Treatment	Number of plants examined	Ears per plant (mean)	Plants with segregating ears A	B	C	D	E
0	209	4.0	-	-	-	-	-
XR 5000 r	154	3.6	-	1	1	2	-
EMS 0.8%, 12h	70	3.6	3	1	-	1	2
1.0%	69	3.0	-	-	-	-	1
1.2%	21	3.0	-	-	1	-	-
1.4%	157	3.1	5	-	2	1	6

A. One ear per plant
B. Two ears at successive nodes
C. Two ears at alternate nodes
D. All ears
E. Not classified, being plants with 2 ears, one of which is segregating, or with 3 ears and segregation at the second of them.

The presence of mutations was detected through pollination by the TB-9b translocation line. Consequently, the reported data refer only to mutants located on the distal part of chromosome 9.

The mutants have been observed at the seedling stage (chlorophyll deficiencies, abnormal growth, dwarfism).

C. Lorenzoni

4. Further data on location of a ga factor in chromosome 9.

Self-pollination of plants heterozygous for gametophyte factors and genetic markers on chromosome 9 yielded the following data in 1967:

Linkage phase	Genetic factors W		Wx		Sh		C	
	Total No. of kernels	% of w	Total No. of kernels	% of wx	Total No. of kernels	% of sh	Total No. of kernels	% of c
C	4637	2.2	8736	4.0	533	9.9	533	37.0
R	-	-	10168	40.2	4709	38.8	4709	14.5

The rate of the recessive markers in F_2's homozygous for gametophyte factors in our stocks was as follows: w = 25.4%; wx = 22.9; sh = 24.5; c = 25.1. If we assume that the ga pollen has a null or almost null functioning in heterozygotes (as suggested by various considerations), the "non-Mendelian" percentages of the markers may be a dependable indication of the crossover per cent between the gametophyte factor and the marker itself, with the exception of wx. Here, actually, the percentage in the C-phase should be increased to compensate for the reduced transmission of the wx gamete, but decreased because part of the ears showing zero wx kernels are known to be nevertheless Ga Wx/ga wx. The two factors practically neutralize each other. In the case of R-phase the wx per cent should be 40.2 x 25/22.9 = 43.9.

Consequently the crossover distance obtainable from the data reported above may be inferred as follows:

C-phase		R-phase	
w - ga:	4.4	-	
wx - ga:	8.0	Wx - ga:	12.2
sh - ga:	19.8	Sh - ga:	22.4
c - ga:	26.0	C - ga:	29.0

The values obtained with the coupling phase are lower than those derived from the repulsion phase. Whereas there is no explanation for this fact, if not due only to chance, some cytological observations made by M. Vetturini did not reveal the presence of any abnormality.

From the calculations reported, the linkage map of the genetic factors of chromosome 9 appears now as follows:

C 6 Sh 21 Ga_8 5 W 4 Wx

(Two estimates of the crossover rate between Wx and W in 1967 were 4.1 and 3.4).

A. Bianchi
M. R. Parlavecchio

UNIVERSITY OF MASSACHUSETTS
Amherst, Massachusetts

1. Early sweet-dent hybrids for summer food.

Twenty years ago Singleton, Jones and Everett described a new type of corn, sweet-dent silage, which was developed at the New Haven Station in Connecticut. Their studies showed that it was higher in animal feeding value than regular silage. Furthermore, some farmers reported that cows