



Peaches in the Garden

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Peach (*Prunus persica*) trees are native to Asia and are a popular fruit tree with cultivars widely grown across temperate climates, including select areas of Utah. Size varies with cultivar and management but trees usually grow about 20 feet wide and 15 feet tall. Most cultivars are hardy to -10 °F with a few hardy to -20 °F. Fruit is harvested in late summer and eaten fresh or preserved by bottling, drying, and freezing. Before planting peach, or any other fruit tree, understand that growing them requires regular maintenance, including pest and disease management, pruning and fruit thinning.

Recommended Cultivars

There are several key factors to consider when selecting which cultivar to plant, including growing season length, disease pressure, chill hours and hardiness zone. Chill hours are the number of hours between 32 and 45 °F needed to break dormancy. Peaches with a low chill hour requirement are more prone to begin bud break and growth during unseasonably warm weather conditions in January or February. Because many areas of Utah are prone to these winter warm spells, peaches with higher chill hour requirements are typically better suited to Utah. Cold hardiness is another measure used to determine suitability to a site, and is based on average coldest temperature of the year. Remember that even if the tree is rated for the appropriate hardiness zone it may have the wrong chilling requirement for your area.

In addition to these factors, there are different types of peaches to choose from. Peach fruit can be cling

or freestone. In clingstone types, the pit does not easily separate from the flesh when the peach is cut in half. In freestone types, the pit is easily removed. Freestone types are used for fresh consumption and home canning, with clingstone types mostly used in commercial processing. Peaches are also classified by the color of the flesh: white or yellow. In America, yellow-fleshed peaches are most common while white-fleshed cultivars are favored in Asia. Many white-fleshed cultivars have words such as 'snow' or 'arctic' in the name denoting flesh color. Finally, consider ripening time. There are early, mid and late season types, with some of the latest-ripening varieties requiring a longer growing season than is available in most areas of Utah. With careful planning, it is possible to have ripe peaches from mid-summer to fall. For specific cultivars grown in areas of the Intermountain West, see Table 1.

Peaches and nectarines are almost always grafted onto a rootstock, which influences tree size, productivity, growth rate, cold hardiness, pest resistance and tolerance to different soil conditions. Common commercial rootstocks include Bailey, Lovell, and Halford. These are relatively cold-hardy but not very tolerant of alkaline soil, making them susceptible to iron chlorosis and other micronutrient deficiencies. Some rootstocks that show increased adaptability to alkaline soils include Cadaman[®], Atlas[®], Viking[®], and Bright's Hybrid #5, but these are less commonly available to the home gardener. Unlike apple, there are not yet any dwarfing rootstocks well adapted to much of Utah's climate.

Table 1. Recommended Cultivars for Utah.

Cultivar	Chill Hours	Stone Type	Ripening Time	Comments
<u>High Chill Requirement</u>				
Early Redhaven	950	Semi-cling	Early	Ripens 10 to 14 days ahead of Redhaven. Very similar flavor.
Redhaven	950	Freestone	Early-mid	Some fruit occasionally clingstone. May be suited to areas slightly colder than the Wasatch Front.
Reliance	1000	Freestone	Early-mid	May be suited to climates slightly colder than the Wasatch Front.
Veteran	900	Freestone	Mid-late	May be suited to climates colder than the Wasatch Front. Popular canning cultivar.
Contender	1050	Freestone	Mid-late	May be suited to climates colder than the Wasatch Front.
<u>Moderate Chill Requirement</u>				
Flamin' Fury PF 1	600+	Semi-cling	Early	In warmer years, will ripen in mid-July.
Red Globe	850	Freestone	Early-mid	Popular canning peach due to absence of red flesh color. Firm yellow flesh.
Flamin' Fury® PF Lucky 13	700	Freestone	Early-mid	Has become popular in the East due to good flavor. Becoming more popular in Utah.
Glohaven	850	Freestone	Mid	A popular canning cultivar in areas of the West. Resists browning.
Flavor Top (Nectarine)	650	Freestone	Mid	Skin is mostly red with firm, yellow flesh. Slightly more cold-hardy than Fantasia.
Fantasia (Nectarine)	550	Freestone	Mid	Skin is mostly red with firm, yellow flesh. Should not be grown in areas colder than the Wasatch Front.
Early Elberta	800	Freestone	Mid	A popular canning cultivar in areas of the West.
Elberta	850	Freestone	Mid-late	A popular canning cultivar in areas of the West.
Madison	850	Freestone	Mid-late	May be suited to climates slightly colder than the Wasatch Front.
Canadian Harmony	800	Freestone	Mid-late	May be suited to climates slightly colder than the Wasatch Front.
Flamin' Fury® PF 24C Cold Hardy	650	Freestone	Mid-late	May be suited to climates slightly colder than the Wasatch Front.
Suncrest	500	Freestone	Mid-late	Popular gardeners market and farm stand variety. Tender flesh.
J.H. Hale	850	Freestone	Late	Requires cross pollination from a different cultivar.
Angelus	800	Freestone	Late	Among the latest cultivars to reliably ripen along the Wasatch Front. Plant in warmer, protected areas.
O'Henry	750	Freestone	Late	Among the latest cultivars to reliably ripen along the Wasatch Front. Plant in warmer, protected areas.

