

The same plant crosses which were presented in Table 1 were analyzed for crossover frequency. The crossover data are presented in Table 2.

The $yPb\ su_2$ stock was crossed to a homozygous $YPb\ Su_2$ stock and the resulting heterozygotes were backcrossed by the $yPb\ su_2$ stock. These data, which are used as control data, are presented at the bottom of Table 2.

It would appear that crossing over between Y locus and the su_2 locus is reduced in the ll plants. The cause of the reduced crossover ratios is not clear at this time.

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1. Brachytic line from Bicol White Flint.

A brachytic inbred line was isolated from Bicol White Flint variety after a series of continuous inbreeding. The variety-source is from the white flint germplasm of the Philippine hybrids. The brachytic line is described as follows:

Color of the leafsheaths at the ground level ---- slightly reddish.

Internodes ---- shortened and the node where the ear is attached is enlarged.

Leaves ---- It has 13 leaves on the average. The leaves are broad and short.

Silks ---- the color of the silks is salmon yellow.

Inflorescence ---- spreading with many spikelets.

Anthers ---- the color of the anthers is purplish. It sheds pollen profusely.

Plant height ---- the height of the plants from the ground level to the tip of the tassel is 90 centimeters on the average.

Maturity ---- Maturity refers to the number of days from seedling emergence to 50% silking. It matures from 49 to 52 days depending upon the season (wet and dry).

The identification of the brachytic line as to whether it differs from br_1 is underway. If it varies genetically in many respects from the known brachytic line which is located on chromosome 1, locus 92, then probably a permanent designation may be given.

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2. Cytoplasmic male sterile and pollen restorer Philippine inbreds.

The inbred lines involved in the production of white and yellow flint hybrids approved by the Philippine Seed Board for distribution and the source of cytoplasmic male sterility (F_{14}) were planted in the 1957-58 dry-season breeding nursery located at the Central Experiment Station, College, Laguna. The male sterile line was planted in rows alternately with the fertile lines. All possible crosses were made. The selected ears from each cross, i.e., disease-free plants and ears with plump kernels, were planted ear-to-row in the 1958 wet-season nursery. The recurrent parental inbreds were also planted. The emerging tassels were carefully examined and classified as follows: completely sterile (all the plants in the row were devoid of shedding pollen), partially sterile (some of the plants in the row or portions of the tassel were shedding pollen) and completely fertile (all the plants in the row were profusely shedding pollen). Microscopic examinations of the anthers were done in the laboratory field to confirm the observation.

The result indicates that one inbred line was highly homozygous for the sterile factor. Three lines were completely, uniformly and abundantly shedding pollen. The result is of paramount significance because it may pave the way to the elimination of detasseling under the tropical growing conditions of the Philippines.

The completely sterile F_1 plants were backcrossed to their respective recurrent parent while the completely fertile plants were selfed. The backcrosses and selfed ears are presently grown in the 1958-59 dry-season breeding nursery.

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