

Helpful Tips

Factors to Consider when Selecting Fruit Trees, by horticulturist Michaela Molter

When selecting which fruit trees and shrubs you want for your orchard, always consider whether the type of fruit tree cultivar will require a companion for fertilization and fruit production. Many plant species have adapted themselves to be **self-sterile**. This simply means that the pollen they produce and that is found in their flowers will not fertilize the necessary parts of that same cultivar for fruit production. That does not mean that the pollen itself is sterile, in fact, it is highly viable and will easily fertilize the flowers of a different **cultivar**.

What is a cultivar? A cultivar is plant that is genetically different than its natural “wild” parent. This process is typically achieved through breeding. The Cortland Apple and Honeycrisp Apple are two examples of different apple cultivars. Apple trees require pollen from a different apple cultivar for fruit production. Therefore, if you plant a Cortland Apple, be sure to plant a different cultivar within pollinating range so your flowers are fertilized and fruit is produced. Aside from noting what cultivars you want based on their fruit’s tasty qualities, you should also learn what time of year the cultivars bloom. Flowering time is crucial for fertilization. A pear cultivar that blooms in early March will not be compatible with a pear cultivar that blooms in late May. Each cultivar should bloom at the same time, early April and early April or late May and late May.

Lastly, some plant species have male and female plants. The Hardy Kiwi Vine is a perfect example of a plant that has a male vine and a female vine. For fruit production, you must have both a male and female plant present. See the chart below for the different species and whether they require a companion (pollinizer) or not for fruit production.

Plant Spacing

Before selecting which types of fruit trees and shrubs you would like to plant, **measure out how much space you have available**. The size of the space will determine the number of plants you can have, and ultimately which types of fruit trees, considering some will need companion plants.

The size of fruit trees is determined by the rootstock that it has been grafted onto. Most apple, pear, plum, peach, apricot, and cherry trees are grafted onto a semi-dwarf rootstock and will grow to be 12-15ft tall and 12-15ft wide. If space is limited or the plant requires a structure for support remember to factor the overall size of the structure into your available space. The structure may give you more available planting space or less depending on its style and function. Shrubs and brambles are not grafted onto a rootstock. They grow on their own roots and mature plant size depends on the species.

Your next question may be how close does a companion (pollinizer) plant need to be spaced for adequate fertilization? Most tree and shrub plants that require a **companion should be planted anywhere from 20-50 ft** away from each other. You have to allow enough growth space between the two plants for maximum plant size, but they have to be close enough for the bees and other pollinators to find your tree or shrubs. Vining plants should typically be planted 5-10ft apart depending on the species or cultivar.

Location Requirements

In order for the trees to grow correctly they need **full sun** which means 6 hours of sun every day. When deciding on your location, you must take time to observe where the surrounding buildings cast shadows and at what time of day. The location should be south-facing to take in as much sun as possible. It is important to note that **trees should be spaced at least 10 feet away from buildings**.

Fruit and nut trees will **grow best in areas with good drainage, like a slope or a hill**. The bottom of a hill will be too moist. Take some time and **evaluate the soil** where the trees will go too. Is it mostly clay? Sand? Silt? Soils with too much clay will not allow for enough drainage. It is best to have a good mixture of sand and silt to grow productive fruit and nut trees. When planting, you will use most of the original soil, but will mix in some rich compost to add nutrients. Composting and mulching the soil around your

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trees will help to create more porous soil for the water to drain through. Staying on top of mulching is very important to the health of your trees.

Your orchard should also be within **easy access** of the people that will care for the trees.

Watering

These trees need varying amounts of water at different points in their lifespan.

- Within the first 2 weeks each tree needs 1-2 gallons per day.
- Within the first 2 months each tree needs 1-2 gallons every other day.
- Within the first 2 seasons, each tree needs 1-2 gallons per week until the tree is established.

To help prevent water loss by evaporation or percolation, mulch will help to trap water around the roots so it is readily available when the plant needs it. The correct amount of **mulch** to use is **3 inches deep and in a 4 foot diameter around the tree**. The mulch should not directly touch the tree trunk.

