Growing Temperate Tree Fruit and Nut Crops in the Home Garden

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Varieties for Planting in the Home Garden

Where you live (which "climate zone" of the state, will determine which varieties of temperate tree fruit and nut crops will perform best in your home garden, when fruits and nuts are harvested, and which pest and disease problems are more common. This table describes *selected* varieties of the major and minor temperate fruit and nut crops that are suitable for home gardeners in California. The table could easily be doubled or tripled in size if all heirloom varieties and newer varieties available at nurseries or through mail order were included.

I. Pome Fruits

1. Apple
2. Pear/Asian Pear
3. Pomegranate
4. Quince

II. Stone Fruits

1. Almond (see nut crops)
2. Apricot
3. Cherry (sour and sweet)
4. Nectarine
5. Peach
6. Plum and Prune

III. Nut Crops

1. Almond
2. Chestnuts
3. Filberts (Hazelnuts)
4. Pecans
5. Pistachios
6. Walnuts

IV. Vines**

1. Kiwifruit

V. Miscellaneous Temperate Fruits

1. Fig
2. Olive
3. Persimmon

The Introduction of this chapter pointed out that grapes, strawberries, and other temperate-zone vine crops are discussed in two separate chapters in the **Master Gardener Handbook, *Berries in the Home Garden*, and *Grape Culture in the Home Garden.* Please refer to them for variety information.

Certain varieties are superb eaten fresh; whereas, other varieties tend to be used more often for cooking, canning, and freezing. Experts do not always agree about which varieties are best suited for various uses because individual tastes differ; thus, the comments in the table regarding these issues are offered as points of interest only, not as official advice endorsed by the UC. Low chill varieties of apple, pear, peach, nectarine, Japanese and hybrid plums, and kiwifruit are also listed.

Apple

Apples are adapted to many areas of California. A cool climate is needed for coloration in most red varieties. Winter chilling requirements for most (*Malus domestica*) varieties (except "low chill") are 1200-1500 hr below 45^{o}F. Foggy days and dews can cause heavy cosmetic russetting on fruit. There are hundreds of apple varieties, and some varieties have several strains, each with its own characteristics. Spur-type (short shoot growth and abundant spur production) varieties do poorly on dwarfing rootstocks; they are best grown on seedling rootstock. Several rootstocks are available (see below), which impart dwarfing and pest resistance. Apple varieties exhibit considerable genetic diversity. Some require as few as 70 days to mature; others take 180 days or more. Some varieties are very cold hardy; others are tender. Apples require cross-pollination from another variety that blooms at the same time and produces abundant, viable pollen. Many varieties are self-unfruitful and have sterile pollen; others are partially self- fruitful (not all of their pollen is viable); a few are self-fruitful. It is best to plant apple trees in Jan-March.

Rootstocks

- **Seedling -** Used for non-irrigated sites, low vigor sites, and weaker varieties. Very vigorous, produces large, full-sized trees that come into bearing late (7-10 yr.). Susceptible to woolly apple aphid. Trees can fill a 30 x 30 ft. space and grow 20 ft tall.

- **M111** - Semi-dwarf rootstock. Usually produces a tree 80% the size of the same tree on seedling rootstock. Tolerates many soil conditions. Reported resistant to woolly apple aphid. Imparts earlier bearing fruit than seedling, not as early as more dwarfing stock. Requires irrigation.

- **M106** - Semi-dwarf rootstock. Usually produces a tree about 65-75% the size of the same tree on seedling rootstock. Provides good anchorage. Imparts early bearing fruit and is easily propagated. Reported resistant to woolly apple aphid. Requires irrigation. Tree spacing ranges from 10 x 18 ft to 6 x 12 ft.

- **M7a** - Semi-dwarf rootstock. Usually produces a tree about 60% the size of the same tree on seedling rootstock. Performs well in irrigated replant situations, but tends to sucker. Spacing is same as M106.

- **M26** - Semi-dwarf to dwarfing rootstock. Usually produces a tree 30-50% the size of the same tree on seedling rootstock. Performs poorly in most California locations. May need a support system.

- **M9** - Dwarfing rootstock. Usually produces a very small tree less than 30% the size of the same tree on seedling rootstock. Commercially, the most frequently planted rootstock worldwide. However, a poor performer if not adequately managed. Poorly anchored, has brittle root system. Must be trellised.

- **Mark** - Dwarfing rootstock. Relatively new. Similar in size to M9. Very precocious. Poor performer in all apple growing regions.

Standard Varieties

- **Fuji** - Round to flat apple with a very sweet yellow-orange flesh. Skin color is red if given enough sunlight and cool temperatures. One of the best sweet eating apples. Stores well.

- **Gala** - Small to medium-sized, conic-shaped red apple with excellent flavor and keeping qualities. The best variety for the early season. Will not cross-pollinate 'Golden Delicious'.

- **Golden Delicious -** Conic-shaped apple with a long stem, yellow to green skin, yellow flesh, and russet dots. Sweet, juicy, fine-textured. #1 on the North Coast for fresh eating quality and processing. Stores well but susceptible to bitter pit, bruising, russeting. Erratic in self-fruitfulness.

- **Granny Smith -** Round, green to yellow-skinned apple that is quite firm. Keeps very well. Crisp flesh. If harvested early, it is green and tart. Late harvested fruit are yellow-colored and sweet.

- **Gravenstein -** Medium large fruit with short, fat stem. Skin color is greenish yellow overlaid with red stripes. Excellent flavor when fully ripe. Crisp, subacid, and aromatic. A good sauce and pie apple. Stores and ships poorly. High percentage of windfalls. Sterile pollen.

- **Jonathan -** Round, red apple with pure white flesh. Crisp, juicy, and slightly subacid. Excellent for eating fresh, sauce, and juice. Highly susceptible to mildew, fire blight, and Jonathan spot.

- **Red Delicious -** Conic-shaped apple with tapered base and five distinct lobes. Skin color varies from solid red to a mixture of red and green stripes. Crisp, sweet, mild-flavored yellow flesh. Many strains. Used fresh. Stores well.

- **Rome Beauty -** Round fruit with a deep cavity, no lobes, and little russet. Several strains, including the old standard and several new, solid red-skinned strains, such as 'Taylor' and 'Law'. Stores moderately well. Tree leafs out late, flowers late, and produces flowers and fruit on long spur growth that requires modification in pruning. Good for baking.

Harvest Period

Standard Varieties	**San Joaquin Valley**	**Sacramento Valley**	**Central Coast**	**North Coast**	**Sierra Nevada Foothills**	**Southern California**
Fuji	Oct.-Nov.	Late Oct.-Nov.	November	November	Late Oct.-Nov.	NA
Gala	Late June	Late June	Early July	Late July	Early July	Late June
Golden Delicious	Late August	Late August	September	Late Aug.-Sept.	September	NA
Granny Smith	Oct.-Nov.	Late Oct.-Nov.	November	November	Late Oct.-Nov.	NA
Gravenstein	Late June	Late June	Early July	Late July	Early July	NA
Jonathan	August	August	Late Aug-Sept.	Mid Aug-Sept.	Mid August	NA
Red Delicious	Late August	Late August	September	Late Aug.-Sept.	September	NA
Rome Beauty	Oct.-Nov.	Late Oct.-Nov.	November	November	Late Oct.-Nov.	NA

Spur Type Varieties: Strains (mutations) of the original varieties that have shorter internodes and are naturally dwarfing. Best on seedling rootstock.
Golden Delicious Spur: Nugget Spur, Goldspur, Yelo Spur, and Starkspur. Red Delicious Spur: Silverspur, Crimson Spur, Skyspur, Bisbee Spur, Spured Royal, Oregon Spur, Wellspur, Scarletspur, Cascade Spur, Starkspur, Spur McIntosh, Granny Smith Spur, Greenspur & Granspur, Rome Beauty Spur, Law Spur & Spuree, Winesap Spur, Arkansas Black Spur.

