

PB746, “ Tree Fruit and Small Fruit Cultivars for Tennessee”

David W. Lockwood, Professor
Plant Sciences
University of Tennessee

Cultivars listed in this publication have been grown in either research or demonstration plantings throughout Tennessee or in areas having similar growing conditions and found to perform satisfactorily. In cases where regional differences have been observed, comments have been included in the “Notes” section.

Due to the large number of fruit and nut crops and cultivars of each of them, not all have been tested. However, attempts have been made to collect information on those offering the most promise for Tennessee growers. Commercial and hobby fruit and nut growers in your area may provide another valuable source of information regarding performance of fruit and nut cultivars in your area.

Peaches

Cultivar	Chilling Hours	Ripening Time (days before (+) or after (-) Redhaven)	Flesh Color	Clingstone or Freestone	Comments
Earlired	850	+20	yellow	cling	tendency for split pits, retains firmness on trees, sets fruit under adverse conditions
Candor	900	+20	yellow	cling	tendency for split pits, blossoms tender to cold, produces excessive buttons some years
Derby	850	+19	yellow	cling	
Surecrop	950	+17	yellow	cling	blossoms are cold-hardy, trees consistently produce good crops, bacterial spot resistance, average resistance to brown rot, fruit is medium to large
Sentry		+14	yellow		

Summerprince		+14	yellow		
Garnet Beauty	850	+10	yellow	semi-free	sizes well, slightly susceptible to bacterial leaf spot
Sureprince	900	+5	yellow	semi-free	
Redhaven	950	0	yellow	free	non-browning flesh, resistant to bacterial leaf spot, consistently productive, flesh may cling unless fully ripe
Norman	900	0			
Late Sunhaven	900	-3	yellow	free	
Carogem	900	-3			
Harken	850	-3	yellow	free	tree is very cold-hardy and resistant to bacterial leaf spot, fruit is non-browning, hangs well and is above average for all uses
Challenger	950	-3	yellow		
Newhaven	950	-3	yellow		
Ranger	900	-4	yellow		
Reliance	1000	-6	yellow	free	very bud-hardy but not wood-hardy, very late to bloom; needs heavy, early thinning to attain good size; fruit is soft, drops when ripe, poor quality
Nectar	1050	-6	white	free	fruit is very high quality with outstanding sweetness and aroma; too soft for shipping; not resistant to brown rot or browning

Winblo	850	-13	yellow	free	trees have moderate resistance to bacterial leaf spot; fruit is very high quality and moderately resistant to flesh browning
Intrepid	1000	-11	yellow	free	
Fireprince	850	-11	yellow	free	
Carogem	900	-11	yellow	free	
Blazeprince	850		yellow	free	
Jayhaven	850		yellow	free	
Sunhigh	800	-14	yellow	free	fruit is firm, sizes well, high quality; very susceptible to bacterial spot
Halehaven	900	-14	yellow	free	fruit too small in some seasons, does not ship well, susceptible to brown rot, ripens uniformly, browns moderately when used for freezing
Glohaven	850	-14	yellow	free	trees are highly productive, fruit requires thinning; fruit is large, uniform, good quality and resistant to browning
La Premier	1050	-16?	yellow	free	
Loring	750	-16	yellow	free	fruit is firm, good size; tree is resistant to bacterial spot; buds are not frost- or cold-hardy
Bounty	800	-16	yellow	free	
Harmony	850	-17	yellow	free	
Contender	1050	-19	yellow	free	blooms late, consistent cropper, needs early, heavy thinning; high quality fruit

Ruston Red	850	-23	yellow	free	
Cresthaven	850	-25	yellow	free	
Georgia Belle	850	-25	white	free	tree is hardy, crops under adverse conditions; fruit ripens uniformly, bruises easily
Biscoe	850	-25	yellow	free	tree is highly resistant to bacterial spot, very bud-hardy, aggressive thinning needed most years; fruit keeps well, not resistant to browning
Indian Red	900	-26	white	cling	
Elberta	950	-28	yellow	free	fruit is large, resistant to brown rot, may drop heavily when approaching maturity, not resistant to flesh browning
Jerseyqueen	850	-28	yellow	free	
Jefferson	?	-31	yellow	free	
China Pearl	1100	-34	white	free	
Rio-Oso-Gem	850	-34	yellow	free	trees are not cold-hardy, have a weak structure, susceptible to bacterial spot; fruit ripens uniformly
Monroe	850	-34	yellow	free	
Tyler	950	-34	yellow	free	
Legend	950	-42	yellow	free	
Parade	850	-46	yellow	free	

Approximate ripening time for Redhaven is mid-July in Tennessee

Lovell, Halford and Guardian rootstocks are recommended.

