Registration of ‘ILC 72’ Chickpea

ILC 72® CHICKPEA (Cicer arietinum L.) cultivar (Reg. no. CV-107, PI 564774), was developed at the International Center for Agricultural Research in the Dry Areas (ICARDA), Syria. The national programs released ILC 72 as ‘Fardan’ in Spain in 1985 and as ‘Califfo’ in Italy in 1987 as a cultivar suitable for winter sowing for animal feed.

ILC 72 was developed by a mass selection from Lot no. 4 obtained from Spain, where it might have been introduced from U.S.S.R. (J.I. Cubero, personal communication). The original accession (Lot no. 4) was evaluated for its reaction to ascochyta blight [incited by Phoma rabiei (Pass.) Khune & J.N. Kapoor; = Mycosphaerella rabiei Korachevski (teleomorph); Syn. Ascochyta rabiei (Pass.) Labrouse] during 1978–1979 at the principal ICARDA station at Tel Hadya (36° N, 36° E, 284-m elevation) in northern Syria. Most plants in this accession were resistant to ascochyta blight. Susceptible and moderately resistant plants were rogued out and a purified line with resistant plants was bulked and assigned a new code (ILC 72). The preliminary studies made at ICARDA revealed that early winter sowing of chickpea in Mediterranean environment substantially increases the seed yield over spring-sown crop. Also for the success of the winter sowing, the cultivars must possess tolerance to ascochyta blight and cold. This line was evaluated in the Chickpea International Yield Trial—Winter (CIYT-W) from 1979–1980 to 1981–1982 during winter sowing in Mediterranean region. Evaluation of ILC 72 in Italy and Spain in CIYT-W exhibited its superiority over the respective local cultivars as the latter were highly susceptible to ascochyta blight when sown in winter resulting in almost negligible yields. Thus the advantage of winter sown chickpea was clearly visible using ascochyta blight resistant high yielding cultivar ILC 72. Seed yields exceeded 3 t ha⁻¹ in both countries with winter-sown ILC 72 compared with 1.5 t ha⁻¹ yield produced by the spring-sown local cultivars, which were not sown in winter because of susceptibility to ascochyta blight.

Evaluations of ILC 72 in the Chickpea International Ascochyta Blight Nursery (CIABN) from 1979 to 1983 revealed that it was resistant to ascochyta blight in eight out of 10 countries (2). It also was resistant to four out of six races of A. rabiei identified in Syria and Lebanon (1). Evaluation of ILC 72 during winter sowing at Tel Hadya confirmed its tolerance to cold at low to medium altitude Mediterranean environments. ILC 72 is free of iron-deficiency chlorosis, which is a desirable attribute in chickpea production for the Mediterranean environments (3). It tolerates commonly used herbicide applications (pre-emergence application of mixture of terbutryne [2,3-dichloro-Af-(1,1-dimethyl-2-propynyl)benzamide] 0.5 kg a.i. ha⁻¹) under Tel Hadya conditions where some other lines have shown higher level of phytotoxicity (3). Winter-sown ILC 72 at Tel Hadya attains a height of about 70 cm with semi-erect growth habit and no pod dehiscence (3). Therefore, it is easy to harvest by combine harvester, a production requirement in both Italy and Spain.

ILC 72 is a late-maturing cultivar taking 148 days to flower and 185 days to mature during winter sowing at Tel Hadya. Its shoot biomass yield is moderate with a harvest index of 41%. ILC 72 has a pea-shaped, light orange seed with 100-seed weight of 28 g. Its protein content is 24% on a dry-weight basis, hence it is suitable for use in animal feed.

Breeder seed stock is maintained by Legume Program, ICARDA, P.O. Box 5466, Aleppo, Syria and small quantities (100 g) of seed can be obtained upon request.

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References and Notes


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Registration of ‘ILC 195’ Chickpea

ILC 195® CHICKPEA (Cicer arietinum L.) cultivar (Reg. no. CV-108, PI 564775) was developed at the International Center for Agricultural Research in the Dry Areas (ICARDA), Syria. ILC 195 was released by national programs in Morocco in 1987 and in Turkey in 1986 for winter sowing.

ILC 195 was developed by a mass selection from accession Vysokoroshyj 30 which originated from Krasnodar Territory 1286, in the former U.S.S.R. When accession Vysokoroshyj 30 was grown by the Arid Land Agricultural Development (ALAD) Program of Ford Foundation at Tel Amara in Lebanon during 1974, it contained a mixture of seed types (owl and pea shaped), seed colors (orange and beige), and seed surfaces (smooth and rough). They were separated into six groups and assigned accession numbers NEC 139–1, NEC 139–2, NEC 139–3, NEC 139–4, NEC 139–5, and NEC 139–6. The group NEC 139–5 with ram-head-shaped and rough-surfaced seeds was assigned number 74TA284. 74TA284 was evaluated for ascochyta blight incited by Phoma rabiei (Pass.) Khune & J.N. Kapoor; = Mycosphaerella rabiei Korachevski (teleomorph), Syn. Ascochyta rabiei (Pass.) Labrouse] resistance during 1978–1979 at the principal ICARDA station at Tel Hadya (36° N, 36° E, 284-m elevation) in northern Syria. Plants of 74TA284 showed moderately resistant to resistant reaction to ascochyta blight. The resistant plants with beige, ram-head-shaped seeds, designated as the kabuli type, were selected and bulked. The selected line was assigned a new accession number (ILC 195).

ILC 195 was evaluated in the Chickpea International Yield Trial—Winter (CIYT-W) from 1979–1980 to 1982–1983 along with other promising lines for winter sowing in the Mediterranean region. Results showed that ILC 195 produced seed yields equal to or exceeding those of the local landrace in Morocco and Turkey. In years when ascochyta blight developed in epiphytotic form, at some locations the local landrace gave as low as 0 kg ha⁻¹ (1).