

recessive for both c and r, it is very easy to determine its genotype with respect to the Bh genes by simply crossing with a series of stocks, each one of which lacks one of the Bh genes. If the stock being tested is not recessive, then an F_1 plant to furnish the F_2 endosperm generation would have to be grown. In either case, the tests for blotching will also tell the genotype of the stock with respect to c and r so that the genotype for ten different loci can be determined from nine different pollinations. This assumes that the two systems have only one Bh gene in common.

Stocks which prove to be identical or nearly so in these ten loci are very likely to be closely related.

6. Half-tunicate from Peru, Ecuador and Paraguay.

The half-tunicate character, which originally occurred as a mutation in one of our tunicate stocks, has been picked up in collections from Peru, Ecuador and Paraguay. When repeatedly backcrossed to the inbred Al58, the half-tunicate from these exotic races is indistinguishable from the mutant half-tunicate. Half-tunicate is especially common in the Peruvian coastal race, Perla. Mr. Alexander Grobman of the National School of Agriculture near Lima tells me that 1-2 percent of the inbred strains isolated from this race are segregating for this character.

Half-tunicate should not be confused with papyrescent, another character involving prominent glumes described in this Letter, which also occurs in South American maize.

7. An inhibitor of half-tunicate.

We have for some years past assumed that pcd corn, if it is the ancestral type, is not inherently monstrous and that its frequent monstrousness can be explained in terms of a relict "wild" gene superimposed upon the genetic background of modern, highly domesticated maize. On this assumption, we have selected for modifier complexes which would reduce the expression of the tunicate character, and we have found such complexes to be especially common in the pop corns. This in itself is significant since the pop corns as a class are the most primitive types of maize extant.

We have now found that, in addition to the complex of minus modifiers for tunicate which many pop corn varieties carry, there are in some varieties of pop corn a gene which strongly inhibits the expression of half-tunicate. This gene, which in preliminary tests appears to be linked with Y on chromosome 6, has so far been studied only in half-tunicate stocks; it is recessive and acts only in the homozygous condition. It causes tu^htu^h to act like tu^htu and it renders tu^htu almost indistinguishable from tu tu.