Varieties having the longest chilling requirements are more consistent in cropping in all parts of Tennessee. Site selection and preparation are critical for success in peach production, especially

on the Cumberland Plateau and the upper elevations of East Tennessee.

Apples

<u>Cultivar</u>	<u>Fruit Color</u>	<u>Notes</u>
Lodi	Yellowish-Green	Ripens early, fruit is tart, softens quickly when ripe, good for cooking; tree is highly susceptible to fireblight and cedar apple rust
Ginger Gold	Yellow	Golden Delicious type that ripens in late July to early August in Tennessee, flavor is sweet and tangy, flesh is firm and crisp; tree is hardy, vigorous and fireblight susceptible
Mollie's Delicious	Red blush over a pale yellow background	Tree is vigorous and productive, susceptible to fireblight, and excellent pollinator; fruit is good quality and large, requires multiple pickings as fruit ripening is not uniform
Gala	Red-orange blush with pale yellow undercolor	Ripens in early to mid-August in Tennessee; fruit is excellent quality, firm, crisp and stores well, more highly colored strains of Gala are available; tree is productive, susceptible to fireblight
Honeycrisp	Red striping over greenish-yellow groundcolor	Flesh is juicy and crisp, flavor is sub-acid and well-balanced, fruit stores well; tree is moderately vigorous; performs best in cooler regions of the state
Empire	Red striped	McIntosh X Red Delicious cross that retains the flavor of McIntosh, but is more highly colored and does not soften as quickly, fruit is medium size; blooms early so frost is more of a concern; tree is upright, spreading, fireblight susceptible
Jonathan	Red striped	Good dessert and cooking apple, fruit is medium size; good pollinator; tree is very susceptible to fireblight, cedar apple rust and powdery mildew
(Red) Delicious	Red	Many strains of Red Delicious are available - some of which are spur types; fruit is sweet, highly colored
Golden (Yellow) Delicious	Yellow	Multi-use sweet fruit is good for fresh eating and processing; tree is susceptible to fireblight and cedar apple rust; good pollinator; will alternate bear if not thinned aggressively

Jonagold	Red stripes over yellow ground color	Jonathan X Golden Delicious cross; fruit is large, high quality, softens quickly; tree is vigorous, susceptible to fireblight; will not cross pollinate other cultivars
Mutsu (Crispin)	Light green to pale yellow	Fruit is large, firm, juicy, stores well; tree is vigorous, susceptible to fireblight and blister spot; will not pollinate other cultivars
Cameo	Red striped	Flavor is sweet-tart; flesh is crunchy, creamy-white, non-browning; fruit is firm, stores well; tree is moderately vigorous
Winesap	Dark red stripes over a red background	Excellent dessert and processing quality, tart flavor, flesh is firm, crisp; should not be used as a pollinator for other cultivars
Turley	Red	Type of Winesap; fruit is tart, high quality; tree is moderately susceptible to fireblight
Melrose	Red striped	Jonathan X Red Delicious cross; fruit is high quality; tree is vigorous, an annual producer, resistant to fireblight
Rome	Red striped to red blush	Good processing quality, fruit keeps well; blooms late, ripens late, annual producer, susceptible to fireblight
Hardy Cumberland	Red over pale green ground color	Fruit is high quality, flavor is moderately sweet; flesh is slightly coarse, juicy, crisp, ripens just after Rome; trees are moderately vigorous, spreading and hardy
Arkansas Black	Dark red (purple)	Fruit ripens late, stores very well, mildly tart, firm; flesh is cream-colored; spur-type trees are grower friendly; good pollinator for other cultivars
Fuji	Red stripes over yellowish-green ground color	Fruit is excellent quality, but may be poor in color and shape, crisp, juicy, slightly subacid to sweet, stores well; tree is vigorous, productive; crop is difficult to chemically thin
Braeburn	Orange-red	Fruit is high quality; flesh is crisp and tangy; tree is low in vigor, tends to bloom early, susceptible to scab, fireblight and mildew
Granny Smith	Green	Fruit ripens late, stores well, may develop an orange blush on the side exposed to the sun if allowed to hang; trees are willowy, difficult to train, susceptible to scab, fireblight, cedar apple rust and powdery mildew

