Records available enable us to trace all our more winterhardy oats to selections from Red Rustproof or some similar variety of *Avena byzantina*. Yet no strain typical of Red Rustproof is outstandingly cold resistant. Furthermore, the fact that so many hardy strains, classed as *A. sativa*, trace their ancestry to *A. byzantina* yet are not typical of that species, suggests that they originated either by mutation or natural species hybridization between *A. sativa* and *A. byzantina*.

Results obtained from segregates of the cross Markton × Red Rustproof are believed to be further evidence supporting the species hybrid theory. As typical Red Rustproof strains are not exceptionally hardy and as Markton is a common spring oat belonging to *Avena sativa*, this cross would not be expected to produce hardy progeny; yet two segregates from this cross apparently are more hardy than the best Red Rustproof strains. This seems evidence for believing that possibly those hardy oat varieties which trace their ancestry to Red Rustproof or to *A. byzantina* but are not typical of that variety may all have resulted from natural hybridization. Therefore, extensive hybridization of varieties of *A. byzantina* and *A. sativa* in a search for more winterhardy types seems desirable. Other species and genera should not be neglected.—F. A. Coffman, Division of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture.

**THE CROSSING PLOT FOR INCREASING INBRED CORN SEED**

Maintaining inbreds true to type is one of the biggest problems confronting maize breeders and seedsmen today. It is easy to keep small samples pure by hand pollinating the ears to be used for seed and by roguing any off-type plants that may appear. It is almost impossible, by our present methods, to get a large quantity of an inbred as pure as the small sample.

The method commonly used in increasing inbreds has been outlined in Connecticut Circular 112. Other workers follow in general this policy which embraces the following principles:

1. Hand-pollinated seed used for foundation increase plot.
2. Foundation plot isolated as well as possible and properly rogued.
3. Seed produced in foundation plot used for second or larger increase plot.
4. Seed from second increase used in fields producing crossed corn.

In this method there are three chances for contamination, *viz.*, (1) in the original hand-pollinated seed; (2) in the foundation plot if not far enough from other corn or if any outcrossed plants are not rogued; and (3) in the second increase plot.

Is it possible to eliminate one of these steps? If so the chances for contamination are reduced by at least one-third. There are two ways we can shorten the process. One is to hand pollinate enough seed for the second increase plot, or, in other words, grow enough seed in the foundation plot for commercial crossing fields. This is possible but may not be feasible for the seedsman, because of making so many hand pollinations.