4. A test for paramutation at the P locus.

An invariable change of the kind reported by Brink for $R^S$ and $R^{mb}$ in heterozygotes with $R^T$ was not found at the P locus when the standard Wisconsin $P^{vv}$ (variegated pericarp) alleles was used in a mating scheme with $P^{TT}$ (red pericarp) similar to that developed by Brink (Genetics 41, 1956).

The heterozygote $P^{TT}/P^{vv}$ was self pollinated and the progeny were grown out and pollinated with homozygous $P^{MR}$ in the same inbred background as the $P^{vv}$ and $P^{TT}$ parent cultures. Four red pericarp $F_2$ segregates and 2 variegated $F_2$ segregates were selected and grown out and the progeny examined for deviations from the expected red pericarp and medium variegated pericarp.

Three of the four red $F_2$ ears proved to be homozygous $P^{TT}$ and produced only red pericarp offspring. One of the red $F_2$ ears was apparently heterozygous and produced medium variegated and red pericarp offspring. The two variegated $F_2$ ears were homozygous and produced medium variegated offspring plus a few red pericarp mutants as expected.

All of the red pericarp ears in the 6 cultures were similar in phenotype and the variegated ears were typical medium variegated phenotype for the background used. Thus, there is no evidence of paramutation between these $P^{TT}$ and $P^{vv}$ alleles.

Robert I. Brawn

UNIVERSITY OF MINNESOTA
St. Paul, Minnesota
Department of Agronomy and Plant Genetics

1. Differences in recombination in $\delta$ and $\gamma$.

Crosses between exotic stocks and 5-9a carrying sh wx gl were backcrossed reciprocally with sh wx gl. Only the results for sh-wx are completed. In all cases, crossing over was higher in the $\delta$.

For crosses with Purple Tama, the averages are 8.9 and 11.7, for Argentine pop, 8.9 and 15.5; and for KYS, 3.1 and 16.4. These large differences were not found in hybrids between the exotics and normal sh wx gl stocks.

C. R. Burnham