Low Chill Varieties: These varieties are adapted to the low latitudes of Southern CA because they have low winter chilling requirements (<300 hr).
Anna, Beverly Hills, Dorsett Golden, Einshemer, Gordon, Tropical Beauty,

Antique Varieties: These varieties do well in much of California if there is adequate chilling and summer heat is not too intense. They are hard to find because they lack commercial value. Many have excellent flavor and perform well in home gardens.
Arkansas Black, Black Twig, Wagner, Baldwin, Cox's Orange Pippin, E. Spitzenburg, Winter Banana, Northern Spy, Winesap, Smith Cider, Red Golden, Newtown Pippin, Rhode Island Greening, Staymen Winesap, McIntosh, Sierra Beauty.

Early Summer Varieties: These varieties do not have the quality characteristics of standard varieties but ripen early when no other fresh apples are available. They are excellent for eating fresh right off the tree and make a good cooking apple.

- **Vista Bell** - terminal bearing habit, white-fleshed fruit, stores well
- **Jerseymac** - large, good red color, excellent flavor, firmer than McIntosh, stores 4-8 wk
- **Paulared** - high quality, white flesh, stores fairly well, tree requires thinning
- **Akane** - similar to Jonathan but earlier, good solid red color, white flesh, good for eating fresh and juice
- **Jonamac** - similar to McIntosh but has better color, firmness, and storage life

Disease Resistant Varieties: There are several scab resistant varieties developed in breeding programs for the Eastern States where this disease is quite severe due to summer humidity and rain. Some have received limited testing here under California growing conditions. In growing districts with extended spring rains, organic growers should experiment with some of these varieties to see how they perform in their orchards.

- **Enterprise:** A large fruited, late maturing, dense, crisp variety that has good keeping qualities. The color is dark red over a yellow green background. This is one of the best of the scab resistant varieties.

- **Florina*:*** A promising scab resistant selection from France, this variety has large, round-oblong, purple-red colored fruit. It ripens late and has a mixed sweet tart flavor.

- **Freedom:** Is a late season variety with large fruit and mild flavor; not completely immune to scab.

- **Goldrush*:*** A scab immune selection with Golden Delicious parentage, this fruit is late maturing, large, firm textured and tart with an excellent flavor. It stores well.

- **Pristine*:*** This moderate to large tart yellow apple is immune to scab and resistant to fire blight and mildew.

- **Jonafree:** A mid season apple compares with Jonathan, with soft flesh and uneven coloring.

- **Liberty*:*** One of the best quality apples of the disease resistant varieties, Liberty is very productive and requires heavy early thinning to achieve good size. It ripens in mid-season, has an attractive red color with some striping and a good sweet flavor.

- **Prima*:*** Is an early season, uneven ripening, moderate quality variety.

- **Priscilla**: Is a late season variety with small fruit, soft flesh, and mild flavor.

- **Red Free**: Is early July maturing, heat sensitive, a small-fruited variety that is susceptible to water core, sunburn and russet.

- **Williams Pride*:*** An early maturing, scab immune variety that is also resistant to fire blight and mildew. The fruit is medium too large with a round-oblique shape. It has an attractive red striped color on a green-yellow background

Pear

Of all the deciduous fruit tree species, pears are the most tolerant of wet soil conditions. But they perform best on deep, well-drained sites. Pears are (*Pyrus communis L.*) the most pest-ridden of all fruit trees. They require the most sprays to keep clean. Pear trees get very large, requiring a 18x18 ft spacing, without (*Pyrus serotina L.*) dwarfing rootstock or summer pruning. Pear trees have a tendency to grow very upright and must be trained to develop a spreading growth habit. Most pear varieties are self-sterile and require cross-pollination by another variety to get a good crop set. One exception is the Sacramento River delta region where 'Bartlett' is self-fruitful, setting crops of parthenocarpic fruits. Fire blight (bacterial disease) is a serious problem in pear. 'Bartlett', which makes up 75% of the world's production and acreage, has a chilling requirement of about 1500 hr. Days from full bloom to harvest range from about 115 to 165 for European and Asian pears.

Rootstocks: Several different species are used for pear rootstocks, but they vary only slightly in their tolerance to "wet feet" (Phytophthora fungi) and size control.

- **Quince** (several strains) - Semi-dwarfing rootstock. Resistant to decline, root aphid, root rot, and most nematodes. Trees are 50% of standard size and are very productive. Compatible with Anjou, Comice, Flemish Beauty, and Swiss Bartlett. Graft incompatible with Bartlett, Bosc, Seckel, and Clapp; requires an interstem of Old Home. On poor sites trees tend to be runty. Fruit quality is lower than on other stocks. Quince is the only dwarfing stock available, and it is incompatible with some varieties.

- **Calleryana -** Moderately vigorous rootstock. Resistant to "wet feet" (*Phytophthora*), fire blight, root aphid, and most nematodes. Not the best stock for Asian varieties. Produces a tree a bit larger than French seedling.

- **French Seedling -** Seeds from Bartlett or Winter Nellis are used for this rootstock, which withstands both wet feet and dry conditions. This rootstock is resistant to oak root fungus but is very susceptible to fire blight. Good for general use.

- **Betulaefolia -** Best rootstock for most Asian pears. An oriental seedling. The most vigorous, producing the largest tree on the poorest site. Best tolerance of wet and drought conditions. Resistant to decline, blight, root aphid, and root rot. Poor stock for D'Anjou.

- **Old Home x Farmingdale -** A *P. communis* rootstock propagated by cuttings or layering. Somewhat dwarfing. Compatible with most varieties. Fire blight resistant.

European Pear Varieties

These varieties are mostly the traditional pear shape and are harvested green when they begin to drop off the tree. They are (*Pyrus communis L.*) then stored at 33°F to 45°F for several weeks. As the fruit is brought up to room temperature it softens and turns buttery. If allowed to ripen on the tree certain cells within the fruit called stone cells develop and make the fruit gritty.

- **Bartlett -** The best quality pear fruit. Fruit are bell-shaped, have white flesh and excellent flavor. Tree is susceptible to fire blight. Fruit keep relatively well -- up to 2 months after maturing in August. 'Sensation' is a red Bartlett.

- **Bosc -** Mid-season variety that bears heavy crops regularly. Fruit are long, tapering, with a long neck and stem. Skin is golden russet brown.

- **Comice -** Non-consistent bearer. Excellent quality fruit, green color with red blush. Delicate skin, chubby shape. Very vigorous tree, which does best on Quince rootstock. Late maturing.

- **D'Anjou -** Good quality winter pear with excellent keeping qualities. A large, vigorous tree. Egg-shaped fruit with a small shoulder. Light green to yellow green color with a white flesh. French origin. There is a red strain called 'Red Anjou'.

- **Seckel -** A small, pear shaped fruit the is reddish green in color with a very dense sweet and flavorful flesh. Excellent quality for the home orchard. It is resistant to fire blight and pear scab.

- **Winter Nellis -** Medium-small, almost round fruit with light russeting over a green skin. Resistant to blight. Large tree. Regular producer but late.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Bartlett	August	August	Late August	Late August	August	NA
Bosc	October	October	October	October	October	NA
Comice	October	October	October	October	October	NA
D'Anjou	September	September	September	September	September	NA
Seckel	September	September	Late Sept.	Late Sept.	September	NA
Winter Nellis	October	October	October	October	October	NA

Low Chill Varieties: These pear varieties are adapted to the low latitudes of Southern CA because they have low winter chilling requirements (<300 hr). Baldwin, Carnes, Florida Home, Fan Stil, Garber, Hengsan, Hood, Kieffer, Orient, Pineapple, Seleta, Spadona

Asian Pear Varieties

Asian pears are round-shaped fruit that remain very firm, crisp, and juicy when eaten ripe. Also known as salad pears or pear apples. The best rootstock for these varieties is Betulaefolia. Generally require cross-pollination. Fruit must be heavily thinned in May/June *(Pyrus serotina L.)* to size properly. Harvest by taste and pick exposed fruit first. Unlike European pears, Asian pears ripen on the tree.