Pink Lady	Yellow with pink stripes	Flesh is fine-grained, white and crisp, flavor is sweet-tart; fruit stores well; tree is very fireblight susceptible
-----------	--------------------------	--

Disease-Resistant Apples

<u>Cultivar</u>	<u>Fruit Color</u>	<u>Notes</u>
Redfree	Red	Tree is immune to scab, moderately resistant to fireblight, cedar apple rust and powdery mildew; fruit is crisp, juicy, waxy, russet-free; ripening is about six weeks before Delicious
Liberty	Red striped	Tree is highly resistant to scab, fireblight, cedar apple rust and powdery mildew; fruit is crisp, juicy, sub-acid; ripens about two weeks before Delicious; stores well;
Freedom	Red	Tree is highly resistant to scab, moderately resistant to cedar apple rust and powdery mildew; fruit is crisp, juicy, good for fresh and processing; ripens with Delicious
Enterprise	Red stripes over green ground color	Tree is scab immune; fruit is spicy and sub-acid, hangs well, stores well
Goldrush	Yellow	Tree is highly resistant to scab and powdery mildew, moderately resistant to fireblight; fruit is sweet, crisp, good for fresh and processing; ripens late, keeps very well

Notes: Resistance does not mean immunity. Under severe pressure, sprays may be necessary to control disease in a resistant cultivar.

Cultivars are listed in order of ripening

In the East, cross pollination should be considered necessary for all apple cultivars.

Apple Rootstocks

(listed in order of size control from most dwarfing to least dwarfing)

<u>Rootstock</u>	<u>Amount of Dwarfing -</u>	<u>Notes</u>
------------------	-----------------------------	--------------

Malling 27 (M27)	80 to 85% (Dwarfing)	“Superdwarf”; considered ot be too dwarfing for commercial uses except with most vigorous cultivars; needs support and irrigation
Malling 9 (M9, EMLA 9)	65 to 70% (Dwarfing)	Induces early bearing, heavy production, large fruit size; resistant to collar rot, very susceptible to fireblight, susceptible to wooly apple aphid; needs support and irrigation
Budagovski 9 (Bud 9)	65 to 70% (Dwarfing)	Similar to M9 except Bud 9 is less fireblight susceptible
CG-16	60% (Dwarfing)	Resistant to fireblight and phytophthora; very precocious and productive; does not root-sucker; susceptible to wooly apple aphids; needs support and irrigation
Malling 26 (M26, EMLA 26)	55 to 60% (Dwarfing)	Very susceptible to fireblight; susceptible to wooly apple aphid and collar rot; induces early bearing; needs support; irrigation highly recommended
EMLA 7	40 to 45% (Semi-dwarfing)	Moderately resistant to collar rot; not as susceptible to fireblight as most dwarfing rootstocks; not as precocious as dwarfing rootstocks; trees need to be supported; burr knotting and root suckers can be a problem
CG-30	40 too 45%	More precocious and productive than EMLA 7 but less prone to burr knots and root suckers; not resistant to wooly apple aphid
EMLA 106	30%	Precocious, not prone to root suckering; resistant to wooly apple aphid; self-supporting; collar rot is a serious problem if planted in soils having poor drainage characteristics
EMLA 111	20%	Performs well on drought-prone soils and heavier soils; well-anchored, resistant to wooly apple aphid; prone to burr knotting; not as precocious as EMLA 106
Seedling (standard)	Full-size	Slow to come into bearing; no resistance to wooly apple aphids

Plums

Major problems encountered will be crop loss due to spring frosts and black knot control.

<u>Cultivar</u>	<u>Fruit Color</u>	<u>Notes</u>
Bruce	Red	Oriental type; ripens early; fruit is good size, firm, high quality; a second cultivar for cross pollination is needed
Methley	Purple skin with red flesh	Fruit is high quality, juicy, sweet; buds are hardy; blossoms are self-fertile
Ozark Premier	Red skin with yellow flesh	Oriental type; fruit is large; flesh may cling to pit; blossoms are self fertile
Stanley	Purple skin with greenish flesh	Fruit is freestone, high quality, sweet; blossoms are self fertile; blooms later than most other plum cultivars

Pears (European type)

Major problems include early blooming tendency and firelight susceptibility.

