



# Fruit Trees In Rental Landscapes



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*Check out Redwood Energy’s Commercial, Multifamily and Single-Family Zero Carbon All-Electric Guides at their website:*

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# Introduction

“The best time to plant a tree was 30 years ago; the second-best time is now.” Edible landscaping is the design philosophy of integrating food crops such as fruits and vegetables into landscaping. Over the past few decades, edible landscaping has been adopted by a relatively small, yet dedicated movement. Many of these projects are the result of individuals planting fruits, herbs, and vegetables on their own private properties. There are larger-scale organizations and projects too, such as the Brooklyn Grange in New York. They’ve retrofitted many commercial and some residential buildings to support rooftop edible gardens where members of the community can grow fruits, vegetables, and herbs. Edible landscaping can be as simple as planting a few herbs or as complex as filling acres of land with hundreds of bushes, vines, and trees. This guide seeks to find a middle ground of simple, yet community-oriented edible landscapes. The reason this guide is focused on multi-family complexes is that they are their own communities, although, these days many apartments feel isolated. In traditional apartment or condominium landscapes, trees are mainly used for shade or decoration. By introducing fruit trees, common point of interest is introduced for people to bond over, and a consistent source of healthy, home-grown food is provided for the residents.



Figure 1. Rooftop vegetable garden built by the Brooklyn Grange<sup>i</sup>

When engaging in edible landscaping, one of the most important steps to take is to carefully select what you will be planting. The next section of this guide will provide a curated list of fruit trees well-suited for multi-family housing projects. The majority of the species listed are low-maintenance, relatively small, and adaptable to varying conditions.



Figure 2. Man tending to an apple tree<sup>ii</sup>

# Planting List

## Asian Pears

Asian Pears are a highly sought-after class of pears. They are generally smaller than their Western counterparts and are quite fast-growing. They usually grow in USDA Zones 5-9, and grow best with full sunlight and occasional pruning. Many Asian Pear trees are beautiful year round, blossoming with large white flowers in spring, lush green leaves in fall, and striking red leaves in fall. Below are some recommended varieties.



### Shinseiki Asian Pear

*Pyrus pyrifolia 'Shinseiki'*  
USDA Zone 5-9

Shinseiki pears are self-fertile, moderately productive, and semi-dwarf. They are moderately susceptible to disease. These pears are perfect for eating right off the tree and great for baked goods.



### Shinko Asian Pear

*Pyrus pyrifolia 'Shinko'*  
USDA Zone 4-9

Shinko pears are highly resistant to fire blight. They ripen from late July - mid August. These trees produce large, sweet, and juicy brown fruits – great for fresh eating!



### Chojuro Asian Pear

*Pyrus pyrifolia 'Chojuro'*  
USDA Zone 5-8

Chojuro pears are a popular variety due to their butterscotch-like taste. They have some fire blight resistance and can keep for up to 20 weeks.



### Ya Li Asian Pear

*Pyrus pyrifolia 'Ya Li'*  
USDA Zones 4-9

Ya Li pears are moderately resistant to fire blight and semi-dwarf. They require a low amount of chill hours, making them good for warmer climates.



### Hosui Asian Pear

*Pyrus pyrifolia 'Hosui'*  
USDA Zone 4-10

Hosui pears are highly productive, self-fertile, mildly resistant to fire blight, mildly drought tolerant, and semi-dwarf. These pears are delicious right off the tree and make excellent pie filling.



### Hamese Asian Pear

*Pyrus pyrifolia 'Hamese'*  
USDA Zone 5-9

Hamese pears fruit the earliest of all the Asian pears. These pears are sweet, crispy, and juicy – perfect for fresh eating!

## European Pears

Known for their juicy and sweet fruits, pears are one of the most beginner friendly fruits out there. They are not as prone to diseases as other fruits, don't attract as many pests, are less picky when it comes to soil quality, and only require occasional pruning. Most pears grow in USDA Zones 5-8, require moderate watering (0.4-0.6 WUCOLS), and need full sunlight. Below are recommended varieties.



### Kieffer Pear

*Pyrus communis 'Kieffer'*  
USDA Zones 4-10

Kieffer pears are more resilient to different climates than most pears. These pears are resistant to fire blight and are self-fertile.



**Orient Pear**

*Pyrus communis 'Orient'*  
USDA Zone 5-8

Orient pears are resistant to fire blight, are drought-tolerant, flood resistant, grow rapidly, and are tolerant of different soil conditions.



**Moonglow Pear**

*Pyrus communis 'Moonglow'*  
USDA Zones 5-8

Moonglow pears are resistant to fire blight and produce large, juicy fruits. They have a firmer consistency than most pears.



**Bartlett Pear**

*Pyrus communis 'Bartlett'*  
USDA Zones 5-8

Bartlett pears are one of the most popular pears due to their mild, sweet taste. However, they are more susceptible to fire blight than the other pears on this list.



**Anjou Pear**

*Pyrus communis 'Anjou'*  
USDA Zones 5-8

Anjou pears last longer while canned than most. They bloom later than most, as well.

**Cherries**

Cherry trees are highly productive and especially noteworthy because they produce both beautiful flowers and tasty fruits. They require minimal pruning and are generally less disease- and pest-prone than other plants. In general, sour cherries are easier to grow than sweet cherries. Cherries require only 6-8 hours of sunlight a day.



**Early Richmond Cherry (Sour)**

*Prunus cerasus 'Early Richmond'*  
USDA Zone 4-8

Early Richmond cherries are self-fertile, semi-dwarf, and produce fruit earlier than most. They can tolerate humidity, rainy conditions, moderate drought, and colder climates. The tart fruits of this tree are great for preserves and pies. Dwarf Early Richmond cherries should be staked to prevent leaning.



**Montmorency Cherry (Sour)**

*Prunus cerasus 'Early Richmond'*  
USDA Zone 4-7

Montmorency cherries are self-fertile, resistant to walnut toxicity, mildly drought resistant, and semi-dwarf. They are the most common sour cherry for baked goods, providing a unique combination of tartness and sweetness.



**Meteor Cherry (Sour)**

*Prunus cerasus 'Meteor'*  
USDA Zone 3-8

Meteor cherries are self-fertile, very cold tolerant, and are naturally dwarf. These cherries have a mildly acidic flavor, and are great for pies and sauces.



**Stella Cherry (Sweet)**

*Prunus avium 'Stella'*  
USDA Zone 5-9

Stella cherries are self-fertile, highly adaptable to different soils, resistant to cracking, and moderately disease resistant. These large, sweet cherries are great for eating right off the tree or baking.

## Bush Cherries

Bush cherries are well-fitted for landscaping due to their naturally small size and cold hardiness. Sweet varieties of bush cherry are perfect for kids to eat right off the tree, since they can easily reach the fruits. Below are some recommended varieties.



### Carmine Jewel Cherry (Sour)

*Prunus cerasus x Prunus fruticosa*  
'Carmine Jewel'  
USDA Zone 2-7

Carmine Jewel cherries are self-fertile, highly pest and disease resistant, and adaptable to different soil conditions. These cherries are mildly sweet - great for eating fresh.



### Juliet Cherry (Sour)

*Prunus cerasus x Prunus fruticosa*  
'Juliet'  
USDA Zone 2-7

Juliet cherries are self-fertile, adaptable to different soil pH, and resistant to urban pollution. These cherries are semi sweet and semi tart - good for eating fresh, but even better for baking!



### Crimson Passion Cherry (Sour)

*Prunus cerasus x Prunus fruticosa*  
'Crimson Passion'  
USDA Zone 2-7

Crimson Passion cherries are self-fertile, highly pest resistant, and moderately disease resistant. They can grow in a variety of soil conditions but are susceptible to suckering if soil is disturbed regularly. These cherries are very sweet and juicy, more than many other cherry species. They are perfect to eat right off the tree.



### Romeo Cherry (Sour)

*Prunus cerasus x Prunus fruticosa*  
'Romeo'  
USDA Zone 2-7

Romeo cherries are self-fertile, adaptable to different soil conditions, slightly pest and disease tolerant, and slightly drought tolerant. These cherries are fairly sweet - good for eating fresh or baking.

## Persimmon

Persimmons are another very simple fruit to grow. They can grow in many climates, adapt to different soil conditions, and need no fertilizer. They need full sun exposure and moderate watering (0.4-0.6 WUCOLS). They require a decent amount of pruning in the first few years. Once established, however, you'll rarely need to. Exercise caution when selecting varieties. You'll want to stick with non-astringent persimmons. Astringent persimmons are only sweet once ripened off the tree for some time. When unripe, they are intensely dry and sour. Non-astringent persimmons, on the other hand, can be eaten right off the tree!



### Fuyu Persimmon

*Diospyros kaki 'Fuyu'*  
USDA Zone 7-11

Fuyu persimmons are self-fertile, very disease-resistant, and drought-tolerant. These non-astringent persimmons are crispy and sweet like an apple. They are perfect for eating off the tree or using in jams and baked goods. Also, the leaves can be used to make tea!



### Ichi-Ki-Kei-Jiro (Early Jiro) Persimmon

*Diospyros kaki 'Ichi-Ki-Kei-Jiro'*  
USDA Zone 6-9

Ichi-Ki-Kei-Jiro persimmons are self-fertile, very cold hardy, heat-tolerant, and semi-dwarf. These non-astringent persimmons are sweet right off the tree!



### Maekawa Jiro Persimmon

*Diospyros kaki 'Maekawa Jiro'*

USDA Zone 6-10

Maekawa Jiro persimmons are self-fertile, cold hardy, very pest and disease resistant, adaptable to different soil conditions, and semi-dwarf. These non-astringent persimmons are firm and crunchy, with a refreshing sugar cane-like flavor.



### Izu Persimmon

*Diospyros kaki 'Izu'*

USDA Zone 7-10

Izu persimmons are self-fertile, very pest and disease resistant, drought tolerant, adaptable to different soil conditions, and semi-dwarf. These non-astringent persimmons are sweet, flavorful, and crispy right off the tree!



### Fuyu Imoto Persimmon

*Diospyros kaki 'Fuyu Imoto'*

USDA Zone 7-10

Fuyu Imoto persimmons are self-fertile, pest and disease resistant, and semi-dwarf. These non-astringent persimmons are juicy and have a mild, cantaloupe-like flavor.

## Figs

Figs are another simple yet rewarding fruit. They can grow in a wide variety of climates and soil conditions and grow quite quickly. They require only moderate watering (0.4-0.6 WUCOLS), annual pruning, and annual fertilization. They need full sun exposure. Below are some recommended varieties.



