

Tried and True or Something New?

Selected Citrus Varieties for the Home Gardener

TONI SIEBERT, Museum Scientist, and **TRACY L. KAHN**, Principal Museum Scientist, UC Riverside Citrus Variety Collection, Department of Botany and Plant Sciences, University of California, Riverside.

Growing citrus in your own backyard can be both enjoyable and rewarding! Beautiful green foliage, fragrant blossoms, and delicious, healthful fresh fruit readily available at your doorstep make citrus excellent garden trees. Many California homeowners have limited garden space and must be selective about which varieties to grow. You can choose a citrus variety according to the climate in your area, the amount of fruit you would like to eat (planting ten lemon trees may not be such a great idea), or you can save money by planting the types you like to eat that are the most costly at your grocery store.

While this guide provides ripening season information for Riverside, California, gardeners have had success with citrus in many different regions of California where subtropical climatic conditions occur. For example, the milder climate in coastal areas

can cause citrus trees to yield a crop about a month later than they would in inland valleys. In desert regions, on the other hand, trees can produce citrus fruit about a month earlier than in inland valleys due to high temperatures and low humidity. Within each climatic area, there can also be mesoclimates influenced by sun, wind, and frost exposure.

In addition, different citrus types are suited to different regions, produce mature fruit at different times of year, and produce fruit at different levels of quality. Blood oranges tend not to have good color in mild coastal regions that do not have diurnal temperature changes, but lemons do well there, producing two crops per season. The flesh of early season mandarins tends to become dry under the high temperatures and low humidity of the desert regions, but grapefruit have high heat requirements and do well there.



By planning carefully, you can benefit from the fruits of your labor year-round. If you are new to growing citrus, you may want to stick to varieties considered to be “tried and true”—typically, commercial types that have been grown for decades because consumers love them and because they are generally easy to grow. But if you have grown citrus before, you may be in the market for “something new.” These varieties may include

- an imported variety that is new to California
- the new product of a citrus breeding program
- a variety that is considered a specialty fruit because it appeals to a small percentage of consumers or a niche market
- a variety that is too expensive to grow commercially because harvesting is too labor intensive
- a variety that has been overlooked because its fruit are seedy, large, have low production, or have a rind too soft for packing

We hope you can use the varieties suggested in this guide to help impress your neighbors, friends, and family with your successful citrus varietal garden.

Wholesale citrus nurseries in California propagate the cultivars listed in this guide, and you can find grafted trees of these cultivars at local retail nurseries, swap meets, and retail stores equipped with a garden center such as Armstrong Garden Centers, Costco Wholesale, The Home Depot, Lowe’s Home Improvement, Orchard Supply Hardware, and Walmart. Not all of the cultivars listed in this guide will be available at every retail store throughout the season, and in most cases selections of Lisbon and Eureka lemon, Washington navel, and Valencia are not sold by their cultivar name.

Some of the cultivars listed in the “Something New” category are more difficult to locate in retail stores. One retail citrus nursery in California that specializes in propagating and selling specialty citrus is Four Winds Growers (www.fourwindsgrowers.com/our-citrus-trees.html), but others may offer a similar range of varieties. Ask around.

Commercially grown citrus trees such as the varieties discussed in this publication are not grown from seed but are grafted or budded onto a seedling of a rootstock variety. Varieties that are used as rootstocks provide a number of important qualities

to the entire tree such as disease tolerance, cold hardiness, soil adaptation, and, to a certain degree, tree size. In California, most citrus nurseries do not label or identify the rootstock of a tree, but they do select rootstocks that protect trees from important diseases of commercial citrus and are adapted to a range of regions and soil conditions.

Nurseries sometimes label citrus trees as “dwarf,” which refers to a property of the rootstock that will influence the size of the mature tree, but there is no set size standard for “dwarf” trees. A number of different rootstock varieties (‘Cuban shaddock,’ for instance) and a number of trifoliolate orange (*Poncirus trifoliolate*) selections (such as ‘Flying Dragon’) may be used for trees labeled “dwarf.” ‘Flying Dragon’ is a very effective rootstock for reducing the size of the mature tree, but because it is very slow-growing it is not widely used as a rootstock. You can also manage the size of the mature tree through regular pruning. Additional information about these cultivars is available on the Citrus Variety Collection website (www.citrusvariety.ucr.edu).