- **Chojuro** - Greenish-brown to brown russet skin. Coarse, tasty flesh.

- **Hosui** - Brown skin, juicy white flesh with a sweet aromatic flavor.

- **Kikusui -** Yellow-green skin. White flesh, excellent flavor. Fruit drop from tree when ripe.

- **Niiataka -** Very large fruit, juicy, with an aromatic flavor

- **Nijisseiki** - Also known as Twentieth Century. Excellent quality. Very popular variety with yellow-green skin.

- **Shinko -** Brown russet skin, firm crisp flesh, and very aromatic flavor.

- **Shinseiki -** Amber yellow skin. White flesh that is crisp, but softens rapidly; less flavor than other varieties.

- **Tsu Li -** Blooms early. Use Ya Li (see below) as pollenizer. Chinese type (pear shape). Light green color, crisp tasty flesh.

- **Ya Li -** Blooms early. Use Tsu Li (see above) as pollenizer. Chinese type (pear shape). Light, shiny yellow color, crisp tasty flesh.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Chojuro	Late July	Late July	August	early August	early August	August
Hosui	Late August	Late August	Sept.	Early Sept.	Late Sept.	Early Sept.
Kikusui	August	August	Late August	mid Sept.	Late August	NA
Niiataka	Late Sept.	Late Sept.	Mid Oct.	October	October	Late Sept.
Nijisseiki	August	August	Late August	mid Sept.	Late August	NA
Shinko	Late Sept.	Late Sept.	Mid Oct.	October	October	Late Sept.
Shinseiki	August	August	Late August	mid Sept.	Late August	NA
Tsu Li	Late Sept.	Late Sept.	Mid Oct.	October	October	Late Sept.
Ya Li	Late Sept.	Late Sept.	Mid Oct.	October	October	Late Sept.

Pomegranate

Pomegranates are exotic fruits that grow on a small tree or shrub 15 to 20 ft tall, which has shiny foliage and a long flowering season. (*Punica granatum L.*) The tree is very long lived. It is sensitive to frost in fall and spring and does not mature well in cool climates. The tree tolerates wet, heavy soils but performs better in deep, well-drained loams. Fruits cracks with first fall rains. Propagated from cuttings. Requires only a short chilling period. Resistant to oak root fungus (*Armillaria mellea*). Not attacked by codling moth or twig borers. Unharvested ripe fruit attracts ants, fruit flies.

Varieties

- **Ambrosia -** Huge fruit, pale pink skin, similar to Wonderful
- **Eversweeet -** Very sweet almost seedless fruit. Red skin, clear juice. Good for coastal areas.
- **Granada -** Deep crimson fruit color. Matures early, but needs heat.
- **Ruby Red -** Matures late (with 'Wonderful') but not as sweet or colorful as 'Wonderful'. All fruit matures at once.
- **Wonderful -** Large, deep red fruit. Large, juicy, red kernels. Small seeds. Matures late. Juice is made into grenadine syrup.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Ambrosia	September	September	October	October	September	September
Eversweet	August	Early Sept.	October	October	Early Sept.	Early Sept.
Granada	August	Early Sept.	October	October	Early Sept.	Early Sept.
Ruby Red	September	September	October	October	September	September
Wonderful	September	September	October	October	September	September

Quince

Quince fruits grow on a small tree or shrub (8-12 ft tall) with twisted, bumpy branches. Grown as a flowering ornamental or for fruit processing. (Cydonia oblonga Mill.) Adapted to many climates. Tolerates "wet feet" better than most other deciduous fruit trees. Quince trees bloom late, which means that they avoid spring frosts. Quinces have many of the same pest problems as apple and pear. Varieties are self-fruitful. Used as a dwarfing rootstock for pear.

- **Champion -** Green-yellow flesh. Pear-shaped fruit.
- **Orange -** Orange-yellow flesh. Golden skin. Rich flavor. Low chill fruit.
- **Pineapple** - The preferred variety. Pineapple flavor. White flesh. Golden skin. Low chill fruit
- **Smyrna** - Large fruit with brown pubescence. Light, tender flesh. Yellow skin. Low chill fruit.
- **Van Deman -** Pale yellow, coarse flesh. Orange skin that turns red when cooked.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Champion	Early Oct.	Early Oct.	October	October	October	Early Oct.
Orange	Early Sept.	Early Sept.	September	September	September	Early Sept.
Pineapple	Early Oct.	Early Oct.	October	October	October	Early Oct.
Smyrna	Early Oct.	Early Oct.	October	October	October	Early Oct.
Van Deman	Early Sept.	Early Sept.	September	September	September	Early Sept.

Apricot

Apricots bloom in February and early March, usually during a cold rain storm; thus, consistent crops are unlikely in North Coast counties. (*Prunus armeniaca L.*) Apricots perform best in climates with dry spring weather. They are susceptible to late spring frosts. Bacterial canker is a common disease of young trees in California. Plant trees at about a 10 to 20 ft spacing. Apricots are mostly self-fruitful and ripen in late June to July (100-120 days from full bloom).

Rootstocks

- **Marianna 2624 -** Somewhat resistant to oak root fungus. Tolerates "wet feet" much better than apricot or peach root. Space trees 20 ft apart.
- **Lovell Peach -** Imparts some resistance to bacterial canker. Susceptible to oak root fungus. Not as tolerant of wet soils as other apricot rootstocks.
- **Prunus Besseyi -** Semi-dwarfing rootstock. Short-lived. Suckers profusely. Produces inferior fruit in the scion variety.
- **Citation** - One of the best rootstocks for apricots. Slightly dwarfing. Less susceptible to bacterial canker; tolerant of "wet feet."

Standard Varieties

- **Royal (Blenheim) -** Large, very flavorful, used for eating fresh and drying.
- **Moorpark -** Excellent flavor, ripens unevenly, highly colored.
- **Tilton -** Large fruit, heavy producer. Mild flavor. Used for canning.
- **Autumn Royal** - Blenheim sport. Ripens in late summer to fall.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Royal (Blenheim)	June	June	Early July	Late June	Late June	June
Moorpark	June	June	Early July	Late June	Late June	June
Tilton	Early July	July	Late July	Late July	July	July
Autumn Royal	Juen	June	Early July	Late June	Late June	June

Low Chill Varieties: These apricot varieties are adapted to the low latitudes of Southern CA because they have low winter chilling requirements (<300 hr). 'Goldkist', 'Early Gold', 'Newcastle'. These varieties are newer and should be evaluated for your climate zone and site before being selected.

Varieties to Consider: Castlebright, Earl Golden, Golden Amber, Goldrich, Improved Flaming Gold, King, Pomo, Riland, Rosa, Royalty, Sun Glo.

Cherry

Two types of cherries can be planted: sweet, for fresh eating, and sour, for pies and preserves. Generally, cherries are the most difficult trees (*Prunus avium L.*) to keep alive. They do not tolerate "wet feet" and are very susceptible to brown rot, bacterial canker, cytospora canker, root and crown rots (*Prunus cerasus L.*)and several viruses. Trees must be planted 14-20 ft apart in well-drained soil and up on a small mound or berm. Sweet cherries require cross-pollination (many varieties are self-sterile and intrasterile, as noted below), but sour cherries are self-fertile and do not require pollenizers. Both types require <100 days to mature.

