

### 3. Heterosis in albino seedlings of corn.

The objective of this work was to determine to what degree hybrid albino seedlings show heterotic vigor, and the ratio of this vigor in comparison with green seedlings from kernels of a single ear.

Materials used in this study were segregating lines which have been selfed for three or more generations and crosses between these selections. Light endosperm and albinism occur together as a pleiotrophic gene effect in these lines. Hence, segregating ears are chosen from the selfs and crosses to compare normal and albino seedlings. The first seedling trials were grown in flats with five randomized blocks. These seedlings were grown in the dark to eliminate the effects of photosynthesis. Measurements of seedling heights, fresh and dry weights were made after 25 days and are reported in the following table:

Table 1.

	Seed weight gm.	Plant height gm.	Fresh weight gm.	Dry weight gm.
Albino: Parents average	0.2033	28.0	0.769	0.0681
hybrid	0.2633	33.1	1.085	0.0892
hybrid increase	0.0600	5.1**	0.316**	0.0211*
% increase	23.0%	15.4%	29.1%	23.6%
Green: Parents average	0.2111	37.0	1.025	0.0784
hybrid	0.2655	43.9	1.472	0.1033
hybrid increase	0.0544	6.9**	0.447**	0.0249**
% increase	20.4%	15.6%	30.3%	24.1%

\*\*Difference is highly significant.

\*Difference is significant.

Further tests are in progress to determine similar values under greenhouse conditions. Comparisons of normals and albinos in regard to etiolated growth and phototropism are also being made.

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