TRIED & TRUE

'Washington' navel orange:

Brought into California in 1873, this seedless, easy-to-peel, delicious orange is still the gold standard. This and other midseason navel orange cultivars are often labeled as "midseason 'Washington' navel."

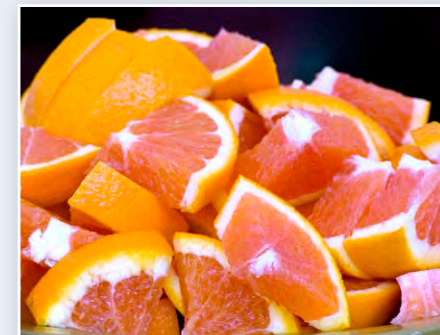


Bearing: November to January in Riverside.

SOMETHING NEW

'Cara Cara' navel orange:

Discovered in Venezuela as a bud sport of a 'Washington' navel orange tree in 1976, 'Cara Cara' fruit are seedless and because of a lycopene mutation they have beautiful pink flesh.



Bearing: November to January in Riverside.

'Fisher' navel orange:

A mutation of 'Washington' navel first marketed by Armstrong nurseries in 1958. Maturing a few weeks earlier than 'Washington,' this and other early season navel orange cultivars are often labeled as "early 'Washington' navel."



Bearing: November to January in Riverside.

'Fukumoto' navel orange:

Introduced from Japan in 1983, 'Fukumoto' is 3 to 4 weeks earlier than 'Washington' navel and has a deeper-orange rind color. This and other early season navel orange cultivars are often labeled as "early 'Washington' navel."



Bearing: Mid-October to late December in Riverside.

TRIED & TRUE

'Moro' blood orange:

Currently the most popular blood orange grown in California, 'Moro' is also the earliest ripening, the lowest-seeded, and the darkest in color (except in coastal areas).

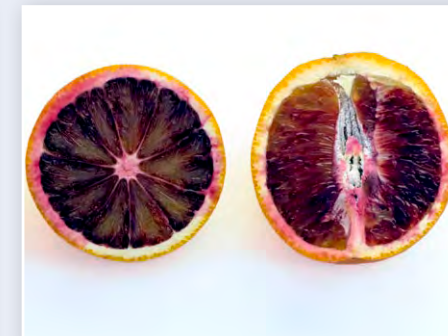


Bearing: December to February in Riverside.

SOMETHING NEW

'Tarocco' blood orange:

The best-flavored blood orange we have, 'Tarocco' is the most popular blood orange type in Europe. Slightly larger than 'Moro,' it has few seeds and little or no reddish rind color, especially in coastal areas.



Bearing: December to February in Riverside.

Valencia oranges:

Popular and vigorous, Valencia is a standard juicing orange that has been grown in California since 1876. Trees marketed as Valencia orange in retail stores could be any of a number of cultivars including 'Olinda' and 'Cutter.' Valencia oranges are among the few types of citrus that can be picked in the summer.



Bearing: May to August in Riverside.

Late or Australian navel oranges:

If your only reason for considering planting a Valencia orange is to get a late harvest, you may want to try a late-season navel orange instead. Named cultivars include 'Autumn Gold,' 'Barnfield,' 'Chislett,' 'Lane Late,' 'Powell,' 'Rohde,' and 'Wiffen.' Get the same fruit as you would get from a traditional navel orange tree, only later!



Bearing: February to June in Riverside.

TRIED & TRUE

'Chandler' pummelo:

A UC Riverside hybrid of pink and sweet pummelos, 'Chandler' has been around since 1961. Thick rind, seedy, light to dark pink flesh. Sweet. Seedless if grown in isolation from other citrus trees.



