'Centennial' Variegated Kumquat Hybrid

H.C. Barrett

U.S. Horticultural Research Laboratory, U.S. Department of Agriculture, Agricultural Research Service, 2120 Camden Road, Orlando, FL 32803

Additional index words. mutation, *Fortunella margarita*, fruit breeding, woody ornamental

'Centennial' is a variegated mutation of a 'Nagami' kumquat [*Fortunella margarita* (Lour.) Swingle] hybrid and is intended for use as a container-grown woody ornamental.

Origin

'Centennial' resulted from a spontaneous variegated mutation that was observed first in 1986 on a small twig of an unnamed breeding selection, US 1515. US 1515 originated from open-pollinated 'Nagami' kumquat seed planted in 1975 at A.H. Whitmore Foundation Farm, U.S. Dept. of Agriculture (USDA), Agricultural Research Service (ARS), near Leesburg, Fla., and was selected for further tests in 1980. Buds of the mutant twig were propagated on *Poncirus trifoliata* (L.) Raf. rootstocks soon after its discovery. It has been grown and maintained on this rootstock in containers at the U.S. Horticultural Research Laboratory (USHRL) in Orlando, Fla. This woody ornamental was named in recognition of the USHRL centennial.

Description

Grown in containers and propagated on *P. trifoliata* rootstock, 'Centennial' is a small, shrubby tree, ≈90 cm tall × 50 cm wide when 3 years old. The plant has an upright growth habit with dense, thornless branches with short internodes (Fig. 1). Leaves are elongate-ovate, ≈85 mm long × 37 mm wide, with a wingless petiole =10 mm long. The leaf variegation pattern is generally tricolored. The outer marginal areas of the upper leaf surface are the lightest-colored parts of the leaf and are grayed-yellow 160B (Royal Horticultural Society, 1982). The darkest-colored area of the upper leaf surface, grayed-green 137B to 191A, is found in the central part of the leaf, emanating from and along the central leaf vein region. The leaf tissue area between the lightest and darkest parts of the leaf is intermediate in color, varying from grayed-green 138B to 191B. Great variability occurs in marginal outlines between the three color areas and in

the relative proportions of the leaf surface areas occupied by the three basic colors (Fig. 2). The fruit are variegated also, but in a different pattern than the leaves. Young, immature fruit are grayed-yellow 160A, with streaks of grayed-yellow 191A arranged in a ribbed fashion parallel to the long axis of the fruit (Fig. 3). Mature fruit are ovate, ≈65 mm on the long axis × 45 mm on the short axis. As the fruit mature, the grayed-yellow 160A changes to yellow-orange 21 B, and the grayed-yellow 191A changes to yellow-orange 22A. The oil glands on the fruit surface become yellow-orange 22A. The contrast between the background-surface and the ribbed-area colors diminishes and becomes more diffuse as the fruit mature.

Characteristics and uses

'Centennial' has a stature and configuration suitable for container growth, an upright, restricted growth habit; and thornless branches with variegated leaves and fruit. It flowers and produces fruit of normal size and development without cross-pollination or insect pollinators. It has not been tested for cold hardiness, but the original nonvariegated breeding selection that gave rise to this mutant was similar to kumquat in its response to low temperatures. No problems with pest susceptibility have been observed so far. The mature fruit are similar to their kumquat hybrid parent in their ability to remain in good condition on the tree for several weeks. 'Centennial' fruit are moderately acid, juicy, and have sweet-tasting peel oil. They have not been tested for culinary qualities, but their similarity to 'Nagami' kumquat fruit suggests that they may be suitable for marmalade. 'Centennial' may have flowers and immature and mature fruit on the plant at the same time, and the plant remains an attractive, distinctive woody ornamental throughout the year. *Poncirus trifoliata* rootstock is recommended for 'Centennial'. This rootstock is the one most certain to avoid the incompatibility problems that kumquat and kumquat hybrids commonly experience when grown on other citrus and citrus hybrid rootstock cultivars.

Availability

A limited supply of budwood, indexed and found free of exocortis and tristeza viruses, is available from: Farm Superintendent, A.H. Whitmore Foundation Farm, USDA, ARS, 23402 USDA Rd., Groveland, FL 34746.

Fig. 1. Young 'Centennial' plant.

Fig. 2. Variegated leaves.

Fig. 3. Variegated immature fruit.

Literature Cited

Royal Horticultural Society. 1982. Royal horticultural colour chart. Royal Hort. Soc. and Flower Council of Holland, London.

Received for publication 11 Aug. 1992. Accepted for publication 19 Oct. 1992. Mention of a trademark, warranty, proprietary product, or vendor does not constitute a guarantee by the U.S. Dept. of Agriculture and does not imply its approval to the exclusion of other products or vendors that may also be suitable. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper therefore must be hereby marked *advertisement* solely to indicate this fact.