### Violette de Bordeaux

#### (Negronne) Fig

*Ficus carica 'Violette de Bordeaux'*

USDA Zone 6-11

Violette de Bordeaux figs are self-fertile, pest and disease resistant, and naturally dwarf. These trees produce two crops a year of distinctively sweet and tasty figs - perfect for eating fresh off the tree!



### Alma Fig

*Ficus carica 'Alma'*

USDA Zone 7-10

Alma figs are self-fertile, highly resistant to fruit rot, and semi-dwarf. They are also generally resistant to diseases and pests. However, they are very sensitive to frost, so exercise caution in colder climates. They have a honey-sweet taste and smooth texture - great to eat right off the tree! They are also excellent dried or added to cheese and baked goods.



### Brown Turkey Fig

*Ficus carica 'Brown Turkey'*

USDA Zone 7-10

Brown Turkey figs are self-fertile, pest and disease resistant, very heat tolerant, and moderately drought tolerant. These mildly sweet figs are great for eating fresh, baking, and preserving. Additionally, they fruit twice a year!



### Celeste Fig

*Ficus carica 'Celeste'*

USDA Zone 6-9

Celeste figs are self-fertile, pest and disease resistant, and naturally dwarf. They are the most cold hardy of the figs. These figs are sugary sweet and can be left to partially dry on the tree, making them syrupy and even sweeter.



### Little Miss Figgy Fig

*Ficus carica 'Little Miss Figgy'*

USDA Zone 7-10

Little Miss Figgy figs are self-fertile, pest and disease resistant, and naturally dwarf. These small trees are a sub-variant of Violette de Bordeaux figs. They produce large, sweet figs - great for eating fresh.

# Plums

Plums are another rewarding fruit tree to grow. They take more regular pruning and watering than other fruits on this list, but if you stick to varieties listed below, maintenance won't be too time consuming. Plums can grow in a variety of climates and soils. They require at least 6-8 hours of sunlight and a moderate amount of water (0.4-0.6 WUCOLS). Be forewarned: eating too many (6+) in one sitting can make you sick. Even though they are quite delicious, make sure to pace yourself. Below are some recommended varieties.



## Santa Rosa Plum

*Prunus salicina 'Santa Rosa'*  
USDA Zone 5-10

Santa Rosa plums are self-fertile and generally pest and disease resistant. These plums are some of the most popular, known for their sweet and slightly tart flavor! These trees are one of the best pollinators for other plums.



## Shiro Asian Plum

*Prunus salicina 'Shiro'*  
USDA Zone 5-9

These trees produce a heavy crop of very juicy, mildly sweet plums - great for eating fresh or canning.



## AU Rosa Plum

*Prunus salicina 'AU Rosa'*  
USDA Zone 5-8

AU Rosa plums are self-fertile, very disease resistant, bacteria resistant, semi-dwarf, and adaptable to many climates. These trees produce a large quantity of sweet and juicy fruits - great to eat off the tree. They require much more pruning than most plums, however.



## Mount Royal Plum

*Prunus domestica 'Mount Royal'*  
USDA Zone 4-7

Mount Royal plums are self-fertile and semi-dwarf. They are the most cold hardy of the European plums. These trees produce a heavy crop of tasty freestone plums - great for eating fresh or preserving.



## Luisa Plum

*Prunus domestica 'Luisa'*  
USDA Zone 5-9

Luisa plums are self-fertile and semi-dwarf. These trees produce sweet, juicy plums with a slight apricot taste - great for eating fresh.



## Kirke's Blue Plum

*Prunus domestica 'Kirke's Blue'*  
USDA Zone 5-9

Kirke's Blue plums are naturally dwarf. These freestone plums are renowned for their excellent flavor and super-juicy flesh - perfect for eating off the tree!



## Kuban Comet Plum

*Prunus domestica 'Kuban Comet'*  
USDA Zone 4-?

Kuban Comet plums are self-fertile, pest and disease resistant, and naturally dwarf. These trees bloom much earlier than most, and produce a heavy crop of firm, juicy, aromatic, and sweet plums.

## Coastal Plums

These plums are well-suited for coastal regions. Other plum varieties are more susceptible to diseases and other ailments when planted on the coast.



### Beauty Plum

*Prunus salicina 'Beauty'*

USDA Zone 5-10

Beauty plums are self-fertile and start fruiting within 1-2 years. These small plums are very soft. They are a mix of sweet and tart - perfect for a quick snack!



### Golden Nectar Plum

*Prunus salicina 'Golden Nectar'*

USDA Zone 5-10

Golden Nectar plums are somewhat pest and disease resistant. These trees produce yellow fruits with a very sweet flavor, having hints of melon and honey. They are eaten both dried and fresh off the tree!



### Methley Plum

*Prunus salicina 'Methley'*

USDA Zone 5-9

Methley plums are self-fertile, disease resistant, mildly drought tolerant, highly adaptable to soil conditions, and require little to no pruning. These highly productive trees produce juicy, mildly sweet plums - great for eating fresh or using in jelly!



### Green Gage Plum (Reine Claude Plum)

*Prunus domestica spp. italica var. claudiana*

USDA Zone 5-9

Green Gage plums are heat tolerant and semi-dwarf. The green fruits blend in with the leaves, confusing birds who would normally be a pest. These trees produce a hearty crop of very sweet, rich, firm, freestone plums - great eaten fresh or used in baked goods and preserves! There are multiple cultivars of green gage plum, so try to find the one that's best for you.

## Prune Plums

Prune plums are a particularly sweet subspecies of plums that are often dried out and made into prunes but are also quite delicious when eaten fresh.



### Stanley Prune Plum

*Prunus domestica 'Stanley'*

USDA Zone 5-8

Stanley plums are self-fertile and semi-dwarf. These trees produce a hearty crop of richly sweet freestone plums. They can be dried without being pitted, making them a perfect DIY prune!



### Improved French Prune Plum

*Prunus domestica 'French Improved'*

USDA Zone 5-9

Improved French plums are self-fertile and semi-dwarf. These trees produce a hearty crop of rich, super sweet plums - great for eating fresh, canning, and drying. These are becoming the most sought-after plum in California.



### Italian Prune Plum

*Prunus domestica 'Italian Prune'*

USDA Zone 4-9

Italian plums are self-fertile, bacterial spot resistant, and semi-dwarf. These trees produce a heavy crop of firm, sweet freestone plums - great for eating fresh or drying.

## Peach/Nectarine

Peaches are a great fruit you can grow easily and eat right off the tree! They take a moderate amount of pruning and fertilizing. They also require spraying for disease when young, but once established, they should be fine on their own. They require only a little watering (depending on climate) and thrive in warm climates. Most peaches are self-fertile and grow best in full sun. Be warned: peaches can be quite susceptible to disease, so stick closely to the varieties described below for the best results.



### Morton Nectarine

*Prunus persica* var. *neupersica* 'Morton'  
USDA Zone 4-8

Morton nectarines are highly disease-resistant in general, with moderate resistance to peach leaf curl. They are self-fertile, cold hardy, and semi-dwarf. These trees produce juicy, sweet fruits with a melt-in-your-mouth texture.



### Indian Blood Cling Peach (Blood Peach)

*Prunus persica* 'Indian Blood Cling'  
USDA Zone 5-9

Blood Cling peaches are disease resistant, somewhat pest resistant, and semi-dwarf. These trees produce large, velvety fruits with a taste unlike any other.



### Frost Peach

*Prunus persica* 'Frost'  
USDA Zone 5-9

Frost peaches are highly peach leaf curl resistant, generally disease resistant, and semi-dwarf. These trees produce juicy, sweet freestone fruits with yellow flesh.



### Avalon Pride Peach

*Prunus persica* 'Avalon Pride'  
USDA Zone 4-8

Avalon Pride peaches are peach leaf curl resistant and semi-dwarf. These trees produce very flavorful, sweet and juicy fruits.



### Betty Peach

*Prunus persica* 'Betty'  
USDA Zone 5-9

Betty peaches are peach leaf curl resistant, brown rot resistant, and semi-dwarf. These trees produce firm, high quality, semi-freestone fruits, and bloom late in the season.



### Charlotte Peach

*Prunus persica* 'Charlotte'  
USDA Zone 5-9

Charlotte peaches are peach leaf curl resistant, bacterial canker resistant, and naturally dwarf. These trees produce visually striking, sweet, semi-freestone fruits. Their small size makes picking fruits off the tree a breeze.



### Salish Summer Peach (Q-1-8 Peach)

*Prunus persica nucipersica*  
USDA Zone 5-9

Salish Summer peaches are highly peach leaf curl resistant and naturally dwarf. These trees produce white-fleshed, semi-freestone fruits with a juicy, sharply sweet flavor.



### Earlitreat Peach

*Prunus persica* 'Earlitreat'  
USDA Zone 6-9

Earlitreat peaches are leaf curl resistant, self-fertile, and semi-dwarf. These trees produce fruit very early in the season and produce fruit with a balanced flavor of sweetness and acidity - perfect for fresh eating or baked goods.

## Arctic Nectarines

While most nectarines struggle with cold climates, the sub-group known as 'Arctic Nectarines' thrive in frigid climates!



### Arctic Jay Nectarine

*Prunus persica* var. *nectarina* 'Arctic Jay'  
USDA Zone 5-9

Arctic Jay nectarines are self-fertile and semi-dwarf. These are the most climate-adaptive of the arctic nectarines. They produce taste-test winning, juicy, freestone fruits with a great sugar-acid balance.



### Arctic Babe Miniature Nectarine

*Prunus persica* var. *nectarina* 'Arctic Babe'  
USDA Zone 6-9

Arctic Babe nectarines are self-fertile and naturally dwarf. These trees produce very sweet, juicy, semi-freestone nectarines - great to eat off the tree.



### Arctic Sprite Nectarine

*Prunus persica* var. *nectarina* 'Arctic Sprite'  
USDA Zone 6-9

Arctic Sprite nectarines are self-fertile and naturally dwarf. These trees produce freestone nectarines with a tangy-sweet flavor. They're known for having a perfect acid-sugar balance.



### Arctic Queen Nectarine

*Prunus persica* 'Arctic Queen'  
USDA Zone 5-9

Arctic Queen nectarines are peach leaf curl resistant, semi-dwarf, and fruit at a stable rate. They are known for white-fleshed, crunchy, rich and sweet fruits. They are often used as a substitute for peaches in baked goods but are great eaten fresh as well.

