Registration of 'Kalika' (ICCV 82108) Chickpea

Kalika' (ICCV 82108) chickpea (Cicer arietinum L.) Reg. no. CV-104, PI 562032) was developed by the National Grain Legumes Research Program (NGLRP) of Nepal and approved for release for cultivation by the Variety Release Committee of Nepal in 1990.

The pedigree of Kalika traces back to the line ICCV 82108, which was introduced into Nepal from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, AP, India, as one of the entries of the International Chickpea Cooperative Trial (ICCT) in 1985–1986. The selection number of the line is ICCX 761470-8P-1P-BP-BP. It was derived from a cross made in 1976 at ICRISAT between two segregating F2 plants, one from a cross JG 62/WR 315, and the other from P 1363/PRR 1. The F2 population was screened in a wilt-stick field having a high incidence of Fusarium oxysporum Schlechtend.: Fr. f. sp. ciceris (Padwick) Matuo & K. Sato, and single-plant pedigree selection was followed until F5 when the line was bulked.

Kalika was first evaluated in ICCT at NGLRP, Rampur, and Parwanipur Agriculture Research Station in 1985–1986, where it showed better tolerance to soil acidity, root-knot nematode (Meloidogyne spp.), and gray mold (Botrytis cinerea Pers.: Fr.) than local cultivars. In a national multilocation yield test from 1986–1987 to 1989–1990, it produced a mean seed yield of 1360 kg ha−1, which was 11% higher than the check cultivar, Dhanush. Kalika maintained its superiority over Dhanush by the same margin in the Farmers' Field Trials from 1987–1988 to 1989–1990 by giving a mean seed yield of 1430 kg ha−1. The best yield produced by Kalika was 3460 kg ha−1, which was 34% higher than the mean yield for 27 Farmers' Field Trials. The mean yield for chickpea in Nepal is 600 kg ha−1.

Kalika is semispreading, with plant height ranging from 40 to 60 cm. The plants are green, with slight anthocyanin pigmentation, and flowers are dark pink. It is a double-podded cultivar and has a compound leaf, with leaflets of medium size (10–15 mm). Similar to Dhanush, it flowers at 80 to 90 days after sowing and matures in 150 to 160 days, depending on growing conditions. The seeds of Kalika are brown and medium in size, with a mean 100-seed mass of 19 g (ranged from 16 to 21 g), compared with 11 g for Dhanush. Kalika is resistant to Race 1 of F. oxysporum, and is relatively less susceptible to Helicoverpa armigera (Hübner) pod borer, botrytis gray mold, nematodes, and soil acidity as compared with Dhanush. It has a good nodulation capacity and has shown good adaptation to irrigation, rainfed conditions, and late sowing.

Breeder seed of Kalika will be maintained by the NGLRP of Nepal. A small quantity of seed of this cultivar can also be obtained from the Genetic Resources Unit, ICRISAT (Accession no. ICC 12969).

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Published March, 1993

References and Notes
