

A STUDY OF CORN, METHODS, NECESSITY

Can the Rural Schools be of Practical Help? Paper Read at Recent Teachers' Meeting.

By Dan Fink, of Goodrich Township.

Mr. Chai man, Ladies, and Gentlemen:

The topic of my part of the program is just the little word, "Corn." We are to consider its importance for a little while and the results of a study of it, and further—Can the public school be of any practical help in this study, and teaching?

Now I imagine I hear some one say, "Oh my—I guess I will take a nap while he is talking. I know all that is necessary about corn—I am not much concerned about corn, anyway."

But my friends I differ from you on that point. I do not think there is one in the room that knows one-fourth as much as he ought about that little plant that supplies us in so many ways with food. It is used in making imitation rubber, for stiffening paper, in supplying a good grade of sugar,—but I will not try to name all the by-products, for in fact it supplies us with meat, bread and sugar, which we need, also with whiskey which we can do without. Its uses became so prominent and vital that something had to be done to improve the crop. Thus our experiment colleges sprang into existence. Not much was done to improve it until after the civil war, when a few experiments showed that one color or kind would mix with another, thus making a certain type, and picking seed carefully for this type it could be continued and improved.

Before commencing on the method of selecting the seed we had better dwell a little on the land; how it is affected by the corn, proper rotation of crops, climatic conditions, and the best kinds of grasses for building up the soil. For example, our land is like a man's bank account. As long as he puts back as much as he draws out he will always have something there, (if the bank doesn't fail.) Likewise on the farm, clover and manure stand for cash in, while corn draws it out again. The prevailing high price of corn has tempted the farmer to corn his land too heavily. The average farm is not as fertile today as 20 to 30 years ago, and especially on the tenanted farm where it is leased but for two or three years at a time. It is best for the tenant farm to be leased for ten years or more to the same tenant. Figuring that the land should be seeded to clover once in five years each tenant will thus get full benefit of the increase and be able to leave the land in as good or better condition at the end of the lease. We all know that corn is as hard on the land as any cereal we raise. It uses more organic nitrogen, that is, plant food, than any other cereal and where land is corned continuously for three or four years it is left very poor in plant food. Clover is one of the very best fertilizers. This plant gathers the nitrogen in its free form through the leaves and deposits it in the roots in the form of nitrogen. It is the na-

ture of clover to store more of this organic nitrogen than it needs for its own use and this surplus is left in the ground for the following cereal crops to draw upon. Clover can be sown for about \$1.00 per acre, and it may be cut twice the first year, thus making 5 T. per cent of good hay. The second year it may be cut once, making from 2 to 3 tons per acre. The second crop this year should be plowed under for fertilizer and the year following we find the farmer taking from \$5.00 to \$10.00 per acre increase from the land.

Corn is affected more by changing its latitude than any other cereal. The farther south the larger the ears grow, consequently the longer it takes it to mature. But we can bring corn from the south and in three years or so it will become adapted to this section. However it is advisable not to go south if it can be obtained from any other source. Iowa's annual corn crop is estimated at 269,812,000 bushels. Dividing this by the number of acres that was planted our corn averaged only \$2.9 bushels per acre. The average weight of an ear of corn of this section is about 12 ounces. In an acre of corn there are about 3556 hills, and figuring each hill to produce one good ear our yield should be 38.5 bushels per acre. So with two or three ears to the hill as corn should produce we ought to raise 60 to 70 or even 100 bushels to an acre, the weather and season permitting. Mr. John Sundberg of Monona county, last year raised 153 bushels per acre without any more work in tending. Of course he used extra good seed and good fertile land. Judging from this somebody in the corn belt has been tilling poor land and planting poor seed.

