Registration of ‘Sangaraka’ Cowpea

‘Sangaraka’ cowpea [Vigna unguiculata (L.) Walp.] (Reg. no. CV-254, PI 639259), originally designated as IT89KD–245, was developed by the International Institute of Tropical Agriculture (IITA) and distributed to various national programs in 1993 for testing and selection of suitable cultivars adapted to local conditions. The cowpea researchers in Mali tested this line in three separate sets of trials from 1993 to 1996 at the Cinzana Research Station and Koporo Research Station representing the Sahelian zone of Mali. It was also tested at N’Tarla Research Station representing the Sudanian zone where cotton is widely cultivated. From 1996 to 1998, it has been tested in on-farm trials in three regions: Ségou in the central part of Mali, Mopti in the north part, and Sikasso in the south. The average annual rainfall in these three regions is, respectively, 700, 600, and 900 mm. More than 250 farmers tested this variety. Based on its continued superior performance, IT89KD-245 was named Sangaraka meaning “cowpea preferred by Diarra family” and approved by the National Research Institute IER (Institut d’Economie Rurale) in collaboration with the National Extension Service DNA (Direction National de l’Agriculture) and released by the National Seed Service Committee of Mali for general cultivation in 1999.

Sangaraka is an F6 line derived from the backcross (IT87F-1777–2 × IT84S-2246–4) × IT87F-1777–2. IT87F-1777–2 is a pure line selection from the local landrace Kanannado from northern Nigeria. IT84S-2246–4 resulted from the cross IT82D-716 × IT81D-1020 which in turn came from the crosses TVx 6332 × TVx 3236 and TVx 1193–9F × TVu 2027, respectively. TVx 6332 is derived from a three way cross (TVx 1193–9F × TVu 2027) × TVu 625. The parents of TVx 1193–9F are TVu 1190 and TVu 76, which are cultivated varieties ‘V.U.5’ from Tanzania and ‘Prima’ from Nigeria, respectively. TVu 2027 is a local line, Kano-8, and TVu 625 is a selection from No A-10, both from Nigeria. TVx 3236 involves TVu 1509 and ‘Ife Brown’ as its parents. TVu 1509 is selection No. H 27–1 and Ife Brown is an improved variety, both from Nigeria.

Sangaraka has a spreading growth habit, with upright peduncles and pods held over the canopy. It has medium size (16 g 100 seeds−1) white seeds with rough seed testa. It has combined resistance to aphid (Aphis craccivora Koch) and bruchid (Callosobruchus maculatus Fab.) and two major species of parasitic plants, Striga gesnerioides (Willd.) Vatke and Alectra vogelii Bent. It also causes suicidal germination of Striga hermonthica (Del.) Bent. which parasitizes cereals such as maize, sorghum, and millet. It is also resistant to major diseases such as anthracnose [caused by Colletotrichum linden-muthianum (Sacc. & Magn.) Br. & Cav.], web blight (caused by Rhizoctonia solani Kühn), brown blotch (caused by Colletotrichum capsici Syd.), Cercospora leaf spot (caused by Cercospora cruenta Sacc. and Cercospora canescens Ellis & Mart.), Septoria leaf spot (caused by Xanthomonas campestris pv. vignicola Burkholder), as well as Cowpea yellow mosaic virus and Cowpea aphid borne mosaic virus.

The on-station and on-farm trials in Mali from 1993 to 1998 showed 50 to 100% superiority in grain yield of Sangaraka compared to the local and improved cultivars used as checks. Sangaraka is a dual-purpose and medium-maturing cultivar which matures in 80 to 85 d, while local cultivars reach maturity in 100 to 120 d. The mean grain yields of Sangaraka were 1.5 to 2 Mg ha−1 and fodder yield over 2 Mg ha−1 in on-farm trials. Sangaraka also performs well when intercropped with cereals like millet and sorghum and causes suicidal germination of Striga hermonthica (Del.) Benth. Sangaraka has already gained wide acceptance and in 2002, it was grown by more than 90% of farmers producing millet or sorghum.

Breeder seed of this variety is being maintained at IER, Mali as well as at IITA. Small quantities of seeds can be supplied on request to cowpea researchers. The authors will not seek plant variety protection for this variety.

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