Keep in mind **where you will be getting water**. Will it be a fire hydrant? Storm water collection? Household spigot? In any situation, make sure you have enough to fill the trees requirements, and think about **how you will transport the water from source to tree**.

Pruning

You should prune your fruit tree to:

- Remove broken branches
- Remove branches growing towards the inside of the tree or straight up and down (like suckers)
- Remove low branches - get good clearance!
- Establish a dominant lead (a branch that is central and straight)
- Keep the tree below 8 feet in height for easy picking
- Make a plus sign, creating easy access for harvesting

You will not prune the branches of your fruit trees until they are well established, at least

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one season after planting (likely two). **Pruning should take place in the fall or winter**, to avoid introducing diseases into the tree. However, very soon after planting, you will want to **prune/remove the flowers** of your trees to keep fruit from growing for the first year. It is critical for the health of the tree that its energy goes into establishing the root system, rather than producing fruits, during this time.

Remember, your community will have to take care of these trees and ensure their maintenance. Please be prepared for this work!

Pollinizer Chart

| | |
|---------------------------------|--|
| Apples | Requires a companion (pollinizer). Some varieties are pollen sterile and will not pollinate other apples. |
| Pears | Requires a companion (pollinizer). |
| Plums (European) | Self-fertile, but planting a companion plant will increase production. |
| Peaches | Self-fertile |
| Apricots | Self-fertile |
| Cherries | Requires a companion (pollinizer), except Montmorency, Stella, and North Star. |
| Grapes | Self-fertile. |
| PawPaws | Requires a companion (pollinizer). |
| Berries, Brambles, and Currants | Most berries are self-fertile. Plant two or more varieties (companion plant) of blueberry for significantly more fruit production. |
| Nuts | Most have increased crop production if a 2 nd plant is planted as well. |
| Kiwi Vine | Require a female or male companion. |

Tree Guide

Cortland Apple (*Malus domestica* 'Cortland')

Mature Height = 15 - 20'

Mature Spread = 15 - 20'

Sun Requirements = Full Sun

Harvest Period = Sept- Oct.

Bloom Period = mid April

Uses = Eating fresh, in salads, cooking, breads, pies and sauces.

Notes = Sweet and tart taste.

No pollinator required.

Honeycrisp Apple (*Malus domestica* 'Honeycrisp')

Mature Height = 15 - 20'

Mature Spread = 15 - 20'

Sun Requirements = Full Sun

Harvest Period = September

Bloom Period = Mid-April

Uses = Fresh eating, canning, pies, etc.

Notes = It is the perfect size for an urban or suburban garden. Its low canopy makes it ideal for planting under power lines or in other such troublesome locations. The round yellow fruit with red blush ripens in September and doesn't immediately drop when ripe, so you can take your time in picking them. **POLLINATOR REQUIRED**

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Jonathan Apple (*Malus domestica* 'Jonathan')

Mature Height = 15 - 20'

Mature Spread = 15 - 20'

Sun Requirements = Full Sun

Harvest Period = August/September

Bloom Period = Early Spring

Uses = Fresh eating, canning, pies, etc.

Notes = Produces medium-sized, bright red apples that are juicy and sweet with a slight zing to the flavor. They're tasty right off the tree and great for pies, cider and other culinary delights. The apples even store well so you can easily enjoy them long after they're picked.

Pollinator = None Required

Bartlett Pear (*Pyrus communis* 'Bartlett')

Mature Height = 12-18'

Mature Spread = 10'

Sun Requirements = Full Sun

Bloom Period = mid April

Uses = Fresh eating and also used in pies, preserves, tarts

Notes = Beautiful tree with exceptional fruit. Ample harvest.

No pollinator required.

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Summercrisp Pear (Pyrus 'Summercrisp')

Mature Height = 15-20'

Mature Spread = 15 - 18'

Sun Requirements = Full Sun

Harvest Period = August

Bloom Period = May

Uses = Fresh eating (can keep up to two months)

Notes = Hardy tree, brilliant flowers.

