'Kerala Red' Ornamental Amaranth

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There are ≈60 species in the genus *Amaranthus* L. of which five of the species are grown for vegetable use (Schnetzler and Breene, 1994). In India, vegetable amaranths are known by the common names *ranga sak*, *lal sak*, and *lal sag* (Herklots, 1972). Cultivars of *A. cruentus* L. are grown for leafy vegetable production in West Africa (Grubben, 1976). Other *A. cruentus* cultivars are adapted for grain production in Guatemala, Montana, Mexico, Thailand, and elsewhere (Kauffman, 1992).

Amaranthus leaves are important for human diets in many tropical and subtropical regions, and they are nutritionally desirable (Grubben, 1976; Saunders and Becker, 1984; Schnetzler and Breene, 1994). Typically, they are prepared by boiling in water. Seed companies in the United States generally offer vegetable and ornamental cultivars of *Amaranthus tricolor* L. (synonymous with *A. gangeticus* L.). In Ames, Iowa, plants of *A. tricolor* L. are destroyed by the amaranth curculio (*Conotrachelus seniculus* LeConte) and are difficult to grow. The commercially available *A. cruentus* cultivars are easy to grow, but have strong foliage flavors especially when eaten raw.

Amaranthus cruentus 'Kerala Red' (Fig. 1) has intense red coloring, and the edible foliage is unusually mild flavored when used in salads or cooked. It is attractive as an ornamental bedding plant, and is easily grown. This combination of qualities makes 'Kerala Red' outstanding by comparison with the commercially available *Amaranthus* cultivars.

Origin

Seeds of 'Kerala Red' were collected in 1991 by D.M.B. in the backyard vegetable garden of the Nilakanta family, Ames, Iowa. This planting was grown from seeds introduced from Kerala, India, by friends of the family. 'Kerala Red' was maintained temporarily as Ames 18058, but the permanent ac-

cession number, PI 566897, was assigned to the accession by the U.S. National Plant Germplasm System in 1993. Travelers from India have observed that 'Kerala Red' type plants are common in India.

Description

Plants of 'Kerala Red' are unusually dark red, and attractive (Fig. 1). The stem and foliage are red-purple (RHS 59-A on color reference cards, Royal Horticultural Society, 1966), and the inflorescence or panicle is a darker red-purple (RHS 59-B). The foliage is not variegated, unlike some cultivars of *A. tricolor*. 'Kerala Red' plants grow to a height of 2 m in Ames, and have one central stem with a terminal inflorescence. At maturity, the inflorescence bends to horizontal at the center, and down at the tip. The plant's architecture is characteristic of the African morphological group (Kauffman, 1992), but its color and taste differ from typical African vegetable types, which have green foliage and a stronger leaf flavor.

Seeds are black and ≈1 mm in diameter (2000 seeds per gram). Dormant seeds will

Fig. 1. Plant of 'Kerala Red' 6 weeks after sowing.

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overwinter in the soil and germinate the following spring in Ames.

Culture

The plant is attractive when backlit because the red foliage has a stained-glass appearance when so illuminated. Because of this cultivar's intense betacyanin coloring, it is a potential source of natural food coloring or dye, as described by Huang and Von Elbe (1986). The leaves have a distinctive brightly colored appearance when prepared for eating either raw or cooked.

Accessions of *A. cruentus* such as 'Kerala Red' suffer no significant damage from the amaranth curculio, which destroys most plants of *A. tricolor* L. in Ames. Therefore, it is easier to grow 'Kerala Red' successfully in Ames than many commercially available ornamental or vegetable cultivars of *Amaranthus*. 'Kerala Red' is adapted widely and has performed well in Booneville, Ark., and Weslaco, Texas, as well as in Ames.

'Kerala Red' is a seed-propagated annual. Like other amaranths, it benefits from full sunlight and is killed by temperatures below 0 °C. Seeds germinate within 3 d at 30 °C and can produce marketable bedding plants as early as 21 d after sowing. We recommend transplanting or sowing in late spring, when the soil has warmed, through early to midsummer. Grubben (1976) and Walters et al. (1988) proved additional information on cultivation of amaranths for vegetable production.

Availability

Small samples of seed are available for research and developmental projects, by contacting D.M.B. These samples are distributed free of charge by the North Central Regional Plant Introduction Station, a part of the U.S. Dept. of Agriculture, Agricultural Research Service, National Plant Germplasm System.

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