Bearing: December to March in Riverside.

SOMETHING NEW

'Valentine' pummelo hybrid:

A UC Riverside hybrid of pummelo, blood orange, and mandarin, 'Valentine' is a large, yellow-skinned, seedy pummelo with striking red flesh and matures near Valentine's day.



Bearing: January to March in Riverside.

'Oroblanco' grapefruit hybrid:

A UC Riverside hybrid of a white grapefruit and a sweet pummelo, 'Oroblanco' is seedless and sweet. Flattened shape with a light yellow rind.



Bearing: December to March in Riverside.

'Melogold' grapefruit hybrid:

Also a UC Riverside hybrid, 'Melogold' is a sister variety to 'Oroblanco.' 'Melogold' fruit are larger and have a deeper yellow color to the rind.



Bearing: December to March in Riverside.

TRIED & TRUE

'Marsh' white grapefruit:

Marsh grapefruit originated as a chance seedling around 1860 in Lakeland, Florida. Because it was the first seedless variety to be promoted, it soon became the most widely planted grapefruit variety.



Bearing: February to August in Riverside.

SOMETHING NEW

'Cocktail' "grapefruit" hybrid:

'Cocktail' is not a true grapefruit at all but actually a hybrid of a mandarin and sweet pummelo. Grapefruit-shaped 'Cocktail' fruit are seedy but deliciously, syrupy sweet!



Bearing: January to March in Riverside.

'Star Ruby' grapefruit:

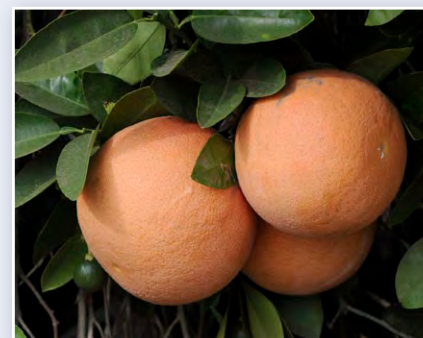
A popular grapefruit from Texas, 'Star Ruby' has attractive, dark pink flesh and rind color. The trees are difficult to grow well, being less vigorous than many grapefruit varieties.



Bearing: February to June in Riverside.

'Rio Red' grapefruit:

Another variety introduced from Texas, 'Rio Red' is juicy and has a pink color to the flesh and rind. The trees are large and do well in desert regions.



Bearing: February to June in Riverside.

TRIED & TRUE

'Algerian' Clementine:

This is the original Clementine type introduced to California in 1914. Many of the newer Clementine varieties are selections of 'Algerian' and are seedless when grown in isolation from other citrus.



Bearing: October to December in Riverside.

SOMETHING NEW

'Nules' Clementine:

Discovered in Spain, 'Nules' is the most widely grown Clementine in California. Fruit are seedless if grown in isolation and are of high quality.



Bearing: October to December in Riverside.

'Pixie' mandarin:

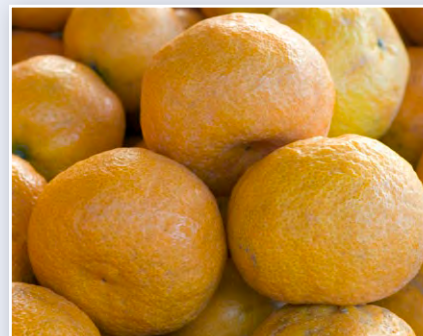
Developed at UC Riverside as a 'Kincy' hybrid, 'Pixie' is seedless and has a mild, sweet flavor. The fruit hold late on the tree and the variety performs well in mild coastal climates.



Bearing: February to April in Riverside.

'Gold Nugget' mandarin:

Developed at UC Riverside as a 'Kincy' and 'Wilking' hybrid, 'Gold Nugget' looks very similar to 'Pixie.' Fruit are seedless with a very rich, sweet flavor, and can be stored well into the summer.



Bearing: February to June in Riverside.

