

MICHIGAN AGRICULTURAL COLLEGE.

EXPERIMENT STATION.

PRESS BULLETIN NO. 24.

THE GERMINATING QUALITIES OF MICHIGAN SEED CORN.

The weather conditions during the past fall were unfavorable for the proper ripening of corn followed by heavy frosts before the corn was well dried. That these conditions have seriously injured the germinating qualities of Michigan seed corn is indicated by the numerous reports to this effect from institute workers and seed corn growers. In many of our local corn shows, the percentage of black or frosted germs has been unusually large, some samples being capable of germinating only 50% or less. Believing that this condition was quite serious, the Farm Crops Department asked several farmers in different parts of the state to send in samples of their seed corn and crib corn for testing. The samples were taken by removing six grains (from different parts of the ear) from fifteen or more average ears. The average total per cent of germination is given in the table below:

	No of Samples Tested.	Total Germination.
Seed corn	37	70.1%
Crib corn	13	55.7%
All samples tested	50	65.6%

While the number of samples tested was not as large as might be desired, the above data is sufficient to indicate the extremely poor condition of Michigan seed corn and the necessity of carefully conducted germination tests. The germination of the seed corn varied from 17.0% to 95.3-10%, only 30% of the samples of seed corn germinating 85% or above. The germination of the crib corn varied from 27.1% to 75.2%. The average germination of 55.7% being so low as to necessitate farmers who have been depending upon crib corn to look elsewhere for their seed for this year's planting. It is doubtless better, however, to make careful germination tests of some adapted varieties of the neighborhood if such can be found in a fair condition, rather than to send some distance away to get untried varieties.

In making the germination tests, it is essential that grains from each ear be tested separately, so that those ears which fail to grow or those which show a weak growth can be discarded. The following method of making a germination test will be found to be simple and efficient. Make a box of the following dimensions on the inside: three inches deep, twenty inches wide and thirty inches long. Fill the box within one-half inch of the top with moist sand or sandy loam. Drive tacks around the edge of the box every two inches and wind heavy cord across the box in both directions so as to mark it off into two-inch squares. Number these across the end from one to ten, eleven to twenty, etc. After arranging the seed corn on tables or racks, where it will not be disturbed take six grains from the first ear, from the butt, middle and tip, on opposite sides and place germ side up in the first square. Take six grains from the second ear and place in second square and so on until the box which will hold grains of 150 ears is full. Then cover the grains by filling the remainder of the box with moist sand.

The germination box may be left in a living room of the house, or in moderate weather placed in a room without heat. After ten or fifteen days, according to temperature, the corn will be large enough for examination. Go through the box carefully and count the number of sprouts in each square and discard all ears in which one or more grains failed to germinate or which show weak growth. In this way a good grade of seed corn can usually be secured from corn which as a whole has quite poor germinating qualities.

V. M. SHOESMITH,
Department of Farm Crops.

East Lansing, Mich.
March 20, 1911.