<u>Cultivar</u>	<u>Use</u>	<u>Firelight Resistance</u>	<u>Notes</u>
Ayers	Fresh or canning	Moderate	Ripens early; fruits are juicy, sweet
Moonglow	Fresh or canning	Moderate	Ripens early; fruits are soft, juicy, have few grit cells; trees are upright, heavily spurred
Orient	Canning or cooking	Low	Fruits are firm, juicy, gritty and nearly round; trees are large, vigorous and productive
Starking Delicious	Fresh, cooking and canning	Moderate	Fruits are large, golden; flesh is creamy white; good pollinizer
Seckel	Fresh, pickling, spicing, canning	Moderate	Commonly called "Sugar Pear"; fruits are small, yellowish-brown with pale russet; flesh is fine-grained, smooth, very sweet, very juicy and high quality; tree is productive, slow growing and naturally semi-dwarf
Keiffer	Canning and cooking, preserves	Moderate	Fruits are large, yellow, juicy, gritty; tree is a consistent producer

To attain the highest fruit quality, European pear cultivars should be harvested when they are mature, refrigerated for about two weeks and then allowed to ripen fully at room temperature.

Pears (Asian)

Fireblight is a major limitation. Two or more cultivars are necessary for cross pollination.
European pear cultivars will not cross pollinate Asian pear cultivars.

<u>Cultivar</u>	<u>Notes</u>
Shinseiki	Medium to large yellow fruit with very little russet; flesh is crisp, juicy, creamy white, sweet and mild; fruit hangs on tree well, stores well; tree is medium to large at maturity and spreading.
Hosui	Fruit is medium-large, covered with an orangish-brown russet, stores well; flesh is juicy, sweet, fine grained, crisp and off-white in color; tree is vigorous and spreading.
Chojuro	Fruit is medium to large, flattened, brown-russeted with thick skin; flesh is crisp, slightly aromatic; fruit stores well; tree is medium size and early bearing (may tend to overbear and need thinning)

Cherries

<u>Cultivar</u>	<u>Use</u>	<u>Notes</u>
Early Richmond	Cooking	Fruit is tart, acid; tree is very hardy
North Star Dwarf	Cooking	
Montmorency	Cooking, freezing	Fruit is tart, large; (most common tart cherry produced in the United States)

Due to susceptibility to cold injury and disease problems, sweet cherry trees tend to be short-lived in Tennessee.

American Bunch, Seedless and Hybrid Grapes

Cultivar	Fruit Color	Harvest Period	Use	Notes
<i>American Bunch</i>	red			
Delaware	blue	early Aug.	wine, table	small fruit, vines hardy and slow growing
Steuben	blue	mid Aug.	wine, table, juice	large fruit, compact clusters; vines hardy, vigorous, productive
Concord	blue	late Aug.	wine, table, juice, jelly	fruit ripens unevenly in cluster; vines productive, hardy
Sunbelt	blue	late Aug.	wine, table, juice, jelly	fruit ripens more uniformly than Concord, substitute for Concord in warmer areas
Catawba	red	early Sept.	wine, table, juice	medium size clusters and berries; vines are vigorous, moderately hardy
Niagara	white	early Sept.	wine, table, juice	large clusters, large berries; vines productive, vigorous, very susceptible to black rot
Cynthiana (Norton)	blue	late Sept.	wine	small to medium clusters, small berries; vines hardy, moderately disease-resistant
<i>Hybrids</i>				
Seyval	white	early Aug.	wine	vine has medium vigor, subject to overbearing; highly fruitful on secondary buds
Cayuga White	white	mid Aug.	wine	large clusters; vines are vigorous and moderately hardy
Noiret	blue	mid Aug.	wine	new introduction from Cornell; replacement for Chambourcin in areas where it is difficult to ripen Chambourcin