TRIED & TRUE

Satsuma mandarins:

The most common satsuma in the United States, 'Owari,' is seedless, cold-hardy and vigorous. 'Okitsu Wase' is an early type of satsuma.



Bearing: October to December in Riverside.

SOMETHING NEW

'USDA 88-2' mandarin:

A hybrid of 'Lee' and 'Nova' mandarins, 'USDA 88-2' is a rich, sweet, juicy, seedless, easy-to-peel mandarin.



Bearing: October to December in Riverside.

'Murcott' (Honey) mandarin:

Developed in the early 1900s, 'Murcott' is a seedy, sweet mandarin with a smooth, easy-peeling rind. The tree tends toward alternate-bearing, with heavy crop years alternating with light crop years.



Bearing: January to March in Riverside.

'Shasta Gold,' 'Tahoe Gold,' or 'Yosemite Gold' mandarin:

Developed at UC Riverside, these sister varieties are seedless hybrids of 'Temple,' 'Dancy,' and 'Encore,' and are rich in flavor.

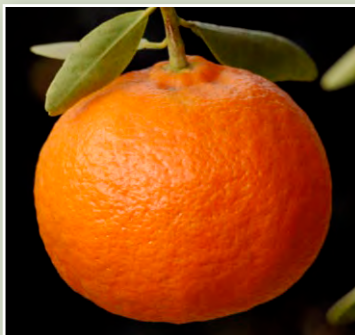


Bearing: January to March in Riverside.

TRIED & TRUE

'Dancy' mandarin:

Reported to have been grown in the United States as early as the 1860s, 'Dancy' has a deep-orange rind and a rich flavor, and is seedy.

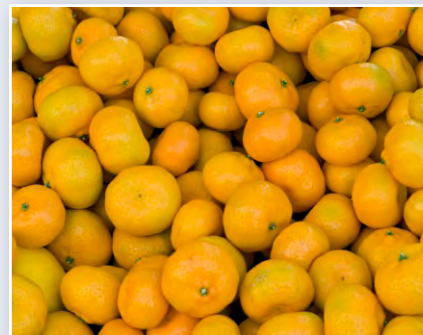


Bearing: December to February in Riverside.

SOMETHING NEW

'Kishu' mandarin:

A small, seedless mandarin with excellent flavor that peels easily. 'Kishu' trees are vigorous and heavy producers. A definite crowd pleaser!



Bearing: December to February in Riverside.

'W. Murcott Afourer' mandarin:

A delicious, seedy (10 to 20 seeds per fruit) mandarin introduced from Morocco in 1985. A very productive variety with fruit that are rich in flavor and have a smooth rind. Trees are alternate bearing.



Bearing: January to March in Riverside.

'Tango' mandarin:

'Tango' is a selection of 'W. Murcott Afourer' developed at UC Riverside by mutation breeding. The variety's distinctive trait is that its fruit are nearly seedless (on average, 0.2 seeds per fruit).



Bearing: January to March in Riverside.

TRIED & TRUE

'Minneola' tangelo:

A hybrid of 'Duncan' grapefruit and 'Dancy' mandarin, 'Minneola' fruit are sweet and seedy, with a shape that shows a pronounced neck.



Bearing: January to March in Riverside.

SOMETHING NEW

'Page' tangelo:

A hybrid of 'Minneola' and 'Clementine' mandarin, 'Page' fruit are sweet, juicy, seedless if grown in isolation, and have a dark orange rind.



Bearing: November to January in Riverside.

'Eureka' lemon:

Trees are vigorous with spreading growth and bear multiple crops per year. The trees tend to bear fruit on the outside of the canopy and typically in clusters. Fruit have few seeds.



Bearing: Year-round in Riverside.

'Variegated Pink Eureka' lemon:

This lycopene-pigmented lemon is the same as a regular 'Eureka' lemon, except that it has pink flesh. Fruit are marketed as "Pink Lemonade" lemons.



Bearing: Year-round in Riverside.

