

'Kanza' Pecan

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'Kanza' is a new pecan [*Carya illinoensis*, (Wangenh.) K. Koch] cultivar released 10 May 1996 by the U.S. Dept. of Agriculture, Agricultural Research Service (USDA-ARS), and the agricultural experiment stations of Kansas, Oklahoma, and Texas. When compared to other protogynous cultivars, 'Kanza' has superior productivity, nut quality, disease resistance, cold tolerance, and general suitability to be used as a cultivar in the northern pecan production area of the United States. Pecans from this cultivar are best suited for the shelling industry, and furnish large quantities of halves and pieces of very high quality.

Origin

'Kanza', tested as selection 55-11-11, is a progeny from a 1955 cross between 'Major' and 'Shoshoni' made by L.D. Romberg at the W.R. Poage Pecan Field Station, USDA-ARS, Brownwood, Texas (Fig. 1). The clone was budded to a large pollarded tree and evaluated at Brownwood. On the basis of preliminary performance, extensive testing was started in 1966.

Description

Preliminary yield data indicate that the precocity of this cultivar is adequate, but not outstanding (Sibbett et al., 1988). 'Kanza' has yielded well in Kansas and Oklahoma when compared to 'Giles', 'Major', 'Colby', and other locally adapted cultivars. It has performed exceptionally well when compared only to other protogynous pollinizers for the northern pecan production area. 'Kanza' had excellent cold resistance when rated at Sparks, Okla., in June 1992 after a freeze of -12 °C the previous 2 Nov. 'Kanza' was rated 1.0 on a 1 to 4 scale, where 1 = no injury and 4 = death of

scaffold limbs. Other cultivar ratings were 'Osage' 1.1, 'Shoshoni' 2.0, 'Maramec' 3.1, 'Kiowa' 3.0, and 'Chickasaw' 3.0 (Smith et al., 1993). 'Kanza', therefore, is well-adapted to the northern pecan production areas of the United States (Zone 6b and colder, USDA Plant Hardiness Zone Map) (Cathey, 1990).

Trees are upright in growth habit and develop a strong tree structure.

Time of nut maturity is similar to, or slightly earlier than, 'Pawnee' (10 Sept. at Brownwood, Texas; 25 Sept. at Sparks, Okla.; and 1 Oct. at Chetopa, Kan.). Nut shape is ovate to ovate-elliptic (Fig. 2). Nuts are round in cross section and, therefore, are somewhat teardrop in shape (like 'Elliott' or 'Peruque'). Nut size is medium to small, but slightly larger than that of 'Osage' (Table 1). Percent kernel is average, and nuts have a moderately thick shell. Kernel color is excellent. 'Kanza' has a reputation of shelling into a high percentage of perfect, clean halves (no packing material adhering in the dorsal or ventral grooves).

'Kanza' has excellent scab [*Cladosporium caryigenum* (Ell. et Lang.) Gottwald] resistance (Table 2) and can be grown in all areas of the U.S. pecan belt. It has moderate resistance to fungal leaf scorch (cause unknown). 'Kanza' has good resistance to leaf phylloxera (*Phylloxera notabilis* Pergande) and stem phylloxera (*P. devastatrix* Pergande) and medium susceptibility to the hickory shuckworm (*Cydia caryana* Fitch), black aphids (*Melanocallis caryaefoliae* Davis), and other pecan insects.

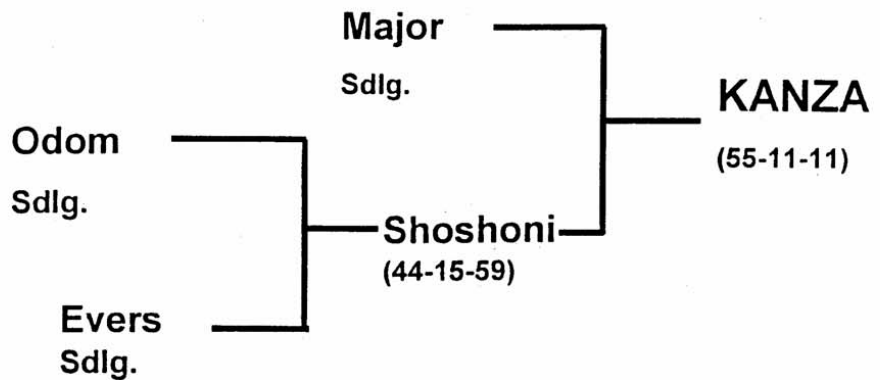


Fig. 1. Pedigree of 'Kanza' pecan, including the USDA-ARS experimental number (in parentheses), where appropriate.

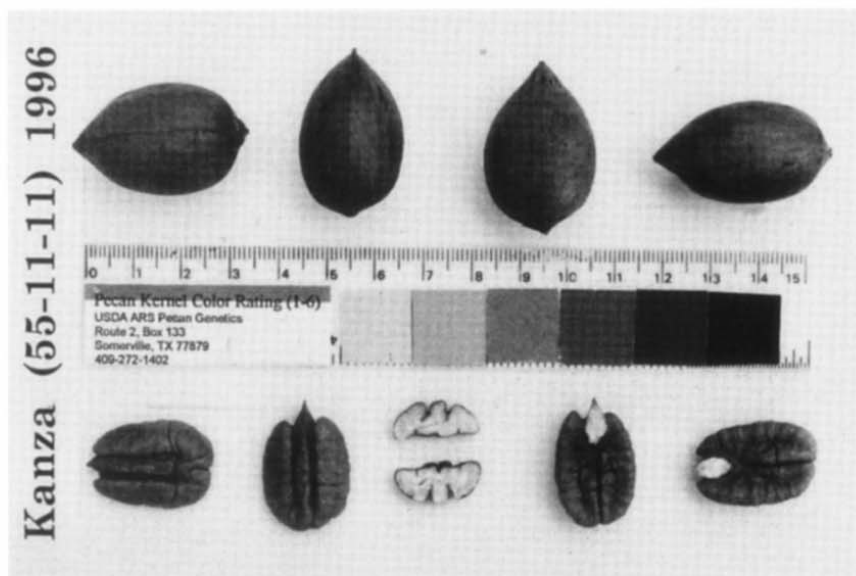


Fig. 2. Nuts and kernels of the 'Kanza' pecan; scale in centimeters.

