

Backcross of the F_1 with the colored aleurone stock as the recurrent male parent yielded kernels giving a whole spectrum of aleurone pigmentation ranging from completely colored to completely colorless. Kernels were scored against a set of standards of 5 intensities of pigmentation. The data are given in Table 1. If a simple partially dominant inhibitor is postulated to explain the F_1 data, the backcross data show a preponderance of colored kernels (when all colored grades are lumped together). Various two factor hypotheses also do not seem to reconcile the F_1 and backcross data.

The F_2 data are recorded in Table 2. Attention is drawn to the fact that 2 cobs gave only colorless kernels. Secondly, the average score of pigmentation for the crosses $\frac{A \ C \ R}{\text{Pigmented Silk Scar}} \textcircled{x}$ is somewhat higher than that of the crosses $\frac{\text{Pigmented Silk Scar}}{\text{Wis. A C R}} \textcircled{x}$.

The differences, however, are not statistically significant.

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2. Extreme modifications in radiosensitivity of maize seeds stabilized for different moisture contents.

Maize seeds of inbred Oh57, when irradiated with gamma radiation doses of 10 to 50 Kr. following their stabilization for moisture contents ranging from 1.87 to 10.55%, showed extreme modifications of radiosensitivity as measured by seedling height and survival. The radiation sensitivity varied by a factor of about 5. The maximum differential in radiosensitivity was attained at 10 Kr. In contrast, hulled barley seeds of a local variety, stabilized similarly for their moisture content (1.97 to 12.01%) and irradiated with the same doses gave a differential in radiosensitivity of a factor of less than 2. Furthermore, the maximum differential was obtained at the dose of 40 Kr. Barley seeds, in addition, showed an increase in radiosensitivity at the highest moisture level (12.01%). It was inferred that when the full range of moisture contents of the seeds is examined, the seeds show an increase in radiosensitivity both at low and very high moisture levels.

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