Other cultivars suitable for Utah conditions: Regina, Loring, Cresthaven, Halehaven, Blushingstar® (white flesh), and Artic Gem (white flesh).

How to Grow

Site Selection: The suitability of your location for peaches will depend on surrounding topography. Peaches are particularly prone to crop loss due to late spring freezes. Along the Wasatch Front and in some other valleys in Utah, the elevation above the valley floor determines the growing season length and the risk of spring freeze. Due to temperature inversions, bench areas tend to have a lower risk of spring and fall freezes, resulting in longer growing seasons than the valley floor. Optimal site selection within your yard is also important. Planting on the south or west side of a house or building will tend to cause trees to bloom earlier, making them more susceptible to late spring freezes.

Choose a site that receives at least 8 hours of full sun. In Northern Utah and high mountain valleys, select a somewhat sheltered location, if possible, to extend the life of the tree. Peaches prefer well-drained soil, and can be prone to iron chlorosis on heavy clay soils. Clay soils can be improved with organic matter amendments, and forming raised beds to improve drainage and aeration. Avoid planting trees in lawns as water and nutrient requirements differ significantly between the two.

Site Preparation: Since the tree will be in this location for many years, it is best to take the time to properly prepare the soil before planting. It is much easier to control perennial weeds, such as field bindweed and crabgrass, before planting. If you are unfamiliar with the soil in your location, a soil test can be very helpful during soil preparation. A basic soil test will tell you the soil texture, pH, salinity and give some nutrient recommendations. For more information on how to test soil, visit the [USU Analytical Laboratory](#). For best success, soil pH should be below 8.0 and the soil should be low in salt. Based on nutrient recommendations from the soil test, incorporate any needed fertilizers before planting. Where secondary water will be used for irrigation, a water test will also be helpful in determining soil amendment needs.

Planting and Spacing: Plant trees in the early spring or fall. Trees can be transplanted in the summer months but it is much more stressful to the plant and careful attention to irrigation is critical. Trees can be purchased as bare root or potted plants. For bare root trees, dig a hole wide enough to easily spread all of the roots out and deep enough to cover

the roots back to the original soil line. For potted plants, dig a hole the same depth and twice as wide as the root ball. For both bare root and potted plants, be careful not to cover the graft union. Depending on rootstock and training system, trees should be placed 12 to 16 feet apart. The majority of peach cultivars are self-fruitful. However, there are a few cultivars, such as J.H. Hale, that require cross-pollination. In this case, a peach tree of a different cultivar needs to be within a few hundred yards of the tree to facilitate cross pollination and fruit set.

