



The Corn Crop.

T. H. Mason, in an address to farmers' institute workers, said: Any of our ordinary soils will grow corn successfully, except very hard clays, that are deficient in humus. Moreover, it is a gross feeder, and will make use of a liberal quantity of manure. Corn should be the clearing up crop of the rotation, but as it is very often handled it is the dirtiest crop. If the land is full of weed seeds, liberally manured, and cultivation stopped when the corn is a couple of feet high, we get a great quantity of weeds and a small crop of corn.

Two systems of cultivation are commonly practised in the corn belt. One is to plow very late in the fall, manure in the winter and spring, then gang plow or disc in May, making a shallow seed bed. There are two advantages gained by following this plan: (a) By the late plowing the cut worms are killed. Some years these insects are very destructive, especially on sod. (b) The moisture accumulated by the winter snow and rain is conserved and held for the growth of the crop during the summer—a very important matter these dry seasons. The other system practised is to avoid plowing in the fall. Let the grass and clover get a good start and leave the plowing as late as possible, say, after the middle of May. Then put on full force and plow as quickly as possible about four and one-half inches deep and roll down; then thoroughly work, to get a good seed bed, and plant as soon as possible. This system is very often followed on very heavy soils, and the advantages claimed are that the soil is rendered more pliable and mellow by the fermentation of the green stuff and roots turned under, and that it does not become heavy and sodden, as it sometimes does when plowed in the fall.

Planting in hills has several important advantages over the drills: (1) The crop of grain is a little larger. (2) There is better exposure to the sun, and a freer circulation of air, thus hastening maturity, and giving better quality. (3) There is a decided advantage in cutting where corn binder is used. (4) Last and greatest, a much more thorough cultivation can be given, cleaning the land with the least expense and doing away almost entirely with hand cultivation. Plant at from 3 feet 6 inches to 4 feet each way, according to variety. As soon as planted, if land is in suitable shape, harrow thoroughly, and give a stroke of the harrow every two or three days until corn is up, then start the weeder, and do not be horrified if it does cover up some corn and tear out a few plants. You will never miss them at harvest time. Keep weeder going until corn is one and one-half feet high, then cultivate deeply at first, but very shallow later, as long as you can possibly get through without too much damage. Do not cultivate more than two inches deep after corn is three feet high, or you will destroy the shallow feeding roots and injure the crop. When you have nothing else to do, cultivate corn. One of our oldest and most successful corn-growers told me that he counted a boy and horse worth at least \$2 per day in the corn field.

Potato Fertilizer.

Most of our farmers in the West are not in the habit of using any kind of fertilizer for their potato field except such as is made on the farm. Yet more and more commercial fertilizers are coming to be used. It is, therefore, advisable to consider a few points on the requirements of potatoes

as to fertilizers. The potato crop runs all the way from nothing to 500 bushels per acre, though the latter figure is very unusual. It is assumed that a crop of 300 bushels is about as large a one as we can hope to raise per acre. A crop of that magnitude will remove from the soil about 55 pounds of nitrogen, 25 pounds of phosphoric acid and 85 pounds of potash. It is certain that the potato does best in a soil well supplied with all kinds of plant food. If we try to put back only the amount of plant food the potato is likely to yield we will be unable to place all of it where the roots of the plants will get it; for the reason that all of the ground may not be fed over by the plants and there is also much fertility locked up in the clods that exist on every clayey soil. Then, too, the weeds that get a good start of the crop, when they are allowed to do so, take up much of the available plant food and lock it up in their own leaves and stems. Of course it gets back into the soil when the weeds decay, but that is months after the fertility has been taken out of a condition where it may be reached by the roots of the potato plants. It is therefore necessary to have much more plant food within reach than can be figured upon to enter into the formation of the crop.

Potatoes need much nitrogen in the first part of the season when the vines are making rapid growth. Unless we have a large amount of foliage we cannot hope to have good-sized tubers; for the material that is to form the tubers must be elaborated in the leaves and stems of the plants themselves. Not only must there be much nitrogen in the soil, but it must be in a water soluble form. Plants do not eat, they drink, and they can drink in the nitrogen only when it is soluble. After the leaves and the stems have made their growth the demand is for phosphoric acid and potash. The farmer that does not know the analysis of his soils but feels that he needs to put on some commercial fertilizer should select one that carries about 3 per cent of nitrogen, 5 per cent of phosphoric acid and 4 per cent of potash. It has been found that the potato does best with an abundant supply of phosphoric acid even far in excess of the amount removed by the crop.

Interest in Alfalfa.

The interest in alfalfa seems always on the increase. Ten years ago the farmers of Kansas were discussing whether or not they could grow this crop, while now the same discussion is being carried on in the states far to the east and north. Alfalfa was first introduced into this country by the monks who settled on the coast of California in the early part of the last century. They doubtless brought it from South America, where it had been grown for at least 100 years before its introduction into California. It is claimed that it worked its way eastward overland, but this may be doubted to some extent, as it is certain that it was grown in the Southern Atlantic states a generation ago, in a tentative way. But that most of the spread has been from the California fields seems certain, the plantations following the lines of railway over the mountains and through the arid deserts of Arizona and New Mexico. It has now become the great hay crop of the semi-arid region.

Alfalfa was looked upon as a plant adapted to the dry sunny climates only, but it is now coming to be considered a cosmopolitan plant of great range of growth. It is certain that where it has been grown in large quantities it has enormously increased the productivity of the land and increased the number of live stock that can be carried on each acre. The ranchmen of the West are now using immense quantities of alfalfa in the winter feeding of stock being prepared for market.