## Pomegranate

Pomegranates are a tasty and nutritious fruit you can grow with little maintenance. They are self-fertile, pest and disease resistant, very drought tolerant (0.1-0.3 WUCOLS), need only 6 hours of sun a day, and only need to be fertilized twice a year. In the first few years, they require a good amount of pruning, but once established, they only need annual pruning. Be careful with how many you plant, as the fruits can be quite large - leading to some mess. **Caution:** Pomegranate trees have thorns. Exercise care when picking fruits. Below are some recommended varieties.



### Ariana Pomegranate

*Punica granatum* 'Ariana'  
USDA Zone 6-10

Ariana pomegranates are naturally dwarf. They are some of the best-tasting pomegranates, with sweeter seeds than most - great for eating right off the tree. They perform best in warmer climates but can tolerate down to zone 6.



### Russian 26 Pomegranate

*Punica granatum* 'Russian #26'  
USDA Zone 6-11

Russian 26 pomegranates are both heat and cold tolerant, making them a good fit for many climates. They are naturally dwarf. These pomegranates are said to be some of the sweetest - perfect for eating off the tree.



### Sweet Pomegranate

*Punica granatum* 'Sweet'  
USDA Zone 7-10

Sweet pomegranates are naturally dwarf. Like the name implies, these pomegranates are quite sweet, having a cherry-like taste - perfect for eating off the tree!



### Red Silk Pomegranate

*Punica granatum* 'Red Silk'  
USDA Zones 7-10

Red Silk pomegranates are the smallest pomegranate variety, only reaching 5-7' - a great fit for confined spaces. These trees have a high yield of fruits with sweet seeds.

# Apples

When people think of fruits, they think of apples! Unfortunately, apples can be quite susceptible to diseases, making them difficult to grow. We've selected several varieties with disease resistance, so stick closely to this guide, and you should have little issue. We recommend planting dwarf or semi-dwarf versions of these apple varieties, as full-sized trees can be well over 20'. Apples need at least 8 hours of sunlight a day, annual pruning and fertilization, and moderate watering (0.4-0.6 WUCOLS).



**Pristine Apple**  
*Malus domestica 'Pristine'*  
USDA Zone 4-8

Pristine apples are immune to apple scab, resistant to cedar rust, somewhat resistant to fire blight, and highly resistant to powdery mildew. These trees produce crisp, yellow apples with a mildly tart, unique taste - great for eating fresh or making into sauce.



**Liberty Apple**  
*Malus domestica 'Liberty'*  
USDA Zone 4-10

Liberty apples are highly resistant to apple scab, cedar apple rust, and fire blight; and are somewhat resistant to powdery mildew. These trees produce crispy, juicy fruits with a tart, creamy, and somewhat sweet flavor.



**Enterprise Apple**  
*Malus domestica 'Enterprise'*  
USDA Zone 3-9

Enterprise apples are immune to apple scab, highly resistant to cedar apple rust and fire blight; and are somewhat resistant to powdery mildew. These trees produce a heavy crop of firm, crispy, juicy apples with a sweet taste.



**Centennial Miniature Seedless Apple**  
*Malus domestica 'Centennial'*  
USDA Zone 3-7

Centennial apples are widely adaptable to different soils and have a low spread area. These apples are small, juicy, and sweet - perfect for a light snack.



**Golden Delicious**  
*Malus domestica 'Golden Delicious'*  
USDA Zone 4-10

Golden Delicious apple trees are self-fertile and quite disease-resistant. These trees produce a hearty crop of very sweet, aromatic apples with a mild flavor.



**Fuji**  
*Malus domestica 'Fuji'*  
USDA Zone 5-9

Fuji apples are semi-dwarf. These apples are some of the sweetest available - great for eating fresh, baking, or cider!



**Granny Smith**  
*Malus domestica 'Granny Smith'*  
USDA Zone 5-9

Granny Smith apples are renowned among apples for their tart, yet slightly sweet flavor. They are the premier apple used for apple pies.



### Red Devil Apple

*Malus domestica 'Red Devil'*  
USDA Zone 5-9

Red Devil apples are disease resistant, partially scab resistant, and self-fertile. These apples are considered the best tasting red-fleshed apple and are known for producing excellent juice. They are also great eaten fresh or used in based goods.



### Pink Princess Apple

*Malus domestica 'Pink Princess'*  
USDA Zone 5-10

Pink Princess Apples are known for a distinctly fruity, sweet flavor. They are commonly used for cider or fresh eating.



### Mountain Rose Apple

*Malus domestica 'Mountain Rose'*  
USDA Zone 4-9

Mountain Rose Apples are known for a tart flavor, similar to pink lemonade. These apples are rarely sold in stores, as cold storage causes them to lose their flavor. They are ideal for eating fresh, but few people get the opportunity!

## Columnar (Spire) Apple

Columnar (AKA Spire) Apples are some of the best fruit trees for limited spaces. Unlike most fruit trees, these grow in an almost perfectly vertical column with little-to-no spread. You can fit one of these almost anywhere!



### Northpole Columnar Apple

*Malus domestica 'Northpole'*  
USDA Zone 4-8

Northpole apples are generally disease-resistant and naturally dwarf. These trees produce bright red, crunchy, McIntosh-flavored apples.



### Golden Sentinel Columnar Apple

*Malus domestica 'Golden Sentinel'*  
USDA Zone 4-8

Golden Sentinel apples are generally disease-resistant and naturally dwarf. These trees produce large, sweet, juicy, crunchy, gold-colored apples - delicious right off the tree or in baked goods!



### Scarlet Sentinel Columnar Apple

*Malus domestica 'Scarlet Sentinel'*  
USDA Zone 4-9

Scarlet Sentinel apples are generally disease-resistant and naturally dwarf. These trees produce a heavy crop of juicy, sweet red apples.

## Almonds

Almonds are fairly simple to maintain and even easier to harvest. When the season is right, give your tree a good, hearty whack and the nuts should come falling down. They need moderate watering (0.4-0.6 WUCOLS), little to no fertilizing, and full sunlight. They thrive in hot and dry conditions. In the first few years, they will need more water and attention, so exercise caution when choosing how many to plant.



### All-in-One Almonds

*Prunus dulcis 'All in One'*  
USDA Zone 6-10

All-in-One almonds are self-fertile and semi-dwarf. These trees produce soft-shelled, sweet almonds - delicious right off the tree!



### Reliable Almonds

*Prunus dulcis x persica 'Reliable'*  
USDA Zone 5-9

Reliable almonds are self-fertile, disease-resistant, and semi-dwarf. This cultivar is a cross between an almond and a peach! These trees produce beautiful pink flowers and a hearty crop of rich and marzipan-tasting almonds.



### Garden Prince Almond

*Prunus dulcis 'Garden Prince'*  
USDA Zone 6-10

Garden Prince almonds are self-fertile and range from dwarf to semi-dwarf. These are the smallest of the almond trees. They produce clusters of medium, soft-shelled, sweet almonds.

## Avocado

Avocados are both simple and extremely rewarding to grow. Rather than paying through the nose for fruits that go bad within 3 days, you can have all the avocados you want for free! Avocados require only 6 hours of sunlight, moderate watering (0.4-0.6 WUCOLS), and annual pruning. All avocados are self-fertile, however having both "Type A" and "Type B" avocados doubles your chances of success. Avocado trees are quite large, needing more space than other fruiting trees. Below are some recommended varieties.



### Hass Avocado (Type A)

*Persea americana 'Hass'*  
USDA Zone 9-11

Hass avocados are the grocery store variety of avocados, known for their rich, buttery, nutty taste. They are used as a topping for many dishes.

## Cold Hardy Avocados

Cold Hardy avocados are bred specifically to tolerate temperatures as low as 20°F. They have thinner skin and richer, more oily flesh when compared to Hass Avocados. Below are some recommended varieties.



### Bacon Avocado (Type B)

*Persea americana 'Bacon'*  
USDA Zone 9-11

Bacon avocados are known for their rich, buttery flavor and smooth texture - great for guacamole! They are smaller than other avocado trees.



### Mexicola Avocado (Type A)

*Persea americana 'Mexicola'*  
USDA Zone 8-11

Mexicola avocados are yet another avocado with a creamy rich flavor. Their fruits are slightly smaller than other avocados, making them less likely to drop off the tree as often.

## Mulberry

Mulberries are an uncommon fruit not sold in grocery stores. They are simple to grow, however, giving you the chance to try them out for yourself. Mulberries can grow in many climates, require minimal pruning and mulching, and only moderate watering (0.4-0.6 WUCOLS). Unlike most berries, mulberries grow on trees. Below are some recommended varieties.



### Contorted (Black or White) Mulberry

*Morus bombycis 'Unryu'*  
USDA Zone 4-9

Contorted mulberries are self-fertile, disease and pest resistant, cold hardy, and naturally dwarf. These fruits are sweet, with a texture like a blackberry.



### Everbearing Mulberry

*Morus nigra 'Everbearing'*  
USDA Zone 6-10

Everbearing mulberries are self-fertile and semi-dwarf. These fruits are intensely sweet - great for eating fresh or freezing.

## Jujube

Jujubes are a lesser-known fruiting tree native to Asia. Also known as Chinese dates, these are drought-tolerant trees that thrive in hot and dry climates. They used to be commonly sold in US movie theatres to relieve throat dryness from smoking. They've since been replaced by candies named in their likeness ("Jujube Candy"). These trees prefer full sun and well-drained soil, requiring minimal care once established.



### Li Jujube

*Ziziphus jujuba 'Li'*  
USDA Zone 5-10

Li jujubes are partially self-fertile, drought and heat resistant, and highly pest and disease resistant. These trees are visually striking and produce a crop of crispy and sweet, apple-like fruits – great for fresh eating, drying, and candying.



### Honey Jar Jujube

*Ziziphus jujuba 'Honey Jar'*  
USDA Zone 6-10

Honey Jar jujubes are partially self-fertile, drought and heat resistant, dwarf, and highly pest and disease resistant. These fruits ripen early in the season and are crispy, juicy, and very sweet. They are great for fresh eating, drying, and candying.

## Kumquat

Kumquats are a more obscure fruit. They are quite simple to grow and naturally small, closer to a shrub than a tree. They need full sun, moderate watering (0.4-0.6 WUCOLS), and minimal fertilizer. Kumquats can tolerate many types of soil. These fruits have a rind and are usually sour on the inside - great for juicing or eating the flesh like sour candy. **Caution:** Kumquat trees have thorns. Exercise care when picking fruits.