Rootstocks

- **Mazzard -** Good rootstock for cherries in coastal California. Produces a large, vigorous tree that is delayed in coming into bearing. Less susceptible to root rots and gophers than Mahaleb (see below) but more susceptible to bacterial canker than Mahaleb.

- **Mahaleb -** Very susceptible to root and crown rots. Some resistance to buckskin virus, bacterial canker, and root lesion nematode.

- **Stockton Morello -** Somewhat dwarfing rootstock. Not readily available. Makes an overgrowth at the bud union. Propagated from a cutting. Tolerant as Mazzard to wet feet. Somewhat resistant to gophers. Less susceptible to bacterial canker. Generally a very good rootstock.

- **Colt -** Somewhat dwarfing rootstock. The leading rootstock in California. Giesla series dwarfing rootstocks are relatively new and in most cases produce trees that are smaller in stature (8-10ft.). They also tend to impart early bearing. The smaller trees are easier to cover with netting to keep the birds from eating all the fruit.

Sweet Varieties

- **Bing -** Industry standard. Deep mahogany red fruit. Produces very heavily. Very susceptible to bacterial canker. Pollenized by 'Van', 'Black Tartarian' or 'Sam'. 'Bing' , 'Lambert' and 'Royal-Ann' will not pollinate each other. (They are intrasterile.)

- **Black Tartarian -** Small, black fruit. A good pollenizer for 'Bing' and most other varieties.

- **Early Burlat** - Moderate-sized fruit. Ripens two weeks before Bing. Soft flesh. Pollenized by 'Bing' and 'Tartarian'.

- **Early Ruby -** Early in season. Large, dark red fruit. Prolific. Fruit hold on tree.

- **Lambert -** Dark, large, firm fruit. Pollenized by 'Van'. Late season. 'Lambert', 'Bing' , and 'Royal-Ann' will not pollinate each other.

- **Rainier -** Yellow-red blush. Large, crack-resistant fruits.

- **Royal-Ann -** Yellow fruit with a red blush. Pollenized by 'Van'. Late season. 'Royal-Ann', 'Lambert', and 'Bing' will not pollinate each other.

- **Stella -** Dark fleshed fruit. Matures just after Bing. Self-fruitful.

- **Van -** Large, dark fruit. Pollenized by 'Bing' or 'Lambert'.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Bing	June	June	Late June	Late June	June	NA
Black Tartarian	June	June	Late June	Late June	June	NA
Early Burlat	Ealry June	Early June	June	June	June	NA
Early Ruby	Early June	Early June	June	June	June	NA
Lambert	Late June	Late June	July	July	July	NA
Rainier	June	June	Late June	Late June	June	NA
Royal-Ann	Early June	Early June	June	June	June	NA
Stella	Late June	Late June	July	July	July	NA
Van	June	June	Late June	Late June	June	NA

Low Chill Sweet Varieties: None available. Low-chilling types of sweet cherries need to be bred and selected.

Sour ("Pie") Varieties

- **Early Richmond -** Very early in season. Bright red fruit.
- **Meteor -** Semi-dwarf.
- **Montmorency -** The leading sour variety. Medium-sized, dark red fruit.
- **North Star -** Semi-dwarf. Self-fruitful.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Early Richmond	Early June	Early June	June	June	June	NA
Meteor	Early June	Early June	June	June	June	NA
Montmorency	Early June	Early June	June	June	June	NA
North Star	Early June	Early June	June	June	June	NA

Low Chill Sour Varieties: None available. Low-chilling types of sour cherries need to be bred and selected.

Nectarine

Nectarines are just fuzzless peaches. They do well in most of California if given the proper growing conditions. Nectarines require very (*Prunus persica*) well-drained soils, abundant nitrogen fertility, plenty of summer water, fruit thinning, and pest control sprays to prevent peach leaf curl and brown rot. New variety developments have greatly improved this fruit as a tree for backyard and commercial use. Trees can bear the second year. Nectarines (like peaches) are self-fruitful and do not require a pollenizer tree. Tree spacing should be about 8 to 12 ft apart.

Rootstocks

- **Lovell Peach -** The best choice for coastal California. A seedling that tolerates wet winter soils better than any other peach rootstock. Produces a full-sized tree but one that is managed easily. Plant 8-14 ft apart.

- **Nemaguard Peach** - The best choice for the Central Valley. A nematode-resistant rootstock best adapted to sandy, dry sites that never get too wet.

- **Prunus besseyi** - Semi-dwarfing rootstock. Suckers badly. Produces inferior fruit on the scion variety. Has not performed well. Somewhat incompatible.

- **Citation** - A new peach-plum hybrid that provides some dwarfing to most varieties. Tolerates wet winter conditions. Produces trees that are smaller in caliper without any height reduction in some varieties.

Standard Varieties

- **Arctic Glo -** Small, fantastic flavor. White flesh. Early

- **Fantasia -** Large, brightly-colored yellow freestone. Late.

- **Flamekist -** Excellent quality. Large, firm, yellow, clingstone.

- **Flavortop -** Large, excellent flavor. Yellow freestone. Mid-season.

- **Goldmine -** Large, great flavor. White flesh. Freestone.

- **Heavenly White -** Large, excellent flavor. White flesh.

- **May Grand -** Large, yellow-fruited freestone. Early.

- **Panamint -** Medium-sized fruit. Red skin, golden flesh. Freestone, low chill variety.

- **Red Gold -** Large, excellent flavor. Stores well. Late.

- **Rose -** Old favorite white freestone with excellent flavor and low chilling requirement.

- **September Red -** Large, yellow. Very late.

- **Snow Queen -** Early season white freestone, juicy and tasty

- **Summer Grand -** One of the best. Large, yellow freestone.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Arctic Glo	Mid June	Mid June	Early July	June	June	NA
Fantasia	Late July	August	Late August	Mid August	August	August
Flamekist	Late August	Early Sept.	September	September	September	September
Flavortop	Mid July	Late July	August	August	August	Late July
Goldmine	August	Late Aug.	September	September	September	September
Heavenly White	Late July	Late July	Mid August	Early Aug.	Early Aug.	NA
May Grand	Early June	Mid June	Late June	Late June	June	June
Panamint	Late July	Early Aug.	August	August	August	August
Red Gold	Late August	Early Sept.	September	September	September	September
Rose	Mid July	Late July	August	August	August	Late July
September Red	Late August	Early Sept.	September	September	September	September
Snow Queen	Late June	July	Late July	Late July	Late July	July
Summer Grand	Mid July	Late July	August	August	August	Late July

Low Chill Varieties: These nectarine varieties are adapted to the low latitudes of Southern California because they have low winter chilling requirements.
Desert Dawn, Desert Delight, Rose, Panamint, Pioneer, Silver Lode

Peach

Peaches are very popular fruit trees that can be grown successfully in many parts of California. They require adequate summer watering, deep and (*Prunus persica*) well-drained soils, high nitrogen fertility, fruit thinning, and pest control sprays to prevent peach leaf curl and brown rot. Peach trees are short-lived trees (15-20 yr.). Peaches (like nectarines) are self-fruitful (self-compatible), which means that they do not require a pollenizer tree. Plant trees 12x16ft to 18x18 ft apart.

Rootstocks

- **Lovell Peach** - The best choice for coastal California. A seedling that tolerates wet winter soils better than any other peach rootstock, but still requires good drainage. Produces a full-sized, small tree but one that is managed easily. Plant 8-14 ft apart.

- **Nemaguard Peach -** The best choice for the Central Valley. A nematode-resistant rootstock best adapted to sandy, dry sites that never get too wet. Full-sized tree.

- **Prunus besseyi** - Semi-dwarfing rootstock. Suckers badly. Produces inferior fruit on the scion variety. Has not performed well. Somewhat incompatible.

