mixed with alfalfa seed and all sown together. The quick growth of the grain serves to shade the tender young alfalfa shoots from the blistering effects of the noonday sun. In any event care must be taken that the seed is not planted too deep, thus preventing free germination. Hence shallow seeding with the drill is advised.

The amount of seed to be sown to an acre will be governed largely by circumstances. The range is from twelve to thirty pounds to the acre. More is required in broadcasting than in drilling, and for fine hay the stand should be

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much thicker than when only a seed crop is desired. The amount of grain put in when sown with alfalfa is but a trifle less than the usual demand. When seed alone is the desideratum the drill should be employed and the tubes set from fifteen to nineteen feet apart, and only twelve to fifteen pounds should be placed on an acre. A good "catch" is more desirable usually than the actual number of pounds to the acre, but a good rule for a common crop would be from fifteen to twenty pounds; and one using this quantity will not go astray in his expectation. It is very difficult to re-seed thin patches, as the older growth is so rank that it tends to choke out the younger shoots. We have found that whatever implements may be used for covering the seed, the work should be followed by a plank drag to smooth and compact the surface. Great care should be exercised in the selection of seed to see that the grains are plump and healthy, and that it is scrupulously clean. If there are many shrunken seeds, reject the whole lot, for if they sprout at all they will produce only puny, worthless plants. By all means avoid seed that may contain the dodder seed, as this enemy is very fatal to alfalfa.

During the first season of its growth alfalfa should be cut but once, leaving a rather high stubble. This cutting should be done just in time to prevent any weeds from maturing their seed, if possible. The aftergrowth of the alfalfa in the first season should be allowed to remain, and serve as a winter protection for the young and somewhat tender plants. A winter mulch of light manure is also advisable. All pasturing of stock on it in the first season should be avoided. The second year it may be cut twice without injury to the young plants, and in the third year and thereafter, three and even four cuttings are made here in Colorado with a total yield averaging six tons to the acre. We aim to cut the crop every thirty days or so, just before the plant appears in bloom. Under our present mode of harvesting we are putting alfalfa in the stack at a cost of less than one dollar a ton.

In conclusion it might be well to note that the advantages of alfalfa are: When well established it does not run out; it withstands drought much better than any other clover; it grows rap-

idly and may be cut early in the season; it gathers a large amount of nitrogen from the soil, and is, therefore, very valuable as a fertilizing crop, and it furnishes large crops of green fodder each season. When properly cured it makes an excellent hay; it is relished and digested by all farm animals and is an excellent flesh and milk producer; it makes muscle rather than fat and is, therefore, valuable to use with corn or other fat-producing crops to make a well-balanced ration for cattle.

### TURNING DOWN THE HUMBUGS.

It is something of a compliment to our experiment stations that rascals try to steal their reputation when selling bogus goods to farmers. One Oliver Hawn is now in Miami county selling poultry foods, spraying materials, etc., which, he claims, have been tested at the Ohio station. Another rogue named Essig is in Stark county selling a recipe for preventing pear blight. This man even claims that the state, through the station, has given him a fine gold watch. The station people come out squarely and make the following statement:

These men are both frauds. The Ohio Agricultural Experiment Station does not endorse or recommend secret compounds or processes of any description whatever, and prosecuting attorneys throughout the state are urged to arrest and prosecute for obtaining money under false pretenses, any person who may claim to have any such endorsement from the station.

That is the way to talk. These rascals are advertising the station in a way they little expected. The work of exposing such frauds is legitimate work for an "agricultural watchdog." A station director should be proud to bear that name.

R. S. Thompson, of Catlin, Cowlitz county, raised a fine crop of tobacco last year, and being a cigar maker, has a large supply of home-made cigars of home-grown tobacco.

T. D. Thomas, who is well known to Kittitas farmers, is conducting at 619 Pike street, Seattle, under the name of the "Ellensburg Jersey Butter Store," a retail depot for dairy products, eggs and vegetables.

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