

No cases of activation of Ds by st were found in 1,818 kernels, where 1/16 are observable for concurrent losses of C Sh Wx on st kernels. Thus st does not carry Ac, and its effect of increasing stickiness in chromosomes does not result in massive activation. Whether this may be significant to the concept of Ds as consisting of modified heterochromatin is difficult to judge, but should be considered, in view of the "sticky" property of heterochromatin.

On one ear of the control cross, unusually strong st expression (pitted kernels) was found. Here, there were numerous non-concurrent losses of C and Wx, demonstrating clearly that st can result in endosperm mosaics.

7. High-amylose factors.

The ha gene reported by Kramer, and the ha_m gene (to be designated ha₂) both interact strongly with wx, giving highly collapsed kernels, variably translucent, very similar to bt₁ kernels. The effect of ha₁ is much greater than that of ha₂; in fact ha₁ wx kernels have a small amount of blue-staining starch, while ha₂ wx kernels do not. This property of ha₁ wx is similar to that reported for ae wx (News Letter 26: 5, 1952). The phenotypic effect of ha wx combinations suggests that new ha factors might best be sought on a waxy background, where their effects are easily distinguished phenotypically.

Using this interaction, the linkage of ha₁ with chromosome 5 has been confirmed, where wx T5-9c/Wx ha₁ X wx ha₁ shows very few collapsed kernels (4-5%). Linkage of ha₂ with chromosome 10 is also clear. Chromosomes 1, 2, 3, 4, 5, 6, and 8 show independence ratios with waxy translocations, but wx T9-10b/Wx ha₂ X wx ha₂ shows the following:

	<u>Normal</u>	<u>Waxy</u>	<u>Tarnished</u>	<u>Collapsed</u>
ear 1	(1)	53	(60)	1
ear 2	(5)	140	(122)	2
	(6)	193	(182)	3

$9/384 = 2.3\%$ crossing over, wx-ha₂, across translocation. Anderson (Genetics, 1938) reports wx-T as 5.7 units. The Ha Wx and ha Wx kernels are difficult to distinguish with certainty.

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8. Allelism and mutability of anther-ear 6923.

The an6923 mutant discussed last year has been tested and found allelic to an₁, as suggested (News Letter 30: 100, 1956). Since it is also allelic to bz₂^m, which responds to Ac (or M), a test of the