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The Condition of Kansas Seed Corn

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There wasa long period of dry weather last summer, and the development of corn was delayed. With the more favorable conditions in the fall, growth was renewed and much of the corn was not thoroughly mature at the time of the early freezes. Such corn contained a high per cent. of moisture, and the freezing destroyed the vitality. It is because of this condition that the quality of seed corn is low.

Usually Kansas seed corn is good, but this year is an exception, There has been general difficulty in securing enough corn from last year's crop for seed. Much of the corn that has been saved for seed is poor in quality 2nd will not grow. Conditions have never before made it so necessary for the farmers of Kansas to make extensive germination tests, and consequently a new situation is confronting them this spring.

This department has tested thousands of ears of seed corn which have been sent in from farmers from different parts of the State. A few of these samples have been nearly perfect in germination, while others have been so poor that they did not grow at all. The average test has been about seventy-five per cent. good. In some districts of the State the quality is much below that shown by the above tests. Fifty farmers at Rantoul in Franklin county, Kansas, took samples of corn which they had available for seed and put them in a germination tester. A few samples showed a fair percentage of germination: some failed to grow at all, and the average of all the corn tested was only thirty-eight per cent. good. Many of these ears appeared sound, but the germination test showed that the seed-germs were dead. The same condition probably exists in other parts of the State; and if farmers do not make a trial test of their seed corn, it is likely they will be disappointed in their next year's crop. Kansas grows more acres and produces more bushels of corn than of any other crop, and a failure to use good seed will be disastrous. If the corn used for `general planting in Kansas cannot be brought up to a higher standard than much of that which has been tested, the condition is indeed serious.

Thousands of farmers are buying their seed corn this spring. They

should get a variety or strain that is, adapted to growing under their own conditions, and they should be sure that practically every kernel of it will grow. The worth and productiveness of a variety depends more upon its source and upon the conditions that it has previously been subjected to, than upon the kind of variety. To produce best results, corn should be acclimated or developed under conditions similar to those where it is to be grown. With so many chances of securing poor seed it will be necessary for the farmers to use every precaution to get the best seed possible.

While the farmer cannot always choose the best variety, he can be absolutely sure whether or not his corn will grow. If he purchases his seed, he should examine it carefully; he should make a trial test for germination, and if the seed is not satisfactory he should not accept it from the dealer.

The Germination Test

It is not expensive or difficult to make a germination test of corn which will show whether or not the vitality is sufficiently good. A general test may be made by removing and placing in a germination tester five or six kernels from different parts of about one hundred representative ears. If more than five or ten per cent. of these kernels fail to grow, each ear should be tested before planting. If the corn is already shelled, one or two hundred average kernels should be taken for the test. In either case the kernels for the trial test should be placed in a germinator and kept moist and warm. If the corn is not of good vitality, it should he discarded. A great many kinds, of germination testers are used in making a trial test. The kernels to be tested may be placed between two moist blotting papers, or between flannel cloths, and in a box where they may be kept warm and moist. At the end of five days the kernels should have sprouted sufficiently to conclude the test.

The Individual Ear Test

It requires more work to make an individual ear test. However, when the general test shows that less than ninety per cent, of the kernels grow, each ear to be planted should be tested separately. A crate or box thirty inches long by twenty inches wide by one to three inches deep, filled with clean sand level to the top, is convenient for making the test. It should be marked off in two-inch squares by fastening cords or wires both ways across the top of the box. These may be fastened to small nails or tacks driven on the edge of the box two inches apart. The ears to be tested may be laid down in a long row where they will remain undisturbed till after the test is complete. Each ear should have a number corresponding to the number of the square in the tester where the kernels from that ear are placed.

The operator should commence at the left of the row with ear No. 1, remove six kernels—two near the butt, two near the middle, and two near the tip. These may be pulled out with the aid of a penknife without injury to the kernels. The six kernels. from this ear should be placed in the sand, tip downward, in square No. 1. Six kernels should be taken from ear No. 2 and placed in square No. 2 in a similar manner. Kernels from all other ears which are to be tested may in like manner be placed in the germination tester in their corresponding squares. After the germination tester is full, the sand should be kept sufficiently moist and should be covered with a wet

cloth to hold the moisture. The most favorable temperature for germination is from eighty to ninety degrees Fahrenheit. In five days the test should be complete. All kernels which have not germinated in this time are weak in vitality, and the ears from which they came should be discarded. Other forms of boxes than the one described may be constructed for the germination test. It is essential that the test be conducted before the ear is shelled, as it would be impossible to discard kernels of low vitality from shelled corn.

Seed corn which was mature before the early freezes in the fall, and properly cared for, is likely to be of strong vitality.

Preparing the Land for Planting

A large amount of moisture has fallen during the past winter, and there is a goodly supply of it in the soil this spring. If this moisture is properly conserved the chances for a drought next summer will be greatly reduced. Early cultivation of the corn land will conserve moisture and make summer cultivation more easy. In some parts, of the eastern section of the State the best way to prepare land for corn is by plowing, even though the corn is to be planted with a lister. The land may be plowed either in the fall or in the spring.

Where there is not sufficient time to plow the land and it is the purpose of the farmer to list his corn, early disking is a common and good practice. As soon as the land is, sufficiently dry, cultivation with the disk should commence. The loose mulch left by the disk will conserve moisture, and the cultivation will liberate plant food. This early disking will cover weed seeds and start them to grow. They may then be destroyed by a later disking. It is a good plan to disk the corn land early and continue working the land till planting time.