

### 3. Dwarfs

#### Chromosome 1

Three dwarf mutants from radiation material have been placed in chromosome 1. These are tentatively listed as midget 8043, tiny 8446 and dwarf 4963.

Midget 8043 in the seedling stage has a blunt first leaf and a broad pointed second leaf. Both leaves are about 1/2 normal size with undulant margins. When fully grown, midget 8043 is up to 2 ft. tall, is contorted in appearance but produces pollen and small ears.

Both tiny 8446 and dwarf 4963 in the seedling stage are much smaller than dwarfs 1, 2 or 3. In the seedling stage, tiny, the smallest of all dwarfs grown here, has narrow sharp-pointed leaves, whereas dwarf 4963's leaves are short and blunt. They both grow at most a few inches tall. We have not, as yet, succeeded in growing these 2 mutants to maturity.

#### Chromosome 2

Dwarf 5232 resembles the original dwarfs 1, 2 and 3. It first appeared in Bikini material and was placed in chromosome 2 by translocation tests as reported in the 1955 News Letter.

During the past season linkage tests were carried out with Dwarf 5232 and D. A testcross of

$$\begin{array}{c} B \quad d \\ \hline + \quad + \end{array}$$

gave a total of 48 crossovers out of 306 plants or 15.7% crossovers. This is close to the expectation for the B - d<sub>5</sub> linkage from the recorded information of Emerson, Beadle and Fraser. If no stocks of d<sub>5</sub> are in existence, this may well be substituted for d<sub>5</sub>.

#### Note 1

The dwarfs tested by Dr. B. O. Phinney of U.C.L.A. (See this News Letter) for response to gibberellic acid were:

Dwarf 1, An 1 and Dwarf 5232 showing positive response. Dwarf 4963 showing no growth response.

#### Note 2

We would be glad to receive seed of Dwarfs 4, 5 and 7 if any is in existence.

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