### Meiwa "Candy" Kumquat

*Fortunella crassifolia*  
USDA Zone 8-10

Meiwa kumquats are self-fertile, naturally dwarf, and more cold hardy than other kumquats. These fruits are unique among kumquats, being quite sweet and having an edible rind. You can eat them right off the tree like a grape!



### Nordmann Seedless Nagami Kumquat

*Citrus japonica 'Nordmann Seedless'*  
USDA Zone 9-10

Nordmann kumquats are self-fertile and are naturally dwarf. These kumquats are a variation of the commercially available Nagami kumquats, having a similar sweet rind and tart pulp. However, they have no seeds, making them perfect to eat right off the tree!



### Fukushu Kumquat

*Fortunella obovata 'Fukushu'*  
USDA Zone 9-11

Fukushu kumquats are self-fertile, somewhat pest and disease resistant, and are naturally dwarf. These fruits are a cross between kumquats and mandarin oranges. They have a thin, sweet, and edible rind; and have tart, juicy flesh.



### Eustis Limequat

*Fortunella japonica x Citrus aurantifolia*  
USDA Zone 9-11

Eustis limequats are self-fertile, somewhat pest and disease resistant, and naturally dwarf. These fruits are a cross between a kumquat and a key lime. They produce fruits with a strong, tart lime flavor and an edible skin!

## Guavas

Guavas are considered exotic in the US and only grow in warmer areas, such as California and Florida. They are naturally very small, closer to a shrub than a tree, making them a good fit for multifamily landscapes. They prefer full sun, well-drained soils, quarterly fertilization, and moderate watering (0.4-0.6 WUCOLS). In addition, they require extra protection from icy conditions in the winter.



### Strawberry Guava

*Psidium cattleianum*  
USDA Zone 9-11

Strawberry guavas are somewhat pest and disease resistant, drought tolerant, self-fertile, and dwarf. These trees produce juicy, sweet-tart fruits with fewer seeds than other guavas. They are great for fresh eating, drinks, or desserts!



### Yellow Strawberry Guava (Lemon Guava)

*Psidium cattleianum var. lucidum*  
USDA Zone 9-11

Lemon guavas are somewhat pest and disease resistant, drought tolerant, self-fertile, and dwarf. Lemon guava is smaller and hardier compared to the Strawberry guava. These trees produce juicy, sweet and tangy fruits. They are great for fresh eating, drinks, or desserts.



### Pineapple Guava (Feijoa)

*Acca sellowiana*  
USDA Zone 8-11

Pineapple guava is pest and disease resistant, drought tolerant, partially self-fertile, and dwarf. In the spring, they produce stunning flowers. These trees are slow-growing and produce juicy, sweet, tropical-tasting fruits – perfect for fresh eating, drinks, or desserts.

## Grapes

Grapes are a popular fruit worldwide. They are a quite vigorous grower if planted in the right conditions. If you're planning on planting grapes, you'll need to install a lattice, trellis, or arbor to support their vines. One edge vines like grapes have over fruit trees is that they only grow as tall as the installation supporting them. Grapes require full sun, annual fertilizing, annual pruning, and moderate watering (0.4-0.6 WUCOLS).



### Himrod Seedless Grape

*Vitis labrusca 'Himrod'*  
USDA Zone 4-8

Himrod grapes are self-fertile, disease-resistant, and very cold hardy. They ripen quite early in the season. These vines produce loose clusters of honey-sweet, juicy grapes - great for eating fresh or drying into raisins!



### Interlaken Seedless Grape

*Vitis labrusca 'Interlaken'*  
USDA Zone 5-10

Interlaken grapes are self-fertile, disease-resistant, and very cold hardy. They are vigorous growers and ripen very early in the season. These vines produce clusters of crispy, sweet, and tangy grapes - great for eating fresh, juicing, and drying into raisins.



### Venus Seedless Grape

*Vitis labrusca 'Venus'*  
USDA Zone 5-10

Venus grapes are self-fertile, cold hardy, and resistant to cracking. They are vigorous growers and ripen early in the season. These vines produce clusters of large, sweet fruits with a hint of muscat flavor. They are used for both fresh eating and wine!



### Einset Seedless Grape

*Vitis labrusca 'Einset'*  
USDA Zone 5-9

Einset grapes are self-fertile and cold hardy. They ripen early in the season. They prefer to grow on longer canes and need some degree of wind protection. These grapes are well-known for their strawberry-like flavor - perfect for eating off the vine!

## Thornless Varieties of Thorny Fruit Trees

Unfortunately, some of the most popular fruit trees (i.e. lemons and limes) have thorns. Luckily, there are thornless cultivars available!



### Thornless Mexican (Key) Lime

*Citrus aurantifolia*  
USDA Zones 9-11

Key limes are self-fertile, pest and disease resistant, drought tolerant, and semi-dwarf. They require a moderate amount of watering (0.4-0.6 WUCOLS). These trees are well-suited to hot climates, and produce small, juicy, sour fruits.



### Thornless Prickly Pear Cactus

*Opuntia ellisiana*  
USDA Zone 6-10

Prickly pear cacti are self-fertile, pest and disease resistant, drought tolerant, naturally dwarf, and require very little water (<0.1 WUCOLS). These cacti produce small, sweet fruits that can be eaten fresh or grilled. The cactus pads can also be used for a variety of cuisine.



### Improved Meyer Lemon *Citrus meyeri* 'Improved' USDA Zone 8-11

Improved Meyer lemons are self-fertile, somewhat pest and disease resistant, naturally dwarf, and require moderate watering (0.4-0.6 WUCOLS). These trees are *nearly* thornless, so exercise some caution when picking fruits. These trees produce a year-round crop of deliciously sour lemons.



### Sin Espinas Dragon Fruit *Hylocereus* sp. USDA Zone 10-11

Sin Espina dragon fruit are self-fertile, produce a heavy crop, and require moderate watering (0.4-0.6 WUCOLS). Despite being a cactus, this variety is *nearly* thornless! These dragon fruits are firm and tart, with a cherry-like flavor.

## Berries

Berries can make a great addition to an edible landscape due to their small stature. The berries recommended below grow as canes or vines, so they need a trellis or arbor for support.

### Blackberry and Raspberry

Blackberries and Raspberries are some of the most commonly grown berries. There are many hybrids of the two berries, leading to a diverse array of flavor profiles. Maintenance can be highly variable. These berries often have thorns, so we've taken care to select as many thornless varieties as we can. Below are some recommended varieties and tips for growing them.



### Triple Crown Thornless Blackberry

*Rubus idaeus* 'Triple Crown'  
USDA Zone 5-9

Triple Crown blackberries are self-fertile and disease resistant. These are one of the most productive blackberry variants out there! These canes produce a hearty crop of large, super sweet berries - great for eating fresh, juicing, or making into jelly! Triple crowns need full sun, annual pruning, and moderate to frequent watering.



### Navaho Blackberry

*Rubus fruticosus 'Navaho'*

USDA Zone 6-10

Navaho blackberries are self-fertile and disease resistant. These blackberries are unique due to their self-supporting canes- no trellis required! These canes produce firm, juicy, super-sweet blackberries. They need full or partial sun, biannual pruning, and moderate watering.



### Thornless Boysenberry

*Rubus ursinus var. loganobaccus*

USDA Zone 5-10

Thornless boysenberries are self-fertile. Boysenberries are a hybrid of blackberry, raspberry, dewberry, and loganberry. These canes produce large, nearly seedless, sweet-tart berries - perfect for fresh eating or jams! Thornless Boysenberries need full sun, annual pruning, and consistent mulching.



### Joan J Raspberry

*Rubus idaeus 'Joan J'*

USDA Zone 3-8

Joan J raspberries are self-fertile and thornless. These canes produce a heavy crop of large, firm, flavorful raspberries - excellent for fresh eating or jams! Joan J's fruit quite early in the growing season. They need full sun, moderate watering, and frequent mulching. They should be pruned annually, *except* for the 1st year.



### English Thornless Raspberry

*Rubus idaeus 'English Thornless'*

USDA Zone 6-8

English Thornless raspberries are self-fertile, pest-resistant, and disease-resistant. These canes produce aromatic, sweet raspberries - great for fresh eating. These raspberries require full sun or partial shade and moderate mulching.



### Thimbleberry

*Rubus parviflorus*

USDA Zone 3-9

Thimbleberries are self-fertile, disease and pest resistant, and thornless. These bushes produce tart, tender fruits - great for fresh eating or jams. The shoots are also edible - often peeled and grilled. They need full or partial sun, frequent watering and mulching, and annual pruning.



### Thornless Loganberry

*Rubus loganobaccus*

USDA Zone 6-10

Loganberries are self-fertile, pest-resistant, and disease-resistant. These berries are a cross between a red raspberry and a blackberry. These canes are vigorous growers, producing large, sweet berries with a unique flavor - great for fresh eating, jams, and baked goods! Loganberries need full or partial sun, moderate watering, and semi-frequent pruning/shaping.



### Tayberry

*Rubus fruticosus x idaeus*

USDA Zone 5-9

Tayberries are self-fertile, disease-resistant, and pest-resistant. These berries are a cross of a blackberry and a raspberry, giving them a wholly unique flavor which many consider to be the tastiest of the *Rubus* family. These canes are heavy producers, so they require extra structural support. Tayberries have thorns, so exercise caution when picking them. These berries need full sun, frequent watering, and annual pruning *except* for the first year.

# Strawberry

Strawberries are beloved by many, being a quintessential summer snack. They can be susceptible to weeds and disease, so we've selected some hardier varieties for this list. Strawberries need full sun exposure, moderate watering, and annual pruning. They are often grown in raised beds or planters. Adding straw bedding can help deter weeds and pests.



## Tristar Strawberry

*Fragaria ananassa 'Tristar'*  
USDA Zone 4-8

Tristar strawberries are self-fertile, pest-resistant, and disease-resistant. These bushes produce a crop of large, aromatic, sweet strawberries - great for fresh eating, jams, or baked goods.



## Albion Strawberry

*Fragaria ananassa 'Albion'*  
USDA Zone 4-8

Albion strawberries are self-fertile and disease resistant. These bushes produce a consistent crop of large, firm, sweet strawberries - great for fresh eating, jams, or baked goods.



## Seascape Strawberry

*Fragaria ananassa 'Seascape'*  
USDA Zone 4-8

Seascape strawberries are self-fertile, very disease-resistant, and highly productive. These bushes produce large, juicy, sweet strawberries - great for fresh eating, jams, or baked goods.



