

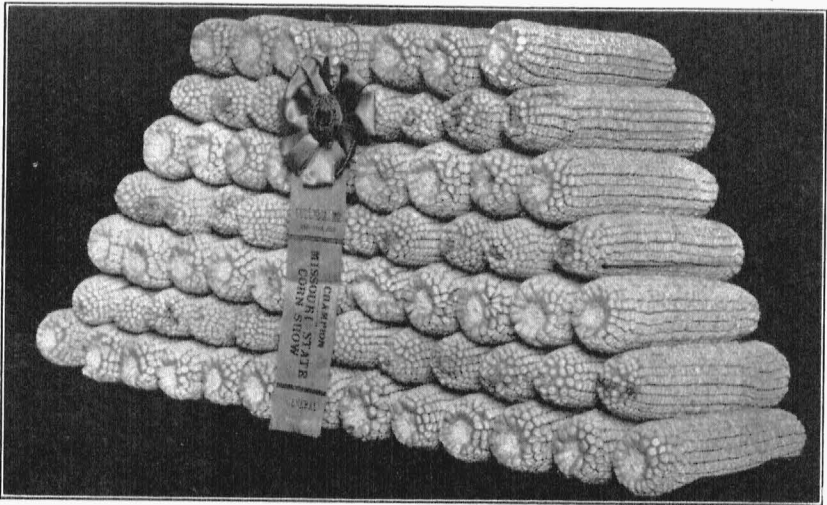
UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE
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CORN SELECTION FOR EXHIBIT PURPOSES

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This bushel lot represents the ideal type for Boone or Johnson County White, in ear size, shape kernel type. This sample is as rough as is permissible for the variety.

Corn shows, properly conducted, have an important place in the improvement of corn. Corn exhibits tend to create interest and encourage discussion on better seed and greater yields. Criticism of these exhibitions is warranted only when ear characters, conditions, and qualities not definitely proved to be correlated with yield, are over-emphasized in the judging of samples.

In judging as well as in selecting corn for exhibit purposes two principles are involved: (1) production characters, and (2) "fancy" points. It would be highly desirable to eliminate all of the latter from consideration in judging, if such were possible. But no system has yet been devised, nor is likely to be found

which will do this completely. For example, in determining the relative value of two samples of corn, suppose both samples are equally high with respect to their productive characters. Their comparison on fancy points then becomes a necessity in deciding their relative merits. Much the same principle is involved in judging the dairy cow, the horse, the beef animal, or the hog. However, when samples are widely different with respect to production, their relative values can and should be determined without giving any consideration to the less important appearances.

Most of the characters usually considered in judging corn are listed below:

Productive Characters

Variety
Maturity
Germ condition
Purity
Indentation
Freedom from disease

Fancy Points

Uniformity as to
Ear length
Ear shape
Ear Color
Kernel size
Kernel shape
Kernel depth
Indentation
Good tips and butts

HOW TO SELECT A SAMPLE OF CORN FOR SEED OR EXHIBIT PURPOSES

Start the preliminary selection at husking time. Provide boxes on the sides of the wagon bed. In husking save all ears which without detailed examination appear to be good seed ears. Rack or pile each day's selection in a well-ventilated place free from rats and mice. From five to several hundred bushels of good seed corn can thus be obtained with very little trouble and expense. This lot provides the stock for seed supply and from which samples for exhibit purposes are best selected. The ears should be allowed to dry as long as possible before selecting the samples.

Select the ears first by an elimination process. Work the entire lot into two piles: (1) those ears of good size, shape, and type; and (2) those ears undesirable for seed or show purposes. Provide a large table and lay out the good ears side by side, arranging them according to length. Study this lot of corn carefully and select one ear which, in your opinion, is the best ear in the

entire lot. In selecting this ear consider fancy points entirely, and consider kernel type and indentation carefully.

With this ear as a guide select the additional ears needed—ears as nearly like the first one as possible. In other words, select the most uniform sample possible, selecting the combination which gives you, from general appearances, the best quality sample.

Remove two to four kernels from the middle portion of each ear and place these kernels at the butts of their respective ears. Taking one ear at a time, examine it carefully with respect to (1) maturity, (2) germ condition, (3) purity, (4) indentation, (5) freedom from disease. Throw out any ears which are bad with respect to any of the five qualities named. It is better to lose some of the sample uniformity rather than for the sake of uniformity, to include ears which are immature, very rough, have bad germs, or carry mixed kernels.

