

**AGRICULTURAL AND MECHANICAL
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**BOYS' AGRICULTURAL CLUB
WORK**

SEED TESTING

Clarence Ousley, Director Extension Service,
College Station, Texas.

Co-operative Extension Work in Agriculture
and Home Economics, Agricultural and
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U. S. Department of Agri-
culture Co-operating.

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SEED TESTING.

To All Club Members:

As planting time is approaching, we desire to call your attention to the importance of planting only high quality seed. Low yields are often due to poor stands, and as a rule poor stands are due to poor seed. Remember that fertilizers and cultural methods will not overcome the bad effects of poor seed. If you have followed carefully the instructions given by the Department, you selected your planting seed before harvesting from the best plants in the field and have stored them for spring planting. The question that will confront you in the spring is, "Will they come up when planted" and "will they grow vigorously?" There is a difference in the germinating power of seeds. The difference can be determined only by a germination test.

If you should have the opportunity to select the best pig in a litter and your brother were required to select the runt, I am sure you would realize that you would have the advantage of him in a pig raising contest. The same principle applies in testing seed. By testing your seed you are enabled to select the strong and eliminate the weak. Read carefully Dr. Morgan's directions for testing seed and be sure to test your seed before planting.

Yours very truly,

H. H. WILLIAMSON,
Assistant State Agent, In Charge Boys' Agr.
Club Work, U. S. Dept of Agriculture.

DIRECTIONS FOR TESTING SEED.

By J. O. Morgan, Professor of Agronomy, A. and
M. College of Texas.

CORN. The ears to be tested should first be numbered. This is most conveniently done by placing the number on a small piece of cardboard which is attached to the butt of the ear by means of a small nail. Construct a small box about 4 inches deep and 20 inches square. Pack 2 inches of wet sawdust tightly over the bottom of this box (if sawdust is not obtainable, use clean sand as a substitute). A good plan is to first place the sawdust in a sack and let it hang in warm water for 20 minutes. This insures equal moisture throughout the mass.

Take a piece of new white muslin, which

should be a little larger than the box, and mark it off both ways, having the lines 2 inches apart. This will give 100 squares with sides of 2 inches. Number these squares from 1 to 100, beginning in the upper left-hand corner of the box and following consecutively from left to right. Next tack the cloth in place, stretching it uniformly tight over the sawdust.

Take six kernels from each ear; two from opposite sides near the tip, two from opposite sides near the middle and two from opposite sides near the butt, seeing that no two kernels are taken from the same row. Place the six kernels from the ear 1 in square 1, from ear 2 in square 2, and so on, until the six kernels from each ear have been placed in their proper square. The kernels in each square should be placed in tiers of three kernels each with the germ side up. Cut a plain piece of muslin the exact size of the box and place it over the kernels. A third piece of muslin larger than the box by 10 inches should be placed over the second. Fill the remainder of the box level full of wet sawdust. Fold the edges of the upper strip of muslin over the sawdust and place the box in a warm room where it should be left for 6 or 8 days, examining occasionally to see that the sawdust is kept moist. Next remove the upper layer of sawdust, carefully removing the muslin covering the kernels and make a careful study of the vigor with which the kernels in the different squares have germinated. The number of small squares containing kernels that have germinated poorly should be noted and the corresponding ears discarded, planting only those ears that have shown vigorous germination. An ear from which even one kernel has failed to germinate vigorously should not be planted.

THE GRAIN SORGHUMS. The grain sorghums should be tested in the same manner as outlined for corn, each head of sorghum corresponding to an ear of corn. The heads should first be shelled separately and the seed from each head put in a paper bag and properly numbered. Count out 50 representative seed from

each sack and place them in their proper squares. The layer of sawdust over the sorghum seed should be only about one inch thick. Discard all sacks that do not show a vigorous germination. No head should be included in the germination test that has mildewed or molded, or that has been injured by weevil or other insects.

COTTON. As, in all probability, the cotton seed from the individual plants selected in the field have not been kept separately, it will be impossible to make a germination test of the seed from each plant separately. However, the seed that is to be planted should be thoroughly mixed, and from 200 to 400 representative seeds taken and tested in order to give an indication as to the quality of the general lot of seed. It often happens that cotton seed loses its power to germinate as a result of heating or some other unfavorable condition. The same method of testing as outlined above can be employed, although there will be no need marking the muslin off in squares. The sawdust over the seed should not be over one inch thick.

PEANUTS. Care should be exercised to plant peanuts that were entirely mature before harvesting and that have not been permitted to heat, either before or after picking. Spanish peanuts may be planted in the pods, but the pods should be broken, leaving one kernel in each piece of pod. These should be soaked in water for a few hours immediately before planting to hasten germination.