## Chandler Strawberry

*Fragaria ananassa 'Chandler'*  
USDA Zone 5-9

Chandler strawberries are self-fertile and highly productive. They are more susceptible to disease than the strawberries listed above, however. These bushes produce large, juicy, intensely sweet strawberries - great for fresh eating, jams, or baked goods.

# Case Studies

## Ramirez's Garden



Figure 1. Ramirez taking a walk in his yard<sup>iii</sup>



Apricot

Pluot

Nectarine

Apple

Avocado

Lime

Papaya



Cherimoya

Mango

Guava

Lemon

Orange

Cinnamon



Figure 2. Coffee beans from Ramirez's garden (left). List of varieties grown written in chalk (right).<sup>vi</sup>

Ramirez is a teacher and artist from Boyle Heights in Los Angeles, California. Through years of hard work, he turned his weed-filled yard into a thriving fruit forest with 250 trees. His fruit forest includes: apricots, pluots (plum x apricot), nectarines, apples, avocados, limes, papaya, cherimoya, mango, guava, lemons, oranges, and even cinnamon. Completely self-taught, Ramirez relied mainly on trial-and-error to get his garden to where it is today. Ramirez went against conventional wisdom and planted his trees very close together, but it worked out in the end. Ramirez's success goes to show how hardy and adaptable fruit trees are. It's not always necessary to follow conventional practices with 100% precision. Here are some pieces of advice from Ramirez himself:

1. Research is crucial
2. Plant when it's cool
3. Add a thick layer of mulch
4. Improve your soil
5. Add rock dust or azomite minerals to improve water retention
6. Use compost tea to feed your trees while watering
7. Filter your irrigation water to remove chloride and other chemicals
8. Be open to experimentation
9. Don't give up

# Plum Orchard Apartments



Loquat



Orange



Persimmon



Lemon



Grapefruit



Figure 3. One of Plum Orchard's courtyards<sup>iv</sup>



Figure 4. One of Plum Orchard's courtyards<sup>ii</sup>

Plum Orchard is an apartment complex in San Jose, California that distinguishes itself from the rest of the pack by advertising as “a green oasis in the heart of the bustling city.” Plum Orchard has multiple well-maintained gardens in its common areas and courtyards. Residents are free to pick fresh fruits from a variety of trees including loquats, oranges, persimmons, lemons, and grapefruits.

# Round Walk Village



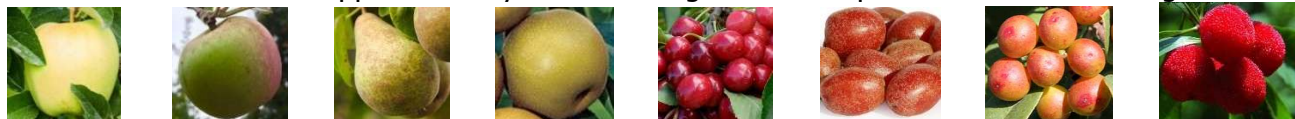
Figure 5. The above example is sampled from the landscape design sheet of Round Walk Village. It illustrates the design principles of Round Walk Village. The area pictured here shows a few adjacent yard spaces. A major road is off the map to the right, away from any fruit trees. Fruits pictured are Bing cherries, Golden Delicious apples, Gravenstein apples, Bartlett pears, and Shinseiki Asian pears



Figure 6. Aerial view of Round Walk Village

Round Walk Village is a multi-family housing complex in Petaluma, CA that has successfully integrated fruit trees into their landscaping design. Round Walk Village is made up of 129 individual single-family units, each with their own fenced yard area. As seen in Fig. 5, the designers integrated fruit trees into their landscape by placing a single tree in each unit's yard. This allowed them to keep the trees away from the roads and major walkways. They took care to place fruit trees of the same species close to each other to aid pollination.

Another benefit of this approach is that it encourages community-building through "trading". For example, someone with an apple tree may ask their neighbor with a pear tree for an exchange.



Golden Delicious Apple    Gravenstein Apple    Bartlett Pear    Shinseiki Asian Pear    Bing Cherry    Native Coffeeberry    Silverberry    Strawberry Tree

The designers also placed small planting beds adjacent to buildings or walkways. In these, they planted a small selection of berries, allowing them to squeeze even more fruit into tight spaces. Overall, they kept their selection of fruits limited, possibly to keep maintenance streamlined. In this complex, there are: apples, pears, Asian pears, cherries, coffeeberries, silverberries, and strawberry trees. If you have a complex in Northern CA, or another USDA Zone 9 region, consider emulating Round Walk Village's selection.

# Kailash Ecovillage



Figure 7. Kailash Ecovillage before renovations<sup>vi</sup>



Figure 8. Kailash Ecovillage after renovations<sup>iv</sup>

The Kailash Ecovillage is an apartment complex in Portland, Oregon that fully embraces edible landscaping. It incorporates fruits, vegetables, roots, herbs, and other edible plants into its landscape. The property was once a dilapidated, nondescript apartment building. Thanks to the hard work Ole and Maitri Ersson, it was transformed into a thriving, environmentally conscious community.

The Erssons were even able to get over 1 million dollars of investment from the bank with a 30% down payment!



Apple

Pear

Cherry

Grape

Raspberry



Figure 9. Vegetable garden of Kailash Ecovillage<sup>iv</sup>



Figure 10. Apples left by the sidewalk for public consumption<sup>iv</sup>

The 2-acre property is managed by the combined efforts of the owners, residents, and one or two hired hands. They employ several nature-based management practices such as using shower graywater, composting, wasp-based pest control, and even humanure. Most of their fruit trees are on the road verge, where they harvest the amount of fruit they want to keep and leave the rest in buckets by the sidewalk for passers-by. They have apple, pear, and cherry trees. They also grow grapes and raspberries along the property's outer fence. This case study goes to show that even poor-quality land can be transformed into a thriving edible ecosystem. The Ecovillage goes far beyond the scale of what we're suggesting in this guide, but it shows the range of what's possible in the realm of edible landscaping.

# The Orchard Residential Tower



Figure 11. Renderings of The Orchard Residential Tower, created by Tandem Studio LLC<sup>vii</sup>

The Orchard Residential Tower, designed by James J.M. Cheng, is a landmark construction project planned for downtown San Jose, CA. It is planned to be a 30-story dual-tower residential complex. The residential tower will be part of Westbank's master plan to revitalize downtown San Jose, which includes accompanying retail towers, multiple plazas, and an outdoor theatre. The project is planned to include over 1300 fruit trees in its "vertical orchard design" across the retail and residential towers.

"To highlight and celebrate the agricultural heritage of San Jose, the notion of a "vertical orchard" is introduced in the urban site. By integrating vegetation into the roofs and facades, the vertical orchard not only fully replaces the productive land displaced by the development, but additionally contributes to agricultural production through the vertical facades of the buildings. Apples, citrus, and cherries are among the possible produce that can flourish in San Jose's climate conditions." – James J.M. Cheng<sup>viii</sup>

This design takes the concept of rooftop gardening to a whole new level by integrating fruit trees into terraces and facades as well as roofs. There will be fruits on every single floor of the 30-story tower. Construction was slated to start in 2024, however, there has been a major delay in the process. There has been very little communication regarding the project or its timeline over the last 3 years, so the future of this development is currently uncertain (as of May 2026). The Orchard serves as an extremely ambitious example of what can be done to integrate fruit trees into a project's design. The Orchard is not the first of its kind, however, as we'll see in the following examples.

## 25 Verde



Figures 12 & 13. 25 Verde side profiles<sup>ix</sup>

25 Verde, designed by Luciana Pia, is an apartment in Torino, Italy which houses 63 units and 200 trees. It stands out by making use of stylish asymmetry and a rustic aesthetic to recreate the feeling of a childhood treehouse. The greenery isn't just for show, however. It improves air quality, reduces urban heat, draws Carbon from the atmosphere, and boosts local biodiversity.

## Bosco Verticale

## Trudo Vertical Forest



Figure 14. Bosco Verticale<sup>x</sup>



Figure 15. Trudo Vertical Forest<sup>xi</sup>

Bosco Verticale, designed by Stefano Boeri, is a residential complex made up of two towers in the Porta Nuova district of Milan, Italy which houses 300 people and over 21,000 trees! The trees simultaneously draw Carbon from the atmosphere, improve local air quality, bolster local biodiversity, regulate urban heat, and mitigate noise pollution from the busy streets below. Most importantly, the foliage-covered towers serve as an eye-catching landmark for Porta Nuovo!

The Trudo Vertical Forest is another Stefano Boeri creation located in Eindhoven, Netherlands. It stands out as the world's first vertically forested social housing. It houses 125 affordable apartments, 135 trees, and 10,000 shrubs/small plants. While each unit is small, they are enhanced by terraces. Like the Bosco Verticale, the greenery has several benefits to climate, health, and – most importantly – urban visual appeal.

# Other Examples in California

The following are examples of apartments and condos in California that purposefully utilize fruit trees and fruiting shrubs in their landscaping.

## Hendley Circle

Santa Rosa, CA



Figure 16. A Hendley Circle unit<sup>xvii</sup>

## Vida Nueva

Rohnert Park, CA



Figure 17. Vida Nueva<sup>xviii</sup>

## Vinecrest Senior Apartments

Windsor, CA



Figure 18. Vinecrest Senior Apartments<sup>xv</sup>

## Old Elm Village

Petaluma, CA



Figure 19. Old Elm Village<sup>xvi</sup>

# Pros and Cons of Fruit Trees

Before getting into the nitty-gritty of fruit tree growing and cultivar selection, it is worth considering if fruit trees are a good fit for your project. There are a whole host of benefits to having fruit trees in your multi-family complex, but it should be acknowledged that there are some drawbacks as well.

## Pros of Fruit Trees

1. They produce lots of fresh fruits. Your residents will have a relatively consistent source of healthy food. This can boost both physical and mental health.
2. Caring for and harvesting the trees provides communal activity. Your residents can get to know each other through their shared interest in fruit.
3. Fruit trees are visually attractive. Fruit trees flower in the spring and fruit in the summer and fall. They can add a striking and distinct visual element to your property.
4. Attracting birds and insects. Often birds and insects are colorful and unique, adding even more visual flare to your property. These species are also important for local ecology, so having fruit trees on your property can have a sizable environmental impact.
5. The above qualities are attractive to prospective tenants, potentially boosting rental rates!
6. Excess fruit can be sold or given away to the community. This can be a side source of revenue, fruits can be given away for the benefit of your local community.