TRIED & TRUE

'Limoniera 8A' Lisbon lemon:

Trees are vigorous with spreading growth and bear multiple crops per year. The trees tend to bear the oblong fruit on the inside of the canopy. Fruit have few seeds. This and other Lisbon lemon selections are often marketed as "Lisbon" lemons.



Bearing: Year-round in Riverside.

SOMETHING NEW

'Improved Meyer' lemon:

Believed to be the product of lemon and orange parentage, 'Improved Meyer' lemon is an attractive garden tree. The flavor and aroma of its fruit are distinctive and sweeter than Lisbon or Eureka cultivars. The tree is smaller than other varieties.



Bearing: Year-round in Riverside.

'Mexican' lime:

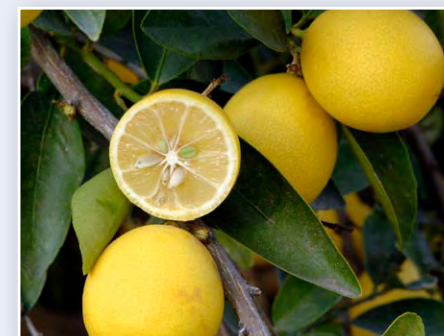
A popular small, seedy lime, 'Mexican' is highly productive and highly acidic. A wonderful backyard tree for a lime-lover, it is also available as a thornless selection. Fruit are yellow when fully mature.



Bearing: October to December in Riverside.

'Eustis' limequat:

A 1909 hybrid of a 'Mexican' lime and a kumquat, 'Eustis' is more cold tolerant than a regular lime and the fruit grow on a smaller tree.



Bearing: Year-round in Riverside.

TRIED & TRUE

'Bearss'/'Tahitian'/'Persian' lime:

These varieties bear large, seedless limes on vigorous, spreading, nearly thornless trees. These trees do not tolerate cold well.



Bearing: October to December in Riverside.

SOMETHING NEW

'Kaffir' lime:

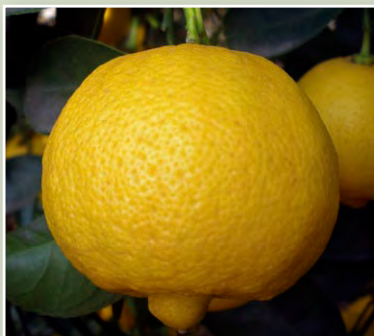
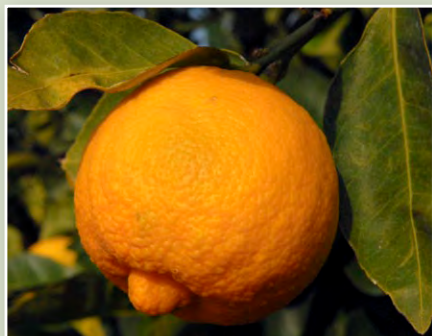
Also known as 'Kieffer' lime or *Citrus hystrix*, 'Kaffir' is not really a lime at all but a papeda used primary for its leaves, which are used in cooking.



Bearing: Leaves are available year-round.

Sweet lemon types:

With their round, flat-bottomed fruit, 'Pomona Sweet' and 'Millsweet' are popular acidless limetta types. The fruit have few seeds and grow on vigorous trees.



Bearing: Year-round in Riverside.

Sweet lime types:

Round, yellow fruit with little to no acid make 'Mexican Sweet' and 'Palestine Sweet' popular varieties of sweet lime. Fruit are juicy, with few seeds.



Bearing: Year-round in Riverside.

TRIED & TRUE

'Meiwa' and 'Nagami' kumquats:

These kumquat trees are small, bear small, seeded fruit, and are popular as garden trees. Both varieties have sour flesh and a sweet rind and can be eaten whole. 'Nagami' fruit is elongated, while 'Meiwa' fruit is round and sweeter overall due to its thicker, sweet rind.



Bearing: December to June in Riverside.

