'Moreland' Pecan

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

There are few pecan [*Carya illinoensis* (Wangenh.) K. Koch] cultivars adapted to the humid environmental characteristics typical of those found in Louisiana that produce >1400 kg·ha⁻¹ (Table 1) and have as many positive attributes as does 'Moreland'. Trees at Shreveport, La., produced an average of 1438 kg·ha⁻¹ over 9 years, - and nuts have maintained consistently high kernel quality in both Louisiana and Florida.

'Moreland' was released by the Louisiana State Univ. Agricultural Center (LSUAC) Pecan Station because it has better yield, kernel quality, production, and/or disease resistance than many of the older standard cultivars grown in Louisiana, as well as most of the new cultivar releases (Tables 2 and 3). It has not been found to have bunch or tumor diseases and it has very little vein spot, liver spot, brown spot, or blotch disease of leaves. The in-shell appearance is similar to that of 'Schley' (Fig. 1). Leaf retention is quite good, even with little or no pesticide application.

Origin

The 'Moreland' pecan originated in the yard of William Edmond Moreland at Powhatan, La. It is reported to have grown from

Received for publication 16 Aug. 1989. 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.

¹Retired.

Further information may be obtained by requesting a copy of LA Circ. 129, dated Jan. 1989, from the Pecan Research-Extension Station, Shreveport, La.

Description

'Moreland' averaged 111 nuts/kg, with 55.7% shellout. Average nut dimensions are: length 41 mm; width 21 mm; length : width ratio, 1.9: 1.0. The packing material is released from the grooves with little difficulty upon shelling (Fig. 2). Kernels are light yellow (Table 2). This cultivar has been referred to as the "Louisiana Schley" due to its similarity in appearance to 'Schley', which may be one of the parents.

Trees tend to bear a heavy crop followed by a light crop (Table 1), similar to many of the heavy-producing cultivars. However, this alternate-bearing tendency has not resulted in the production of pops (pecans with no kernels), as in other cultivars, and nut quality has remained good.

'Moreland' is protogynous and needs protandrous cultivars nearby for cross-pollination. Pollen shedding begins about 5 May in the Shreveport area. Shell hardening begins during the 3rd week of August.

Shuck split at Shreveport has ranged from 28 Sept. (1977) to 13 Oct. (1980). Trees are

below the graft on a tree purchased (about 1945) from the Bass Pecan Co. at Lumberton, Miss. It was initially tested by the USDA and later by the LSUAC Shreveport Pecan Station. It was also evaluated during 20 years at the Univ. of Florida, Gainesville, for which 1 sample year of data is presented (Table 2).

Fig. 1. In-shell appearance of 'Moreland' pecans. Scale in inches (2.5 cm).

Table 1. 'Moreland' nut yield, Pecan Research-Extension Station, Shreveport, La. Trees were 12 years old in 1979.

Yield type	Year									Total	9-Yr avg
	1979	1980	1981	1982	1983	1984	1985	1986	1987		
Kg/tree ^a	24.7	30.1	57.6	4.9	64.3	7.6	66.1	5.4	39.6	300	33.4
Kg·ha ⁻¹	1060	1300	2470	213	2770	329	2850	232	1700	1290	1440
Running avg:											
Per tree	24.75	27.45	37.50	29.36	36.36	31.58	36.51	32.63	33.40		
Kg·ha ⁻¹	1180	1180	1610	1260	1560	1360	1570	1400	1440		

Trees were spaced 15.24 × 15.24 m, with 43.05 trees/ha.

Fig. 2. 'Moreland' kernels.

Table 2. One-year (1981) comparison of 'Moreland' against selected cultivars evaluated at Gainesville, Fla.

Cultivar	Trait				Foliage ^w	Scab ^v
	Kernel ^r (%)	Nut wt (g)	Crop size ^j	Kernel grade ^s		
Moreland	58.1	8.6	H	2	100	0
Desirable	43.0	10.6	L	3	100	Tr
Davis	35.7	9.3	H	3	95	0
Cape Fear	56.6	10.3	H	2	100	0
Caddo	53.6	6.4	H	3	100	0
Stuart	43.8	10.2	H	3	100	Tr
Kiowa	51.8	9.3	MH	4	100	0

^rPercent kernel refers to the relative amount of kernel per total weight of the nut.

^jH = high, M = medium, L = low.

^sScale of 1 to 4, where 1 is bright and 4 is dark. Bright is preferred.

^wPercent foliage retained on 13 Oct. 1981.

^vTr = trace, 0 = no scab.

Table 3. Comparison of 'Moreland' disease and insect susceptibility ratings (1971).

Cultivar	Diseases ^{a,y}								Insect ^f Phylloxera
	Scab	Bunch	Tumor	Shuck disease	Vein spot	Liver spot	Brown leaf spot	Blotch	
Moreland	3	---	---	---	2	1	2	1	5
Stuart	2	---	---	---	3	3	4	3	4
Desirable	5	4	---	2	3	1	2	5	5
Candy	3	1	3	---	2	2	2	1	---
Cape Fear	3	3	---	---	4	2	3	1	---
Elliot	---	5	2	1	2	2	2	1	---
Caddo	3	1	---	---	3	2	5	1	---
Jackson	3	1	---	---	2	2	3	1	5
Schley	5	5	5	---	3	2	2	1	5
Gloria	---	---	---	---	2	1	2	1	---
Forkert	3	3	---	---	1	3	3	1	---
Success	5	1	1	5	5	2	4	2	5

^aScale of 1 to 5, where 1 is lowest and 5 is highest for all criteria.

^yDashes indicate none during period of observation.

^fData taken in 1971 by G. KenKnight at Robson, La.

ready for their first harvest $\approx$ 3 weeks after shucks first split. Well-spaced 20-year-old trees produce full and well-rounded crowns and have attractive foliage. Limb breakage due to crop load has been minor.

Shell markings of early harvested nuts are medium brown with minor black streaks (Fig. 1). Shells are thin and easily cracked and, although they are not quite as thin as 'Schley', they are thinner than in 'Stuart'.

'Moreland' has been rated 3 for scab, where 1 = none and 5 = worst; a rating equal to that for several standard cultivars (Table 3).

Although stem phylloxera has been reported on 'Moreland', it has been of minor consequence thus far, even though phylloxera has been epidemic in the Shreveport area for several years on many unsprayed trees.

Availability

Trees will be available from some Louisiana and Texas nurserymen in Winter 1990-91. Limited amounts of graftwood will be available for nurserymen through the releasing agency at the Pecan Research-Extension Station, P.O. Box 5519, Shreveport, LA 71135.