

# FRUIT TREES

## For The Home Garden

BY LAURA RALPH

Growing tasty fruit only steps from the kitchen is an alluring prospect. With increasing concern about food security and eating local produce, people are devoting more of their landscapes to food production. Fruit trees in a home garden can be very productive and beautiful if care is taken in the planning stage and if the trees are responsibly maintained.

### SITE SELECTION

Once you have decided to commit the time needed to adequately care for a fruit tree, you should carefully observe your site so that you can plant a tree where it will thrive and produce well. Observe light patterns, drainage of water during rainy periods, and frost pockets (areas where cold air collects and produces late spring frosts). In general, fruit trees require a location that is well drained, receives full sun and is not in a frost pocket, where late spring frosts can damage blossoms and early fall cold snaps may damage fruit. Drainage can be improved over time by the addition of organic matter. Avoid areas with excessive winds which may blow the fruit off the trees, make training a challenge, or knock the tree over. Air circulation is important to reduce disease, so enough space must be given for each tree.

Some trees to consider if your site does not fit the general requirements for fruit trees include the following: pear trees that have some tolerance for heavier soils, and Saskatoon berries, pawpaws or mulberries, which can produce fruit in shady sites. Some trees can grow in less-than-ideal areas if they are protected. For example, in the wet Pacific Northwest, peach trees will be much less prone to disease if trained against a wall under an overhang with a southern or western exposure.

### TREE SELECTION

Apple, apricot, cherry, fig, pawpaw, peach, pear, plum, prune, quince, persimmon, mulberry and Saskatoon berry are some of the fruit trees that can be grown in British Columbia. People with larger properties may want a home orchard that includes all of their favorite tree fruits and perhaps some rare or experimental fruits. In urban environments with limited backyard space, tree options should be carefully considered. Regardless of the amount of space available, the local climate and growing conditions will determine what will produce well on a particular site. Talking with fruit tree clubs, local orchardists, nursery staff, Master Gardeners, and anyone with experience with fruit trees in your area will help you learn what problems you might face and which tree fruits do well.

Gardeners in the colder zones of BC will need to select cultivars that will survive cold temperatures, bloom late and ripen early. Those in the Pacific Northwest will need to select cultivars that will tolerate periods of prolonged rainfall. This is especially important for stone fruits (cherries, plums, peaches), which are more susceptible to disease in a wet climate. Whenever possible, disease-resistant varieties of trees should be chosen.



Front cover: 'Spartan' apples, Penticton. PHOTO: Linda Sears

### ROOTSTOCKS

Most fruit trees consist of a scion that is grafted onto a rootstock. The scion becomes the upper part of the tree; this determines the variety of fruit that will be produced. Rootstocks are chosen for their resistance to disease, tolerance of drought, wet or extreme temperatures, and for their ability to control the size of the tree. Not every garden has room for a standard tree, which can reach more than 8 m (25+ ft). Most trees suitable for home gardens are on dwarf (maximum height of 3 m (10 ft)) and semi-dwarf rootstocks (max. ht. of 4.5 m (15 ft)). The more dwarfing rootstocks require more fertilizer. Shorter trees make thinning, spraying and picking much easier. Before selecting a variety of fruit tree, the home gardener should consider its rootstock and ask these questions: (1) what will be the ultimate tree size? (2) is the rootstock resistant to the common pests and diseases of this fruit? and (3) does this rootstock sucker?



'Spartan apples', Penticton. PHOTO: Linda Sears

Some tree fruits have a relatively large number of rootstocks available. A long history of experimentation has resulted in apples, which do not grow well on their own roots, having the most rootstocks available, but there are no suitable dwarfing rootstocks for peaches at this time. The following list highlights some of the rootstocks that are commonly available for the major tree fruits.

#### Apple (*Malus sylvestris*)

Standard – Trees are strong, long-lived, and can produce 8 bushels of fruit yearly if properly cared for. Very hardy. Bear fruit after 5 or 6 years. Size can be controlled somewhat with intensive pruning.

Semi-standard (50–75% of standard size) – **MM106**, **MM111** – Fruit matures late in the season, making fruit prone to cold injury. MM106 does not do well in wet soils, and is prone to crown and root rot. MM111 is more winter hardy, and is drought tolerant. **Antonovka** – Extremely hardy and vigorous. One of the few choices for the colder areas of BC.

Dwarf/Semi-dwarf – M7, M26 – M7 tolerates wet soils but does best where it can root well; prone to crown gall but resistant to fireblight. M26 is more winterhardy than M9, but susceptible to fireblight and collar rot in wet soil. Popular with home orchardists along with M9. Both require support.