Figure 20. Planting of the first tree of the Andersen Village Fruit Tree project at Andersen Air Force Base, Guam<sup>xvii</sup>

## Cons of Fruit Trees

1. Although some are very easy to maintain, like pineapple guava, some require more maintenance than other trees. Pruning, harvesting fruits before they drop, and cleaning up extra fruit examples of the kinds of maintenance required to maintain a fruit tree garden.
2. Many fruit trees take around 3 to 5 years before they fruit.
3. The flowers of fruit trees attract bees, and dropped fruit left on the ground can attract wasps and other critters, like skunks, making it important to clean up excess fruits around the trees in the fall.

# Choosing the Right Fruit Trees for You

With so many options, it can be hard to determine what's a good or bad fit for your project. In this section of the guide, we will outline some of the key factors to consider when deciding what trees to plant on your property. These relate to your region's climate and the availability of your resources.

- Which part of the country is your project in?
- How much space do you have?
- How much water are you able/willing to use?
- How much of your project area is shaded?
- How much maintenance are you able/willing to do?

## USDA Hardiness Zone

When it comes to fruit trees, there are very few hard and fast rules. However, there is one factor that determines what can and cannot be grown: the USDA Hardiness Zone. This is a geographic area defined by the United States Department of Agriculture (USDA) based on the average minimum winter temperature. It serves as an approximation of how hot or cold different parts of the country are. Every fruit tree has a range of USDA Hardiness Zones it can grow in, and that determines which part of the country it can grow. So, depending on where your project is, there are certain trees that will not grow well. Luckily, this information is easy to acquire. Most nurseries provide the USDA Zones of the fruit trees they offer. The USDA Hardiness Zone is also related to a fruit tree's recommended number of chill hours – the number of hours a fruit tree needs to spend exposed to temperatures between 32° F and 45° F during its dormant period. Chill hours are needed for fruit trees to break dormancy and produce flowers and fruit in the spring.

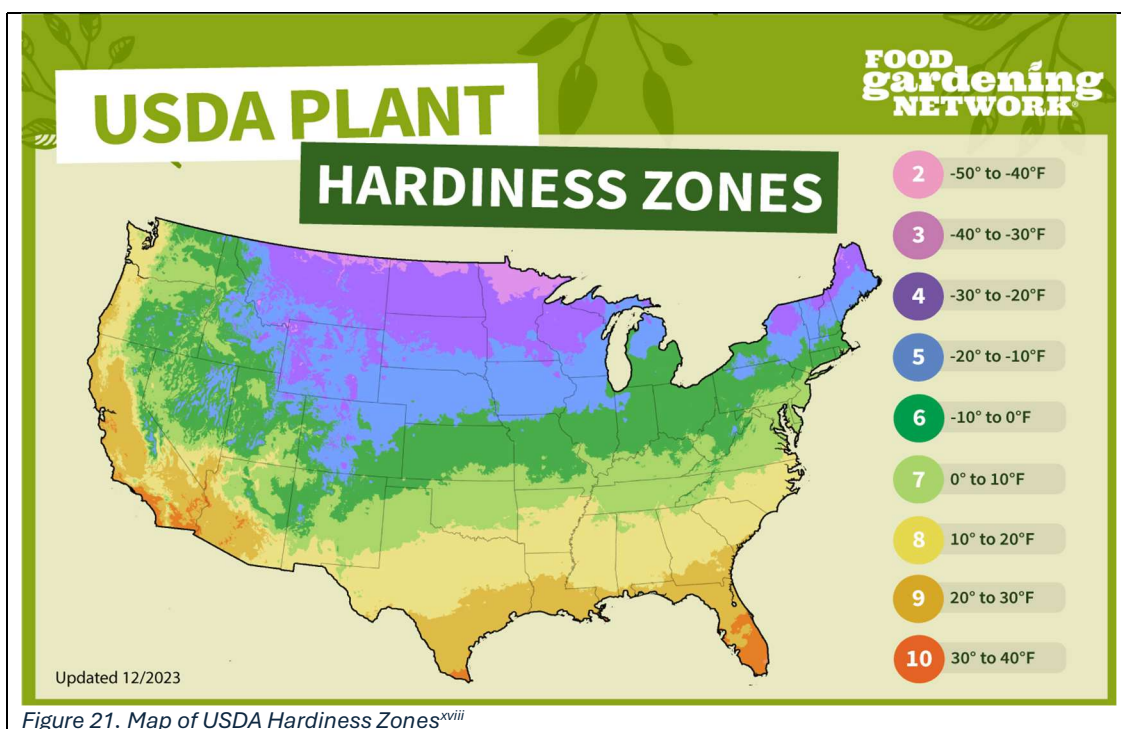
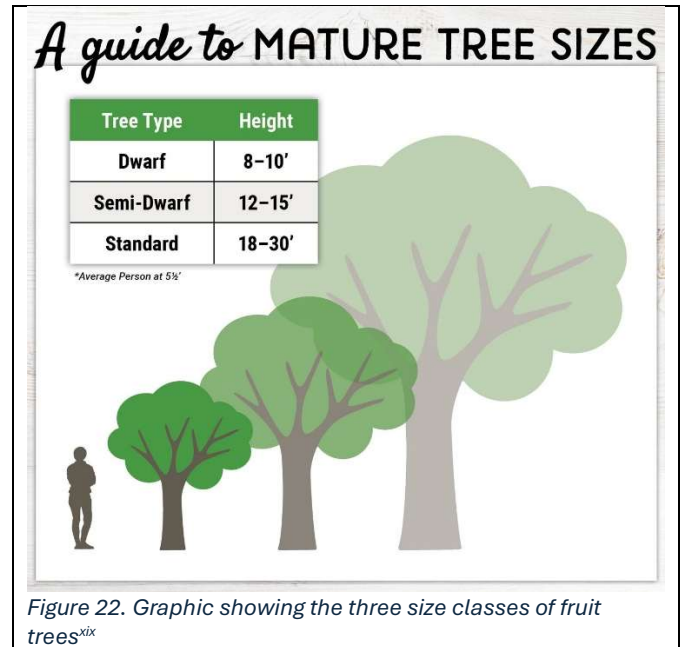


Figure 21. Map of USDA Hardiness Zones<sup>xviii</sup>

## Size and Spacing

You should carefully select the size of the fruit trees you plan on planting. Trees that get too large for the space they are allotted can be quite troublesome. The average size of a fruit tree is 20 feet tall with a 20 ft spread. However, they can be much smaller or larger. Fruit trees fall into three distinct size categories: dwarf (6-12 ft), semi-dwarf (12-18 ft), and full (18-30+ ft). Luckily, most fruit trees have dwarf and semi-dwarf varieties available. How large a tree gets at maturity often depends heavily on the species of tree and the rootstock it's grafted onto. For more details on rootstock, see the next section of this guide.

When planning your landscape for fruit trees, conventional wisdom recommends planting trees in rows and spacing them based on the "Crown Touch Rule", which means spacing trees one crown diameter (the distance from one end of a tree's crown to the other) away from each other. There is another common approach, however, which intentionally breaks this rule and places trees closer together. This can create a forest-like effect, beautifying your landscape. Additionally, it has the effect of increasing pollination and limiting tree size. This approach comes with the risk of increased susceptibility to pests and diseases. This can be addressed, however, by intermixing different species with each other.



## Selecting a Rootstock



Figure 23. Myrobalan 29C Rootstock (full size)<sup>xx</sup>

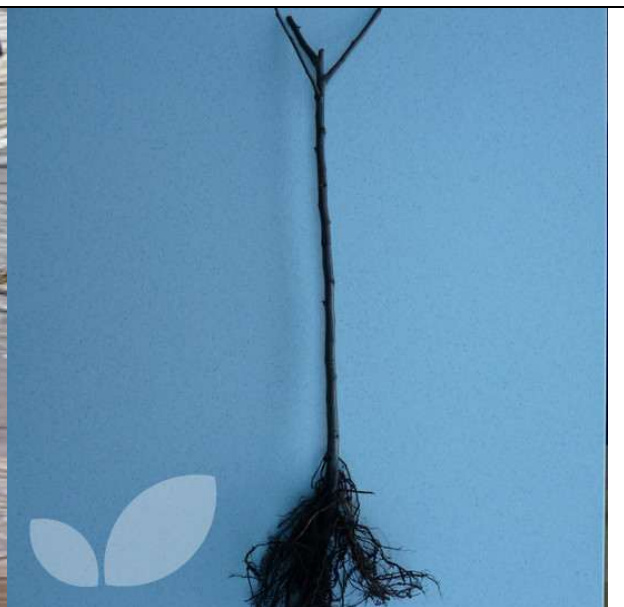


Figure 24. M27 Dwarfing Rootstock<sup>xxi</sup>

Rootstocks are a key factor when selecting what fruit trees to plant. In many (but not all) cases, fruit trees are a hybrid of two plants that have been grafted together. The rootstock is the root system of a tree with part of the stem. The flowering/fruiting part of another tree is grafted onto the rootstock to create a new, unique tree.

