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EC90-1762 Nut Tree Cultivars for Nebraska

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Nut Tree Cultivars for Nebraska

William A. Gustafson, Jr., Extension Horticulturist

Proper nut cultivar (variety) selection is important for successful and satisfying results from the home gardener's efforts. Selection should be determined by personal preferences, available space, and intended use of the nuts. Harvest can be spread over several weeks if cultivars with different periods of maturity are planted.

It is important that homeowners select the nut plants or cultivars best adapted for cultivation in their area of the state. They must have adequate hardiness to survive the winter, heat and drought tolerance to thrive in the summer, and the ability to survive spring frosts.

Select plants of the proper size to fit the space available and to contribute to the aesthetic value of the landscape. For example, the spring bloom of almond trees can be very attractive; shade and similar attributes can be valued additions from nut trees.

Nut trees require pruning and other cultural practices. Most nut plants require several pesticide applications per season to prevent insect and disease damage. Plant only as many plants as you have the time to care for.

Plant Hardiness Zones

Nebraska has two major plant hardiness zones — 4 and 5 — as shown on the map. If the cultivar listed has your zone number or lower, it may be hardy in your area. The USDA Plant Hardiness Zones can be subdivided into smaller units "a or b" (not shown on the map) which represent 5-degree differentials within the 10-degree zone. These hardiness zones are based solely on average minimum winter temperatures.

Horticultural Regions

The Nebraska horticulture regions *(A-E)* are further subdivisions of the plant hardiness zones and are more specific to Nebraska's growing conditions. They take into consideration additional plant growth factors, such as frost occurrence, seasonal rainfall distribution, wind desiccation (drying), humidity, soil characteristics, and duration and intensity of sunlight. The combined effect of all these factors determine true plant adaptability.

Rainfall, soil type, and summer heat also must be suitable for plant growth. Some growing conditions may be at least partially controlled by irrigation, soil modification, wind protection, shading or humidity control. Frost dates, length of growing season and minimum winter temperatures are among the least readily controllable of the major factors governing the geographic adaptability of plants. These factors all need to be considered in cultivar selection.

Located on the western edge of the Midwestern Region, Nebraska has many of the climatic conditions of both the Great Plains and the Intermountain Regions. These include low atmospheric pressure coupled with wind movement and low humidity which allows moisture to evaporate quickly, thus contributing to drought conditions.

As you go west in Nebraska, it becomes difficult to grow nut trees. This difficulty results from lower rainfall, lower humidity, high wind movement, higher elevation, higher soil pH, and a shorter growing season.

Many woody nut plants adapted to the very cold winters of Canada and the New England states will not survive the cold, semi-arid winters of Nebraska. This apparent lack of hardiness is mainly because higher wind velocities and the low humidity associated with cold causes winter moisture stress. The effect is called desiccation or drying out.

A good example is the "Sparrow" black walnut which is supposedly adapted to plant hardiness zones 4 and 5, but not horticulture region "E" because of high elevation, lack of rainfall and desiccation by wind.

Length of Growing Season

The dotted lines on the map indicate the average number of days of the frost free growing season for your area of the state. This information can be helpful in selecting nut tree cultivars that will mature during your growing season. Keep in mind that the map is only a guideline. Many nut plants may be hardy to your geographic region and will bear nuts, but will not ripen because of the short growing season.

Some areas of the state have "micro-climates" — climates specific to small areas. Microclimatic variations are due to exposure, slope, vegetation, and thermal capacity and conductive characteristics of the soil. The climates in Lincoln and Omaha are considerably different than that of the farming