The ultimate object is to obtain a sample which (1) carries the highest possible perfection with respect to the five productive characters, (2) is in harmony with the ideal ear and kernel characters for the variety, and (3) has the best uniformity that can be obtained. When show corn is selected in this way, corn for exhibit purposes and corn for seed purposes becomes one and the same thing.

Do not include in the sample any ears which are immature, that is, which twist easily between the hands, or on which the kernels are not firm. All ears should be fairly solid and kernels should be firm on the cob.

Examine the ears carefully with respect to poor germs. Eliminate those ears which have discolored germs (germs dark brown or black) or from which kernels when removed break off exposing the germ.

Avoid using ears which are extremely starchy. Many ears (especially those harvested before the ear is matured) are starchy and yet are of only medium indentation. In general, however, ears that are starchy will often be of very rough indentation. Select ears whose kernels which have a comparatively small amount of crown starch, and range in indentation from medium to medium rough.

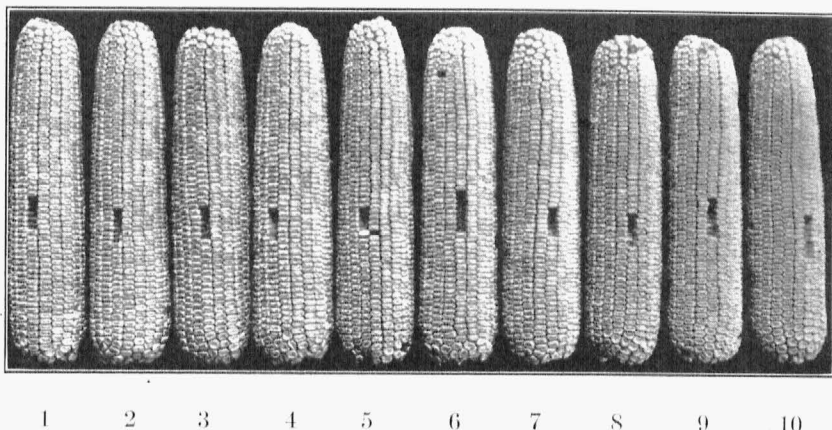
Purity is easily indicated in yellow corn by the color of the cap on the kernels. On account of the variation in kernel cap color on yellow corn only those ears which show distinctly white kernel caps should be classed as mixed. In white ears mixture is indicated by a yellow cast on the sides of the kernels. Mixed ears of white corn may usually be detected by studying the butt and tip kernels for mixture. Mixture can also be easily discovered by holding the ears in a good light and examining the kernel sides between the rows.

Compare the kernels that you have removed from each ear. Attempt to select all ears to give as near uniform kernels as possible. Kernels when removed from the ears should be reasonably uniform in width, depth, shape, amount of starch, germ condition, and the germs should all be relatively large.—

**ILLUSTRATIONS AND EXPLANATIONS IN SELECTION FOR
EAR AND KERNEL CHARACTERS, INDENTATION,
EAR SIZE AND SHAPE, AND VARIETY TYPES**

Figure 2.—Ears of Reid's Yellow Dent

The sample shown here is well selected with respect to kernel width, shape, and indentation. However, ear 5 is too long and slender for best uniformity. Ears 5, 8, 9, and 10 are mainly responsible for the lack of uniformity that exists. No. 8 is too short, 9 is also too short and is too smooth in indentation for the rest of the sample. 10 is too short and thick, but has an excellent kernel shape and indentation.



Ears 1, 2, 4, 6, 7, and 10 are all within the range of ideal type for Reid's Yellow Dent, in ear shape, size, indentation and kernel width. Ears 4 and 6 have best butts and tips of the lot and ears 6 and 10 have the best type of kernel. The range in indentation of ears 2, 5, 6 and 10 is ideal for this variety.

Figure 3.—Ears of Reid's Yellow Dent

The ears shown in Fig. 3 (opposite page) represent types to avoid. Ears 1, 2 and 3, due to their smoothness, appear plain, allow poorly shaped kernels to stand out clearly, and generally carry a large percentage of shooty, poorly shaped, kernels on the butts and tip. In regions north and west of Missouri these three ears probably represent the type best adapted. In this State there is no indication that they will yield more, if as much, as those types illustrated as ideal for the State.

The kernels on ears 4, 5 and 6 are decidedly too narrow for the variety standard. Compare them with the kernels in Figure 2. Ears 1 to 5 inclusive have poorly formed butts and tips.