Dwarf – B9, M9, M27 – Precocious (bear fruit at an early age), fairly cold-hardy, tolerant of wet soils, may be susceptible to fire blight. All require support.

#### Cherry (*Prunus spp.*)

Some people have said that standard sweet cherry (*Prunus avium*) trees are for the birds because trees on seedling rootstocks can grow to 12 m (40 ft) or taller and only the birds can reach the fruit. The ideal rootstock would: dwarf the tree (picking the fruit and netting out the birds would be easier), be compatible with a large number of varieties, be disease resistant and precocious. However, at this time few dwarfing cherry rootstocks have been widely tested in different climates.

Sour cherry (*Prunus cerasus*) trees are naturally smaller; most reach 6 m (20 ft); 'Meteor' and 'North Star' can be kept pruned to 2 m (7 ft) tall.

Standard – **Mazzard** (*P. avium*) – The most popular standard-size sweet cherry rootstock. Good anchorage; susceptible to crown gall and bacterial canker; very few suckers. Good fruit quality. Not precocious and is a vigorous grower. Can also be used for sour cherries in areas with poor drainage where the Mahaleb rootstock will not grow.

Semi-standard – **Mahaleb** (*P. mahaleb*) – Mostly used with sour cherries and some sweet cherry varieties. Deep-rooted, very productive and precocious in most situations. More cold-hardy than Mazzard and has some drought tolerance.

Semi-dwarf – **Gisela 5**, **Gisela 6**, **Colt** – Gisela 5 is precocious and more resistant to virus infection than Mahaleb or Mazzard. The dwarfing effect varies with climate. Gisela 6 has excellent yield precocity; adapts well to all soil types, including heavy soils; has good virus resistance and does not sucker. Support is recommended. Colt's dwarfing effect is greatest in heavy soils. Relatively tolerant of wet soils. Precocious. Used for sweet cherries.

Dwarf – **GM61/1** – Relatively tolerant of wet soil. Precocious. May be pruned to desired height.

#### Pear (*Pyrus spp.*)

Standard (9 m (30 ft) or taller) – grown from a seedling; vigorous.

Semi-standard – Old Home × Farmingdale series (OhxF) – Resistant to pear decline; moderately fireblight resistant, cold-hardy, precocious and productive.

Quince (*Cydonia oblonga*) – Rootstock used to produce a semi-dwarf bushy tree; somewhat winter tender; susceptible to fireblight, iron deficiency, oak root fungus, verticillium wilt and *Phytophthora* infection; produces suckers. Some varieties are grafted directly onto quince rootstocks while others need an interstem between the scion and rootstock.

Asian pears – need a vigorous rootstock such as *P. betulaefolia* and *P. calleryana*.



'Himrod' grapes, Penticton. PHOTO: Linda Sears

### POLLINATION

Your tree will need to reach a certain age before it will fruit; the age will depend on the type of tree, rootstock, scion, site, etc. Bees and other insects need to transfer pollen between flowers for the tree to produce a crop. Self-fruitful trees can be pollinated with their own pollen while self-unfruitful trees need pollen from a different but compatible variety. Be sure to know the pollination requirements of your tree before purchase – pollination charts are helpful to determine what varieties will pollinate each other. Some trees may have multiple varieties grafted on them to ensure pollination. Some pollinators do not like to come out until the weather is warm. Encouraging native bees like the Blue Orchard Mason Bee (*Osmia lignaria*) is a good idea because they are very active as soon as flowers are blooming and they work in poor weather conditions.

### VARIETY SELECTION

The chief determinants to selecting an appropriate variety for your area are climate and soil.

However, in the Southern Interior, some Regional Districts have enacted Noxious Insect Bylaws, which are meant to help protect commercial **apple** growers. The bylaws require home gardeners to provide adequate control of pests and diseases on their trees. Currently the Sterile Insect Release program (S.I.R.) is attempting to eradicate Codling Moth which is the main insect pest of apples. All home gardeners must comply with the rules of this program. For more information visit [www.oksir.org/](http://www.oksir.org/).

The table below lists popular BC fruit tree varieties, along with their fruit qualities, pollination requirements, ripening season and hardiness zone.

