4. Linkage tests on c_2.

This new aleurone factor has not yet been located. A self of c_2 +/+ bz_1 gave 64 colored to 67 bronze-and-colorless, suggesting close linkage, but c_2 is independent of wx in a large test (1309 individuals). The following linkage tests have been carried out: wx 1-9c, 52% with wx in 657 individuals; bz_2, 9:3:4 in 346; lg_1, more than 50% in 285; A, 308 colored to 281 colorless, consistent with about 30% recombination; wx 3-9c, 53% with wx in 393; su, 48% in 363; Pr, 9:3:4 in 279; Y, more than 50% in 339; gl_1, more than 50% in 731; wx, 50% in 1309; R, 9:7 ratio in 1061. Chromosome 3 is the most likely-looking at the moment; if so, probably far out on the long arm.

E. H. Coe, Jr.

5. Spontaneous mutation of C^I.

An additional population of about 1.5 million gametes in the cross C^IC^I x CC has been examined for mutants. Only one possible case turned up. Judging from the previously-reported population, this case has a 50-50 chance of being valid. Obviously the mutation rate is low.

E. H. Coe, Jr.

6. Subject index to Newsletters.

An attempt to index the Newsletters by subject is in progress. Volumes remaining to be scanned before the index is ready to assemble are Nos. 1 through 3 (not on hand here--they will be checked elsewhere), 31, 32, this issue, and any subsequent ones which come out before the rest of the job is finished. In the meantime, any cooperator wishing a moderately thorough list of vol. 4-30 references (for example: linkage notes for a given chromosome; mutability factors or mutable loci; carotinoids; centromere linkage) will be sent it on request.

E. H. Coe, Jr.

7. Effect of external agents on the frequency of crossing over.

In the last Newsletter (MNL 32:100) it was reported that in a preliminary trial, treatment with a .001 M solution of the chelating compound (EDTA) gave a significant increase in the frequency of crossing over between the members of a complex a a sh_2 segment on chromosome 3. In order to check the validity of this result and also to try some other agents, a large scale experiment using the same cross (a a sh/a^m Sh x a^s sh) and the same technique (leaf feeding) but with two additional agents (ribonuclease and desoxyribonuclease) was conducted.

The recording of data in this experiment was altered somewhat from last year. It was found that with the stocks used, only dilute Sh crossovers could be consistently recognized. These included the $\underline{a}$ $\underline{a^m}$ Sh, $\underline{a}$ $\underline{a}$ Sh and $\underline{a}$-Sh cases which could not be separated one from another. The reciprocal cl sh class including $\underline{a^m}$ sh $\underline{a}$-sh, and $\underline{a^m}$ $\underline{a}$ sh was difficult to recognize because of poor coloration of the sh seeds. Therefore, the data listed in the table below consist of the total $\underline{a}$ Sh crossovers observed on the non-shrunken kernels.

Frequency of crossovers from the cross $\underline{a}$ a sh/$\underline{a^m}$ Sh x $\underline{a^s}$ sh.

	Total Sh seeds	Total $\underline{a}$ Sh co's	Percent
Control	56,087	96	.17 ± .017
EDTA	18,247	42	.23 ± .035
RNAase	5,884	12	.20 ± .058
DNAase	4,400	10	.23 ± .070
	84,618	160	.19

From the above, it can be seen that the apparent differences between treatment and control are not significant. A re-examination of last year's results reveals that it was a mistake to consider 2/3628 as an adequate control.

M. G. Nuffer

8. A dominant striped leaf character located on chromosome 3.

A striped-leaf effect has been found which is inherited as a dominant. It appeared as a single striped seedling in the F_1 of a cross of a multi-Dt x A C R dt. The seedling could be described as having many medium to small, narrow, white and pale green sectors extending to all parts of the leaf and sheath. A cross of this plant by a normal plant gave progeny which segregated 1:1 for the striped phenotype. A selfed ear of the original plant produced 1/4 extreme striped plants which had mostly white tissue and very little green, 1/2 moderately striped plants and 1/4 green. Most of the extreme striped plants failed to survive, but the one that did yielded all striped progeny when crossed to normal. Several of the moderately striped plants produced 1/2 striped progeny and 1/2 normal progeny when crossed to normal individuals. One of the striped plants was crossed to the translocation waxy series and the F_1 backcrossed to homozygous normal waxy. The seeds were separated for waxy and planted.