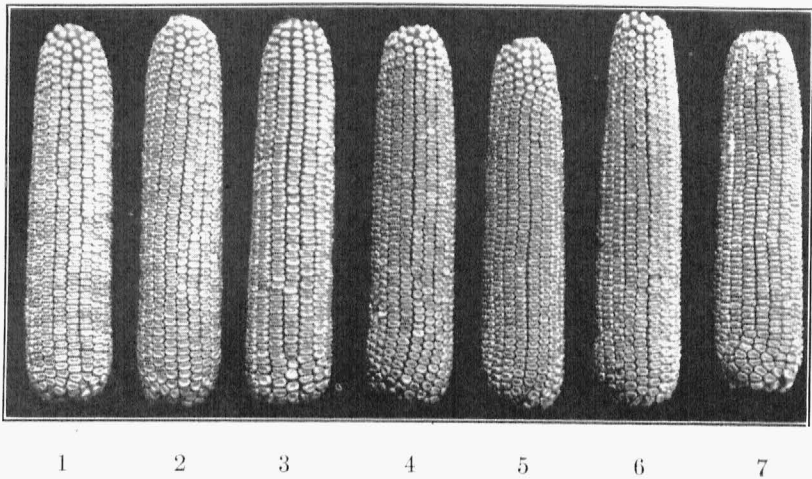


Figure 4.—Ears of Reid's Yellow Dent

The ears below indicate a general lack of uniformity throughout the sample, together with very poor kernel and ear type. Note the extremely narrow kernels of ears 2, 3, and 4. Ears other than 1 and 7 are too slender. Ears 4 and 7 have poor butts, and 1, 4, 5 and 6 have poor tips. The ears are also too variable in size, shape and length.

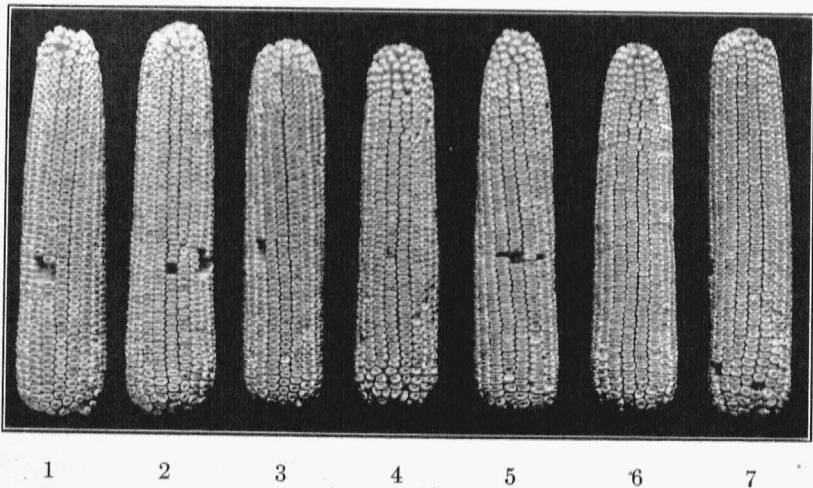
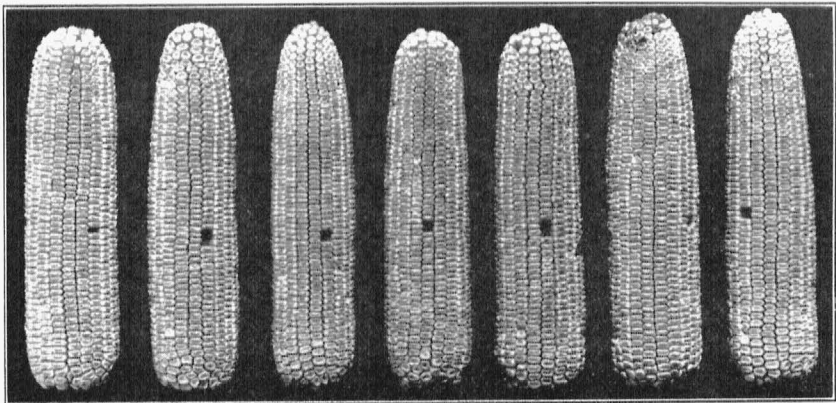
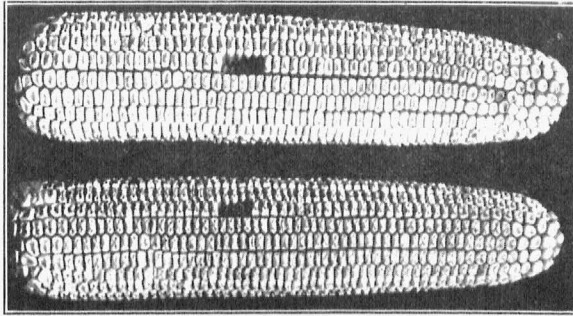


Figure 5.—Ideal Types for Reid's Yellow Dent

The two ears shown on this page represent the ideal types for Reid's Yellow Dent in ear size and shape, indentation and kernel characters. Note the kernel uniformity in width, shape and indentation.



