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BULLETIN NO. 1-75

APRIL, 1913-19

WISCONSIN BANKERS' FARM BULLETIN

NOW IS THE TIME TO TEST
SEED CORN

BY

R. A. MOORE

WISCONSIN COLLEGE OF AGRICULTURE



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COLUMBUS, WISCONSIN

IMPORTANCE OF TESTING SEED CORN

An increased yield of corn can be secured by testing each ear before planting, and rejecting those ears that do not germinate or that show lack of vigor or vitality. It is not such a tedious and difficult task to test each ear of seed corn as farmers are sometimes led to believe. Fifteen average ears of corn will plant one acre using four kernels to the hill, placing the corn three and one-half feet apart between the rows. When the importance of planting ear-tested seed corn is fully realized few farmers will plant corn without first submitting it to the test.

SELECTING EARS FOR TESTING

Only the most nearly perfect seed ears, having kernels of a uniform width, should be saved for seed. These should be selected from the store-room and may be laid out on the floor or on tables to be convenient for making the test. Care should be taken to place the ears in a building where they will not be disturbed during the period of the test, for, if disarranged before comparison can be made, the result of the test cannot be determined.

The ears may be arranged in sections of ten to correspond with the sections in the seed tester which are usually in tens. A nail should be driven between each section and the various sections, and each individual ear of each section should be numbered. At least four kernels (sometimes six) are taken singly from different parts of each ear and placed directly in front of the ear from which taken until kernels have been removed from all ears.

THE SEED CORN TESTER

Many devices have been recommended for the testing of seed corn, nearly all of which have more or less merit. However, after using many different kinds of testers we find that the common square box tester shown in Figure 1., is the best.

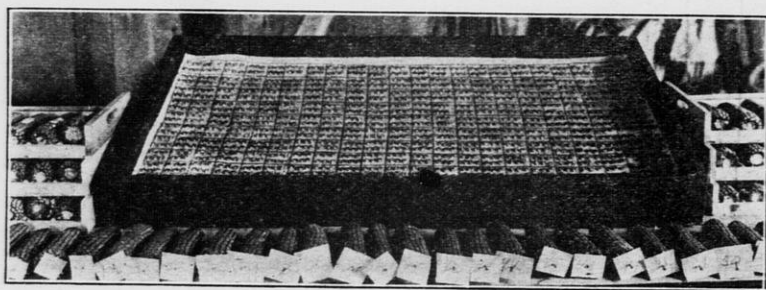


Figure 1. A simple box tester for seed corn. Upon muslin cloth squares are drawn and numbered, upon which are laid the kernels from each ear to be tested. When the tester is filled a sawdust pad is placed on top to keep the grain moist.

A suitable box for making germination tests can be made from any common boards or siding. This is a box 20x40 inches and usually six inches deep. Sawdust is an excellent material to use as a germination bed but it should first be boiled in water in order to kill bacteria and moulds. The sawdust should be placed in the box about three inches deep and should be moist but not soggy.

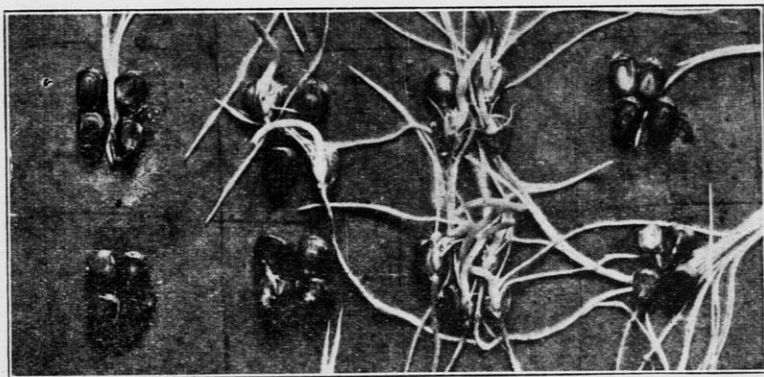
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A piece of good muslin upon which two inch squares have been drawn with an indelible pencil and numbered to correspond with the ears and individual ears to be tested, is pulled tightly over the sawdust and tacked securely to the sides of the box. The kernels of corn taken from ear No. 1 are put into square No. 1 and from ear No. 2, in square No. 2, until all are used. A plain moistened cloth is placed over the kernels and a muslin sack made for the purpose and partially filled with sawdust about two inches thick is placed on top of the cloth and pressed down firmly over the corn.

The tester should then be placed where it will be held at ordinary room temperature or a little warmer. During the day the sawdust reaches a temperature which it holds during the night. Even though the outside temperature should drop several degrees that of the germination bed will be fairly constant. Usually it requires five or six days to make good tests. If at the end of three days the pad of sawdust is somewhat dry, it should be moistened again.



The appearance of grain after testing readily indicates the vitality of the seed. At the lower left are four grains which did not germinate. To the right there are four which germinated very weakly, while the next showed a vigorous growth as all good corn should show when properly tested. Plant only the ears that germinate vigorously.

CHECKING THE RESULTS OF TESTS

After five or six days have elapsed the sawdust pack should be taken off and the cloth rolled back, being careful not to move the kernels out of their respective squares. The kernels should first be inspected to note if any have absolutely failed, second if each kernel has put forth both root and growing point, and third, the vigor or vitality shown in the germination.

All ears having kernels which in the seed tester show defective germination, should be moved forward on the table three inches. After the test has been thoroughly checked up, all the ears that were moved forward are rejected and the others used as seed.

Before shelling the seed remove the butt and tip kernels as these are of different shape and will not plant uniformly with the other kernels, and also do not give a uniform germination. If the butt and tip kernels are used at all they should be planted by themselves.

SEED CORN TESTING BY YOUNG PEOPLE

This work can be done by boys and girls in the home as well as by older people. The widespread interest taken in the young people's seed growing contests during the past six years indicates that there is an important work for the young people in the way of curing and testing pure bred corn to be grown upon their parents' farms or for dissemination in their neighborhood and elsewhere.

One of the chief purposes in the inauguration of these contests is the wide dissemination of seed corn that has been carried through successful breeding tests by the Station. By placing small quantities of highly bred corn in the hands of several thousand boys and girls, plots of corn can be grown on many thousand farms of the state and a start made in the direction of establishing pure bred seed upon each farm. All corn that is not selected for the county fair contest should be carefully cured and stored for the winter. At the proper time in the spring it should be ear-tested and the corn on the good ears planted for the season's crop. The farm can then become a seed corn center where neighboring farmers and others can purchase good seed.

The demand for the standard Wisconsin varieties of corn is very great and growers are rewarded for their labors by securing good prices for any good seed corn they desire to put on the market. By a little co-operation between the young people and their parents in the production and sale of pure bred seeds the bonds of attachment to the farm become so strong that there is little desire on the part of the boys and girls for city life.

The agronomy department will aid every grower of pure bred seeds with advice in regard to the growing, storing and marketing of the crop. All should unite to make Wisconsin known far and near for its wonderful production of pure bred seed grains. Maximum results cannot be expected, however, until every farmer has formed the habit of regularly testing his seed corn.