Registration of ‘Nafice’ Kabuli Chickpea

‘Nafice’ kabuli chickpea (*Cicer arietinum* L.) (Reg. no. CV-269, PI 642853) was developed by the Centre for Legumes in Mediterranean Agriculture (CLIMA) Germplasm Development Program. It is adapted to winter sowing in cropping regions of Australia with medium to high rainfall (400–700 mm annual), deep fertile soils, and mild spring conditions. It was released by CLIMA in August 2005.

Nafice was developed from single plants selected from segregating material provided by the International Centre for Agriculture in the Dry Areas (ICARDA), Aleppo, Syria. The initial cross was made at Tel Hadya, Syria, in 1994. The pedigree is X94TH8/FLIP86–6//FLIP90–109. Single plants were initially selected from F5 segregating populations sown in field plots in Turkey in 1998 and Western Australia (WA) in 2000 on the basis of resistance to Ascochyta blight [caused by *Ascochyta rabiei* (Pass.) Labr.], uniformity, flowering time, seed coat color, and seed size. Nafice has been evaluated in Turkey and Australia from 1999 to 2005.

Seed from individual plants was planted in separate rows at the Gascoyne Research Station at Carnarvon in WA in 2001. Plots of nonuniform plants were removed. Seed from uniform plants were bulked and planted at Carnarvon, WA, in 2002, Carnarvon and Deepdale, WA, in 2003, and in WA, Victoria (VIC), and Queensland (QLD) in 2004.

Nafice was evaluated in 18 trials between 2002 and 2005 at various sites in WA, VIC, South Australia (SA), and New South Wales (NSW). It produces greater yields than ‘Kaniva’ (standard variety) and slightly lower yields than ‘Almaz’ (Siddique et al., 2007) with an average yield of 1.03 Mg ha$^{-1}$ across sites and seasons. The plant has a semierect growth habit and is medium to tall in height (560 mm). The primary branches are erect and average about five per plant. The stem is woody and anthocyanin pigmentation is absent. Leaves are pinnate (17 mm long by 10 mm wide) with a medium green color. The plant produces white flowers, white peduncles. The pods are large (30 mm long by 15 mm wide), have a short beak, medium green color, strong hairs, and average 1.5 ovules. Nafice has a medium time to flowering (117 d after sowing) and early to medium maturity.

Seeds are large with medium to heavy weight (39–45 mg seed$^{-1}$), a round to angular shape, and weak ribs. They have light to medium beige colored seeds which are approximately 20% greater than Kaniva and 3% greater than Almaz. Nafice exhibits Ascochyta blight resistance similar to Almaz and greater than Kaniva.

Seed of Nafice is maintained and can be obtained for research purposes through the Germplasm Development Program, Centre for Legumes in Mediterranean Agriculture, The University of Western Australia, Australia. Seed distribution for research purposes will be done for the first 5 yr from publication date by the owner, then will be available from the NPGS.

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References


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