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Table 1. National Pecan Advanced Clone Testing System (NPACTS) data averaged over six years from six locations (Tulare, Calif.; Baton Rouge, La.; and Brownwood (two locations), Goldthwaite and El Paso, Texas) comparing the 'Kanza' pecan to other cultivars.

Characteristic ^a	Cultivar					
	Kanza	Osage	Caddo	Mohawk	Pawnee	Creek
Term. w. cl. (%)	61	84	88	62	60	67
Nuts/cluster	3.1	1.9	2.5	1.8	3.0	2.1
B. aphid res.	3	2	3	1	3	3
Yield rating	2.7	3.1	2.8	3.8	3.2	3.0
Nuts/kg	169	191	176	108	128	130
Kernel (%)	54	55	59	56	58	53
Kernel color	2.6	3.7	2.1	2.6	2.2	2.3
Pack. DG (%)	3	6	6	1	5	10
Pack VG (%)	15	16	21	6	12	9
Kernel fuzz (%)	6	2	0	14	8	23

^aTerm. w. cl. = terminals with clusters; B. aphid res. = black aphid resistance; Pack. DG = packing material remaining in dorsal grooves after shell is removed; Pack. VG = packing material remaining in ventral groove after shell removal; Kernel fuzz (%) = the proportion of the testa or kernel surface covered with adhering packing material. The black aphid susceptibility ratings are on a 1 to 5 scale, with 1 being the most resistant. Yield ratings are also on a 1 to 5 scale, with 1 indicating the highest yield. Kernel color is on a 1 to 10 scale with 1 being the lightest (most desirable) color.

Table 2. Leaf and nut scab ratings for 'Kanza' and eight standard cultivars at Chetopa, Kan., in 1995. Ratings are on a 1 to 5 scale, with lower ratings indicating more resistance (Hunter and Roberts, 1978).

Cultivar	Scab rating	
	Leaf	Nut
Kanza	1.0	1.0
Osage	2.6	1.5
Pawnee	3.1	4.9
Chetopa	2.1	2.2
Giles	3.6	3.0
Major	1.1	1.0
Colby	3.2	3.4
Peruque	2.3	3.1
Posey	2.0	2.0

'Kanza' is protogynous (Fig. 3), with early pistil receptivity and late pollen shed (similar to 'Posey', 'Colby', 'Chetopa', and 'Green River'). 'Kanza' should be an excellent pollinizer for and well-pollinated by 'Pawnee', 'Osage', 'Major', 'Giles', 'Peruque', and 'Dooley'.

Availability

Budwood and graftwood will be supplied in 1996 only to nursery operators. All requests should be sent to T.E.T. The USDA does not have trees for distribution.

Literature Cited

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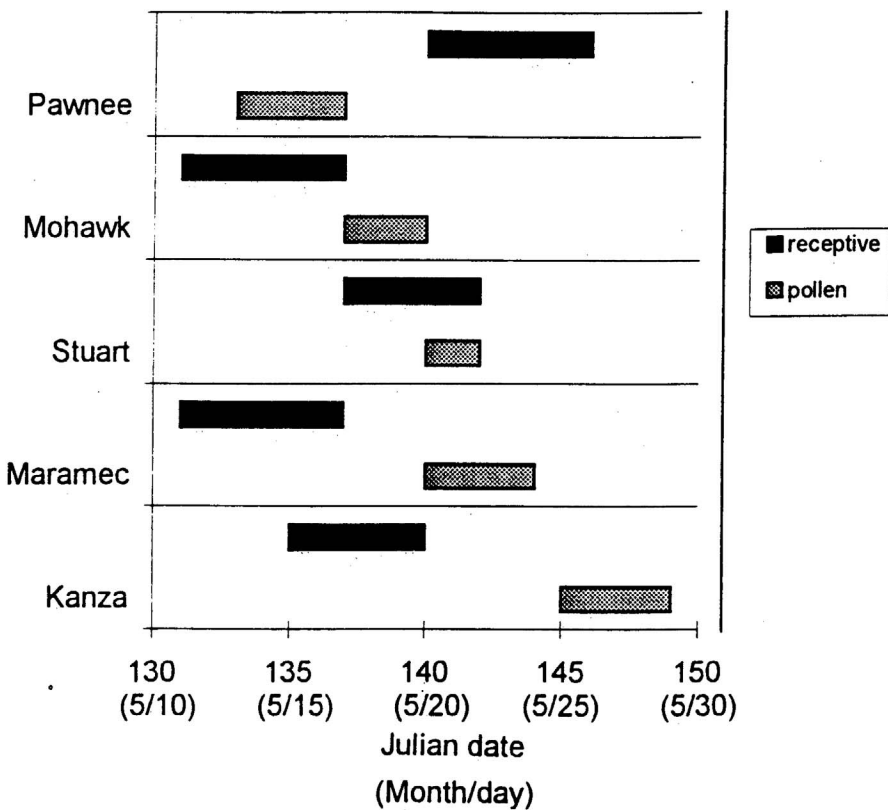


Fig. 3. Pollen shed and pistil receptivity for 'Kanza' pecan and control cultivars at Sparks, Okla., in 1995.