Corot Noir	blue	mid Aug.	wine	new introduction from Cornell; replacement for Chambourcin in areas where it is difficult to ripen Chambourcin
Chambourcin	blue	late Aug.	wine	vine is medium in vigor, moderately hardy; use short cane pruning
Chardonel	white	late Aug.	wine	Seyval X Chardonnay; more hardy and productive than Chardonnay; suggest using grafted vines
Traminette	white	late Aug.	wine	Gewurztraminer cross; makes a spicy wine; suggest using grafted vines
Villard Blanc	white	mid Sept.	wine	vine produces large, loose clusters; use spur pruning
Vidal	white	mid Sept.	wine	vine is productive, hardy
Vignoles	white	mid Sept.	wine	compact clusters, berries tend to crack in wet seasons; vines hardy, low to moderately productive
<i>Seedless</i>				
Mars	blue	early Aug.	table, juice	berries are medium size, sweet, slipskin; vines are vigorous and may overbear in early years
Reliance	pink	early Aug.	table, raisins	berries are small, high quality, slipskin wotj thin skin; fruit color may vary in some years; vines are vigorous, winter hardy
Saturn	red	mid Aug.	table	berries are large, oblong shaped; flesh is non-slipskin; cluster are medium size; vines are medium in vigor and fruitfulness
Marquis	white	mid Aug.	table, juice	berries are high quality, slipskin; vine is productive
Neptune	white	mid Aug.	table	berry are medium size, non-slipskin, high in sugar content; vines are low to medium in vigor
Jupiter	blue	mid Aug.	table	berries have a mild, muscat flavor, non-slipskin; clusters are large

Muscadine Grapes

(not sufficiently winter hardy to warrant recommendation for planting in higher elevations and in the northern half or the state)

Cultivar	Flower Type*	Fruit Color	Notes
Hunt	female	black	medium to large fruit, ripens early; vines moderately vigorous
Scuppernong	female	bronze	medium size fruit, ripens mid-season, skin is medium thick; vines moderately vigorous
Carlos	perfect	bronze	medium size fruit, ripens mid-season; vines vigorous, heavy producer
Pride	female	black	large fruit, skin medium thick, ripens mid-season; vines are vigorous
Nesbitt	perfect?	black?	
Golden Isle	perfect	bronze	medium size clusters, large berries, thin skin, produces high quality white wine
Triumph	perfect	bronze	dry scar on fruit, ripens late; excellent pollinator
Magnolia	perfect	bronze	large berries, ripens late; vines vigorous
Cowart	perfect	black	large fruit that ripens uniformly; vines vigorous, productive

*Female flowered cultivars need to have a perfect flowered variety planted nearby for cross pollination. Perfect flowered cultivars do not require cross pollination.

Vitis vinifera grapes

(suggested for limited plantings only until site and cultural practices have proven successful - more susceptible to cold injury and disease than American bunch and hybrid cultivars)

Cultivar*	Fruit Color	Notes
Chardonnay	white	vigorous vine, hardy, but begins growth early in spring; cool season cultivar
Merlot	black	berries medium size, round; vine is high-yielding, begins growth early in spring
Cabernet franc	purplish-black	similar to Cab. Sauvignon, more winter hardy, but begins growth and ripens fruit earlier

Cabernet sauvignon	purplish-black	vigorous, upright vine, ripens late
--------------------	----------------	-------------------------------------

* V. vinifera cultivars should be grafted onto C-3309 or 101-14 rootstocks to provide resistance to root phylloxera

Blackberries

Cultivar	Notes
Choctaw	thorned, erect; plant is productive, vigorous, produces many suckers; fruit is high quality, has small seeds, ripens about 10 days earlier than Shawnee, susceptible to double blossom
Shawnee	thorned, erect; plant is vigorous, productive, very susceptible to double blossom; fruit is shiny, black, attractive, firm
Kiowa	thorned, erect; very large fruit, long harvest season; susceptible to double blossom
Natchez (trial)	thornless, erect to semi-erect; fruit size is large, flavor is good, yields are high
Apache	thornless, erect, high yielding; fruit is large, high quality, sweet, has some tendency to have white drupelets on berries
Ouachita	thornless, very erect; fruit is smaller than Apache (equivalent to Navaho), good flavor, high yields
Navaho	thornless, erect; fruit is medium size, firm, sweet
Triple Crown	thornless, semi-erect, productive; sweet/tart flavor
Chester	thornless, semi-erect; plant is vigorous, very productive; fruit quality is less than Triple Crown, ripens later than Triple Crown
Prime Jim (trial)	primocane fruiting, thorned, erect; good flavor, moderate yields; suggest growing for primocane crop only as floricanes are susceptible to double blossom
Prime Jan (trial)	primocane fruiting, thorned, erect; good flavor, moderate yields; suggest growing for primocane crop only as floricanes are susceptible to double blossom