1 2 3 4 5 6 7

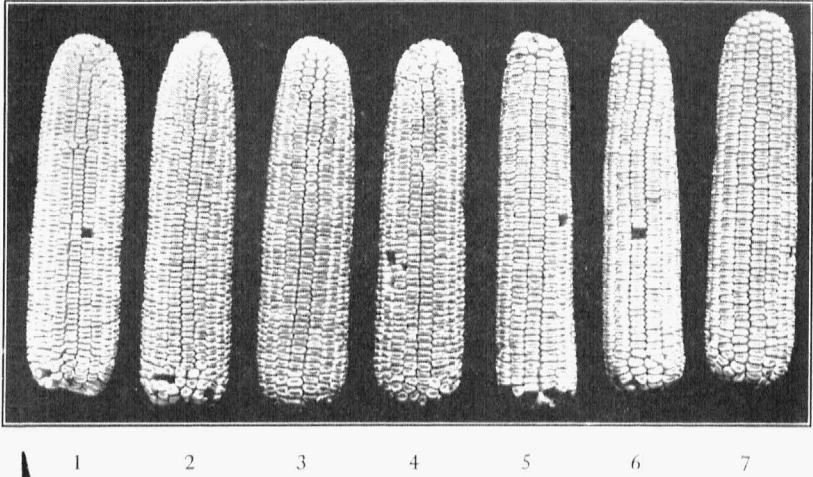
Figure 6.—Ears of Boone or Johnson County White

Ears 1, 2, 3, 6 and 7 have good kernel types for this variety. However, they represent the extreme amount of indentation that should be allowed. A slightly smoother indentation is more desirable.

The kernels of ear 5 while not too thick are too narrow for this variety. Ear 2 is ideal in shape, size and has good kernels. Ear 1 is too thick and short. Ear 3 is nearly ideal in shape, but is a little too small in circumference. Kernels of ear 3 are ideal in shape, but represent the minimum width allowed.

Figure 7.—Ears of Boone or Johnson County White

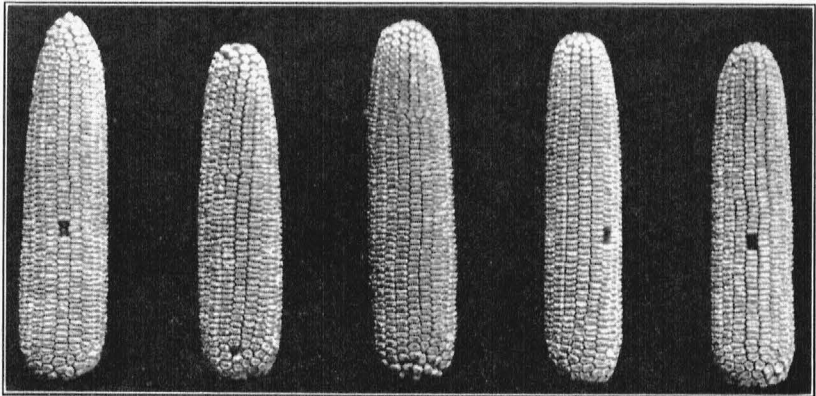
This sample illustrates the effect of wide variations in ear size and shape, and kernel width and indentation. Ear 1 has ideal kernel shape and width, but is too rough in indentation for best results in the State. Compare the kernels of ear 1 with



those of ear 2. The kernels of ears 3 and 4 are acceptable, but represent the extreme in width for the variety. Kernels of ears 5 and 6 are entirely too wide. The kernels of ear 7 are also too wide and are irregular in thickness.

Figure 8.—Ears of Boone or Johnson County White

This sample illustrates the effect of selecting for extreme roughness of indentation to obtain uniformity. Ears 2 and 3, especially ear 2, are classed as



chaffy. The kernels are very rough and starchy, loose on the cob and the ear is very light. Corn with this degree of roughness is generally of late maturity, and usually associated with immaturity and low vitality. This type should without question be avoided in this State for either seeding or exhibit purposes. Ear 4 is rough and very starchy. Ear 1 is good type of indentation.