

Monoploid ht seedlings were significantly more susceptible to leaf blight than were the diploid (ht ht) seedlings. There was no significant difference in susceptibility between $2n$, $3n$, and $4n$ seedlings carrying two, three, and four doses, respectively, of ht.

Ted Namm
G. M. Dunn

2. The use of purple embryo marker in screening for twin embryo seeds.

We have been screening large populations of corn seeds for monopleids by crossing our test lines, as female parent, to purple embryo marker. In a population of about 83,000 kernels, we found four seeds, each of which possessed two distinct embryos. On all four kernels, each of the two embryos showed the purple color. It was apparent in two of these kernels that the twin embryo could not have been detected unless the pigment was present. The female parent was line 65:225-1, which is homozygous Ht.

We suggest the use of purple embryo marker to facilitate the detection of such seeds in programs where the primary purpose of research is to uncover kernels with twin embryos.

Ted Namm
G. M. Dunn

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY
Socorro, New Mexico

1. Linkage intensities of lutescent-1.

The lutescent mutant in maize has been characterized (MNL 39:146-147). Its expression has been found to result from two recessive genes, lutescent-1 (lu₁) and lutescent-2 (lu₂) (MNL 41:150-152). One of these genes, lu₁, has been located on chromosome 5, and preliminary F₂ studies indicated close linkage with a₂.

A testcross was carried out between plants hybrid for lu₁, lu₂, a₂, bm₁, bt₁, and pr, and one homozygous for lu₁, lu₂, and pr. The latter plant was heterozygous for bm₁ and bt₁, but did not carry a₂. The seeds with colorless aleurone resulted from the segregation of a gene other than a₂ since no linkage could be demonstrated between the aleurone color gene and any of the other chromosome 5 markers. The results of this testcross are presented in Table 1. A high percentage of inviability was encountered among seeds homozygous for bt₁, and the values shown have been corrected to allow for this inviability.

Acceptable 3:1 monohybrid ratios were observed for colored vs. white seeds, full vs. brittle seeds, green vs. brown midrib, and green vs. lutescent leaf. It will be noted that 3:1 represents a testcross ratio for green and lutescent since duplicate genes are involved. A 1:1 ratio was observed for purple vs. red seeds. Dihybrid segregations involving lutescent plant, and brittle seed, brown midrib, or red aleurone all