

## INHERITANCE OF A SMALL-LEAF MUTANT IN MUNGBEAN

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The Pant Moong-3 cultivar of mungbean (*Vigna radiata* (L.) Wilczek), released in 1985, has broad ovate trifoliate leaflets [1]. A spontaneous mutant with small leaflets (Fig. 1) was observed in Pant Moong-3. The mutant (female) was crossed with Pant Moong-3 (male). The inheritance of leaf type was studied in the F<sub>1</sub>, F<sub>2</sub> and F<sub>3</sub> generations. The F<sub>1</sub> plants were similar to Pant Moong-3, suggesting that the large leaf character is dominant over the

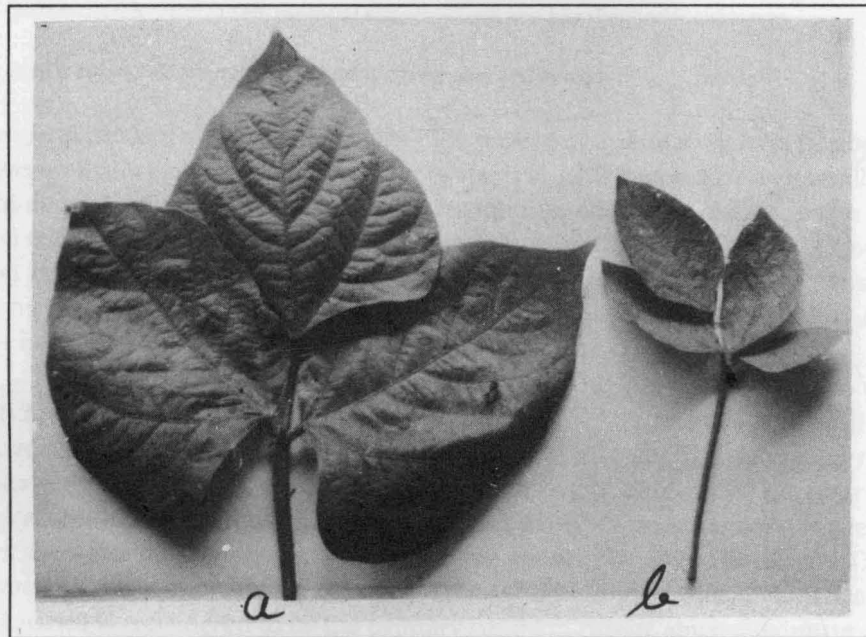


Fig. 1. Trifoliate leaf of the parent variety Pant Moong-3 (a) and its small-leaf mutant (b).

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small-leaf mutation. In the F<sub>2</sub> generation, 115, out of the 143 plants studied had normal and 28 mutant phenotype ( $\chi^2$  (3:1) = 2.40, P = 0.2–0.1). F<sub>3</sub> progenies of each F<sub>2</sub> plant were also grown. All the 28 progenies of the F<sub>2</sub> plants with small leaf were nonsegregating for the mutant phenotype. Among the progenies derived from normal looking F<sub>2</sub> plants, 35 were nonsegregating normal and 80 segregated for leaf type (within progenies segregation pooled over all segregating progenies was 1810 normal and 590 mutant) in 3 (normal) : 1 (mutant) ratio ( $\chi^2$  = 0.22, P = 0.7–0.5). The F<sub>3</sub> families were in the ratio of 1:2:1 ( $\chi^2$  = 2.71, P = 0.3–0.2) (35 nonsegregating wild type: 80 segregating: 28 nonsegregating mutant). The results of F<sub>2</sub> and F<sub>3</sub> generations confirm that the mutation is monogenic recessive. The gene symbol *ls* is proposed for this trait.

The mutant is generally inferior to the parent in important economic characteristics.

#### REFERENCES

1. D. P. Singh and B. L. Sharma. 1987. Pant Moong-3 : a new variety of mungbean. *Indian Farmers Digest*, 20(7): 7–8.