Thus we come to the most important step in successful corn growing—methods of selecting and saving seed. This is all important to the grower of corn who would secure even an average crop. Take for example, the successful stock breeder. He does not wait till the last minute to get new stock to head his herd. He has his ideal breed and selects his parent stock and aims to reproduce this in the young herd. Likewise with the corn farmer—he should be in the best field of corn the first two weeks in October selecting his seed. Each farmer has his idea of the corn he likes best. Let him select his ideal ear and then go into the best field of corn and pick for the same. If he does not get enough of his choice from his own fields he has plenty of time to get it from his neighbors who may be more lucky than himself. Especial care should be taken to get the seed in the ear for several reasons. When the corn is purchased in the ear the farmer can see just what he has paid for and if there are any undesirable ears they may be thrown out. If shelled the undesirable ears are inseparably mixed with the good. He may test four to six grains of each ear and those that show poor germinating qualities reject. If seed is shelled there is no way of testing it so these poor ears must necessarily result in a poor stand and a reduced yield. A third and very important reason for purchasing the seed in the ear is that the butt and tipp kernels may be shelled off. They are undesirable for seed as they are stunted in growth, irregular in size, and generally of low germinating power. Several tests were made which showed that of the butts 85 per cent germinated, of the tips 72 per cent, and of the middle 95 per cent. This is especially worth noting.

Do not wait until spring to get your seed—then use any old ear, butts, tips, and all. That is what has cut our yield down. A good way to select seed is to go early in October into the best fields far enough to fill a sack with your ideal ears. All should be filled out nicely on the butt and tipp, be not too pointed and have straight, even rows. The irregular ears and pointed ears show a lack of vitality and a tendency to run out. There should be nice color of grain, true-ness to type and breed, and the ears should be not too high from the ground. Do not select an ear from a hill containing a barren stalk. With a wagon handy one may in a short time gather all he can tie up in the remainder of the day. Do not leave any piled on the floor as it is apt to spoil. With pieces of twine about ten feet long and doubled, tie your ears and hang them in the driveway or in any well ventilated building having a good roof. This method of drying gives good protection from the ravages of mice and allows the corn to dry out sooner, thus preventing its sprouting or moulding. The greatest enemy of seed corn is hard freezing before it is thoroughly dry. After the seed is dried there is no place quite so good as in the attic near the

chimney where it will be kept dry and warm. Now the corn is ready for the test which should begin as soon as possible so as to get it all done before the rush of spring work begins. The day of the jack-knife tester is past. It will not do in modern farming to take a couple of kernels from the butt of an ear, cut off the tip cap, and tickle the germ a little with the point of a knife and say it will grow, when possibly this man of wisdom could not see to write his own name without a pair of specks. Now for the testing, which is one of the most important things in all corn raising. Take any box about two feet square and four inches deep. Fill it about half full of saw-dust, or if this can not be had loose sand or dirt will do. Soak the saw dust well and tamp it down smooth. Now take a heavy piece of muslin the size of the box and mark it off into squares of two inches each, using indelible ink or pencil so it will stay. Number the squares and lay this muslin in the box covering the saw-dust and tack it fast to the sides. Then prepare a rack or shelf to hold the ears to be tested. Number the ears and lay them on the rack. Begin with ear number one and select six kernels, three each on opposite sides of the ear and distribute along the row. Place these kernels in square number one. Continue in this way until your test box is filled. Now take another piece of muslin or an old flour sack a little larger than the box and place it over the corn. Cover this with an old gunny-sack and dampened saw-dust and set where the temperature is from 47 to 50 degrees. Leave it stand about five days. Now you are ready to note the results of your test. Keep a record of each ear. In some you will note the root development will be strong, in others weak, and in others nothing at all. The weak and worthless ears should be thrown out as one weak ear of seed corn discarded means not only a saving of land, but also of time and labor spent on hundreds of weak and barren stalks. These are the cause of our corn running out.

Many farmers are firm in their belief that it is necessary to change seed frequently as they think their own seed has run out, and so they secure seed from some other locality. Is this necessary? How does the man who grows this new and vigorous seed keep it from running out while he is growing it? It is true that corn grown continuously in one section may be diminished in quantity while new seed may yield more and a better quality. But the difference is not due to the corn plant alone. It is in the nature of the farmer and not in the corn where the trouble lies. Those weak, sickly stalks were fooling around all summer taking as much plant food and care as good stalks, but were not strong enough to produce an ear of corn. The pollen from these weak stalks falls on the silk of the neighboring strong stalks and the result is small, weak ears generally. They will be irregular in shape and little like the parent ear. If the farmer waits until spring to select his next seed and does not test it he will use many of these weakened ears. His corn will soon run out at this rate. But some will say that this way of selecting and testing is too much trouble. It is trouble, no doubt, but time well spent. Almost every farmer goes to the trouble to grade and fan his oats and wheat to clear it of foul seed and the small, worthless grains. It is just as necessary to test the seed corn and clear it of the poor seed. A few hours spent each week during the winter months in testing seed will return twenty times their cost at picking time. Twenty to thirty more bushels of corn per acre means considerable to the farmer who is living on land worth \$125 an acre, and must pay proportionate rent or taxes.

