

Family (pooled data)	Wx Yg	Wx yg	wx Yg	wx yg	Recombination % ± prob. error	Map units
F ₂	5514	1142	1833	892	41.5 ± .5	56
B	192	100	117	161	38.1 ± 1.4	48

	Sh Wx	Sh wx	sh Wx	sh wx		
F ₂	11750	2228	1933	2722	25.0 ± .2	28
B	254	83	55	235	22.0 ± 1.1	24

It will be noted that in all cases the recombination value calculated from backcross data is slightly lower than that from the pooled F₂ data. Since backcrosses were made on the multiple recessive this may suggest that the amount of recombination is lower in microsporogenesis than in megasporogenesis.

A. Bianchi

3. The translocation point in TB-8a.

Plants msg j₁ have been crossed by the TB-8a stock obtained by Dr. H. Roman. In a progeny of 18 plants, 7 showed the japonica character; 5 of these were ms, too. The japonica plants were, moreover, shorter than the normal J plants, confirming their hypoploid nature. The results suggest that the j₁ factor is distal to the translocation point in chromosome 8. Previously by means of deficiencies it was shown by McClintock (1933) that the j₁ factor is in the distal portion of the long arm of chromosome 8.

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1. Differential pollination in maize.

An attempt has been made to change the flowering times in a maize population by the method of separating seeds from the middle, bottom and top part of a single ear, which represent the earliest, medium and latest silks to emerge. The hypothesis is that a shift may take place through the differential timing of pollination. Isolation plots of each group whose seeds were separated each year were grown for three years and then the lines were combined in one large field experiment comprising three

plots. Silking times and tasselling times were recorded. It was found that there were no consistent differences in flowering times between the lines. Either the initial population had not been sufficiently heterozygous for flowering time, which is unlikely as an open-pollinated F_1 hybrid ear was used initially, or the differences in timing of the silks from the three regions of the ears have not been sufficient to act as a differential sieve for separating the early and late pollen grains.

G. Haskell

2. Studies with West Indian maize.

A series of six sowings at monthly intervals were made in 1957-58, commencing on 2 September, using nine varieties of West Indian maize supplied by the School of Tropical Agriculture, Trinidad. One hundred seeds (50 per seed-box) were sown of each. In this way it was hoped to utilize the differences in day-length over the 6 months period to find the best time for sowing the crop at Hertford for the promotion of plants with functional ears and tassels in the glasshouse, that would also give a satisfactory seed yield for further experimental investigations.

The number of non-normal seedlings from each sowing was recorded, and these included characteristics like dwarfness, and striped or narrow leaves. The majority of aberrants had pale leaves of varying degrees; there was an occasional albino. The graph of mean leaf number on 4 February, 1958, for plants originally separated as normal and aberrant seedlings, indicates that the controls always have more leaves than the aberrants. As the difference decreases with the lateness of sowing, this suggests that the difference in leaf number is a reflection of the difference in growth vigour of the two classes.

The plants of the six sowings indicated that the best results for pollination followed by seed setting were from particularly the second, third and fourth sowings, viz., on 28 September, 28 October and 23 November. Another advantage of these sowings was the over-lap in pollen shedding, which facilitated hand pollination. In the first sowing there was a shortage of pollen and the ears were somewhat shorter than those of later sowings. On the other hand, the fifth and sixth sowings gave a larger frequency of plants failing to reach tasselling and silking within a reasonable period, e.g. by 28 July (i.e. after 5 or 6 months in the glasshouse). The Early Caribbean family was the earliest throughout the range of sowings, although Coastal Tropical Flint was as early at the fifth sowing. Seed drying and shelling of the harvested ears was satisfactory under glasshouse conditions.

Intra-pollinations have been made between the more vigorous and the less vigorous plants in each family. The vigour of the various crosses remains to be compared.