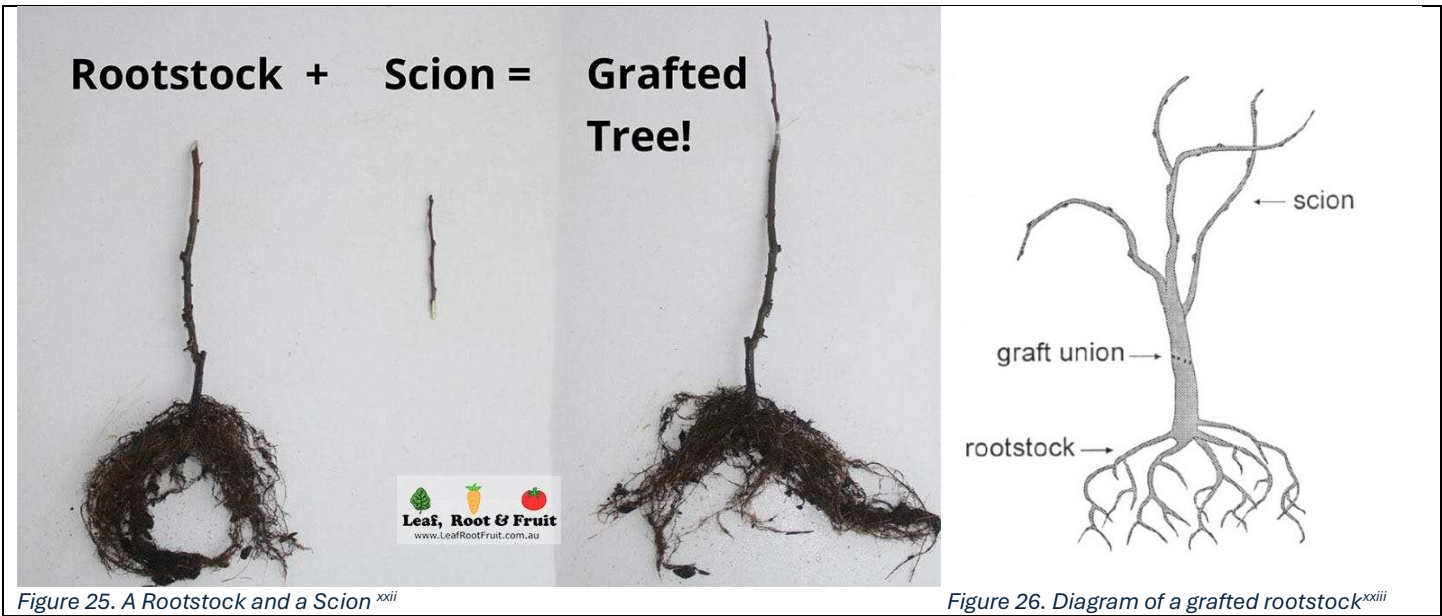


Figure 25. A Rootstock and a Scion<sup>xxii</sup>

Figure 26. Diagram of a grafted rootstock<sup>xxiii</sup>

Rootstocks determine many characteristics of a tree, such as: disease-resistance, preferred soils, the number of years to bear fruit, and **size**. Trees are separated into 3 size categories: dwarf (6-12 ft), semi-dwarf (12-18 ft), and standard (18-30+ ft). When growing fruit trees in multi-family projects, dwarf or semi-dwarf trees are highly recommended. This makes them much easier to harvest and maintain. It should be noted that grafting is only common for certain species of fruit trees, like apples and pears. See Table 1 for a list of the common dwarf and semi-dwarf rootstocks for fruit trees that are in the planting guide. We recommend looking into these yourself for more details on disease-resistance and cold-hardiness.

Note: **Precocious** means that a grafted tree bears fruit earlier in its life than a standard tree (i.e. within 1-3 years as opposed to 3-5+ years).

Table 1. Characteristics of common rootstocks for Cherry, Plum, Peach, Nectarine, Pear, Apple, Almond, and Persimmon trees

| Fruit                             | Rootstock    | Size Class | Precocious? |
|-----------------------------------|--------------|------------|-------------|
| <b>Cherry</b>                     | Gisela 3     | dwarf      | Y           |
|                                   | Gisela 5     | dwarf      | N           |
|                                   | Gisela 6     | semi-dwarf | N           |
|                                   | Krymsk 6     | semi-dwarf | N           |
|                                   | Weigi 1      | semi-dwarf | N           |
|                                   | Weigi 2      | dwarf      | N           |
|                                   | Gm 61        | dwarf      | Y           |
| <b>Plum &amp; Peach/Nectarine</b> | Krymsk 1     | dwarf      | Y           |
|                                   | Citation     | dwarf      | N           |
|                                   | Mariana 2624 | semi-dwarf | N           |

|                  |                  |            |   |
|------------------|------------------|------------|---|
|                  | Pumiselect       | dwarf      | Y |
|                  | St. Julian A     | semi-dwarf | N |
|                  | Marianna Arianna | semi-dwarf | N |
|                  | Siberian C       | semi-dwarf | N |
| <b>Pear</b>      | OHxF 87          | semi-dwarf | Y |
|                  | Quince C         | dwarf      | Y |
|                  | OHxF40           | semi-dwarf | N |
|                  | PyroDwarf        | dwarf      | N |
|                  | Quince A         | semi-dwarf | N |
|                  | Quince BA29      | semi-dwarf | N |
|                  | OHxF333*         | semi-dwarf | N |
| <b>Apple</b>     | M.27             | dwarf      | Y |
|                  | G.41             | semi-dwarf | Y |
|                  | Bud 9            | dwarf      | Y |
|                  | M.7              | semi-dwarf | Y |
|                  | Bud 118          | semi-dwarf | Y |
|                  | Pajam 2          | dwarf      | Y |
|                  | G.935            | semi-dwarf | Y |
|                  | G.210            | semi-dwarf | Y |
|                  | G.11             | dwarf      | Y |
|                  | G.214            | dwarf      | Y |
|                  | G.969            | semi-dwarf | Y |
|                  | G.202            | semi-dwarf | Y |
|                  | G.16             | dwarf      | Y |
| <b>Almonds</b>   | Viking           | full       | Y |
|                  | Krymsk 86        | full       | N |
|                  | Hansen 536       | full       | N |
| <b>Persimmon</b> | D. virginiana    | full       | N |
|                  | D. kaki          | full       | N |
|                  | D. lotus         | full       | N |

# Landscaping Design Best Practices

In this section of the guide, we will provide advice on design principles and practices one should consider when planning to incorporate fruit trees into a landscape. These practices are based on a literature review of relevant articles and websites. This advice is aimed at maximizing the chance that your fruit trees will successfully establish once planted. There is no singular best way to grow fruit trees, however, so multiple options are provided in most of the following segments. When reviewing the following section, consider what the needs and capabilities of your project are. Fruit trees are very resilient, and can often grow in “suboptimal” conditions, so there is room for creativity in your landscape design.

## Labor Logistics

One thing that must be determined before you add fruit trees to your landscape design is who will maintain them.

Maintenance should be planned around the needs and capabilities of both tenants and property managers. Ideally, tenants who are interested in having fruit trees are also interested in helping maintain the trees. However, this is not always a given, as tenants may lack the time or experience needed to properly maintain the trees. The simplest way to deal with the labor is to have the property manager cover the cost of maintenance themselves through the hiring of a landscaping company. Another option is to have an hourly maintenance quota for tenants. This would ideally be only a few hours a month, with the property manager covering the remainder of the work. Regardless of what you decide is best for your project, the maintenance policy **must** be included in the lease agreement<sup>xxv</sup>.

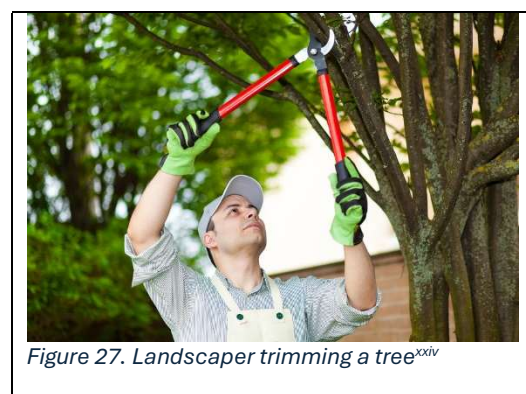


Figure 27. Landscaper trimming a tree<sup>xxiv</sup>

## Infrastructure

In most cases, the physical infrastructure of a project - buildings, walkways, fences, etc. - is planned long before the landscaping. Therefore, landscaping must be designed around the concrete structures of your project. To accomplish this, make sure your landscapers are in frequent contact with your civil engineers. The first and most important thing to account for is the placement of water tanks and irrigation lines. Questions that should be considered are:

- Where is water being sourced from?
- Where does it need to go?
- Where does irrigation cross paths with sidewalks?

Walkways, roads, and buildings should be carefully planned around when deciding tree placement. Trees should be kept roughly a “crown diameter” away (the distance from one end of a tree’s crown to the other) from paths, roads, and buildings to avoid mess and conflicts with root systems. Buildings should be taken into special consideration, as they heavily impact environmental factors such as shading and wind exposure. Most notably, the north sides of buildings are shaded throughout much of the day.

Therefore, it would be wise to plant shade-tolerant species on the north side of a building or to avoid planting there altogether. Additionally, the area between two buildings is often windier than surrounding areas, so more fragile species may not thrive there.

Other aspects of the landscape to consider are fences, parking lots, and median strips. Fences can be used to support creepers and vines. Parking lots and median strips often have an abundance of empty space that could be filled in with trees and shrubs. Fruit trees might not be the best fit for



Figure 28. Tree with drip irrigation<sup>xxvi</sup>

parking lots, however, as car exhaust and tire particulates may contaminate your fruits. Native or decorative trees will grow just fine in parking lots, though. As for median strips, consult the codes of your city, as some cities do not allow fruit trees in the median.

A design element to consider that may reduce your irrigation demand and complement sustainability goals is rolled gravel. Rolled gravel uses a rolled mat of geotextile cells filled with gravel to create a durable, yet permeable surface. Rolled gravel can be used instead of concrete for walkways and even roads. The enhanced permeability reduces runoff and allows for enhanced groundwater recharge, increasing the naturally available water for your landscape plants.