There is no crop that can be put in for so little seed expense as one of corn. Good seed corn can be purchased for from \$2.00 to \$3.50 per bushel which means only about 40 cents an acre. Other grains cost from \$1.50 to \$3.00 per acre for seed. So there is little excuse for the farmer to plant poor seed when good seed may be secured for so little outlay of time and money. There is no crop that we raise that

will give increased returns in proportion to the care in selecting the seed planted as will corn. Some will ask why? It is because one kernel, one ear, or one bushel of corn will produce a greater quantity of grain than any other cereal. Seed corn testing should be especially looked after this winter. The hard freeze of Oct. 12th, weakened the corn and the wet weather following has made it necessary to test every ear to be used for seed the coming season. I have made several tests of seed picked from the field at husking time and some picked from the crib after the last freeze. From 25 to 40 per cent of it is worthless for seed. So the farmer who plants the seed picked from the crib will have to plant and tend 100 acres of ground to get as much corn as his neighbor will from 60 acres with tested seed.

At no time in the history of the American agriculture has it been so necessary to utilize every foot of our soil as at the present time. If we make such great strides in the next decade we will need still more experiment stations for the betterment of agriculture. The government should help out with this good work of feeding and caring for this peaceful world instead of building battle ships every year. It should have in every county an experiment farm. The only expense will be at starting, for after that it will pay back every cent of investment and a good profit on top. If the business community would put its spare change in an experiment farm the increase per acre in the corn belt would soon be enough to put up fine buildings without issuing bonds at all. Each rural school could then run a sort of branch station under the lead and help of the county farm.

Thus we come to the next part of our topic—Can the school be of any practical help? In the first place in order to make a success of this good work we need teachers that are fitted to teach it. So many think that all the teaching that is necessary in the rural schools is just the three R's, or at least all book work. And so we too often go to the city for our teacher for the rural school. It is possible that she does not know a bushel of corn from a peck of wheat. These teachers are well enough versed in some lines of education but not in things of the farm, and thus we turn the minds of our boys and girls not toward the farm but off to the city. Then we set up the cry, how can we keep the boys and girls on the farm? There is no easier way than to train them to be practical farmers and find that there is no degrading work attached to the farm, but all is good, clean, honest, healthful employment. Our rural schools can do more toward making practical farmers of the next generation than any other school. Statistics give the average age of the child in the rural school at 12 years. Some say it is throwing time away to teach agriculture when the scholars are in no position to know whether they will be farmers, doctors, lawyers or preachers. But I believe there is no better opportunity than to take pupils at rural school age and give them good practical instruction in nature study and the elements of agriculture. Get them to carry the instruction into the home and field and put it to use. It will make their work on the farm and about the home much more interesting. We admit that many teachers have a hard time getting the scholars interested when the parents ridicule such work. But if the teacher is well fitted and able to make the study interesting the scholars will soon be won over and see the great benefits they are to derive from the work. It will then be easy to influence and win the parents.

But here lies the great trouble. We have so few teachers fitted to teach it in any manner. Until this problem is solved there is little use trying to interest the school or the parents in something of which the teachers do not know the first principles. 440 acre river ranch for sale at very low price. All fenced, ditched, part cultivated, part native hay, timber enough for 40 years, 2 good houses, good barn, 8 miles from Antonito, write for booklet. The Menke & Carroll Realty Co., Antonito, Colorado, 1910.

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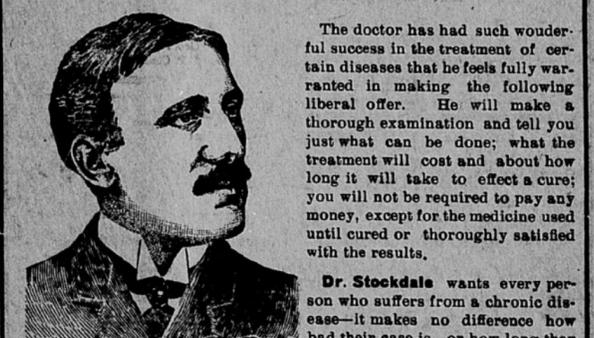
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