

Shape	<u>Tu tu</u>	<u>tu tu</u>	Totals
Pointed	29	2	31
Intermediate	16	13	29
Round	3	17	20

We have called attention elsewhere (Mangelsdorf and Reeves, 1959) to the fact that wild corn was probably both pod corn and a popcorn with pointed kernels. The pointed shape is necessary to enable the kernels to fit snugly in the protective shell provided by the glumes of tunicate maize. These data indicate that two of corn's primitive characters, tunicate and pointed kernel shape, were Mendelian dominants which could have been lost through simple mutation. If the loci for tunicate and pointed seeds are linked, as the above data indicate, then chromosome 4, which carries these genes as well as the Ga locus, probably also a wild locus, must have been one of the most important chromosomes distinguishing wild from cultivated corn.

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4. Linkage relations of the tunicate inhibitor.

In a previous News Letter we reported a gene which has an inhibiting effect upon the action of the Tu and tu^h loci reducing their expression by approximately half. The data available indicated linkage with Y on chromosome 6 but were not conclusive. Additional data subsequently obtained support the earlier indication. A backcross population was classified as follows: yellow inhibited 142; yellow normal 90; white inhibited 62; white normal 155. The two middle classes are the crossovers and represent 33.9 percent of the total. The data leave little doubt that the inhibiting gene is located on chromosome 6. We have no tests to show whether it is to the right or left.

If wild corn was a pod corn, then its genotype probably included two other loci interacting with the Tu locus: a gene for pointed kernel shape on chromosome 4, reported above, and a gene partly inhibiting the expression of Tu or tu^h which the data immediately above show to be located on 6.

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