Registration of ‘Gokce’ a Kabuli Chickpea Cultivar

‘Gokce’ (Reg. no. CV-266, PI 641935) is a large-seeded Kabuli type chickpea (Cicer arietinum L.) developed at the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, and released by the Central Research Institute for Field Crops (CRIFC) Ankara, Turkey for spring planting in Turkey. ‘Gokce’ has a high level of tolerance to Ascochyta blight [caused by Ascochyta rabiei (Pass.) Labrousse], a disease that devastates chickpea crops globally.

The Food Legume Improvement Program of CRIFC introduced the line FLIP 87–8C from ICARDA in 1991 as a part of the Chickpea International Yield Trial-Early (CIYT-E). FLIP 87–8C is a breeding line derived from a cross between ILC 3398 and FLIP 83–13C made during the 1984–1985 season at Tel Hadya, the main research station of ICARDA, in Aleppo in northern Syria (36°0’ N lat; 36°33’ E long, 284 masl). The line FLIP 83–13C developed at ICARDA was derived from a cross between ILC 72 and ILC 215. The F1 between ILC 3398 and FLIP 83–13C was advanced during the off-season at Sarghaya (33°49’ N lat; 35°59’ E long, 890 masl), in the high altitude area of Syria near the Bequa’a Valley in Lebanon in the off-season in 1985. F2 seeds were planted in the Ascochyta Blight Disease Nursery (ABDN) at Tel Hadya in the 1985–1986 season. The Ascochyta blight disease was developed in the ABDN using debris of infested plants from the previous season and artificial inoculation with Ascochyta blight spore suspension. The Ascochyta blight resistant F2 plants were selected and grown at Terbol in the Bequa’a Valley in Lebanon in the off-season in 1986 in progeny rows. A few plants from each F3 progeny were selected at Terbol and F4 progenies were planted at Tel Hadya in the ABDN in 1986–1987 for evaluation for Ascochyta blight resistance. The uniform lines with resistance to Ascochyta blight were selected, roughed for any infected plants within each progeny, and bulked. The seeds of bulked lines were increased at Tel Hadya in the off-season in 1987 for preliminary evaluation for uniformity, seed size, seed yield, and other agronomic traits in the Preliminary Yield Trial (PYT) at Tel Hadya. During the 1987–1988 season these lines were evaluated for agronomic traits in the PYT, for Ascochyta blight resistance and cold tolerance in the ABDN, and increased for future use. The uniform Ascochyta blight and cold tolerant lines were selected, assigned FLIP 87– numbers including FLIP 87–8C (‘Gokce’), and included in the Chickpea International Screening Nurseries and Yield Trials. These nursery and trials were shared with the national programs in different countries including Turkey. The line FLIP 87–8C was entered in the Chickpea International Yield Trial early in 1991.

FLIP 87–8C was initially tested at the Central Research Institute research farm at Haymana, located 45 km northwest of Ankara, Turkey. The line was subsequently tested in 1992 and 1993 in regional yield trials at five contrasting locations (Corum, Haymana, Karaman, Konya and Yozgat). FLIP 87–8C matured about 10 d earlier and produced seed yield that the registered check, ‘Akcin’ adapted in Central Anatolia where farmers plantings of chickpea to escape Ascochyta blight. FLIP 87–8C, was included in the national variety registration trial in 1994. It was tested in six locations throughout Turkey and was able to produce up to 3750 kg ha–1 seed yield.

FLIP 87–8C was registered and released by the Variety Registration and Release Committee (VRRC) for the Department of Agriculture (DoA) and approved by the Integrated Gene Management Program (IGMP) by the Food and Agriculture Organization of the United Nations. ‘Gokce’ is a high yielding, early maturing, very disease resistant, and dryland adapted cultivar. It is preferred and grown in the drying and storing of chickpeas due to its high protein content and high level of tolerance to Ascochyta blight. ‘Gokce’ is favored for its high quality seed (i.e., 8 and 9 mm diameter) by Turkish chickpea exporters.

Seed of ‘Gokce’ is maintained by CRIFC, Ankara, and is available in small quantities for research purposes. Recipients are requested to recognize the source of these germplasm lines through the development of a cultivar or germplasm for other research purposes.

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