- **Citation** - A new peach-plum hybrid that provides some dwarfing to most varieties. Tolerates wet winter conditions. Produces trees that are smaller in caliper without any height reduction in some varieties.

Standard Varieties

Thousands of peach varieties have been developed worldwide. Some perform better in warmer areas. Others have better fruit quality when grown in cooler climates along the coast of California. Three listed below ('Veteran', 'Loring', and La Feliciana' are somewhat more disease resistant.

- **Autumn Gold -** Medium-large fruit. Yellow flesh. Keeps well.

- **Babcock -** Medium-sized. White flesh. Freestone, low chill variety.

- **Earligrande -** Excellent flavor. Yellow-red blush. Semi-freestone, low chill variety.

- **Fairtime -** Large fruit. Yellow, firm flesh. Excellent flavor.

- **Fay Elberta -** Large fruit. Yellow flesh. Freestone.

- **Forty-niner -** Large fruit. Yellow flesh. Freestone.

- **Indian Blood -** Cling peach. Red skin and flesh. Tart. Prolific.

- **La Feliciana -** Medium-sized. Firm, red. Excellent flavor.

- **Loring -** Very large fruit. Red skin. Yellow flesh. Freestone.

- **Nectar -** White flesh. Pink skin. Excellent flavor.

- **O'Henry -** One of the best. Large fruit. Yellow flesh. Freestone.

- **Redhaven -** Yellow. Semi-freestone. Needs heavy thinning.

- **Rio Oso Gem -** Very large fruit. Yellow flesh. Freestone.

- **Springcrest -** Medium-sized. Yellow flesh. Semi-freestone.
- **Suncrest -** Large fruit. Yellow flesh. Freestone. Midseason.
- **Veteran -** Red blush. Elberta-type. Freestone. Dependable, heavy producer, excellent flavor

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Autumn Gold	September	September	October	October	October	NA
Babcock	Late June	July	July	Late July	July	Late June
Earligrand	May	Late May	June	June	June	May
Fairtime	September	September	October	October	October	NA
Fay Elberta	Late July	August	Late Aug.	Late Aug.	August	NA
Forty-Niner	Late July	August	Late Aug.	Late Aug.	August	NA
Indian Blood	Late Aug.	Late Aug.	September	September	September	NA
La Feliciana	Mid July	Late July	August	August	Late July	NA
Loring	Late July	August	Late Aug.	Late Aug.	August	NA
Nectar	Late July	Late July	Mid Aug.	Early Aug.	August	NA
O'Henry	Late July	August	Late Aug.	Late Aug.	August	NA
Redhaven	Early July	July	Late July	Late July	July	NA
Rio Oso Gem	August	Late Aug.	September	September	September	September
Springcrest	Early June	Mid June	Late June	Late June	Late June	NA
Suncrest	Early July	July	Late July	Late July	July	NA
Veteran	Late July	August	Late Aug.	Late Aug.	August	NA

Low Chill Varieities: These peach varieties are adapted to the low latitudes of Southern California because they have low winter chilling requirements.
August Pride, Babcock, Bonita, Desertgold, Early Amber, Earligrande, FlordaGrand, FlordaPrince, Midpride, Tropic-berta, TopicSweet,

Plum and Prune

Plum trees are one of the best-adapted fruit tree species for almost anywhere in California. They are easy to grow. Available rootstocks are very (*Prunus domestica*) tolerant of wet winter soils; they bloom late enough to avoid most spring frosts; and they have few pest problems. Plum trees get relatively large (Prunus salicina)and require 12-18 ft spacing. Most plums, but not all, require cross-pollination to set adequate crops; plan to plant two different varieties. There are two different kinds of plums: Japanese, ***Prunus salicina***, and European, ***Prunus domestica***. European types are either very sweet fresh plums or prunes used for drying. Both types of plums require about 140-170 days to mature the crop. Most Japanese plums bloom earlier and mature earlier. They typically require less chilling than European plums.

Rootstocks

- **Myrobalan Seedling** - The largest and most vigorous of the plum or prune rootstocks. Hardy, long-lived, adapted to most soils. Tolerates wet winter soil conditions. Susceptible to oak root fungus and nematodes, but somewhat resistant tot root and crown rots.

- **Myrobalan 29C** - A cutting selection immune to root knot nematodes. Susceptible to oak root fungus, root rot, and root lesion nematode. Produces a tree with just a little less vigor than the seedling Myrobalan.

- **Marianna 2624** - The overall best choice. It is resistant to oak root fungus, root rots, root knot nematodes, and crown gall, but susceptible to bacterial canker and root lesion nematode. A cutting that is shallow-rooted and produces a smaller tree. It is the best adapted to poor, wet soil conditions, but does tend to sucker.

- **Lovell Peach -** Less susceptible to bacterial canker, but the most intolerant of heavy soils, wet feet oak root fungus, and root rots. Produces a moderately large tree that fruits earlier and sets more consistent crops. Compatible with most plum or prune varieties.

- **Prunus besseyi** - Semi-dwarfing rootstock. Suckers badly. Produces inferior fruit quality on the scion variety. Partially incompatible.

- **Citation** - A new peach-plum hybrid that produces a full-sized tree. Tolerates wet soils.

Standard Plum Varieties

- **Autumn Rosa -** Large. Purple skin. Self-fertile. Japanese plum.
- **Beauty -** Green skin, amber flesh, hear-shaped. Poor keeper. Japanese plum.
- **Burgundy -** Red skin and flesh. Self-fertile. Holds well.
- **El Dorado -** Purple skin. Amber flesh. Large, oblong.
- **Elephant Heart -** Purple skin. Large, heart-shaped. Japanese plum
- **Friar -** Black skin. Amber flesh. Tasteless, old variety. Japanese plum.
- **Golden Nectar** - Large. Yellow flesh. Tender skin. Great flavor. Japanese plum.
- **Howard Wonder -** Large, pink skin. Yellow flesh. Japanese plum.
- **Kelsey -** Green-yellow skin and flesh. Japanese plum.
- **Laroda -** Red-purple skin. Yellow flesh.
- **Mariposa -** Green-yellow skin. Red flesh. Large, heart-shaped. Japanese plum.
- **Nubiana -** Purple-black skin. Yellow flesh. Oblong. Japanese plum.
- **President -** Large. Blue skin. Yellow flesh. European plum.
- **Red Beauty -** Red skin, yellow flesh, excellent flavor.
- **Roysum -** Light purple skin. Yellow flesh.
- **Santa Rosa -** Purple skin. Amber flesh. Excellent flavor. Japanese plum.
- **Satsuma -** Red skin and flesh. Small, round. Japanese plum.
- **Shiro** - Light green-yellow skin. Yellow flesh.
- **Simka -** Dark black skin. Yellow flesh. Oblong.
- **Sprite Cherry Plum -** Black, sweet skin. Exotic flavor. Small.
- **Wickson -** Green-yellow skin. Yellow flesh. Large heart. Japanese plum.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Autumn Rosa	Late Aug.	Late Aug.	September	September	September	NA
Beauty	June	June	July	July	June	June
Burgundy	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	August
El Dorado	Early July	Mid July	August	July	July	July
Elephant Heart	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	NA
Friar	Mid Aug.	Mid Aug.	Late Aug.	Late Aug.	August	August
Golden Nectar	Late Aug.	Late Aug.	September	September	September	NA
Howard Wonder	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	NA
Kelsey	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	August
Laroda	Mid Aug.	Mid Aug.	Late Aug.	Late Aug.	August	August
Mariposa	August	August	Late Aug.	Late Aug.	August	August
Nubiana	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	NA
President	Late Aug.	Late Aug.	September	September	September	NA
Red Beauty	Early June	Early June	June	Mid June	June	June
Roysum	September	September	October	October	October	NA
Santa Rosa	Early July	Early July	Late July	Mid July	July	July
Satsuma	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	July
Shiro	Early July	Early July	Late July	Mid July	July	NA
Simka	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	NA
Sprite Cherry Plum	Early Aug.	Early Aug.	Late Aug.	Late Aug.	August	NA
Wickson	July	July	August	August	Late July	NA