A separator should be washed every time it is used. The advice of some separator agents to the contrary helps to bring separators into disrepute.

LIVE STOCK



Waste of Grain in Feeding.

That Americans waste grain in feeding will be a statement readily accepted by most men that know anything about our methods of fattening steers. We have but to compare our methods with those of the beef makers on the other side of the Atlantic to be convinced that for generations we have been feeding to our steers altogether too much grain, when viewed from the economic standpoint. To be sure we try to save some of this grain and do save some of it by having hogs follow the cattle, but even then the waste is enormous. In a great many instances cattle are not followed by hogs at all and, in other cases disease comes and takes off the hogs. In still others, the number of hogs following the steers is entirely inadequate to pick up the corn that passes through the steers undigested. It has been the practice in the so-called corn belt to feed the steers all the corn they could eat without regard to their requirements. The grain was shoveled in, and the steers usually had enough and to spare. In other cases it was thrown out into the feed lot, and what the steer did not eat was trampled under foot. On investigation, it is found that our stockmen have been feeding from 20 to 25 pounds of corn per day, and in some cases this amount has reached 30 and even 35 pounds. Think of it, half a bushel of corn fed each steer per day!

Across the water ten pounds of corn per day is regarded a very heavy ration, and more often the amount is between 6 and 8 pounds. Yet who ever found fault with the quality of British beef when produced on the frames of the beef breeds? It is evident that our farmers should greatly reduce the amount of grain feed, and with our most progressive feeders this is being done. The rising price of corn has called attention to the matter as nothing else could have done. We have passed out of the era of 10-cent corn, and can no longer afford to feed more than is necessary. It is altogether probable that the usual ration can be reduced one-half without the quality of beef suffering, provided the rest of the ration is succulent. With the use of silage and alfalfa it is now possible to do this. Had the corn been saved that has been wasted in the last few years, our farming communities would not have run short of corn two years ago and been compelled to send their cattle to market in a half-fat condition.

Whitewash for Stables.

Whitewash is a most important article in the keeping clean of the stables. A coat costs so little that it may be given frequently. Probably the best kind to use is that employed by the United States government. That it will stick is obvious from the fact that it is used on all the lighthouses, where it is constantly exposed to the rain and spray of the waves. The formula for making this is as follows: Slack about one-half bushel of unslacked lime with boiling water, keeping it covered during the process. Strain it and add one peck of salt dissolved in warm water; three pounds of ground rice put in boiling water and boiled to a thin paste; one-half pound Spanish whiting, and one pound clear glue dissolved in warm water. Mix these well together and let the mixture stand for several days. Keep the wash thus prepared in a kettle or portable furnace, and when used put it on as hot as possible. This will answer for either wood, brick or stone, and keeps its luster for a long time.

It is a mistake to assume that grain runs out. If it does it is because it is not properly selected. Running out so-called is frequently the result of deterioration of the land.



Buying Cheese Milk by Test.

Many of the cheese factories are now purchasing their milk by the Babcock test, and all should come to that point. The old system is fruitful of fraud. When a man has to bring to the factory only so much milk by weight there is every inducement to add water to it or to take some of the cream from it. If he is too honest to do that, the thing that naturally appeals to his reason is that he should buy and breed up cows that give a large amount of milk without regard to the fat such milk contains. All this is based on the old idea that rich milk was different from poor milk only in the amount of butter-fat it contained. But this has been demonstrated to be a mistake. Rich milk is not only rich in butter-fat, but is also rich in solids, and the solids are in somewhat regular proportion to the fat. Professor E. H. Farrington says that for every pound of butter-fat contained in a hundred pounds of milk 2.6 pounds of cheese can be made. Thus, milk with three per cent fat in it would make cheese that would weigh 7.8 pounds, while if the butter-fat amounted to four pounds in 100 pounds of milk, that is, was what we call 4 per cent milk, the amount of cheese made would be 10.4 pounds. Professor Farrington is an expert in these matters and his figures are probably as accurate as can be obtained. They demonstrate the advisability of buying by the test even for cheese making. Moreover this encourages the increase of the amount of fat in the milk and this is advisable, as the richer the cheese the better the quality, other things being equal.

National Filled Cheese Law.

A dozen years ago the men that were making filled cheese had so far destroyed the reputation of our cheese that we were no longer able to hold the trade we had with Great Britain. The Canadians, with their prohibitive laws respecting the making of filled cheese, took the English market from us. That started the Americans to demanding a national law regulating the manufacture of filled cheese, and the law asked for was passed. It so greatly restricted the making of filled cheese and its sale in our markets that filled cheese almost instantly became a thing of the past, and now most of the consumers of cheese in this country would not know the meaning of the words "filled cheese." But since the passage of the law the makers of this kind of product have found a ready market for the stuff in England and have continued to send it thither. As soon as the American public found out that they did not have to buy filled cheese under some other name they stopped buying it at all.

Some time ago the manufacturers of filled cheese in Illinois brought suit against the government to recover a large sum of money that has been paid to the revenue officials, the manufacturers claiming that the law was unconstitutional. The lawyers of the filled cheese makers claimed that the payment of one cent per pound was a violation of the provision of the federal constitution that prevented the imposition of an export tax. After a long consideration of the matter, the Supreme Court of the United States has handed down a decision to the effect that the tax is legal.

It is well to leave the cover of the can ajar while the milk is cooling, provided the air around the can is pure; but if it is foul the cover should be kept on tight.

If a man does not want to take time to wash his cows before they are milked, rubbing the udders with a damp cloth will do some good, and is not a time-wasting operation.