Registration of ‘Edorpo-Munikpa’ Peanut

‘Edorpo-Munikpa’ (Reg. no. CV-83, PI 641925) is a peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) cultivar developed by the Savanna Agricultural Research Institute (SARI), Nyankpala, Ghana, of the Council for Scientific and Industrial Research (CSIR), and released by the National Varietal Release Committee of Ghana on 9 Oct. 2005. Edorpo-Munikpa has high kernel yields, is early in maturity, has high oil content, and is moderately resistant to early and late leafspot infections [caused by Cercospora arachidicola (Berk. & Curt.) Deighton], respectively.

Edorpo-Munikpa is a Virginia botanical type peanut cultivar possessing alternate branching pattern, spreading-bunch growth habit, and medium green leaves. The pods are typically two-seeded, slightly beaked, and the constriction between the seeds is slight with seed weight of 65 g 1000⁻¹, and possessing dark tan testa color. Edorpo-Munikpa is an F₁-derived line selected from a cross between ‘F-mix’ as the female parent and ICGS 66 as the male parent. F-mix is a cultivar with high levels of resistance to early and late leafspot and is well adapted to the high rainfall belts of northern Ghana (Marfo and Padi, 1999). ICGS 66 is an early maturing line obtained from the breeding nursery of the International Crops Research Institute for the Semi Arid Tropics (ICRISAT), Patancheru, India (Marfo, 1997). The cross was made during the post-rainy season of 1988 in a screenhouse facility, and F₁ progeny were grown at a nursery in Nyankpala during the rainy season of 1989. F₂ progeny were selected for large number of pods, maturity period not exceeding 130 d, and resistance to leafspot. F₂:₃ progeny rows were grown and advanced without selection. Selection was applied among F₂:₄ and F₂:₅ families in replicated plots for resistance to early and late leafspot, favorable fresh seed dormancy, and kernel yield. Seed has been maintained in bulk since the last F₂:₅ selection.

Agronomic performance of Edorpo-Munikpa has been evaluated in 24 researcher-managed trials from 1996 to 2004, and in 30 farmer-managed trials from 2003 to 2004 as F-mix × (ICGS-66)-3–26. In these trials conducted without chemical control of leafspot infections, Edorpo-Munikpa consistently had lower leaf damage from early and late leafspot (score of 5 to 6) compared to ‘Chinese’ (the most commercially important cultivar in northern Ghana) with a score of 7 to 9, on a scale of 1 (no leafspot) to 9 (complete defoliation due to leafspot) (Frimpong, 2004). Edorpo-Munikpa was however susceptible to early and late leafspot compared with 2 to 3. Edorpo-Munikpa matured in an average of 91 d earlier than F-mix, and comparable to the maturity period of Chinese (95 d). In the researcher-managed trials, Edorpo-Munikpa averaged 40.4% higher than F-mix, and 6.5% lower than kernel yield of F-mix. In the farmer-managed trials Edorpo-Munikpa produced higher kernel yields compared with Chinese (95 d). In the researcher-managed trials, kernel yield of Edorpo-Munikpa was 48% compared with 41% in ICGS 66 and 69% in F-mix. In the farmer-managed trials Edorpo-Munikpa recorded an average kernel yield of 1233 kg ha⁻¹ compared with 814 kg ha⁻¹ for Chinese. Oil content in Edorpo-Munikpa was 58% compared with 51% in ICGS 66 and 54% in F-mix.

Edorpo-Munikpa is adapted to the Guinea and Sudan savannah ecologies of Ghana. Breeder seed was sought for Edorpo-Munikpa. In the USA, small quantities of samples of seed for research purposes may be obtained from the corresponding author. Plant variety protection will not be sought for Edorpo-Munikpa. In the USA, seed samples of seed for research purposes may be obtained from the National Plant Germplasm System (NPGS).


References


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