Registration of ‘Ghab 4’ Kabuli Chickpea Cultivar

The chickpea (*Cicer arietinum* L.) cultivar ‘Ghab 4’ (Reg. no. CV-245, PI 638616) was developed by the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, and released for general cultivation to the farmers in Syria by the National Panel of Variety Releases, Ministry of Agriculture, Syria, in November 2002 after evaluation and verification of its superiori ty in Syria.

Ghab 4, a selection from FLIP 93-93C, was developed from a three-way cross FLIP 85-122C/FLIP 82-150C//FLIP 86-77C. The pedigree of FLIP 85-122C is L-550/ILC 72. The pedigree of FLIP 82-150C is ILC 523/ILC 183. The pedigree of FLIP 86-77C is FLIP 82-69C/FLIP 82-72C. The pedigree of FLIP 82-69C is ILC 72/ILC 192. The pedigree of FLIP 82-72C is ILC 72/ILC 879. The three way cross was made during the 1988–1989 season at Tel Hadya, the main research station of ICARDA, in Aleppo in northern Syria (36°01’ N, 36°56’ E, 284 m asl) and the F₁ generation was advanced in Terbol, in the Beqa’a Valley in Lebanon (33°49’ N, 35°59’ E, 890 m asl) in the off-season during June to October 1989. The F₂ seeds obtained from Terbol, were planted at Tel Hadya during the 1989–1990 season in the Ascochyta blight nursery (caused by *Ascochyta rabiei* (Pass.) Labr.) for screening against Ascochyta blight. The disease in ABDN was developed using debris from infested plants from the previous season and spraying inoculum using a spore suspension of the common isolates of Ascochyta blight present in Syria. The Ascochyta blight resistant plants were selected from ABDN and advanced to F₃ at Terbol in 1990. The F₃ bulks from individual progenies were harvested at Terbol and planted at Tel Hadya in the ABDN. The pedigree method of breeding was followed through the F₅ when agronomically uniform and Ascochyta blight resistant progenies were bulked in 1993. The increased seed of bulked progenies was assigned FLIP (Food Legume Improvement Program) numbers and used for evaluation of seed yield and other agronomic traits in the Preliminary Yield Trial (PYT) at Tel Hadya during the 1993–1994 season. The elite lines from this trial were assigned FLIP 93-93C (Ghab 4) and shared with national programs in West Asia and North Africa (WANA).

Ghab 4 along with others entered the Chickpea International Screening Nursery–Winter during the 1994–1995 season (CIEN-W-95) and was also distributed to the Syrian national program for evaluation. Ghab 4 has been evaluated in on-farm trials in Syria and on farmers’ fields in 55 locations in Syria. On the basis of trials conducted over a period of five years, Ghab 4 produced larger seed size (35.5 g 100 seeds⁻¹), and taller plants (can be harvested mechanically. Ghab 4 has resistance to Ascochyta blight disease when compared with Ghab 3, and it possesses beige colored ram-hairs. Ghab 4 has been released for general cultivation in Syria by the National Panel of Variety Releases, Ministry of Agriculture, Syria, in November 2002 after evaluation and verification of its superiori ty in Syria.

Small quantities of seed of Ghab 4 were distributed by ICARDA to 150 farmers during 2003 and 300 farmers during 2004. The General Organization of Seed Multiplication (GOSM), Syria is making available large quantities of seed of this variety to the farmers in the country. Seed of this variety is maintained both at ICARDA and GOSM, and can be obtained on written request. Recipients are asked to recognize the source if it contributes to the development of a cultivar or is used for other research purposes.

R.S. Malhotra,* A.M. Nassif, K.B. Singh, and G. Khalaf

References


R.S. Malhotra, K.B. Singh, and G. Khalaf, ICARDA, Management Program, ICARDA, P.O. Box 5466, Aleppo, Syria, and A.M. Nassif, GCSAR, P.O. Box 113, Douma, Damascus, Syria. Registration by the Ministry of Agriculture, Syria on 20 February 1997. Winter sowing may further help in avoiding drought which has become a common phenomenon in the Mediterranean environment.

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