



XA0201359

Induced high yielding mutant in green gram (*Vigna radiata* (L.) Wilczek)

Green gram (mungbean) plays a significant role in meeting the protein requirements in India, with its predominantly vegetarian population. Therefore, an attempt was made to induce desirable mutants.

Dry seed of cultivar "Pusa 105" were irradiated with gamma rays ranging from 10 to 50 krad. A high yielding mutant (Hy I) identified in the M₄ generation from 40 krad dose, has shown significant increases in the number of pods/plants, number of branches/plant, and yield/plant (Table). Further work is in progress.

Comparison of the mutant "HyI" with the parent cultivar "Pusa 105".

Character	Parent	Mutant
Plant height (cm)	59	61
No. of branches	2	4
Days to flowering	34	35
No. of pods/cluster	4.4	7
No. of pods/plant	52	139
Pod length (cm)	7.2	7.5
Yield/plant (g)	32.4	70.1

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XA0201360

Semi-dwarf rice varieties in the United States

Semi-dwarf rice varieties are grown extensively in California and are beginning to be adopted in the northern United States. Their background is varied. Some derive their semi-dwarf status from Asian ancestors. Use has been made of TN-1, IR8, IR659-10-8-3 and IR1318 (containing TN1). Other semi-dwarfs in California derive their short stature from induced mutants. The principal parent is Calrose 76 derived from an induced mutation in Calrose (released in 1976).

The first US semi-dwarf variety was LA 110, developed at the Rice Experiment Station at Crowley, Louisiana from a cross TN-1 X M4 (from Sri Lanka) released in 1974. The next group of semidwarf varieties was developed in cooperation between the California Coop. Rice Research Foundation, The California Agricultural Experiment Station and the USDA Agric. Research Service. They are listed in the table.

Semidwarf long grain varieties were developed in Texas: Bellemont (1981) and Lemont (1983), both using IR659-10-8-3 as source of semidwarf culm. Two other long grain varieties Leah (1982) and Toro-2 (1984) released by the Rice Research Station in Crowley, Louisiana, derive their short stature from C19902, a line developed at Crowley, but still reaching a height of 89-94 cm. There are other short statured varieties in the US which are not truly semidwarfs, such as Bond and Newbonnet in Arkansas, Skybonnet and Pecos in Texas. The general trend is towards shorter varieties. Calrose 76 and M7 are being replaced. M-201 and L-202 are the shortest and have excellent lodging resistance. Their background is IR8 or TN1. Too short varieties like Bellemont may have seedling emergence problems.