Registration of ‘Dahab Elgoz’ Cowpea

‘Dahab Elgoz’ cowpea [Vigna unguiculata (L.) Walp.] (Reg. no. CV-208, PI 632419, originally designated as IT84S–2163) was developed by the International Institute of Tropical Agriculture (IITA) and distributed to various national programs in 1988 for testing and selection of suitable cultivars adapted to their own conditions. The cowpea researchers in Sudan tested this selection in two separate sets of trials from 1988 to 1994 at the Elobeid Research Station in the Sahelian zone of northwestern Sudan. It was also evaluated as a prereleased cultivar at three locations in North Kordofan, one location in West Kordofan, three locations in South Kordofan, and four locations in South Darfur across three seasons. These locations represent the environmental conditions of western Sudan and are where cowpea cultivation is predominant. On the basis of its continued superior performance, IT84S–2163 was named Dahab Elgoz meaning Gold from the Sand and approved by the Agricultural Research Corporation (ARC) and released by the National Variety Release Committee of Sudan for general cultivation in June 2000.

Dahab Elgoz is an F6-derived line from the cross IT81D–1138 × Kamboine local. IT81D-1138 is derived from the cross TVx 1193-7D × TVu 2027, and TVx 1193-7D is derived from the cross TVu 1190 × TVu 76. TVu 2027 is a local landrace from northern Nigeria. TVu 1190 is a local landrace from Tanzania, TVu 76 (‘Prima’) is an improved cultivar from Nigeria, and Kamboine local is a land race from Burkina Faso. Thus, Dahab Elgoz contains a diverse set of genes.

Dahab Elgoz has a semierect growth habit, with upright peduncles and pods held over the canopy. It has medium size (16 g per 100 seeds), white cream-colored seeds with rough seed testa and a dark brown seed eye. It has combined resistance to several major diseases, including Cowpea aphid-borne mosaic virus, brown blotch [caused by Collectotrichum capsici (syd.) E.J. Butler & Bisby], bacterial blight [caused by Xanthomonas campestris pv. vignicola (Burkholder) Dye] as well as web blight (caused by Rhizoctonia solani Kühn).

The on-station and on-farm trials in Sudan from 1988 to 1997 showed 134 to 426% superiority in grain yield of Dahab Elgoz compared with the local and improved cultivars used as checks. The rainfall in the region during experimentation (1988–1997) ranged from 122 to 445 mm with a mean of 293.5 mm. Being an early maturing cultivar, Dahab Elgoz reached physiological maturity in 59 to 61 d, while the local cultivars similar to Tamspan 90 (RHS 146A). Pods of OLin are similar in size and shape to Tamspan 90, mostly two-seeded (up to 1% three-seeded pods). Pod constriction between the seeds is slight, similar to Tamspan 90.

In 28 tests from 1998 to 2000, OLin averaged ~10% lower yield than Tamspan 90 in Central Texas, West Texas, and Southwest Oklahoma. Total sound mature kernels (TSMK) were equal between OLin and Tamspan 90 in these tests (68.7 vs. 68.4%) as were 100-seed weights (43.7 vs. 43.6 g). In shelling tests, OLin was not significantly different (P > 0.05) from Tamspan 90 in jumbo or no. 1 seed size distribution. Splits, other kernels, damage kernels, and oil stocks were equal to Tamspan 90.

Quality analyses indicated no significant difference between OLin and Tamspan 90 except in O/L ratio (22.4:1 vs. 1.15:1) and iodine number (77.5 vs. 102). Other traits found to be equal were oil content (44.16%), protein content (29.49%)