REGISTRATIONS OF CULTIVARS

Registration of ‘Ali Dayi’ Lentil

‘Ali Dayi’ lentil (Lens culinaris Medik.) (Reg. no. CV-13, PI 631395) was 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, in 2001. Ali Dayi, a high-yielding red cotyledon lentil cultivar with lodging resistance, is recommended for spring cultivation in central Anatolia in Turkey.

Ali Dayi, ICARDA accession number ILL 5722, was developed from a cross of ILL 883 by ILL 470. The female parent, ILL 883, is a landrace from Iran, and ILL 470 is a landrace of Syria. The segregating populations were advanced through the bulk method, and single-plant selection was practiced in the F2. The F2:F3 and F3:F4 progenies were evaluated at ICARDA in 252 replicated nurseries. The line was evaluated in replicated preliminary and advanced yield trials in the F3:F4 and F4:F5, respectively. Because of its excellent yield performance and other agronomic attributes, it was entered into the international testing program with the pedigree number FLIP 85-51 L, and accessed by Genetic Resources Unit of ICARDA as ILL 5722.

The Food Legume Improvement Program of CRIFC, Ankara, Turkey, received ILL 5722 through the Legume International Nursery Network in 1993 in the small-seeded lentil nursery category. It was identified as one of the promising lines for spring planting at Haymana, the main CRIFC research site. Subsequently, the line was evaluated in preliminary and large-plot yield trials at the same location. Because of its higher yield performance, lodging resistance, and desirable seed characteristics, it was selected for multilocation yield evaluations. From 1997–1999 to 1999–2000, ILL 5722 was evaluated at Haymana, Konya, Yozgat, and Karaman research sites in central Anatolia. On average, seed yield of ILL 5722 was 1.490 kg ha−1 compared to 1.277 kg ha−1 for the best check, Emre 20, an increase of 17%. Low yields occurred in 1998–1999 because of severe drought. Significantly higher yields were recorded in all the trials, except 1997–1998 at Haymana and in 1998–1999 at Konya and Yozgat.

ILL 5722 attains a height of 30 cm, with first pod height at about 12 cm from the ground level, and exhibits an erect growth habit with at least three upright primary branches. The compound leaves have light pubescence, medium sized leaflets, and a well-developed tendril. Tendrils intermingle with each other and keep the canopy in an upright position and suitable for mechanical harvest. It flowers after 59 d; its flowers are white. ILL 5722 reaches physiological maturity after 89 d with no pod shedding even at complete maturity. Seeds have a brown testa without any pattern and weigh 4.7 g/100 seed. Cotyledons are bright red. Protein concentration of the seeds is 25.2 mg g−1.

Breeder seed stock is maintained by Grain Legume Improvement Program, CRIFC, Ankara, Turkey. Small quantities of seed can be obtained on request. However, plant variety protection will be sought for Ali Dayi.

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Registration of ‘Idlib-2’ Lentil

‘Idlib-2’ lentil (Lens culinaris Medik.) (Reg. no. CV-14, PI 631396) was developed at the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria, and released in 2000 by the Directorate of Agriculture and Scientific Research, Ministry of Agriculture and Agrarian Reform for commercial cultivation in Syria. It is a high-yielding red cotyledon lentil cultivar with lodging resistance and resistance to vascular wilt [caused by Fusarium oxysporum f. sp. lentis (Vasudeva & Srinivasan) Gordon.].

Idlib-2 was developed through single-plant selection from a Jordanian landrace, 74TA14. It was introduced at ICARDA in 1977 and is designated as ILL 16. Considerable heterogeneity was observed among plants, and a single-plant selection (81S 15) was made at ICARDA in 1981. After testing in a nonreplicated preliminary screening nursery and replicated preliminary and advanced yield trials between 1983 and 1985, it was entered into the international testing program in 1986 as one of the promising lines in the small-seeded lentil nursery. The line was entered into the Lentil Germplasm Catalog as accession ILL 5883.

The Syrian national program identified ILL 5883 as a high-yielding line from the Lentil International Nursery (small seed) supplied by ICARDA. It was tested in six contrasting sites in Syria from 1986–1987 to 1988–1989. On average, ILL 5883 gave 1.625 kg ha−1 seed yield compared to 1.286 kg ha−1 for the local check, Hurani representing an increase of 26.3%. The line was evaluated under on-farm trials from 1986–1987 to 1996–1997 at 14 sites across the lentil-growing areas in Syria. Averaged over 154 on-farm trials, ILL 5883 produced a mean seed yield of 1.365 kg ha−1, compared to 1.232 kg ha−1 for the check, Hurani. Lentil straw is an important animal feed in Syria. The cultivar produced an average straw yield of 3379 kg ha−1.

Vascular wilt is a devastating disease of lentil in many countries. Yield losses up to 72% have been reported in Syria (Bayaa et al., 1986). ILL 5883 is resistant to vascular wilt as evidenced from plastic house screening in trays (Bayaa and Erskine, 1990) and in wilt-sick field trials at Tel Hadya, ICARDA. In screening trials in wilt-sick fields from 1993–1994 to 2000–2001, ILL 5883 had <5% wilted plants compared to up to 40% wilted plants in the local check, Hurani. In on-farm trials over the years across Syria, 2.7% wilted plants have been observed in ILL 5883.

Hand harvest is a major constraint for lentil production in Syria because of the high cost of manual labor. Local lentil cultivars are susceptible to lodging and not suitable for machine harvest. ILL 5883 has a semierect growth habit with strong stems, thus providing lodging resistance and is suitable for mechanical harvesting. It forms its lowest pod at about 15 cm above soil level, which reduces harvest losses. Plants of ILL 5883 are medium stunted (35 cm) with more basal primary branches compared to local cultivars. Leaves are dark green with medium-size leaflets and long tendrils. Intermittent...