Registration of ‘Vuli-2’ Cowpea Cultivar

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‘Vuli-2’ cowpea [Vigna unguiculata (L.) Walp] (Reg. No. CV-275, PI 582970), originally designated IT 85F-2020, was developed by the International Institute of Tropical Agriculture (IITA) and distributed to various national programs in 1989 as part of the early maturing cowpea international trial for evaluation and selection of suitable cultivars adapted to local conditions. Based on its consistently high yield, wide adaptability, and large, light brown seeds, IT85F-2020 was named as Vuli-2 (Vuli means short rains in Kiswahili) and was formally released by the Ilonga Agricultural Research Institute (IARI) in 2003 for cultivation in Tanzania (MAFS, 2003).

Vuli-2 is an F6 plant progeny from a three-way cross IT82E-60/TVx 3236//IT82E-18, where IT82E-60 was derived from another three-way cross, TVx 33-IJ/TVu 6203//TVx 33-IJ, TVx 3236 is from the cross TVu 1509/‘Ife Brown’, and IT82E-18 is from the cross TVu 1190/1247//TVu 2616. Of these, TVx 33-IJ is derived from TVu 37/TVu 530, and Ife Brown is an improved cultivar from Nigeria involving TVu 59 and TVu 53 as parents. TVu 59 is ‘Alabunch’, and TVu 53 is ‘C-20-41’, both from Nigeria. TVu 37 is the cultivar Pale Green from South Africa, and TVu 530 is the cultivar Ibadan 2 from Nigeria. TVu 6203 is the cultivar Bambe 23 from Senegal, TVu 1509 is the cultivar H27-1-1 from Nigeria, and TVu 2616 is FC 31660 from the USA. Thus, Vuli-2 has a highly diverse genetic background.

Vuli-2 was initially evaluated at the IARI, Kilosa, Tanzania, in the primary rainy season of 1990, and later tested in 1991 at nine sites, which included Ilonga and Ifakara (eastern zone), Hombolo (central zone), Ukiriguru (lake), Tumbi (western zone), Naliendele and Nachingwea (southern zone), and Ismani (southern highlands). In 1992 and 1993 it was evaluated at seven sites, including two new sites, Suluti (southern highlands) and mLingano (eastern zone). However, at Ilonga and mLingano it was evaluated in short (November–February) and primary rainy (March–June) seasons. Vuli-2 is an early maturing variety (65–75 d) with a semi-erect growth habit and large leaves. It has light brown, medium-size seeds (100 seeds = 17 g), with a smooth seed coat. In on-station tests, Vuli-2 gave a mean grain yield 17% higher than other check cultivars, including Vuli-1. In subsequent on-farm verification trials, Vuli-2 again outyielded all other cultivars. Vuli-2 is resistant to major diseases like anthracnose (caused by Colletotrichum lindemuthianum Sacc. & Magn.), web blight (caused by Rhizoctonia solani Kühn), brown blotch (caused by Colletotrichum capsici Syd.), Cercospora leaf spots (caused by Cercospora cruenta Sacc. and Cercospora canescens Ellis & Mart), Septoria leaf spots (caused by Septoria vignae P. Henn.), scab (caused by Elsinoe phaseoli Jenkins), and bacterial blight (caused by Xanthomonas campestris pv. Vignicola), as well as cowpea yellow mosaic and cowpea aphid borne mosaic. Due to its early maturity, farmers in eastern Tanzania with a bimodal rainfall pattern are able to plant two crops per year. The first crop is planted in November–December and harvested in February (short rainy season), while the major season planting is done in mid-March and harvested in June (main rainy season).

Small quantities of Breeder seed of this variety can be obtained from IARI and IITA for the first five years and thereafter from USDA-ARS National Plant Germplasm System. Recipients of seed are asked to make appropriate recognition of the source of germplasm if it is used in the development of a new cultivar, germplasm, parental line, or genetic stock. Authors will not seek plant variety protection for Vuli-2.

References