Low Chill Plum Varieties: These plum varieties are adapted to the low latitudes of Southern California because they have low winter chilling requirements.
Beauty Burgundy, Delight, Howard Miracle, Kelsey, Mariposa, Meredith, Methley, Santa Rosa, Satsuma, Sprite

Standard Prune Varieties

- **French -** Medium-sized fruit. Self-fertile. Late maturing. European plum.
- **Imperial -** Large fruit. Requires cross-pollination. Late maturing. European plum.
- **Italian -** Large fruit. Purple skin. Yellow flesh. European plum.
- **Green Gage -** Greenish-yellow skin. Amber flesh. Old, European variety.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
French	August	August	Late Aug.	Late Aug.	August	NA
Imperial	August	August	Late Aug.	Late Aug.	August	NA
Italian	August	August	Late Aug.	Late Aug.	August	NA
Green Gage	August	August	Late Aug.	Late Aug.	August	NA

Almond

Almonds are stone fruits eaten as nuts. Almonds produced commercially in the U.S. are grown in CA. The earliest to bloom of stone fruits (Feb.). (*Prunus dulcis*) Generally do poorly in North Coast counties. They bloom when weather is cold, rainy. Very susceptible to spring frosts. Almonds do not tolerate formerly (*P. amygdalus*) wet soils. The Central Valley and drier regions of southern coast are very favorable for almonds. Trees are very susceptible to bacterial canker disease, which kills trees. Cross-pollination is required; all varieties are self-unfruitful, and some are cross-unfruitful due to incompatibilities. Almonds are harvested by shaking trees when hulls begin to split. Almonds need 180-240 days to mature the nuts. The nut (embryo and shell) are dried down to a minimum moisture content.

Standard Varieites

- **Nonpareil -** The most popular paper shelled variety. Interfruitful with Price, Mission, Carmel
- **Price -** Very similar to 'Nonpareil'. A good pollenizer.
- **Carmel -** Excellent quality. Well-sealed nut in the shell. Excellent pollenizer.
- **Mission -** Late blooming, productive tree. Hard shell, short kernel.
- **Neplus Ultra -** Large, soft-shelled nut. Long, flat kernel. Good pollenizer.

Harvest Period

Standard Varieties	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nevada Foothills	Southern California
Nonpareil	August	August	September	September	August	August
Price	August	August	September	September	August	August
Carmel	August	August	September	September	August	August
Mission	August	August	September	September	August	August
Neplus Ultra	August	August	September	September	August	August

Chestnuts

*Little research has been done on the chestnut in California. Thus, we know little about its specific adaptability or productive capacity. Chestnuts(Castanaea sp.)are monoecious (separate female and male flowers are borne on one plant – like walnuts) and some cultivars are self-unfruitful; thus, two different varieties should be grown for cross-pollination to produce consistent crops. Trees reach a height of 80 ft and spread to 60 ft under ideal conditions. Chestnuts are excellent fruitful, shade trees if grown in very well drained soil. Chestnuts are almost pest free in California. Seedling is the only known rootstock. Edible chestnuts should not be confused with the poisonous Horse Chestnut (**Aesculus californica**). Fresh chestnuts contain about 50% moisture. Unlike other nuts, chestnuts have low oil content (8%).*

Standard	**'Colossal'**	early Oct.	early Oct.	late Oct.
late Oct.	mid Oct.	early Oct.		

Varieties The industry standard. Large fruited. Excellent quality. Best choice. Parentage unknown.

	'Eurobella'	early Oct.	early Oct.	late Oct.
late Oct.	mid Oct.	early Oct.		

Large nut. Good pollenizer for Colossal.

	'Silverleaf'	early Oct.	early Oct.	late Oct.
late Oct.	mid Oct.	early Oct.		

Medium sized nut. Good pollenizer for Colossal, but nutshell splits are a problem.

	Seedling	early Oct.	early Oct.	late Oct.
late Oct.	mid Oct.	early Oct.		

Not a "named" variety. Each tree is genetically different. Unknown fruit quality. Unknown tree shape and fruit size.

	'Dunstan'	early Oct.	early Oct.	late Oct.
late Oct.	mid Oct.	early Oct.		

A cross of American and Chinese varieties. Medium - small nuts. Sweet and blight resistant. Late flowering.

Other Varieties For Trial **Marrone di Maradi, Castel del Rio, Montesol, Fowler**

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Nev. Foothills	Southern California
Harvest Period[b]							
Filbert (Hazelnut) *(Corylus sp.)*	*These nut-bearing plants grow naturally as suckering shrubs but can be trained as trees by continually removing the suckers. They reach a height of 15-20 ft with an even greater spread. Filberts are monoecious (separate male and female flowers on the same plant – like walnuts) but self-unfruitful; cross-pollination is required to set fruit, so two different varieties must be planted. Crop production is not consistent in CA, which may be due to summer heat that causes catkins (male flowers) to fall off prematurely. Filberts are grown on their own roots. They need a 180-day growing season.*						
Standard	**'Barcelona'**	September	September	October	late September	late September	NA
Varieties	The old industry standard. Use 'Davianna' or 'Du Chilly' as pollenizer.						
	'Davianna'	September	September	October	late September	late September	NA
	Use 'Barcelona' or 'Du Chilly' as a pollenizer.						
	'Du Chilly'	September	September	October	late September	late September	NA
	Use 'Barcelona' or 'Davianna' as a pollenizer.						
	'Ennis'	September	September	October	late September	late September	NA
	A new variety that has better quality than 'Barcelona'. Use 'Butler' as a pollenizer.						
	'Butler'	September	September	October	late September	late September	NA
	Pollenizer for 'Ennis'.						
	'Brixnut'	September	September	October	late September	late September	NA
	A secondary main production nut. Use 'Davianna' or 'Du Chilly' as a pollenizer.						

	'White Aveline'	September	September	October	late September	late September
NA						
	General pollenizer.					

Pecans

(Carya illoensis)

Pecans are not a good choice for Northern California. They require a deep, well-drained soil, a hot climate to mature the nuts properly, and adequate soil moisture. At least two different varieties must be planted for good pollination because even though pecans are largely self-fertile, the flowers are dichogamous, which means that there is little overlap between pollen shedding and stigma receptivity. Most varieties require at least 180 days for nuts to mature. Commercial production in California is limited to the Southern San Joaquin Valley. Pecans are native to the U.S and grow well in the south central states. Their native range extends into the Midwest, so there are varieties that will tolerate cold winters and short growing seasons. The varieties listed here require a very long growing season and freedom from frost. They can be tried in the warmest regions of the state. Trees get large just like big walnut trees. Pecans are grow on seedling rootstocks.

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	North Coast	Central Coast	Sacramento Valley	Sierra Nev. Foothills	Southern California
		----------					
---------- Harvest Period[b] ----------							
Pecans *(continued)*							
Standard	**'Barton'**	October	late October	NA	NA	late October	late October
Varieties	Early pollen shed and receptivity.						
	'Comanche'	October	late October	NA	NA	late October	late October
	Late pollen shed. Early receptivity.						
	'Western Schley'	October	late October	NA	NA	late October	late October
	Early pollen shed and receptivity.						

