REGISTRATIONS OF CULTIVARS

Registration of ‘Dahab Elgoz’ Cowpea

‘Dahab Elgoz’ cowpea [Vigna unguiculata (L.) Walp.] (Reg. no. CV-208, PI 632419, originally designated as 1T84S-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, 1T84S-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 a F1-derived line from the cross IT81D–1138 × Kamboinse 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 Kamboinse 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 reached maturity in 86 to 120 d. The mean grain yields of Dahab Elgoz were 767 and 822 kg ha⁻¹ in the two sets of trials. The highest yield of Dahab Elgoz was 1029 kg ha⁻¹ in 1991, when the total rainfall in the season was only 230 mm. Under the same condition, the local cultivar yielded 251 kg ha⁻¹.

Dahab Elgoz has already gained wide acceptance. In 2001, it was grown by more than 600 000 farmers as a field and a home garden crop in the three states of Western Sudan (North Kordofan, West Kordofan, and South Kordofan) and South Darfur states. The Arabian Sudanese Seed Company (ASCO) has already taken the initiative of seed multiplication and distribution, responding to the continuous requests coming from farmers, farmers’ unions, and nongovernmental organizations (NGOS) working in the field of Agricultural development. Breeder’s seed of this variety is being maintained at IITA as well as at Elobeid Research Station. Small samples for breeding purposes may be obtained from the corresponding author on request. Plant variety protection will not be sought.

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Registration of ‘OLin’ Peanut

‘OLin’ (Reg. no. CV-75, PI 631176) is a Spanish market-type peanut (Arachis hypogaea L. subspp. fastigiata Waldron var. vulgaris Harz.) cultivar with a high oleic (O) and low linoleic (L) fatty acid ratio and good yield potential. The new variety was tested as Tx962120 and was released by the Texas Agricultural Experiment Station in January 2002. A joint release has been approved by the Oklahoma Agricultural Experiment Station and approval of the joint release by the USDA-ARS is expected.

OLin was derived as a single plant selection from a first backcross with ‘Tamspan 90’ (Smith et al., 1991) as the recurrent parent and UF435-1 (Norden et al., 1987), the donor of the high O/L genes. The first cross was made in 1991 and the subsequent backcross in 1992. Individual plant selections were made in 1995 from the BC1F3 population based on plant and pod type, selections were planted in the greenhouse in early 1996 (BC1F4o), and progeny rows were field planted later in 1996. This increase was used to conduct the first O/L analysis and the first yield test in 1997. From the 1999 yield test (BC1F5), 820 seed were tested for O/L ratio, 239 high O/L individual plants were harvested and progeny rows were grown in the 1999-2000 Puerto Rico winter increase nursery. The increase resulted in 240 kg of Breeder seed (BC1F6) which were later planted near Vernon, TX, during the summer of 2000 as Foundation seed production.

OLin has plant size equal to Tamspan 90. The main stem is semiapparent at most locations and seeding rates. The lateral branching is sparse, similar to Tamspan 90, and the branching pattern is mostly sequential. Leaf color is light green, also 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%),