

UNIVERSITY OF WISCONSIN
Madison, Wisconsin

1. A plant color factor linked to the R locus.

From a stock of \underline{R}^r Ecuador, a non-paramutable \underline{R} allele of South American origin, a plant color factor, closely linked to \underline{R} , was isolated. The linked factor has the plant color attributes of \underline{R}^{ch} —i.e., the production of pericarp color in the presence of \underline{Pl} , concentration of anthocyanin at stem nodes, and production of pink silks. Another phenotypic effect of this factor is to produce red striping in leaves exposed to light, somewhat similar to the effect of \underline{B} (sun red).

From 1440 kernels resulting from crosses of the type: $\underline{R}^{st}\underline{M}^{st}/\underline{R}^r\text{-Ec } \underline{m}^{st} \times \underline{r}\underline{g}\underline{m}^{st}/\underline{r}\underline{g}\underline{m}^{st}$, 25 proved to be recombinants between \underline{R} and the leaf stripe factor (14 \underline{R}^r , no stripe; 11 \underline{R}^{st} , stripe). This places the factor 1.7 units from \underline{R} .

29 light-stippled (i.e., $\underline{R}^{st}\underline{m}^{st}$, crossovers between \underline{R} and \underline{M}^{st}) and 709 stippled ($\underline{R}^{st}\underline{M}^{st}$) kernels were produced from the above crosses. When the 29 $\underline{R}^{st}\underline{m}^{st}$ kernels were planted, of the 22 that germinated, 9 carried the leaf striping factor. The factor, therefore, is between \underline{R} and \underline{M}^{st} , and at a distance of about 1 or 2 units distal to \underline{R} .

R. A. Bray

2. A duplicate R locus.

An \underline{R} factor originally from Peru and sent us by P. C. Mangelsdorf under the designation Peru 1497, has been found to segregate independently of the known \underline{R} locus in chromosome 10. Plants heterozygous for both loci give ratios as expected for duplicate factors. By the use of inversions and the \underline{wx} -9 translocation series, the duplicate factor has been located on the second chromosome, probably near the \underline{B} locus. The data obtained were as follows:

I. $\underline{r}^g/\underline{r}^g; \underline{wx}/\underline{wx}$ ♀ X $\underline{r}^g/\underline{r}^g; \underline{Wx } 'R'/\underline{wx}$ T2-9b (2S.18, 9L.22) ♂

Kernel phenotypes from 5 plants

<u>Wx 'R'</u>	<u>Wx r</u>	<u>wx 'R'</u>	<u>wx r</u>
482	138	126	459

Recombination between $'\underline{R}'$ and \underline{wx} on T2-9b : ca. 22%