SOMETHING NEW

'Nordmann' seedless kumquat:

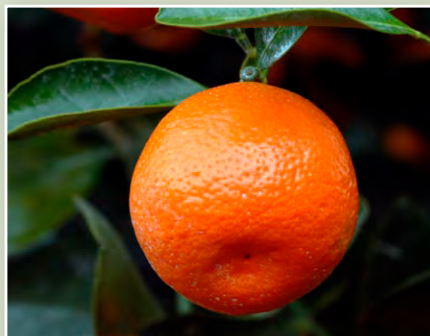
Fruit are similar in appearance to the standard 'Nagami' kumquat but are longer and seedless and may have a thinner rind. These fruit are easy to make into marmalades or other recipes without having to bother with seed extraction. Trees bear large crops and are cold tolerant.



Bearing: December to June in Riverside.

'Calamondin' kumquat hybrid:

A small, low-seeded acid fruit commonly grown in the Philippines. This makes an appealing ornamental tree due to its production of flowers and fruit throughout the year.



Bearing: Year-round in Riverside.

'Variegated Calamondin':

This variegated form of 'Calamondin' has marbled leaves and faintly striped fruit. Trees have an upright, columnar growth habit.



Bearing: Year-round in Riverside.

TRIED & TRUE

Citron types:

Of the several types available, 'Ethrog' is the most popular. Fragrant, thick, seedy, with a yellow rind and high acidity, 'Ethrog' is grown primarily for Jewish ritual use but its rind has other culinary value as well.



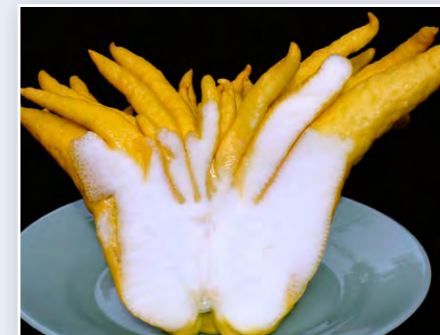
Bearing: November to January in Riverside for culinary use; late July to the Sukkot holiday (late September to late October) for Jewish ritual use.

SOMETHING NEW

'Buddha's Hand' citron:

This tree is small and frost-sensitive. The highly fragrant, 6- to 12-inch fruit have segments that are unfused and look something like human fingers.

The interior of the fruit is solid rind with no juice or seeds. In Eastern traditions, the fruit symbolizes happiness and longevity.



Bearing: November to January in Riverside.

For More Information

To order ANR products or download free publications, visit the ANR Communication Services online catalog at <http://anrcatalog.ucdavis.edu> or phone 1-800-994-8849. You can also place orders by mail or FAX, or request a printed catalog of our products from

University of California
Agriculture and Natural Resources
Communication Services
1301 S. 46th Street
Building 478 – MC 3580
Richmond, California 94604-4600

Telephone: 1-800-994-8849 or 510-665-2195, FAX: 510-655-3427
e-mail inquiries: danrcs@ucdavis.edu

An electronic copy of this publication can be found at the ANR Communication Services website, <http://anrcatalog.ucdavis.edu>

Publication 8472
ISBN-13: 978-1-60107-786-8

© 2011 by The Regents of the University of California Agriculture and Natural Resources. All rights reserved.

The University of California prohibits discrimination or harassment of any person on the basis of race, color, national origin, religion, sex, gender identity, pregnancy (including childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994: service in the uniformed services includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services) in any of its programs or activities.

University policy also prohibits reprisal or retaliation against any person in any of its programs or activities for making a complaint of discrimination or sexual harassment or for using or participating in the investigation or resolution process of any such complaint.

University policy is intended to be consistent with the provisions of applicable State and Federal laws.

To simplify information, trade names of products have been used. No endorsement of named or illustrated products is intended, nor is criticism implied of similar products that are not mentioned or illustrated.



This publication has been anonymously peer reviewed for technical accuracy by University of California scientists and other qualified professionals. This review process was managed by the ANR Associate Editor for Pomology, Viticulture, and Subtropical Horticulture, Larry J. Bettiga.

web-11/11-WJC/RW