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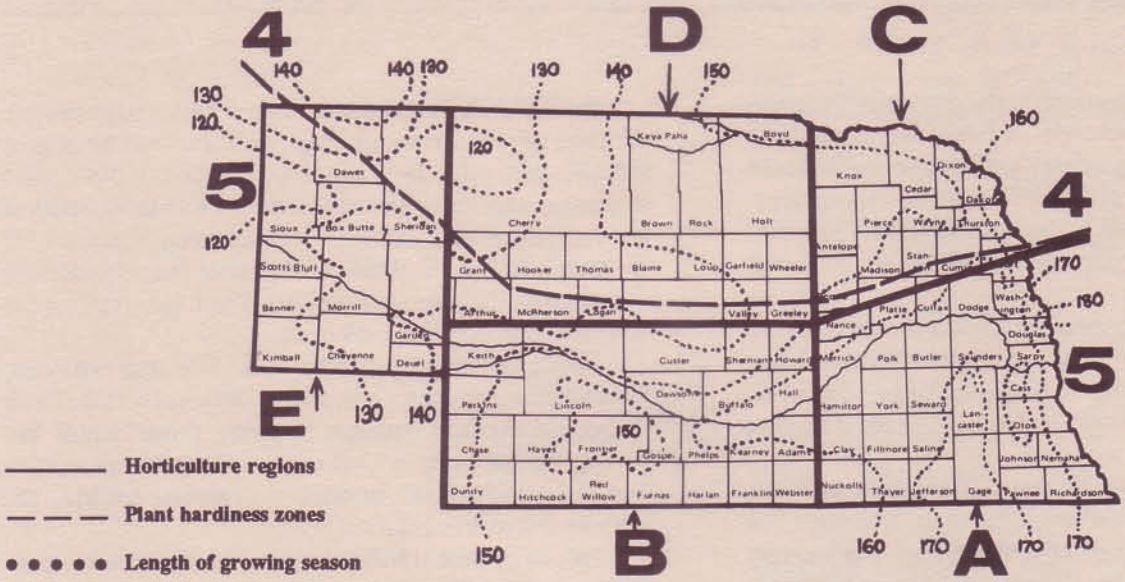
area just outside of their city limits due mainly to protection offered by the many houses, streets, and trees with their warming effect on the environment and protection from wind exposure. Variations in microclimates should be considered when selecting plants for adaptation out of their natural plant hardiness zones or horticultural regions.

There are many nut tree species that will grow in Nebraska. This publication lists only a few cultivars of each species. However, recommendations are based on hardiness, maturity, adaptability and quality. The cultivars are listed in order of maturity (ripening). Mail order sources for adapted cultivars are listed in alphabetical order on Pages 6-8.



Nut Tree Cultivars For Nebraska

The following nut cultivar list is a major revision of the list in NebGuide G81-547. Most of the pecan and black walnut cultivars listed have been tested in the Northern Nut Tree Research Program at the University of Nebraska-Lincoln.

Note: Unless otherwise indicated, *Pollen Source Cultivar(s)* refers to *Pollinizer Number*.

ALMOND (*Prunus amygdalus*)

Pollinizer Number	*Cultivar*	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)*	*Brief Description*
	Halls Hardy	5	A	Self-fruitful	Hardy, dual purpose tree; late blooming, pink flowers; ornamental and nut production; nuts are fair quality, flavor is somewhat bitter and considered unpleasant by some people. (Nursery Sources: 8, 34, 36, 50,)

BUTTERNUTS (*Juglans cinerea*, White Walnut)

Pollinizer Number	*Cultivar***	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)*	*Brief Description*
1.	Kenworthy	4-5	A-C	2 or 3	Large nut, excellent flavor, good cracking quality, prolific bearing, Wisconsin origin. (Nursery Sources: 28, 33)
2.	Mitchell	4-5	A-C	1 or 3	Medium size nut, good flavor, good cracking quality, good bearing (Nursery Source: 28)

**Self-unfruitful

CHINESE CHESTNUTS *(Castanea mollissima)*/Hybrids

Pollinizer Number	*Cultivar***	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)*	*Brief Description*
	Au-Cropper	4-5	A-E		Dark brown nuts (38/lb) that are glossy and attractive with good quality (Nursery Source: 70)
	Au-Leader	4-5	A-E		Produces high yields of excellent quality large nuts (35/lb); trees grow 25-35 ft. tall. (Nursery Source: 70)
	Crane	5	A		Large nut, excellent flavor, prolific bearing; bear nut crop in 2-3 years. (Nursery Sources: 28, 47, 55)
	Eaton	5	A-B		Orchard/ornamental tree with glossy foliage with attractive sweet nuts. (Nursery Source: 55)
	Henry VIII	5	A-B		Good tasting nuts with glossy mahogany colored finish, with golden meats of exceptional nutty flavor and crunchy texture. (Nursery Sources: 41, 47)
	Jersey Gem	5	A-B		Large, mahogany red colored nuts, tree is a heavy bearer. (Nursery Source: 41)
	Nanking	5	A-B		Tree is early to bear nuts that are dark tan in color and usually 30 to 35 nuts/pound. (Nursery Sources: 47, 45)
	Orrin	5	A-B		Large nut, excellent flavor, prolific bearing; bears nut crop in 2-3 years. (Nursery Sources: 28, 41, 55)
	Revival	4-5	A-C		Yearly crops of large sweet tasting nuts; hardy to -30°F; *C. denta* X *C. Mollissima*. (Nursery Sources: 8, 14, 70)
	Sleeping Giant	5	A-B		Hybrid producing large attractive nuts; large tree with glossy green leaves. (Nursery Sources: 4, 55)

**Self unfruitful

HAZELNUT CULTIVAR (*Corylus americana*) -- Planting filberts is not recommended in Nebraska.

