Registration of ‘Nkatiesari’ Peanut

‘Nkatiesari’ (Reg. no. CV-84, PI 641926) 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. Nkatiesari has high kernel yields, has good fresh seed dormancy, and is resistant to early and late leafspot infections [caused by Cercospora arachidicola S. Hori and Cercosporidium personatum (Berk. & Curt.) Deighton, respectively].

Nkatiesari is a virginia botanical type peanut cultivar possessing alternate branching pattern, erect bunch 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 50 g 100−1, and possessing light tan testa color. Nkatiesari is an F5-derived line selected from a cross between ‘F-mix’ as the female parent and ICG(FDRS)-20 as the male parent. F-mix is a cultivar with high levels of resistance to early and late leafspot, and well adapted to the high rainfall belts of northern Ghana (Marfo and Padi, 1999). ICG (FDRS)-20 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 Nkatiesari 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-20)-1–45. In these trials conducted without chemical control of leafspot infections, Nkatiesari consistently had lower leaf damage from early and late leafspot (score of 4 to 5) 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). Nkatiesari was however more susceptible to early and late leafspot compared with F-mix (score of 1) and matured in an average of 110 d, 10 d earlier than the researcher-managed trials, kernel yield averaged 43% higher than that of Chinese and kernel yield of F-mix. In yield tests conducted in northern Ghana comprising locations in the Guinea and Sudan savannah ecology, Nkatiesari produced higher kernel yield compared to F-mix (687 vs. 388 kg ha−1). In the farmer-managed trials, Nkatiesari recorded an average kernel yield of 437 kg ha−1 compared with 814 kg ha−1 for Chinese. Nkatiesari was 46% compared with 37% in ICG (FDRS)-20 and 50% in F-mix. Nkatiesari possesses up to 180 d dormancy during the major cropping season (April to November) in northern Ghana.

Nkatiesari is adapted to the Guinea and Sudan savannah ecologies of Ghana. Breeder seed will be released by the Groundnut Improvement Program of the SARI. Small quantities of seed for research purposes may be obtained from the corresponding author. In the USA, small quantities of seed for research purposes may be obtained from the National Plant Germplasm System (NPGS). Plant variety protection will not be sought for Nkatiesari.

F.K. PADI,* A. FRIMPONG, J. KOMBIOK, A.B. SALIFU, AND K.O. MARFO

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