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SELECTING, TESTING AND PREPARING

SEED EARS FOR PLANTING

By

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A. The Best Variety of Corn to Plant:

There is no best variety of corn to plant for South Dakota. Our state is too large and different sections have widely varying conditions, making it impossible to pick any one variety which is adapted to all sections of the state.

The best variety for any one to plant would be the variety that does the best in his particular locality. Generally speaking, it is not advisable to transport seed corn long distances.

In practically every district of the state there are certain varieties that are unusually successful. Usually it is safe to grow these outstanding varieties. In Circular No. 101, of this same series, you will find the standard-bred varieties for South Dakota. Do not try to raise a corn that has poor chances of maturing. Often you see individuals who claim they can raise bigger corn in certain sections and they then import some larger varieties. Often these mature, but until the variety becomes acclimated, the grower is not at all sure of getting a crop.

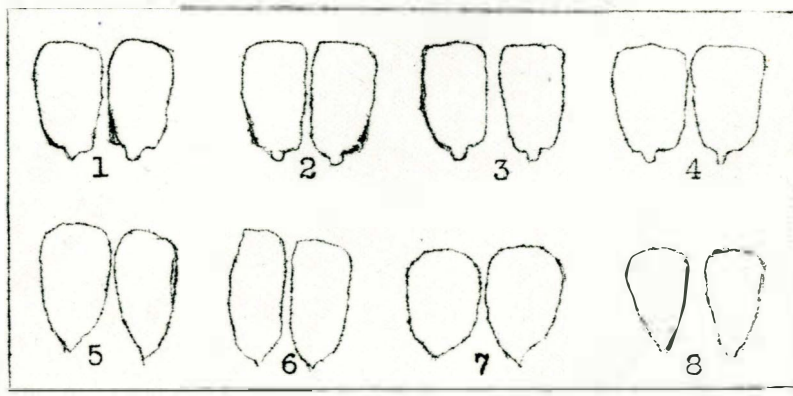
The variety to grow, then, is the variety that will mature and one that is pure-bred and is a good yielder.

B. The Kind of Ears to Select for Planting:

It is always advisable to save more than sufficient seed corn for planting the next season's crop in order to afford an opportunity for further selection. This selection should be done during the winter or early spring, after the corn has become fully dried. On most farms the month of February is the most convenient time for this work. The corn should be taken down from the hangers or curing racks and spread out on a table in a well-lighted room. The room should also be warm and comfortable so that you can devote your entire attention to the study of corn.

After spreading the corn on the table, carefully examine each ear, removing one or more kernels in order to study the kernels as well as the ear. Discard those ears which are objectionable as regards purity, soundness, maturity, size, shape and uniformity, or which are very deficient in any of the essential points that distinguish a good seed ear.

The shape and size of the kernel is very important in the selection of a good seed ear. Desirable and undesirable shapes are given in the drawing below.



The kernels in the upper row are all of good shape, well proportioned and strongly developed throughout. Pair 5 is weak at the tip and too rounded at the crown. Pair 6 is inclined to be chaffy. Pair 7 is too broad and shallow. Pair 8 is too pointed and weak at the tips. The germs should be large and smooth. The backs of the kernels should be clear and horny in composition.

C. Testing Corn for Germination:

Seed corn, which has been carefully gathered and cured, should sprout all right but there is only one safe plan of proving its vitality and that is by testing its germination. Weak and dead ears must be avoided if a full crop is to be harvested. The following table shows the results of a test conducted by the Iowa Experiment Station:

No. of kernels tested from each ear	No. of strong kernels	No. of kernels dead	Yield per Acre (bushels)	Decrease in yield per acre (bushels)
6	6	0	75.1	- - -
6	5	1	65.4	9.7
6	4	2	53.6	16.5
6	3	3	50.1	25.0
6	2	4	42.1	33.0
6	1	5	39.4	35.7

From this experiment we can readily see that it pays to select only those ears that have a test of approximately 100 per cent. Of course, there are other causes that might reduce the stand but this one cause can be entirely controlled.

Complete instructions and pictures of the rag-doll seed tester are given in Farmers' Bulletin, 948, which accompanies this circular.

Other methods include the saw-dust box and the sand box which are also very good methods but for all ordinary purposes the rag-doll method, as outlined in Farmers' Bulletin 948, is very satisfactory.

D. Preparing the Good Ears for Planting:

When the seed corn has been selected and tested and the weak and dead ears have been discarded, the small irregular tip kernels and the large butt kernels should be shelled off, mainly because they will not drop evenly from the planter. It is best to shell each ear by hand separately in a basin or box and observe the size and quality of the kernels. In case an ear, when shelled, shows many moldy rotten or cracked kernels, the grain may be discarded, and it is possible also to grade the kernels in this way in regard to size and uniformity.

The most important reason for grading according to size of kernels is in order that the planter may be adjusted for planting each grade uniformly, which may be done by testing the planter, using different plates, until the right plate and proper adjustment of the planter is determined which will drop the required number of kernels per hill. This method of shelling and grading seed corn by hand does not require any special machinery but a fanning mill or a simple hand grader may be used to advantage to take out the thin and ill-shaped kernels and get rid of the chaff. If much chaff adheres to the tips of the kernels, it may interfere with the regularity of the drop. It is well to beat the grain in a sack or tread it in a box for a few minutes before running it through the grader or fanning mill.

Hand sorting the shelled corn is sometimes practiced, but this method can hardly be recommended for general use because of its expense and slowness. When large quantities of seed corn are prepared for planting, the operator is justified in using machines for shelling and grading and thus hasten the work and reduce the cost. A good seed corn grader will remove most of the irregular-shaped kernels and sort the seed corn in two or three grades almost as well as it can be done by hand. When the seed has been graded, cleaned and tested for the planter, it should be put in sacks containing about one-half bushel each, carefully labeled and hung up in a safe dry place until ready to plant.

References: "Testing Seed Corn" Agri. Ex. Bul. No. 50,
Iowa State College, Ames, Iowa.

"Top Notch Corn Crops" Farmers' Bulletin No. 4,
Emerson-Brantingham Implement Company,