Registration of ‘Ozbek’ Lentil

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‘Ozbek’ lentil (Lens culinaris Medikus) (Reg. No. CV-31, PI 635040) was jointly developed by the Central Research Institute for Field Crops (CRIFC), Ankara, Turkey, and the International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria. It was released by CRIFC, Ankara, Turkey, in 2001. Ozbek is a medium-seeded, red cotyledon, high-yielding lentil variety with a high level of winter-hardiness, and is recommended for cultivation as a winter crop in Central Anatolia of Turkey.

It has been reported that lentil production can be increased significantly by shifting planting from spring to early-spring or fall sowing (Sakar et al., 1988). Thus, one of the major objectives of the ICARDA lentil improvement program is to establish winter lentils in highlands of West Asia and North Africa. As a part of this program ICARDA has strong collaboration with CRIFC, Ankara, Turkey for winter-hardiness research in lentil, and a decentralized strategy is being followed. Scientists from both the institutions participate in joint selection of materials at various stages of breeding cycles in cold-prone sites in Turkey.

In 1990, 156 landraces collected from Southeast Anatolia of Turkey were initially evaluated and 5064 single plants were selected. From 1991 to 1996, through a series of testing and evaluation under severe cold conditions in Haymana (1050 masl), Sivas (1350 masl), Konya (1032 masl), and Karaman (1033 masl), a number of homogeneous lines were selected for winter-hardiness, high yield potential and other desirable agronomic traits. In assigning CRIFC accession number to these promising lines, Ozbek was given TUR 01661 (AKM 302).

From 1997 to 2000, Ozbek was evaluated in large-plot advanced yield trials in four locations (Haymana, Konya, Yozgat, and Karaman) following a RCBD with three replications. Averaged over three years across four locations, the cultivar produced a seed yield of 1558 kg ha⁻¹ compared to 1238 kg ha⁻¹ for the check, Seyran 96; an increase of about 25.8%. Moreover, the cultivar thrived well in temperatures under −17°C at Haymana, reaching the lowest temperature of −29°C at Sivas.

Plants of the cultivar Ozbek have a small leaflet size with a well-developed tendril. Plants are semi-erect with a plant height of up to 29 cm. No pigmentation has been observed in any plant parts. Its flower color is white and takes 219 d to flower. The cultivar matures in 267 d. Seeds have a gray testa with mottled pattern, and cotyledon color is bright red. Its 100-seed weight is 3.52 g. Seed water absorption index and imbibitions index are 1.5% and 0.765%, respectively.

Breeder seed stock of Ozbek is maintained at the Grain Legume Improvement program, CRIFC, Ankara, Turkey. Small quantities of seed can be obtained on written request from the corresponding author. However, plant variety protection will be sought for Ozbek.

References