'Oconee' Pecan

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Additional index words. *Carya illinoensis*, cultivar, variety

'Oconee' is a new pecan [*Carya illinoensis* (Wangenh.) K. Koch] cultivar released 29 Dec. 1989 by the Agricultural Research Service (ARS), U.S. Dept. of Agriculture (USDA); the Georgia Agricultural Experiment Station, Athens; the Louisiana Agricultural Experiment Station, Louisiana State Univ., Baton Rouge; and the Texas Agricultural Experiment Station, Texas A&M Univ., College Station. When compared with other protandrous cultivars, 'Oconee' has the unique characteristics of high yield, large nuts, a high percentage of kernel per nut, and excellent shelling characteristics. Nut maturity is too late to allow culture in extreme northern pecan production areas.

Origin

'Oconee', tested as selection 56-7-72, is a progeny from a 1956 cross between 'Schley' and 'Barton' 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 branch of a bearing tree in

Received for publication 29 Oct. 1990. 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.

clone each year (1963-68) produced nuts that were analyzed for nut quality. Based on preliminary performance, extensive testing was started in 1964.

Description

Yield data taken early during the evaluations indicate that the precocity and yield potential of 'Oconee' are good (Table 1). Grafted trees at Tifton, Ga., started producing the 5th year and have produced a total of 91.4 kg of nuts per tree through the 10th season (Worley, 1986). Average annual production was 1, 3, 5, 10, 13, 24, 10, and 25 kg/tree for the fifth through the 12th seasons, respectively. The nuts are large enough to be sold in-shell or shelled to produce very attractive kernel halves (Fig. 2).

Budbreak of 'Oconee' is similar to that of 'Caddo' and 'Kiowa' and earlier than 'Cheyenne' and a sib clone, 'Shawnee' (Table 2).

Summer 1957 and was among the first selections of this cross to fruit in 1961. This

Table 1. Performance of 'Oconee' pecan compared with control cultivars at Tifton, Ga., planted in 1979 and measured through 1990. Total nut yield is for 8 years (1983-90).

Cultivar	Total nut yield (kg/tree)	Characteristic ^a		
		Nut wt (g)	Kernel ^b (%)	Fancy kernels ^a (%)
Oconee	91.4 b	9.7 c	56 b	26 ab
Cheyenne	70.4 ab	7.1 a	55 b	33 b
Shawnee	84.7 ab	8.0 b	54 b	31 ab
Forkert	63.6 a	9.1 c	60 c	33 b
Gloria Grande	85.6 ab	9.7 c	45 a	21 a

^aMean separation within columns by Duncan's multiple range test, $P = 0.05$.

^bPercentage of kernel per nut.

^cSee Worley (1990).

Table 2. Time-related tree characteristics of 'Oconee' pecan compared with control cultivars at Tifton, Ga., planted in 1979 and measured through 1990 (average of 8 years of data).

Cultivar	Budbreak ^a	Pollen shed		Pistil receptivity		Complete shucksplit	Leaf drop (50%)
		First	Last	First	Last		
Oconee	8 Apr. c ^a	29 Apr. b	5 May b	7 May b	9 May a	21 Oct. ab	4 Nov. b
Caddo	3 Apr. a	25 Apr. a	2 May a	5 May b	8 May a	16 Oct. a	16 Nov. a
Cheyenne	9 Apr. cd	1 May b	7 May b	4 May b	9 May a	22 Oct. b	18 Nov. a
Kiowa	4 Apr. b	5 May c	13 May c	30 Apr. a	6 May a	30 Oct. c	26 Nov. b
Shawnee	12 Apr. d	8 May d	16 May d	4 May b	9 May a	16 Oct. a	30 Nov. c

^aSee Wetzstein and Sparks (1983).

^bMean separation within columns by Duncan's multiple range test, $P = 0.05$.

Fig. 1. Pedigree of 'Oconee' pecan, including the year each cultivar was named. F = female parent and M = male parent.

Fig. 2. Nuts and kernel halves of the 'Oconee' pecan.

Table 3. Average disease resistance rating of 'Oconee' pecan compared with control cultivars.^{a,y}

Cultivar	Scab		Downy spot	Leaf scorch	Vein spot
	Nut	Leaf			
Oconee	1.8	1.2	1.4	1.2	1.2
Desirable	2.1	2.4	1.5	1.6	1.7
Cheyenne	1.6	2.0	1.6	1.5	1.1
Pawnee	1.8	2.8	2.0	2.0	1.0
Wichita	3.0	3.0	2.3	1.9	1.1

^aData based on evaluations at ≈40 locations.

^yRating scale for all diseases: 1 = no sign of disease; 5 = very severe disease.

'Oconee' is protandrous and has a pollen-shedding pattern similar to 'Caddo' and 'Desirable'. It likely will be a good pollinizer for most protogynous cultivars and likely will be pollinated well by 'Wichita', 'Choctaw', 'Stuart', 'Shoshoni', and many other protogynous cultivars.

'Oconee' has good scab [*Cladosporium caryigenum* (Ell. et Lang.) Gottwald] resistance (Table 3). In severe scab environments, this disease can be effectively managed on this clone with currently registered fungicides. 'Oconee' has fair resistance to downy spot (*Mycosphaerella caryigena* Demaree and Cole), and its resistance to vein spot (*Gnomonia nerviseda* Cole) exceeds that present in 'Desirable'.

Availability

Graftwood was supplied to nurseries and state universities and experiment stations in 1990. Scionwood or budded trees are now available from nurseries. The USDA does not have trees for distribution.

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