

Ohio Agricultural Experiment Station

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THE SEED CORN SITUATION

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WHY The condition of seed corn this season is quite unusual.
TEST? The department of Botany, weeks ago, wisely sounded an alarm concerning the various ear-rots which are prevalent this season to an uncommon extent.

Aside from these rots, conditions have been extraordinary. In August everything seemed to favor a completely matured corn crop. The weather for weeks had been hot and fairly dry. The few late varieties, which this Station tries out each year in its corn variety test, seldom had shown so near an approach to maturity at this time. But in September conditions changed. The rainfall for September was 6.53 inches—the highest for this month in the 23 years of this Station's records. This was followed by an October rainfall of 5.45 inches, which exceeds all other records for October for the 23 years, except for the year 1890. In November the rainfall was below the average for this month, but the conditions remained extremely poor for the drying out of corn. With 25 cloudy days, on 15 of which it rained to some extent; with 5 partly cloudy days and no clear days, November contributed little to the cause of good seed corn. December followed up with 27 cloudy days, with rain or snow on 15 days of the month and no clear days.

This record is surely bad enough, but it remains to be recorded that January gave us both the coldest day and the lowest average temperature for the month of any month in 23 years. Records at other points in Ohio show that the conditions above reported were much the same, the state over. Do they not give a sufficient answer to the question, Why test the seed corn?

THE GERMINATION TEST PROFITABLE One year ago this Station tested a lot of seed corn which had been well cared for, having been placed in a seed rack at husking time. The rack was made by nailing 2x $\frac{3}{4}$ -inch strips on each side of 2x4 uprights, 3 inches apart, the latter being 6 feet in height. Each ear was thus given a good chance to dry out, though no artificial heat was used. Seed was taken from each ear of such a rack of corn for use as "untested" seed. The *same ears* were then given a germination test, and only such of them used in making up a sample of "tested" seed as showed perfect germination. The "untested" lot included all the ears in the "tested" lot, plus those ears rejected by the germination test. These two lots of seed were planted side by side in the field, two distinct plots of each lot. The results at harvest showed a gain of 3 1-2 bushels per acre for the seed which was tested. This gain seems small, but it should be remembered that the untested seed used had been well cared for. But even this amount of gain, valued at 50 cents per bushel, paid \$5.83 per hour for the time spent in conducting the test. If this labor could be hired at 20 cents per hour the profit on the investment would be over 2800 per cent.

What will the corn grower make by testing the general run of 1912 seed?

HOW TEST? It is obvious that to get results which will prove of real value the test will have to be conducted in such a way that the record of each ear of corn will be known. The testing of a mass of kernels from a bulk lot of ears will afford no opportunity for improving the seed condition of the corn tested. One must be able to locate and reject the inferior ears.

In conducting the individual ear germination test, one may sprout the kernels in sand or soil, between moist cloths or blotters, or any way found most convenient. This Station has found the following method satisfactory:

Make a box 20x30x2 inches, inside measure. Lay it off in two-inch squares (marking the edges of the box) thus having 15 rows of 10 squares each. Number the squares from 1 to 10 across the ends of the box and from 0 to 15 along the sides, so that it will be possible to tell at a glance the number of any particular square. Drive tacks in the sides and ends (outside) in line with the division marks.

Fill the box half full of fine, moist soil; level off, firm, and, for convenience in planting, mark out the soil in two-inch squares corresponding to the division marks on edges of box. The box is then ready for planting.

Number each ear, using a half-inch square of paste-board and fastening it to butt of ear with a small wire nail, or place the ears after sampling in regular order in a place where they will not be disturbed. Take three kernels from the opposite sides of each ear (butt, middle and tip) six kernels in all, and place them in the square corresponding to the number or position given the ear. When the kernels from 150 ears have been placed, cover them with soil carefully and to a uniform depth.

For convenience in locating ears at the completion of the test, take a strong cord and draw tightly from tack to tack both ways of the box, thus dividing the box into 150 two-inch squares. If there is danger from rats or mice, the box should be covered with wire screen.

Keep the soil moist during the test and not under too favorable conditions as regards temperature, else some candidates will pass the box test only to fail later in the field, to the serious loss of the grower. If the temperature drops to 40° or 50° Fahr., where the box is kept at night, the test may be the more valuable.

Make counts when plants are about two inches high. For best results no ear of which all six kernels do not show vigorous growth should be used. (It should, perhaps, be stated that mere *rapidity* of germination is not of moment.) If, for good reasons, it seems necessary, ears of which five of the six kernels are all right may be used providing care is taken in shelling them to reject the portion showing poor condition.

WHERE TO GET SEED The condition of the Ohio corn crop is such that the temptation to import western seed will be greater than usual. It should be remembered that the first consideration in the purchase of seed corn is its adaptability to the conditions under which it will be grown. "Will it mature for me?", is a question which every prospective purchaser of seed corn should seriously ask, not the seed dealer, but himself.

The Experiment Station wishes it were in a position to tell every inquirer where he could get the best seed, but it is unable to do so. It offers this suggestion, however: Canvass the home territory very carefully before bringing in seed grown under distant and unknown conditions.

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