content is based on the spectrometric reading of the optical density of the pigment extracts of the roots.

The data of Table 2 (Part I) indicate that R^{st}/R^{r} and r^{g}/R^{r} roots do not differ significantly in their pigmenting potential level. The failure to observe a decrease in pigmenting level in $R^{st}R^{r}$ roots could be due to the insufficient time, in terms of cell generations, given to the roots before testing the paramutagenic effect of R^{st} upon R^{r}. It could be that at least one generation of R^{st}/R^{r} heterozygosity is required before paramutation becomes phenotypically manifest. Accordingly, the comparison of pigment concentration has been extended to $r^{g}R^{r'}$ and $r^{g}R^{r}$ control roots (Table 2, Part II). However, also in this case, when the pigment potential of $R^{r'}r^{g}$ roots is compared to that of $R^{r}r^{g}$ roots, no decrease in the level of anthocyanin is observed in the former.

The lack of reduction in pigment concentration of $R^{r'}$ roots suggests that the R component, controlling pigment formation in roots, is either insensitive or less sensitive than the S component to the paramutagenic action of R^{st}. The differential sensitivity of the two R sub-units to the R^{st} action is here considered as an indication that the R locus as a whole is not involved in paramutation.

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1. Location of Ga_8 in chromosome 9 linkage group.

Preliminary data for a close linkage relationship between a gametophyte factor and the waxy locus have been presented both by Schwartz and by Bianchi, in previous issues of MNL. However, the question whether the Ga factor was between the wx locus and the centromere or placed distally to the wx locus remained unanswered.

Some data from backcrossing plants heterozygous for Ga_8, as well as for wx and bz, on a multiple tester for chromosome 9 are as follows:

Ear No. 65-174	Kernel types Bz	bz	Wx	wx	Total No. of kernels	% of bz	% of Wx	Cumulative %
/169-4	-	-	13	56	69	-	18.8	-
/169-18	244	20	51	213	264	7.5	19.3	26.8
/170-22	-	-	35	219	254	-	15.9	-
/170-22	297	59	80	276	356	16.6	22.5	39.1
/171-6	166	36	26	176	202	17.8	12.9	30.7
/171-44	164	8	25	147	172	4.6	14.5	19.1
/171-52	298	9	55	252	307	2.9	17.9	20.8
/172-1	339	28	79	288	367	9.1	21.5	30.6
/172-20	294	33	64	263	327	10.1	19.6	29.7
/172-40	205	28	52	181	233	12.0	22.3	34.3
Total	2007	221	480	2071	2228 2551	9.9	18.8	28.7 (standard about 25)

Such data suggest that Ga$_8$ is placed closer to bz than to wx and that it is located between the two markers.

The Ga$_8$ factor of the pollinator parent used in these backcrosses is the allele present in the stock originally obtained from Dr. Schwartz. In such a strain (Ga wx/ga Wx) the Ga - wx distance calculated on the basis of the frequency (17.4%) of the class segregating 25% of waxy kernels is approximately 22.8%.

These data, as well as others of a different nature, suggest that the Schwartz factor is different from that reported by Bianchi, which, on the basis of previous results, appeared identical or allelic to the former one.

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2. Linkage relationships for some mutants.

For some of the recently detected mutants in Italian cultivars linkage relationships with well-known markers have turned up.