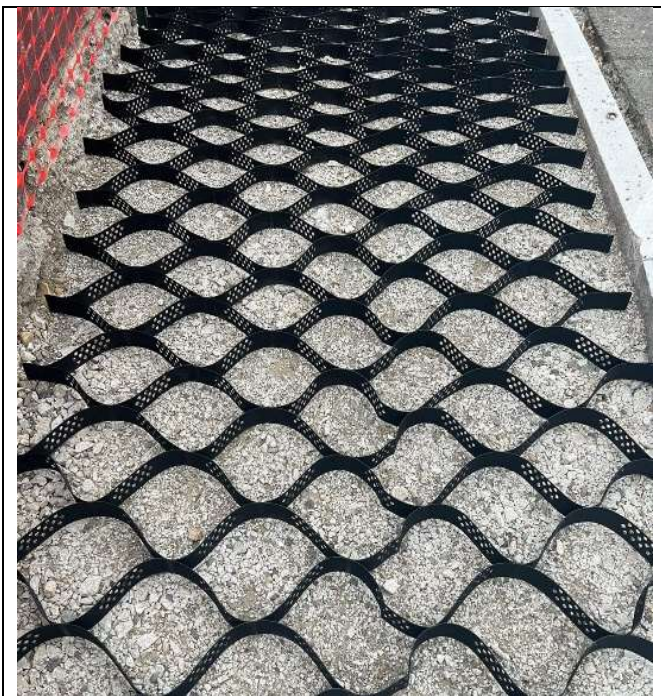
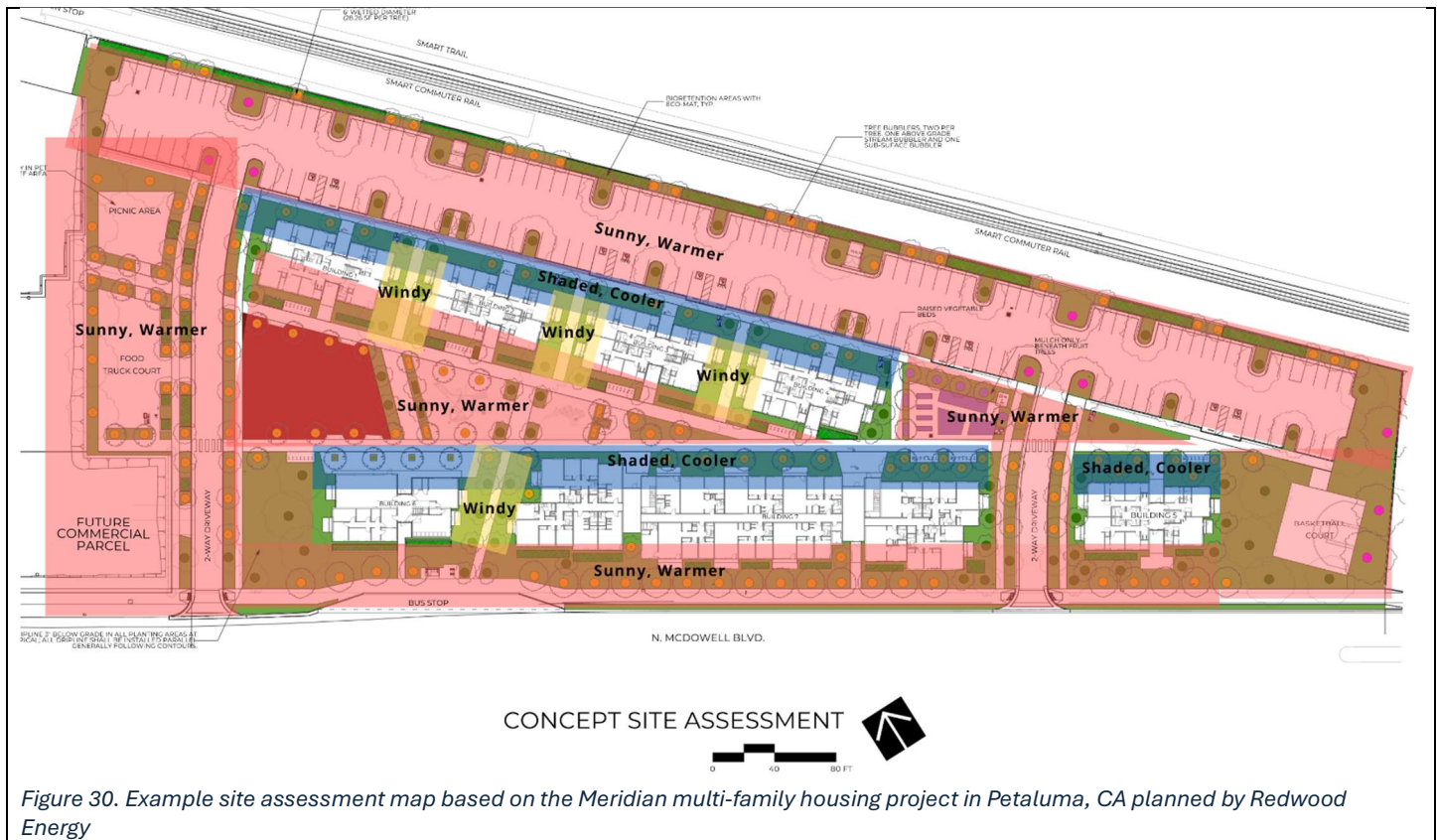


Figure 29. Rolled gravel<sup>xxvii</sup>

## Site Assessment

Before you plan for variety selection and placement, it is important to conduct a site survey, considering infrastructure placement, wind exposure, sun exposure, and any microclimates present. You can then construct a map like the one pictured below (Fig. 30), which should be used as a reference for your landscaping design. Fig. 30 was created as an example for the purpose of this guide. The main factors accounted for are sun exposure, relative temperature, and relative wind speed. These can be roughly estimated based on the location of buildings (as described in the last section). For a precise understanding of microclimates, one can measure temperatures and wind speeds using a series of thermometers and anemometers.



## Soil Composition

Soil is another vital piece of the puzzle for growing fruit trees. Generally, fruit trees grow best in sandy loam (50-80% coarse sand, 5-20% clay, 5-35% silt, <25% fine sand) with a slightly acidic pH. The granular, porous nature of sandy loam enables good water and air movement, and the acidity supports more effective absorption of nutrients.<sup>xxix</sup> Make sure to avoid overly sandy or claylike soils, as they do not have suitable drainage for fruit trees. Also, avoid stones, debris, and clods getting mixed into your soil

To ensure efficient use of resources, you can simply replace the soil at the specific sites where you plan to have fruit trees. First, dig very large holes where you plan to have your trees. Then, import high quality soil to fill the holes with. In general, fruit trees need a minimum depth of 2-3ft of usable soil to grow properly. A subsoil mix should be installed first and then covered with a topsoil mix with a depth of at least 1ft. A subsoil mix should have ~1-3% organic matter (OM) by weight, and a topsoil mix should have ~4-6% OM by weight. More OM is not detrimental, though. New soil should be installed in 12in layers, with each layer being settled using a vibrating plate compactor or other tool.



The base soil surface and each installed layer should also be tilled to avoid compaction<sup>xxx</sup>. If this strategy is not a good fit for your project, you can also improve the soil you already have. This can be done through mulching and composting. If you wish for your property to be a large-scale food forest filled to the brim with edible plants, it may be worth considering improving/replacing the soil of your entire landscape.

## Planting Trees

Now that you've chosen your varieties and planned your landscape to maximize their success, the only thing left to do is put them in the ground! This stage of the process can be very sensitive and is just as important as careful planning. It is recommended to hire a landscaper or other professional for this task, as it is a highly specific and sensitive process, but if you plan on planting the trees yourself, make sure to follow a detailed guide. Fortunately, there are many guides out there for best planting practices

### Bare Root vs Container

When purchasing fruit tree saplings, there are two forms they can come in: bare root and container. Bare root trees are trees which have been excavated from fields while dormant and transported for sale without any soil. Container trees, on the other hand, are grown in a container of soil for some time before sale. Bare root trees have the benefit of developing stronger new roots once established in your garden<sup>xxxii</sup>. However, they are much more sensitive while they are being stored and transported.

When looking for a bare root sapling, "look for a tree with well-developed, fibrous roots balanced evenly around an intact undamaged, tap root... After purchase, transport the tree with roots in damp compost, shavings, mulching material, or wet newspaper."<sup>xxviii</sup> It is very important to keep the roots moist. It is best to plant a bare root tree the same day it is purchased, but, if need be, it can be stored in damp compost, shavings, etc.

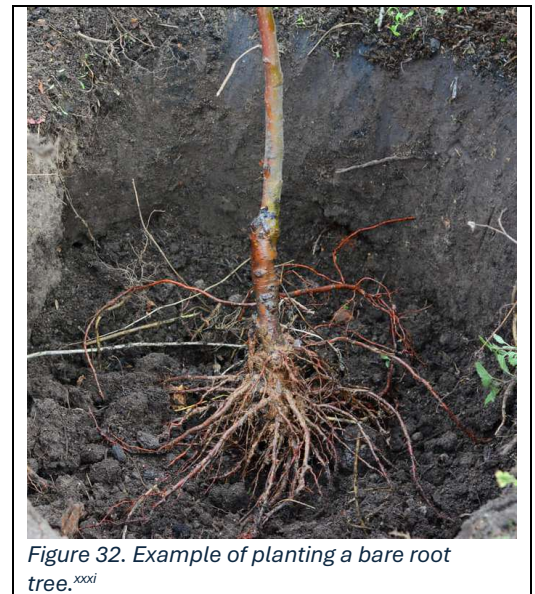


Figure 32. Example of planting a bare root tree.<sup>xxxi</sup>



Figure 33. Group of people planting a container tree. Labelled with proper dimensions.<sup>xxxiii</sup>

### Digging a Hole

It is best to dig the hole the same day you plant. This avoids unwanted materials getting mixed into your tree's soil. For *bare root* trees, dig a hole 2-3 times wider than the extent of the roots, but only the same depth as the longest root - never longer. For *container* trees, dig a hole 2-3 times wider than the container and no deeper than the container+5cm. Once a hole is prepared, you're all clear to put your tree in the ground.

## Immediate Maintenance

Once your tree is in the ground, there are a few steps that should be taken within the day. Prune away any dead wood, suckers, and other abnormalities. If wind is a concern in your area, tie your sapling to a wooden stake. This will keep the tree upright during windy weather. To achieve a better shape at maturity, you can “train” your tree in its early stages. Training a tree means to prune it with the aim of influencing its eventual shape. Make sure to do careful research before training, however, as over-pruning is a real risk.

The day the tree is planted, it is necessary to install protection from rabbits if your area is known to have them. If there is any chance that rabbits will be a problem, it is advised to assume the worst. The quickest form of protection is a plastic biodegradable tree guard or something similar which physically prevents rabbits from getting at the trunk of the tree. These should only be kept on for a few years, however. Chicken wire or wire-mesh is the best long-term rabbit protection.

It is also advised to get in touch with local experts or animal control to determine if deer are present in your area. This should be done before planting begins, as in the worst case, fencing will have to be installed to protect the trees.



Figure 34. Row of young trees with tree guards<sup>xxxiv</sup>

## Watering and Other Maintenance



Figure 35. Sprinkler<sup>xxxv</sup>

*Water the tree the day after it is planted. Water trees once a week for the next 2-3 weeks (or more frequently if it is hot and dry). After the first few weeks, develop an irrigation schedule for your landscape based on observations of how often the trees need water. The schedule should be *at least* once a week until trees are established, but could be more often depending on site conditions. Young trees can die very quickly from a lack of water, so keep a close eye on them and water whenever necessary. It is important to note that dwarf trees *always* need regular watering in spring and summer, even once they are established.*

Ensure weeds are swiftly removed, but do not use herbicides. In early spring, before trees begin to sprout shoots, one small application of fertilizer can be helpful. Take care not to over-fertilize, however. Remove any spindly branches but leave any that are 1/4 in. or longer. This can be done within the first year, but it is recommended to wait a year or two before any major cuts. If size at maturity is a major concern, you can trim the trunk to a height of around 30-40 in. **Never** remove more than 1/3 of the tree’s height, however.

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