Cultivar	*Zone(s)*	*Regions*	*Pollen Source Cultivar(s)*	*Brief Description*
Winkler Hazel (American)	4-5	A-C	Self-fruitful	Prolific bearing in 2-3 years, small nut, good flavor and good cracking quality. (Nursery Source: 28)

HEARTNUTS *(Juglans cordiformis)* — Isolated trees or a single cultivar, which may pollinate itself poorly if at all, exhibits being partially self-fruitful, but one should use a pollen source cultivar for good yields.

Pollinizer Number	*Cultivar***	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)*	*Brief Description*
1.	Bates	5	A	2, 3, or 4	Introduced by J.F. Jones, Lancaster, PA
2.	Canoka	5	A	1, 3, or 4	Introduced by J.U. Gellatly, Westbank, B.D., Canada. (Nursery Sources: 7, 55)
3.	Etter	5	A	1, 2, or 4	Small nut introduced by Fayette Etter, Lemasters, Pa. (Nursery Source: 33)
4.	Walters	5	A	1, 2, or 3	Introduced by J. U. Gellatly, Westbank, B.C., Canada.

**Self-unfruitful

HICKORY CULTIVARS -- Plant two or more cultivars to ensure better pollination and bigger crops.

Pollinizer Number	*Cultivar***	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)*	*Brief Description*
	SHAGBARK HICKORY CULTIVARS (*Carya ovata*)				
	Felger	4-5	A-C		Superior nut quality, but not precocious nor heavy bearer, 30% kernel. (Nursery Source: 55)
	Grainger/Heisey	4-5	A-C		Large nut, cracks easily, ripens late, bears heavily. (Nursery Source: 47)
	Porter	4-5	A-C		Large nut that cracks easily, bears well, good quality. (Nursery Source: 47)
	Shinnerling	4-5	A-C		Medium sized nut, good quality, good cracking quality, prolific. (Nursery Source: 28)
	Silvis 303	4-5	A-C		Round thin shelled nut of good quality and 45% kernel. Self-pollinating and good producer. (Nursery Source: 55)
	J. Yoder No. 1	4-5	A-C		Bears young and heavily, excellent flavor, cracks easily, thin shelled nuts that crack out whole halves. (Nursery Sources: 30, 47, 55)
	SHELLBARK HICKORY CULTIVARS (*Carya laciniosa*)				
	Eureka	4-5	A-C		Excellent ornamental tree with medium sized nut with good flavor, good cracking quality. (Nursery Source: 28)
	Keystone	4-5	A-C		Long, thin shelled nut, cracks easily, kernel falls free from the shell. (Nursery Sources: 47, 55)
	Nieman	4-5	A-C		Heavy producer of very large nuts. Fairly thick shell, nut cracks well. Good producer in the north. (Nursery Source: 55)

PECAN CULTIVARS *(Carya illinoensis)* – Short season cultivars: approximately 150-185 days to mature the pecan nuts. The cultivars of pecan listed should be grown in eastern Nebraska where there are approximately 150-185 frost-free days. Pecans are a warm season crop with early maturing cultivars requiring more than 160 frost-free days for the kernel to mature and fill fully.