Fruit	Fruit qualities	Pollination *	Ripening season	Hardiness/Climate
<b>Apple</b>				
Braeburn	Crisp, juicy, tangy sweetness	Self-unfruitful	Late October	To zone 6
Fuji	Excellent flavor, very sweet, stores well	Partially self-fruitful	Mid-late October	To zone 6
Gala	Firm, crisp, aromatic, keeps well	Partially self-fruitful	September	To zone 4
Honeycrisp	Crisp, juicy, sweet, stores well	Self-unfruitful	Late September	To zone 3
Jonagold	Firm, juicy, full flavor, excellent dessert and eating	Self-unfruitful; needs pollen from other apples or crabapple	From mid-September	To zone 5
<b>Cherry</b>				
Lambert	Yields well, fruit is dark red, and medium sized, some resistance to splitting	Self-unfruitful	Mid-season	To zone 8; not suited for coastal BC
Lapins	Large, dark red, firm, resistant to splitting.	Self-fruitful	Late	To zone 6; widely grown in S. Interior
Meteor	Sour cherry, juicy, meaty	Self-fruitful	Mid-late July	To zone 3 or 4
North Star	Sour cherry, large, meaty, good for baking	Self-fruitful	Late July	To zone 3 or 4
Stella	High yield, large fruit, sweet, juicy	Self-fruitful, good pollinator	Mid-season	To zones 8
<b>Pear</b>				
Bartlett	Most popular pear, excellent tasting canned or fresh	Partially self-fruitful	Late August	To zone 5; likes spot sheltered from cold
Ure	Sweet and juicy, similar to Bartlett	Needs pollinizer for good crop.	Mid-September	To zone 3
20th Century (Asian Pear)	Firm flesh, sweet and juicy	Fruits best if near another of same or different variety.	Mid-September	To zone 3; not widely grown in S. Interior
<b>Plum</b>				
Italian Prune	Large, purple, excellent flavor, good fresh, canned or dried	Self-fruitful	Early; mid to late-season in BC Interior	To zone 4
Shiro (Japanese Plum)	Medium to large, yellow with pink blush and sweet flavor, good fresh, cooked, or canned	Self-unfruitful; needs other Japanese plum as pollinizer	Mid-season	To zone 5
<b>Peach</b>				
Early Redhaven	Excellent fresh or frozen	Self-fruitful	Mid July	To zone 4 or 5
Frost	Delicious, excellent fresh or canned	Self-fruitful	Late August	To zone 5

\* Pollination requirements: Self-fruitful species set fruit with their own pollen; Partially self-fruitful varieties will produce better if pollinated from an appropriate other variety; Self-unfruitful trees must have another pollinizer to produce fruit.

## PLANTING YOUR TREE

When purchasing your tree, select a healthy 1- or 2-year-old tree. Dig a hole two to three times the width of the rootball at the soil surface and sloping down to the width of the rootball in the middle (saucer-shaped). Bare-root trees must be kept moist until the time of planting. Plant them on a small compacted mound within the planting hole and spread the roots over the mound. For container-grown trees, spread out any circling roots and plant at the same level as they were grown in the pot, leaving the graft union at least 2.5 cm (1 inch) above the soil surface. Backfill the planting hole with the same native soil that was removed. Any staking should be done at the time of planting.

For the first few years after planting, maintaining adequate moisture is critical so your tree can grow spreading roots. When the top layer of soil is dry, the tree should be watered deeply to encourage deep rooting. Keeping the surface weed-free and mulched (be sure not to pile any mulch against the trunk) will help keep your tree happy.

## PRUNING AND TRAINING

Many different training systems have been developed for fruit trees. The most common forms of fruit trees are central leader, open center and modified central leader. The best method for training your tree will depend on the growth habit of the variety. Some methods like espaliering might be chosen to enhance production in a limited space.

Pruning usually starts the first season. A 1-year-old whip is headed just above the height where the lowest permanent branches are desired (usually 75–100 cm (30–40 in) above ground). For 2-year or older trees, branches should be selected with care. Branches should be spaced 15–45 cm (6–18 in) apart relative to the eventual size of the tree (i.e. more space between the branches of large trees). Select branches with crotch angles of 45–60° or train young branches to a better angle by spreading or tying. The branches should be spaced radially around the trunk.

Ongoing pruning of fruit trees is done to increase fruit production, remove weak branches, improve light and air penetration, and prevent pest and disease problems. Using proper pruning techniques and understanding how the tree will respond to different types of pruning cuts like heading and thinning is important. Generally, most fruit tree pruning is done while the trees are dormant in late winter. Some pruning may also be done in summer to maximize light distribution and initiate fruit bud formation for the next year. In rainy coastal BC, stone fruits are pruned in late summer to minimize bacterial canker infection.

