

is, that the smaller the particles the more rapid does fermentation of bacterial action take place within it, the better will it retain moisture, and the more perfect will the conditions be for the roots to find the greatest amount of surface from which to draw plant food.

HOW TO GROW OATS

The United States bureau of plant industry states that oats grow best on soils with good water-holding capacity, as they require a great deal of moisture. When grown for grain, phosphorus is usually the most important fertilizing element which can be added. Very rich soils, especially if deficient in phosphorus, cause rank growth, with lodging as a result. When grown for hay or forage, nitrogenous fertilizers may be used. Oats do best on a rather loose, well-prepared seed bed. The common method of sowing broadcast on cornstalk land, without preparation and covering it with a disk harrow is careless and uncertain. A thorough preparation of the seed bed is quite as essential as with other crops.

A SILO EXPERIENCE

Dry weather conditions in many states, and a consequent shortage in the corn and grass crops, have gone a long way to demonstrate the fact that the farmer who is equipped with a well filled silo has a veritable bank to draw upon in times of agricultural stress. A Kansas reader writes of his experience with a silo built on his farm three years ago. This silo was built on the metal lath plan, the concrete being plastered on to the lath until it was four inches thick. It was filled at that time with corn silage. A few weeks after,

most of the stock was sold and the silage was not needed. Notwithstanding the fact that there never was a top on the silo and that the silage had been in for almost three years, he commenced feeding this silage to his stock this summer and found it to be in excellent condition. In fact, this silage is the only feed which his stock, both horses and cattle, have had for nearly eight weeks, and seemed to be doing well. This reader also sees no reason why his silo will not be good 100 years from this time, and thinks that it is the best investment he ever made in improving a farm. The experience of this reader should bring home the fact to every farmer that the silo is a sure means of conserving the crops of fat years to provide for just such emergencies as are being experienced in feed shortage this summer over many sections of the western corn belt country.

AN ALFALFA AND CLOVER PEST

Dodder is one of the serious pests of the alfalfa and clover fields. The weed is not a native of America, but of Europe, from whence it was probably introduced in seed of grass or other forage plants. Being a flowering plant, it reproduces by means of seeds but bears no leaves, or only abortive ones, as will be noticed, and contains no green coloring matter; therefore, it is obliged to lead a parasitical existence upon some other plant. The seeds of the dodder start their growth in the soil the same as any other seed, the young plant living upon the material of the seed until it is about four inches high, or until it comes in contact with the alfalfa plant. Then it gives a couple of turns around the alfalfa, develops roots on its lateral surface, which roots penetrate the stem of the alfalfa, growing inward to the conducting tissues, where there is a good supply of food it can use. After getting this hold on the alfalfa plant the dodder dies below and is no longer connected with the soil at all, getting all of its nourishment from its "host." The plant flowers usually from July until late fall, producing large numbers of seeds. Its behavior on clover and many other plants is the same as upon alfalfa. Inasmuch as it grows very rapidly it causes serious trouble with forage plants.

There are two methods of treatment for this pest. As soon as a patch is discovered in a clover or alfalfa field it should be at once cut with a scythe or sickle, and the alfalfa, dodder and all, removed and burned. If a field becomes badly infested, the only method is to plow it under and crop with something other than a forage crop for a year or two until all the dodder seeds have germinated. Clover or alfalfa should never be used for seed if there is dodder in the field, and great care should be used in the purchase of seeds to see that they are not contaminated with dodder. There is no occasion for allowing a field to become infested with this pest. If you are in doubt about the seed you buy your experiment station will doubtless be glad to test your seed free of charge.

WARNING TO POTATO GROWERS

The potato tuber moth is working such injury to potato crops in various parts of the country, especially in California and Texas, that the United States department of agriculture has issued a special warning and instructions to potato growers to help them overcome this highly injurious pest. According to the specialists this moth is being rapidly spread over the country in shipments of infested potatoes and by careless methods of using and dis-

tributing and handling seed potatoes. Growers are urged to sort the potatoes for seed two weeks after digging and then sort them over two weeks later. The potatoes unaffected by the tuber moth should then be placed in a moth proof bin. It is easy to pick out the infested tubers because of the excrement of the moth, which adheres by means of a web to the outside of potatoes and can be easily detected. The tubers placed in a moth-proof bin, after final sorting should be fumigated by means of carbon bisulphide (or bisulphide of carbon, as it is known), in order to kill any moths which might have bred out or slipped through the crevices when the bin was opened. Carbon bisulphide is applied by pouring small quantities into flat vessels such as milk pans or pie tins. An average of three pounds should be used for every 1,000 cubic feet of space. About a pint is poured into each receptacle and the pans are placed in the bins at the top. The gas, being heavier than air, it will penetrate the mass of potatoes to the bottom. The bin should be tightly closed for from 24 to 36 hours, with assurance that the germinating power of the seed will not be destroyed. The gas of carbon bisulphide is very inflammable and explosive in its nature and the utmost care must be used to see that no light, spark or fire of any description is brought into the vicinity while it is being used, not even a lighted cigar. Keep a careful lookout after fumigation. Give the potatoes a daily inspection at first, then weekly. If any growth of the insect is detected, give a second fumigation. This method is simple and effective, and the grower who does not wish his present yields cut down heavily by the inroads of the moth can well afford the little time and trouble it may take to thus insure his future crops.