	'Wichita'	October	late October	NA	NA	late October	late October
		Late pollen shed. Early receptivity.					
	'Bradley'	October	late October	NA	NA	late October	late October
		Excellent pollenizer for 'Western Schley'.					
	'Apache'	October	late October	NA	NA	late October	late October
		Late pollen shed. Early receptivity.					
	'Sioux'	October	late October	NA	NA	late October	late October
		Early pollen shed and receptivity.					
	'Choctaw'	October	late October	NA	NA	late October	late October
		Late pollen shed. Early receptivity.					
	'Shawnee'	October	late October	NA	NA	late October	late October
		Early pollen shed. Mid-season receptivity.					
Pistachios (*Pistacia vera*)		*Pistachio trees require long, hot, dry summers and mild winters. April frosts kill flowers, and cool summers do not promote good kernel development. Adequate winter chilling and good weather (pistachio is wind-pollinated) are required. Pistachio trees are dioecious (male and female trees); thus, male trees must be planted near female trees to get a good crop set. Trees become large and should be planted about 20 ft apart. The warmest regions in the state are adapted for pistachio production in the backyard, but pistachios are a poor choice for coastal California.*					

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	North Sierra Nev. Foothills	Sacramento Valley	Central Valley Coast	Southern California Coast
		---------- Harvest Period[b] ----------				

Pistachios *(continued)*

Rootstocks. *P. atlantica, P. terebinthus, P. integerrima*

P. atlantica. Resistant to many nematodes, but susceptible to cold (below 15-20°F) and *Verticillium* wilt.

P. terebinthus. The best rootstock. Most tolerant of cold. Resistant to nematodes. Susceptible to Verticillium.

P. integerrima. Resistant to *Verticillium*. Very susceptible to cold damage.

Standard	**'Kerman'**	October	late October	NA
NA	late October	late October	**Varieties**	Female. Best nut-producing variety.
	'Peters'	October	late October	NA
NA	late October	late October		Male. Good for pollination.
	'Joley'	October	late October	NA
NA	late October	late October		Female. Smaller nuts. Fewer blanks. More splits.
	'Sfax'	October	late October	NA
NA	late October	late October		Smaller, good quality nuts.

Walnuts *(Juglans regia)* *(Juglans hindsii)*

Walnuts need a deep, well-drained soil (at least 5 ft) or they will do poorly. Shoots, particularly blossoms, do not tolerate frosts. Once growth begins in the spring, rainy weather can cause severe losses due to walnut blight. Trees range in size from very large (80 ft tall) to medium height (40-50 ft tall). They require a 30 to 60 ft spacing. Walnut culture has changed drastically in the last few years due to introduction of new varieties.

Production in coastal climates should be limited to the late-leafing varieties. Walnuts are monoecious (separate male and female flowers on one tree) and dichogamous (pollen is shed when female flowers are not receptive); thus, two different varieties must be planted to ensure overlapping bloom periods, fertilization, and fruit set.

Rootstocks. *English/Persian (J. regia), Black (J. hindsii), Paradox*

English. This rootstock is seedlings of English walnut. It is very susceptible to oak root fungus but less susceptible to blackline virus. It is the least tolerant of wet soils.

Black. This has been the standard rootstock in California, known as Northern California Black. It is resistant to oak root fungus but susceptible to crown rot, root rot, root lesion nematode, and blackline virus.

Paradox. The best rootstock choice, in general. A hybrid between Black and English. Very vigorous. Tolerates poorer soil conditions

than the others. Less susceptible to crown and root rot. Susceptible to crown gall and blackline virus.

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	Sacramento Valley	San Joaquin Valley	North Coast	Central Coast	Southern Foothills	Sierra Nev. California
		Harvest Period[b]					
Walnuts *(continued)*							
Standard Varieties	**'Hartley'**	October	late October	late October	late October	late October	NA
		The main variety grown in California. Excellent quality nuts. Huge tree but requires little pruning. 5% fruitful lateral buds. Leafs out late, blooms late. Good choice.					
	'S. Franquette'	October	late October	late October	late October	late October	NA
		Old-time variety. Should be planted as a pollenizer for the late-blooming varieties. Poor producer. Leafs out late. Blooms late. Large tree, but requires little pruning.					
	'Mayette'	October	late October	late October	late October	late October	NA
		Old-time variety. Plant as a pollenizer for late-blooming varieties. Poor producer. Leafs out late. Blooms late. Large tree.					
	'Chandler'	October	late October	late October	late October	late October	NA
		Best choice for coastal California. New variety. 80% fruitful lateral buds. Produces a smaller tree that requires careful pruning and training. Blooms late. Leafs out late.					
	'Howard'	October	late October	late October	late October	late October	NA
		Good choice. New variety. 80% fruitful lateral buds. Produces a smaller tree that requires careful pruning and training. Blooms late. Leafs out late.					
	'Tehama'	October	late October	late October	late October	late October	NA
		Good choice. New variety. 80% fruitful lateral buds. Produces a smaller tree that requires careful pruning and training. Blooms late.					

Leafs out late.

Black Walnut	**Seedling**	October	late October	late October	late October
late October	late October	late October	NA	**Varieties**	

Not a true variety. Seedlings of Northern California Black Walnut trees.

Eastern Black		October	late October	late October	late October
late October	late October	late October	NA	**Walnut Varieties**	

'**Thomas**', '**Ohio**', and '**Meyers**' are three named varieties that may be worthy of consideration.

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	Sacramento Valley	Sierra Nev. Foothills	Central Coast	North Coast	Southern California
		---------- Harvest Period[b] ----------					

IV. VINES

Kiwifruit (*Actinidia deliciosa*, formerly *A. chinensis*)

Kiwifruit is a large, frost-sensitive, temperate zone vine that requires plenty of heat to mature the fruit properly. Kiwifruit do well when grown in warm sites on a trellis or arbor protected from the wind. Soil must be well drained but kept moist at all times. Kiwis can tolerate temperatures as low as 10°F in January but only if hardened off properly. Late spring frosts and especially early fall frosts in November will kill vines. Overhead frost protection is desirable. As noted below, fuzzy varieties are not as cold hardy as smooth skin varieties. Plant kiwis about 15 to 20 ft apart.

Kiwis are functionally dioecious. Successful fruit production requires a female cultivar and a male with viable pollen when the female is receptive.

Vines leaf out in March, bloom occurs in May, and fruits are harvested in October and November.

Rootstocks. Seedling, Cutting

Seedling. Extracted seed from ripe kiwifruit.

Cutting. Own rooted. From 1/2 inch mid-summer wood or dormant wood. Grows back after frost damage.

Fuzzy	**'Hayward'**	October	late October	late November	early November
November	NA				

Varieties	The commercial female variety grown in California. Large fruit. Excellent flavor. Will ripen on the vine but can be picked when still hard, placed in cold storage (32°F), and removed to room temperature for final ripening. Will keep for up to 6 months.				
	'Chico'	October	late October	late November	early November
November	NA	Male vine used to pollinate Hayward, 8:1 ratio.			
	'Matua'	October	late October	late November	early November
November	NA	Male vine used to pollinate Hayward, 8:1 ratio.			
	'Tamori'	October	late October	late November	early November
November	NA	Male vine used to pollinate Hayward, 8:1 ratio.			
Smooth-Skin Varieties	**'Issai**	late Sept.	late Sept.	October	early Oct.
October	NA	Dime-sized fruit that requires no cross-pollination.			
	'Ken's Red'	late Sept.	late Sept.	October	early Oct.
October	NA	Dime-sized fruit. Red flesh and skin. Excellent flavor.			