Pollinizer Number	*Cultivar*	*Zone(s)*	*Regions*	*Pollen Source Cultivars(s)***	*Brief Description*
1.	Lucas[II] 158 FFD[+]	4-5	A-C	2, 3, or 4	Early maturing precocious pecan producing medium-sized nuts which crack and fill well in the north, Ohio seedling. (Nursery Source: 55)
2.	Starking Hardy Giant[I] 161 FFD	4-5	A-C	1,5,6,7, or 8	Attractive nut, medium production, kernel cracks out well; Missouri seedling. (Nursery Sources: 40, 70)
3.	James[I] 176 FFD	4-5	A-C	1,5,6,7, or 8	Hardy. (Nursery Source: 40)
4.	Peruque[I] 168 FFD	4-5	A-C	1,5,6,7, or 8	Desirable shaped nut, good vigor and foliage, bears early and well, but thin shell makes it vulnerable to predators; Missouri seedling. (Nursery Sources: 7, 28, 32, 47, 55)
5.	Colby[II] 170 FFD	5	A	2, 3, or 4	Large desirable nut, heavy pollen producer, retains foliage late in fall; Illinois seedling. (Nursery Sources: 7, 28, 32, 36, 47, 55, 70)

Pollinizer Number	Cultivar	Zone(s)	Regions	Pollen Source Cultivars(s)	Brief Description
6.	Hirschi[II] 176 FFD	5	A	2, 3, or 4	Hardy, heavy bearer, thin shelled nut with high quality with 56 nuts/lb.; Missouri seedling. (Sources: 32, 55)
7.	Posey[II]	5	A	2, 3, or 4	Excellent shaped nut of high kernel quality; Indiana seedling. (Nursery Sources: 28, 55)
8.	Major[II] 185 FFD	5	A	2, 3, or 4	Nut roundish and somewhat smaller; bears well; Kentucky seedling. (Nursery Sources: 28, 36, 55, 70)

***Pollination**. In all pecan cultivars, pollination/flower fertilization (generally self-unfruitful) is essential for nut development. Inadequate pollination will result in the small nutlets/abscission (dropping) about six weeks after the pollination period.

[I]Type I - Protandrous – Pollen is shed from catkins (male) before pistillate (female) flowers are receptive.
[II]Type II -Protogynous – Pistillate (female) flowers are receptive before pollen is shed from catkins (male).
[+]FFD – Frost-free days from last spring freeze to nut maturity.

WALNUT CULTIVARS

Black Walnut Cultivars (*Juglans nigra*) – Plant two or more trees of different cultivars if native black walnut trees are not growing in the neighborhood. Because of flowering habit, self-pollination is unlikely, but individual trees are not self-sterile; if they are not pollinated by neighboring trees, they may set self-fertilized seeds (nuts).

Pollinizer Number	Cultivar	Zone(s)	Regions	Pollen Source Cultivars(s)**	Brief Description
1.	Krause[I] 144 FFD[+]	4-5	A-C	3, 5, or 6	Medium sized nut, good flavor, good cracking quality. (Nursery Source: 28)
2.	Mintle[?]	4-5	A-C		Small nut with good flavor, very prolific bearing, fair cracking quality. (Nursery Source: 28)
3.	Ohio[II] 150 FFD	4-5	A-C	1 or 4	Moderately resistant to anthracnose, large nut, good flavor, good cracking quality, medium bearing. (Nursery Source: 28)
4.	Sparrow[I] 151 FDD	4-5	A-C	3, 5, or 6	Has a medium-sized nut with sweet kernel with good cracking qualities. (Nursery Sources: 28, 55)
5.	Hare[II] 151 FFD	5	A	1 or 4	Very large nut with good shell structure, very good cracking qualities, heavy bearer of high quality kernels. (Nursery Source: 55)
6.	Rowher[II] 177 FFD	5	A	1 or 4	Excellent black walnut with excellent nut quality and cracking quality. (Nursery Source: 47)
7.	Thomas[II] 177 FFD	5	B	3, 5, or 6	Not anthracnose resistant, large nut, heavy bearer of good quality nuts, fair cracking quality. (Nursery Sources: 28, 55)

[I]Type I - Protandrous – Pollen is shed from catkins (male) before pistillate (female) flowers are receptive.
[II]Type II - Protogynous – Pistillate (female) flowers are receptive before pollen is shed from catkins (male).
[+]FFD – Frost-free days from last spring freeze to nut maturity.

Persian (Carpathian) Walnuts (*Juglans regia*) – Graft scions (or bud) from Persian walnut trees that are hardy and growing in your area of the state onto black walnut trees or seedlings.

