4. Mutations induced in preembryo stage.

In 1959 a stock of $\underline{Yg_2}/\underline{Yg_2}$ was pollinated by $\underline{yg_2}/\underline{yg_2}$. The first set of plants was placed in the radiation field where they received 33r/hr for 23.5 hours to give a total dose of 775r. Every day thereafter for 10 days a different set of plants was radiated.

No mutations were scored in the material radiated on the first day. However, the ears radiated on the second day produced several seedlings which were yellow green and several which were one-half yellow green. Ears radiated at later stages of development produced seedlings which showed streaks of yellow green. The size of the streaks decreased with the later stages.

The mutations remain to be analyzed. This seems to be a desirable stage for the induction of recoverable mutations in maize, possibly other material as well. Severely damaged cells will be eliminated, thus giving an automatic screening of most harmful changes. Other genes will be tested in 1960.

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1. Translocations.

The following list of translocations were obtained from irradiation of CC5/L317 and closely related stocks (numbers 8001 to 8864) or from irradiation of a high knob stock (8890 to 9021).

Symbol	Chromosomes	Chromosomal Designation	
8001	1-9	1S. 51	9L. 24
8041	1-5	1L. 80	5L. 15
8004	4-8	4S. 27	8L. 84
8045	2-7	2S. 12	7L. 06
8006	3-7	3L. 88	7L. 90
8048	1-3	1L. 11	3S. 18
8302	1-9	1S. 55	9L. 29
8103	4-7	4S. 81	7L. 76
8104	3-5	3L. 05	5L. 08
8069	4-5	4S. 34	5S. 71
8108	4-5	4S. 37	5S. 72
8249	1-4	1L. 26	4L. 63
8023	3-8	3L. 18	8L. 16
8027	2-4	2L. 15	4L. 43
8143	6-7	6L. 35	7L. 36
8145	3-6	3L. 17	6L. 26
8032	3-9	3S. 26	9L. 96
8219	2-10	2L. 50	10L. 35
8219	5-6	5L. 71	$6S.\ 84^{sat}$
8321	2-5	2L. 86	5L. 11
8322	2-7	2L. 76	7L. 74