POLLINATOR REQUIRED

Toka Plum (Prunus 'Toka')

Mature Height = 8 - 10'

Mature Spread = 8 - 10'

Sun Requirements = Full Sun

Harvest Period = late August - September

Bloom Period = Spring

Uses = Ornamental, fresh eating and preserving

Notes = Known as the Bubblegum Plum, hardy, spicy and sweet flavor, juicy fruit, highly abundant crop, beautiful red-bronze skin

No pollinator required.

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North Star Pie Cherry (*Prunus cerasus* 'North Star')

Mature Height = 10-12'

Mature Spread = 12 - 15'

Sun Requirements = Full Sun

Harvest Period = August

Bloom Period = April

Uses = Pies, sauces and baked goods as well as fresh eating and preserving

No pollinator required.

American Hazelnut (*Corylus americana*)

Mature Height = 8 - 15'

Mature Spread = 8 - 15'

Sun Requirements = Full Sun - Light Shade

Harvest Period = Sept

Bloom Period = March-April

Uses = many uses from fresh eating to making flour, roasting, baking

Notes = **Needs two plants for pollination**

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Sungold Apricot (*Prunus* 'Sungold')

Mature Height = 10 - 12'

Mature Spread = 10'

Sun Requirements = Full Sun

Harvest Period = July

Bloom Period = Spring

Uses = Eat them right from the branch or prepare in preserves

Notes = Its glorious, white flowers blooms during the spring, preceding the medium, yellow-orange, mildly sweet, juicy fruit.

Needs to be planted near a Moongold Apricot for pollination

Moongold Apricot (*Prunus* 'Moongold')

Mature Height = 10 - 15'

Mature Spread = 10'

Sun Requirements = Full Sun

Harvest Period = August

Bloom Period = April

Uses = Fresh eating, canning, jams, sauces

Notes = Yellow-orange, sweet, but slightly acidic, fruit; vigorous grower

Needs to be planted near a Sungold Apricot for pollination

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Reliance Peach (*Prunus* 'Reliance')

Mature Height= up to 20'

Mature Spread = 15 - 20'

Sun Requirements= Full Sun

Harvest Period= August

Bloom Period= April

Uses= Fresh eating to baking and preserving

No pollinator required.

Bluecrop Blueberry (*Vaccinium corymbosum*)

Mature Height= 4 - 6'

Mature Spread = 3 - 4'

Sun Requirements= Full Sun

Harvest Period= July

Bloom Period= May

Uses= Fresh eating to baking and preserving

Blueberries require acidic soils – you will likely have to amend the soil with a special amendment for blueberries. No pollinator required, but planting at least two blueberry will produce more fruits.

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Serviceberry (*Amelanchier alnifolia* 'Regent')

Mature Height= 4 - 25'

Mature Spread = 4 - 15'

Sun Requirements= Full Sun to Shade

Harvest Period= June

Bloom Period= April

Uses= Fresh eating to baking and preserving

No pollinator required.

Red Raspberry (*Rubus* var.)

Mature Height = 2 - 3'

Mature Spread = 2 - 3'

Sun Requirements= Full Sun

Harvest Period = July

Bloom Period= June - July

Uses = fresh eating, preserves or desserts

Note = Produces fruit on second year growth, so do not expect fruit until then.

Fertilizer should be applied in early spring and in summer.

No pollinator required. Does not require staking or trellising and can be grown in containers or in the ground.

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Thimbleberry (*Rubus parviflorus*)

Mature Height= 4 – 8'

Mature Spread = 4 – 8'

Sun Requirements= Partial shade - full sun

Harvest Period= Mid summer

Bloom Period= May - July

Uses= fresh eating of shoots and berries, preserves and tea from the leaves

Additional Resources

Great Video on backyard fruit trees: <http://www.youtube.com/watch?v=ZV2kr50K7Is>

Information on trees:

<http://davesgarden.com/guides/articles/view/1751/#b>

<http://pubs.ext.vt.edu/426/426-841/426-841.html>

<http://westonnurseries.com/fruit-tree-guidelines/>

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