NEXT WINTER LAYERS

This is a good month to commence selecting the flock that is to be carried through next winter. It does not pay to feed unprofitable birds and care for them so long. That faithful old hen that is being kept for the good it has done will eat at least a dollar's worth of feed in a year, even if it is kept on a farm and there seems to be plenty of feed. By allowing old hens to live on the place, instead of some young pullet that will lay well, you are losing money. If you will look over your flock carefully you can cull out the unprofitable fowls. In selecting the winter flock, you should pick out the best layers. There will be no difficulty about this if you use the trap nest system and keep a record of each hen. However well this may pay for any one who makes a business of poultry raising, some farmers will find it impracticable for their use, and some other method must be used. The general appearance of the hen is a good indication. A lazily inclined hen is not apt to be a good layer and should be culled out of the flock that is to be carried through the winter. A hen with a pale comb and dull eyes is likewise not a good layer. Rough looking plumage before the molt is not a good sign, but a flock that is molting can hardly be judged fairly. The hot summer and unfavorable conditions are very trying on the flock, and the hen that is still laying at this time of the year is generally strongly constituted. If she shows a bright, quick, alert, healthy condition in September, she is very likely to be the laying hen next winter. In selecting pullets for layers choose the first to mature. A retarded growth nearly always impairs the ability to lay eggs. A well built and fully developed body, perfect in all its parts,

is what it takes to make a good layer.

AUTOMOBILES AND FARM VALUES

No one thing has done so much to alter the status of farm life as the introduction and perfection of the automobile and the motor truck. Instead of looking upon the automobile as a luxury, the farmers were keen to realize that it was one of the most far-sighted economies of farm life, for it has been the means of placing every farmer within easy access to his markets. That automobiles are mainly responsible for an increase of \$2,000,000,000 in the value of farm lands in the past twelve years is the declaration of Newman Erbe, president of the Minneapolis & St. Louis railway. He also asserts that indirectly the automobile has also increased railroad earnings.

The Sioux City Tribune says: "It is easy to see how the automobile operates to increase farm values. Formerly a farm 20 miles from a railroad was so isolated as to be of low value. Now it is within an hour's easy run, and the run can be made while the horses work or rest. Good roads have followed the automobile and even those farmers who do not use motor trucks to haul produce to market are much better off because of decreased hauling expenses due to better roads. The demand for farm lands is increased by the broadening of social opportunities which the automobile has brought to rural communities. As to increased railroad earnings the explanation is also simple. Good roads are feeders to railroads, both for freight and passenger traffic. The railroads realize this and show no regret at the introduction of the automobile, although it deprives them of some short haul passenger business."

BOOKS RECEIVED

Starving America, by Alfred W. McCann. F. M. Barton, publisher, Cleveland, O. Price, \$1.50.
The supreme court of the United States, by Edwin Countryman. Matthew Bender & Co., publisher, Albany, N. Y.
The New American Drama, by Richard Burton. Thos. Y. Crowell Co., publishers, New York City.
Training for Efficiency, by Orison Swett Marden. Thos. Y. Crowell, publishers, New York City.
The Quest of the Best, by William De Witt Hyde. Thos. Y. Crowell, publishers, New York City.
The Railway Library 1912. Compiled and edited by Slason Thompson, director of bureau of railroad news and statistics, Chicago. Published by Stromberg Allen & Co., Chicago.

AN EDUCATIONAL FORCE

William Jennings Bryan, one of the greatest men of the age, announces that henceforth his most valuable paper—The Commoner—will be issued monthly instead of weekly. The Commoner has done more to educate the rank and file of party in democratic principles than all other papers combined, and while its visits to the homes of many thousands of its readers will be cut short from four times per month to one, we hope it will not retard the educational growth of the party.—Ellensburg (Wash.) Dawn.

A POWER FOR GOOD

The Commoner, W. J. Bryan's paper, has been increased in size and changed from a weekly to a monthly. The Commoner is a great power for good. As an instructor in political matters it is indispensable.—Red Oak (Ia.) Sun.

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