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	Sacramento Valley	Central Coast	North Coast	Sierra Foothills	Nev. Southern California
		----------					
---------- Harvest Period[b] ----------							
Kiwifruit ***(continued)***							
Smooth-Skin Varieties *(continued)*	**'Anna'**	late Sept.	late Sept.	October	early Oct.	October	NA
	Nickel-sized fruit. Unique flavor. Very productive.						
Low Chill Varieties	These kiwi varieties are adapted to the low latitudes of Southern CA because they have low winter chilling requirements (50-250 hr). **'Bruno', 'Abbott', 'Allison', 'Vincent', 'Tewi', 'Elmwood', 'Blake'.**						

V. MISCELLANEOUS TEMPERATE FRUITS

Figs *(Ficus carica L.)*

Figs can be grown easily, but they require a protected location in the cooler parts of the state because of their heat requirement to mature the fruit properly. Fig trees do best in well-drained soils but will tolerate wet soils better than most other fruit trees. Gophers love fig trees and must be controlled. Figs are grown on their own roots from cuttings. Trees reach a height of 20-30 ft with an equal spread but can be pruned to a smaller size. Most varieties require no cross-pollination. Several varieties set fruit parthenocarpically and several varieties have two crops/year. The "breba" crop (first crop) matures in mid-summer in 100-120 days, and the second crop matures in late summer or fall. Figs require very little winter chilling and are considered a "borderline" temperate zone species by many pomologists.

Standard	**'Brown Turkey'**	June/Sept.	June/Sept.	November	November
June/Sept.	June/Sept.	**Varieties**	Large fruit. Excellent quality. Produces a small breba crop every year and a second crop in Aug.-Sept. Purple-green skin. Red flesh.		
	'Black Mission'	June/Sept.	June/Sept.	November	November
June/Sept.	June/Sept.	The most dependable variety for the home orchard. Purple black skin with red flesh. The first crop (breba) matures in late June, and the second crop matures in August and September.			
	'Osborn'	June/Sept.	June/Sept.	October	October
June/Sept.	June/Sept.	Performs well only in cool coastal areas. Produces breba and second crops. Purple-bronze fruit with amber flesh. Very prolific.			
	'Italian Everbearing'	June/Sept.	June/Sept.	November	November
June/Sept.	June/Sept.	Brown. Turkey-type. Very prolific.			
	'White Genoa'	June/Sept.	June/Sept.	October	October
June/Sept.	June/Sept.	Good for coastal locations. Large fruit. Yellow-green, thin skin. Strawberry flesh. Ripens when others won't.			

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or	Scion	San Joaquin		
Sacramento	Central	North	Sierra Nev.	Southern

Nut Type	Variety	Valley Coast	Valley Coast	Foothills California
		---------- Harvest Period[b] ----------		
Figs ***(continued)***				
Standard	**'Kadota'**	June/Sept.	June/Sept.	November
		November	November	June/Sept.
		June/Sept.		
Varieties *(continued)*		Requires high temperatures and a long growing season to perform well. Yellow-green fruit with amber flesh. Produces both breba and a second crop with moderate pruning.		
	'Adriatic'	June/Sept.	June/Sept.	October
		October	June/Sept.	June/Sept
		Good fresh but especially good for drying. Yellow skin and amber flesh. No breba crop. Ripens late September - October.		
	'Smyrna-type'	June/Sept.	June/Sept.	November
		November	June/Sept.	
		Calimyrna variety figs require cross-pollination by the Caprifig male to produce a crop.		
Olives		*The olive tree is an evergreen tree that performs best in hot, dry areas of California; it does not tolerate wet winter soils. It is an attractive ornamental, produces table fruit, and oil. (Olea europaea L.) Crop production is irregular under cool coastal conditions. Rooted cuttings are used without specific rootstocks. Space trees 16-20 ft apart. Olives for canning and pickling are usually harvested in September and October in California.. Commercially, heavy crops of small fruit unsuited for canning are left on the trees until January or February and harvested for their oil. Some new varieties grow specifically for oil have recently been imported into California from the Mediterranean countries .*		
Table	**'Manzanillo'**	late Sept.	early Oct.	mid Oct.
		mid Oct.	mid Oct.	October
Varieties		The main variety used for the black "California"-style olive. Low spreading, medium-sized tree, Early-maturing fruit with a medium oil content. Trees are susceptible to cold injury, peacock spot, and olive knot.		
	'Sevillano'	late Sept.	early Oct.	mid Oct.
		mid Oct.	mid Oct.	October
		Largest fruit. Many minor problems.		
	'Ascolano'	late Sept.	early Oct.	mid Oct.
		mid Oct.	mid Oct.	October

large fruited variety, the most cold hardy of all table varieties in California. Large fruit. Oil is very aromatic

Oil Varieties

'Mission' late Sept. early Oct. mid Oct. mid Oct. mid Oct. October

Medium-sized fruit. High oil content. Late maturing. Trees are very cold tolerant and grow quite tall. Can be used for table fruit or oil.

'Frantoio' mid Nov, late Nov. December early Dec. late Nov. late Nov.

Italian variety used in olive oil production. Very high oil content and excellent flavor.

'Leccino' mid Nov, late Nov. December early Dec. late Nov. late Nov.

Italian variety used in olive oil blends with 'Frantoio'. Ripens a little earlier than other varieties.

'Maurino' mid Nov, late Nov. December early Dec. late Nov. late Nov.

Italian variety used in olive oil blends. Very flavorful, spicy oil.

'Arbequina' mid Nov, late Nov. December early Dec. late Nov. late Nov.

A variety from northern Spain that produces a very high quality fruity oil. Fruit is small. Very fruitful.

Temperate Tree Fruit and Nut Varieties For Planting in the Home Garden and Landscape[a]

Fruit or Nut Type	Scion Variety	San Joaquin Valley	Sierra Nev. Foothills	Sacramento Valley	Central Coast	North Coast	Southern California
		---------- Harvest Period[b] ----------					

Olives ***(continued)***

Standard	**'Pendolino'**	mid Nov,	late Nov.	December	early Dec.	late Nov.	late Nov.
Varieties) *(continued*	Italian variety used in olive oil blends. Also used as a pollenizer.				

Persimmons *(Diospyros kaki)*

Persimmons are a very good fruit tree for home planting. They bloom late, avoiding spring frosts, and they do not require much winter chilling. They perform well throughout the state. Persimmon trees do not need ideal soil. They will tolerate wet feet in winter and dry conditions in the summer. The fruits are almost pest free. Trees get large and should be planted about 20 ft apart. Cross-pollination is not usually necessary. Cross-pollinated fruit will have seeds; whereas, fruit from a lone tree probably will not.

Rootstocks. *Diospyros lotus, D. kaki, D. virginiana*

Diospyros lotus. Most widely used seedling rootstock. Best choice. Compatible with most varieties. Tolerates wet soil.

D. kaki. An adequate rootstock. Produces a long taproot and little branching fibrous roots.

D. virginiana. This native species produces a very good fibrous root system, tolerates drought and excess moisture fairly well, but may sucker badly and may not be uniform.

Standard	**'Hachiya'**	October	late October	November	November	late Oct.	late Oct.
Varieties	Large, deep orange-red, acorn-shaped fruit. The flesh turns brown around the seeds, and flesh must be very soft to eat. Does not need cross-pollination.				
	'Fuyu'	October	late October	November	November	late Oct.	late Oct.
	Large, flat, orange-red color. Flesh is firm like an apple and non-astringent when ripe. Cross-pollination is not required, but when present, fruit will have seeds.				
	'Hyakume'	October	late October	November	November	late Oct.	late Oct.
	Cinnamon-chocolate-colored flesh.				
	'Baru'	October	late October	November	November	late Oct.	late Oct.
	Round, orange skin. Sweet brown flesh.				
	Diospyros virginiana	October	late October	November	November	late Oct.	late Oct.
	Native species, not a variety. Very small, very flavorful fruits. Must be eaten when soft.				

NA = Not Applicable due to chilling requirements