Sources of Nut Plants/Trees*

Source No.	Nursery Name and Addresses of Sources
1.	Bald Eagle Nursery, Inc., 1010 9th. Ave., Fulton, IL 61252, (815) 589-2713
2.	Barber Nursery, 23561 Vaughn Rd., Veneta, OR 97487
3.	Vernon Barnes & Son, P.O. Box 250-L, McMinnville, TN 67110
4.	Bear Creek Nursery, P.O. Box 411, Northport, WA 99157
5.	Bigelow Nurseries, Box 718, Northboro, MA 01532
6.	Buckley Nursery, 646 N. River Ave., Buckley, WA 98321
7.	Burnt Ridge Nursery, 432 Burnt Ridge Rd., Onalaska, WA 98570, (206) 985-2873
8.	W. Atlee Burpee & Co., 300 Park Ave., Warminster, PA 18974, (215) 674-4915
9.	California Nursery Co., Niles District, Box 2278, Freemont, CA 94536
10.	Callahan Seeds, 6045 Foley Lane, Central Point, OR 97052
11.	Carter Seeds, 475 Mar Vista Dr., Vista, CA 92083
12.	Cascade Forestry Service, Rt. 1, Cascade, IA 52033, (319) 852-3042
13.	Central Indiana Walnut Growers, 1818 Arrowhead Drive, West Lafayette, IN 47906
14.	Chestnut Hill Nursery, Rt.1, Box 341, Alachua, FL 32615, (904) 462-2820, Fax (904) 462-4300
15.	Clifty View Nursery, Rt. 1, Box 509, Bonners Ferry, ID 83805
16.	Cloud Mountain Farm & Nursery, 6906 Goodwin Rd., Everson, WA 98247
17.	Country Heritage Nursery, P.O. Box 536, Hartford, MI 49057
18.	Edible Landscaping, P.O. Box 77, Afton, VA 22920, (804) 361-9134
19.	Endangered Species, P.O. Box 1830, Tustin, CA 92681
20.	Environmental Collaborative, P.O. Box 539, Osseo, MN 55369
21.	Fedco Tree Box 340, Palermo, ME 04354
22.	Fernald Nut Tree Nursery, RR 2, Monmouth, IL 61462
23.	Forest Farm Nursery, 990 Tetherow Rd., Williams, OR 97544
24.	Forrest Keeling Nursery, Hwy. 79, Elsberry, MO 63343
25.	Four Seasons Nursery, 2207 E. Oakland Ave., Bloomington, IL 61701
26.	Fowler Nurseries, Inc., 525 Fowler Rd., Newcastle, CA 95658
27.	Frosty Hollow Nursery, P.O. Box 53, Langley, WA 98260
28.	Louis Gerardi Nursery, 1700 East Highway 50, O'Fallon, IL 62269, (618) 632-4456
29.	Greenhaven Farm Nursery, 3426 Grenlund Rd., Rt.1 Perrinton, MI 48771
30.	John Gordon Nursery, 1385 Campbell Blvd., North Tonawanda, NY 14120, (716) 691-9371
31.	Greenmantle Nursery, 3010 Ettersburg Rd., Garberville, CA 95440
32.	W. Greiner & Sons Nursery, Box 70, Mulvane, KS 67110, (316) 777-1035
33.	Grimo Nut Nursery, R.R. 3, Lakeshore Road, Niagara-on-the-Lake, ONT, Canada, LOS 1JO, 416-935-9773
34.	Gurney's Seed & Nursery Co., 2nd & Capitol, Yankton, SD 57090, (605) 665-1617
35.	Hastings, P.O. Box 115535, Atlanta, GA 30310
36.	Henry Fields Seeds & Nursery Co., Shenandoah, IA 51602, (605) 665-4491
37.	Hidden Spring Nursery, Route 14, Box 159, Cookville, TN 38501, (615) 268-9889
38.	J.L. Hudson, Seedsman, P.O. Box 1058, Redwood City, CA 94064
39.	Ison's Nursery & Vineyards, Rt.1, Box 191, Brooks, GA 30205