## PESTS AND DISEASES

Monitor your tree for pest and disease problems so you can respond in a timely manner. The first line of attack should be the least toxic methods including the following: blasts of water, handpicking, removal of infested fruit, pruning of diseased wood, sticky bands, pheromone traps, predatory insects, horticultural oils, lime sulphur, copper sprays and BT (*Bacillus thuringiensis*). Removal of fallen fruit is always a good idea to help prevent certain pests.

## GENERAL TREE CARE

In areas with excessive rainfall, dolomite lime should be applied to the soil surface above the roots to replace calcium and magnesium. After the tree has been planted for a couple of years, slow-release fertilizers can be applied as needed in spring. Composted manures, seed meals, compost and seaweed are some natural organic choices. A light application of Borax may be helpful every 3–5 years. Keeping the surface of the soil beneath the drip line mulched will provide a wealth of benefits to your tree. This is especially important in areas where the soil is deficient in organic matter.

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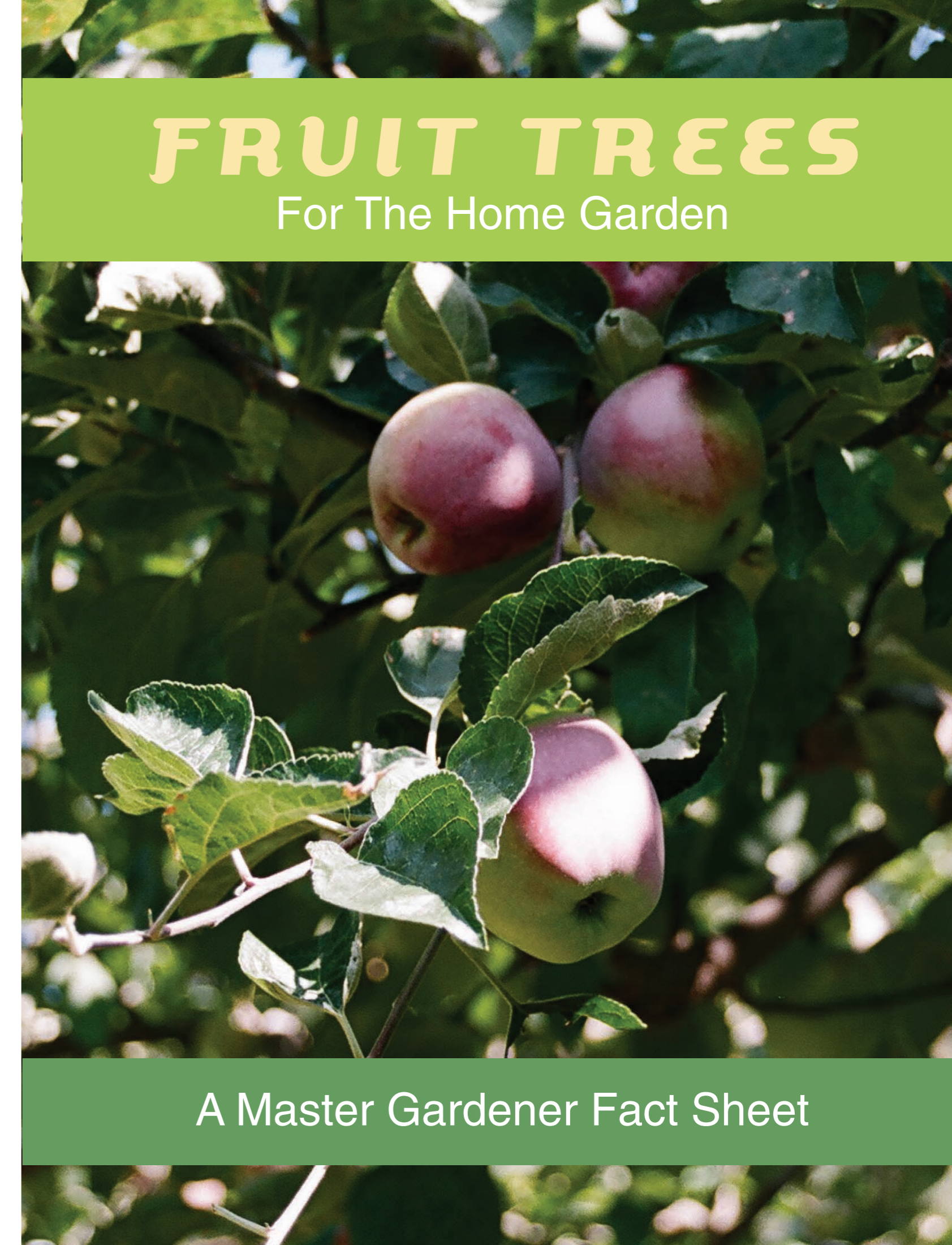
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