

# REGISTRATION OF GENETIC STOCKS

## Registration of ICGL 6 (Puckered Leaf Mutant) Peanut Genetic Stock

ICGL (Reg. no. GS-1, PI 561916) is a compact spanish-type peanut (*Arachis hypogaea* L. subsp. *fastigiata* Waldron var. *vulgaris* Hartz) puckered leaf mutant isolated from a normal-leaf peanut cultivar 'OG 66-6-1'. It was released in 1991 by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) for its peculiar leaf characteristics. Puckered leaf symptoms (partially crinkled, with a yellow stripe along the leaf margin) start appearing 1 wk after emergence; the first few leaves (older leaves) have a normal phenotype. The genotype of the puckered leaf characteristic in the mutant is proposed as  $nl, nl, Nl_1 Nl_2$ .

A single plant with this abnormal puckered-leaf characteristic was observed in a population of peanut cultivar OG 66-6-1 grown in the 1979–1980 postrainy season at ICRISAT Center. It was harvested and progeny-rowed. Subsequently, the plants with puckered leaves were reselected in successive self generations until the phenotype was stabilized.

ICGL 6 has an erect growth habit and flowers with orange standard and yellow wing petals similar to those of OG 66-6-1. However, it has a smaller main axis (11 cm) and canopy breadth (13 cm) than OG 66-6-1 (main axis 14 cm, canopy breadth 20 cm). It has mainly two-seeded pods, with slight to moderate pod beak, constriction, and reticulation, while OG 66-6-1 has prominent to moderate pod beak and moderate reticulation. Pod ridges in OG 66-6-1 are prominent but absent in ICGL 6. They have similar meat content (58–59%), oil content (47–48%), and tan seed testa color, but 100-seed mass

is lower in the mutant (24 g) than in OG 66-6-1 (34 g). ICGL 6 has relatively higher protein content (25%) than OG 66-6-1 (22%).

The segregation pattern in the  $F_2$  of the two reciprocal crosses between the mutant and two normal-leaf cultivars, J 11 and MK 374, gave a good fit of 13 normal : 3 puckered leaf. The normal and puckered-leaf phenotypes in these crosses are controlled by two genes, designated as  $Nl_1$  and  $Nl_2$ , which interact in an epistatic manner. The presence of the  $Nl_2$  gene in recessive homozygous condition and the  $Nl_1$  gene in dominant homozygous or heterozygous condition is essential for the expression of the puckered-leaf phenotype. All other combinations in the  $F_2$  will have normal leaves. The  $F_2$  ratio was further supported by the segregation pattern observed in back-cross generations (1).

Morphological variants like this might be useful as a marker in genetic studies. The Genetic Resources Unit, ICRISAT, Patancheru P.O., Andhra Pradesh 502 324, India, maintains the seeds of the ICGL 6 genetic stock.

S. N. NIGAM, S. L. DWIVEDI,\* MD. KHAJA, AND  
V. PAPAIAH (2)

### References and Notes

1. Dwivedi, S.L., and S.N. Nigam. 1989. Inheritance of a puckered leaf mutant in groundnut (*Arachis hypogaea* L.). *Curr. Sci.* 58:1149–1150.
2. Legumes Program, ICRISAT, Patancheru P.O., Andhra Pradesh 502 324, India, ICRISAT J.A. no. 1330. Registration by CSSA. Accepted 31 July 1992. \*Corresponding author.

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## ERRATUM

In the September–October 1992 issue, in “Nitrogen Supply Effects on Partitioning of Dry Matter and Nitrogen to Grain of Irrigated Wheat” by Kenneth G. Cassman, Dennis C. Bryant, Allan E. Fulton, and Lee F. Jackson (*Crop Science* 32:1251–1258), additional and incorrect legends were added to Fig. 4b and 5b. The symbols on the curves in all of Fig. 4 and 5 designate sites, as the labels adjacent to them state, not cultivars, as the spurious legends also state. The correct cultivar names are stated at the top of each of those figure segments.