Source No.	Nursery Name and Addresses of Sources
40.	James Pecan Farms, RR 3, Box 212, Brunswick, MO 65236
41.	Jersey Chestnut Farm, 58 Van Duyne Ave., Wayne, NJ 07470
42.	Joyce Farms, Rt. 3, Box 222, Sherwood, OR 97140
43.	Jung Quality Seeds Co., 335 S. High St., Randolph, WI 53957, (414) 326-3123
44.	Kelley Nurseries, P.O. Box 800, 19 Maple St., Dansville, NY 14437-0800, (314) 754-4525, (800) 325-4180
45.	Krider Nurseries, P.O. Box 29, Middlebury, IN 46540
46.	Las Pilitas Nursery, Star Rt. Box 23-X, Santa Margarita, CA 93453
47.	Lennilia Farm Nursery, Rt. 1, Box 683, Alburtis, PA 18011, (215) 845-2077
48.	Maver Nursery, Rt. 68, Box 301, Tuckasegee, NC 28783
49.	Earl May Seed & Nursery, 208 N. Elm St., Shenandoah, IA, (712) 246-1020, (800) 831-4193
50.	Mellinger's Inc., 2340 S. Range Rd., North Lima, OH 44452, (216) 549-9861, (800) 321-7444
51.	Miller Nursery, 5060 W. Lake Rd., Canandaigua, NY 14424, (800) 828-9630, Fax (716) 396-2154
52.	Moon's Nursery, P.O. Box 1097, Oroville, WA 98844
53.	Musser Forests, Inc., P.O. Box 340, Rt. 119 North, Indiana, PA 15701
54.	Nebraska Nut Growers Association, P.O. Box 4644, Lincoln, NE 68504
55.	Nolin River Nut Tree Nursery, 797 Port Wooden Rd., Upton, KY 42784, (502) 369-8551
56.	Northwoods Nursery, 28696 S. Creamer Rd., Molalla, OR 97038, (503) 651-3737
57.	Oikos Tree Crops, 721 N. Fletcher, Kalamazoo, MI 49007, (616) 342-6504
58.	Owen Nursery, 2300 E. Lincoln St., Bloomington, IL 61701
59.	Pacific Tree Farm, 4301 Lynwood Dr., Chula Vista, CA 92010

Source No.	Nursery Name and Addresses of Sources
60.	Peaceful Valley Farm Supply, 11173 Peaceful Valley Rd., Nevada City, CA 95959
61.	Pony Creek Nursery, Tilleda, WI 54978
62.	Raintree Nursery, 391 Butts Rd., Morton, WA 98356
63.	Saginaw Valley Nut Nursery, Rt. 3, 8285 Dixie Highway, Birch Run, MI, 48415
64.	Salter Tree Farm, Rt. 2, Box 1332, Madison, FL 32340
65.	Savage Farms Nurseries, P.O. Box 125, McMinnville, TN 37110
66.	F.W. Schumacher Co., Inc., 36 Spring Hill Rd., Sandwich, MA 02563
67.	J. Skinner Wholesale Nursery, Inc., P.O. Box 8068, Topeka, KS 66608, (913) 235-3479, (800) 255-0311
68.	Smith Nursery Co., Box 515, Charles City, IA 50616, (515) 228-3239
69.	St. Lawrence Nurseries, RFD 2, State Rt. 345, Potsdam, NY 13676, (315) 265-6739
70.	Stark Brother's Nursery, Hwy. 54, Louisiana, MO 33536, (314) 754-4525, (800) 325-4525
71.	TEC, P.O. Box 539, Osseo, MN 55369
72.	Texas Pecan Nursery, Inc., P.O. Box 306, Chandler, TX 75758
73.	Tillinghast Seed Co., P.O. Box 738, La Conner, WA 98257
74.	Tolowa Nursery, P.O. Box 509, Talent, OR 97540, (503) 535-5557
75.	Van Well Nursery, P.O. Box 1339, Wenatchee, WA 98801, (509) 663-8189, (800) 572-1553
76.	Warren County Nursery, Route 2, Box 204, McMinnville, TN 37110, (615) 668-8941, (800) 848-1272, Fax (615) 668-2245
77.	Waynesboro Nurseries, P.O. Box 987, Waynesboro, VA 22980
78.	Whitman Farms Nursery, 1420 Beaumont NW, Salem, OR 97304, (503) 364-3076

Source No.	Nursery Name and Addresses of Sources
79.	Wiley's Nut Grove Nursery, 2002 Lexington Avr., Mansfield, OH 44905
80.	Windy Hills Farm, 1565 E. Wilson Rd., Scottville, MI 49454, (616) 757-2373
81.	Womack's Nursery, Rt. 1, Box 80, DeLeon, Tx 76444-9660, (817) 893-6497
82.	Woodlanders, Inc., 1128 Colleton Ave., Aiken, SC 29801
83.	M. Worley Nursery, 98 Braggton Rd., York Springs, PA 17372

*This list is not complete. Check with your local nursery and/or garden center and with other nursery catalogs for suggested fruit and nut tree cultivars.