Irrigation: Peach trees require a total of about 30 inches of water over the growing season. It is best to irrigate less frequently with a deep soak to allow water to penetrate throughout the entire root zone. This can be done using drip systems, soaker hoses, or hand watering. Avoid using sprinklers to keep the tree canopy dry, prevent foliar diseases, and minimize fruit exposure to untreated irrigation water. Keeping new peach trees well-irrigated during establishment is critical. However, excessive water will damage roots and make the tree susceptible to diseases. When watering established trees, irrigation water should be applied every 7 to 14 days (depending on soil type and the heat index) and penetrate to a depth of 18 to 24 inches. See the [USU Extension fact sheet Orchard Irrigation: Peach](#) for more information. If a tree is planted in turf, turf sprinklers are generally sufficient. However, remember trees should be watered infrequently and deeply. To do this, schedule lawn irrigation events as far apart as possible, while keeping the lawn green, to maximize tree health. Even when trees are planted in the lawn, turf should be kept 4 feet away from the trunk in every direction.

Weed Control: It is important to prevent vegetation (weeds and turf) under the canopy of the tree to minimize competition for soil moisture and nutrients. Since tree roots are often only within a few inches of the soil surface, avoid tilling under tree canopies. Instead, hand pull, hoe, or use shallow hand cultivation. Some herbicides are labeled for use around fruit trees. Never apply these to tree trunks and always follow the label. To check for up-to-date label information, reference the [Pacific Northwest Management handbook](#).

Fertilization: Test soil every 3 to 4 years to determine soil nutrient levels or if trees are underperforming. Trees less than 3 years old should

average about 18 to 24 inches of new shoot growth per year. If shoot growth is more than 24 inches, do not apply nitrogen to trees. For underperforming trees 3 years old or less, apply ½ cup of 20-0-0, in a circle around the root-zone in early spring, before the tree forms leaves, and then water the fertilizer into the soil. A second application may be needed in mid-May. Do not fertilize after mid-July. Trees older than 4 years should grow approximately 1 foot per year (excluding the water sprouts). For trees not growing at this rate, apply 1 to 2 cups of 20-0-0 in early spring. If phosphorus and/or potassium are deficient, apply a similar quantity of 16-16-16, or an equivalent balanced fertilizer.

Iron Deficiency: Interveinal chlorosis (yellowing between veins) is the first sign of iron deficiency and is very common in Utah peach trees. In severe cases, leaves can turn almost white and will drop from the tree. Although Utah soils are typically rich in iron, it is not available to the plant. High pH soils (typical throughout Utah) cause iron to be insoluble and not available for root absorption. Iron deficiency is exacerbated by wet soils (common in spring and if overwatering). Chelated iron (FeEDDHA) applied to the soil or foliage will temporarily alleviate the problem since chelated iron is not affected by soil pH and the plants can absorb the nutrient. For more information on iron chlorosis see the fact sheet [Iron Chlorosis in Berries](#).



Figure 1. Peach tree pruned to an open center training system.

Pruning: Prune peach trees during the dormant season, usually in February or March. Peach trees should be pruned to an open center or vase system. An open center training system is done by selecting

4 to 5 branches that originate 18 to 24 inches above the ground that are evenly spaced around the tree to become the main “scaffold” branches. Any remaining branches and the central stem are removed. The branch angle should be between 60 and 90 degrees below vertical to achieve maximum strength. When planting in the early spring, head back the one-year-old tree to 28 to 30 inches. If branches are already started below that point that can be utilized as primary branches, head them back so only two or three buds remain. If no branches are suitable for scaffold branches, cut all branches back to stubs. In mid-summer, the tree will have grown several shoots and leaf rosettes. Select the primary scaffolds at this time and head back any shoots growing above or below the selected branches. In the following dormant pruning events, completely remove all shoots except the selected scaffolds. Once established, keep the center of the tree open by removing any branches that arise within 1 foot of the trunk. Since peaches produce fruit on wood that grew the previous year, it is important to do annual pruning to encourage new wood development for next year’s fruit. This becomes particularly important as the tree ages. In the absence of frosts during bloom, peach trees will often set much more fruit than can be successfully ripened and that may result in branches breaking. To avoid these issues, proper pruning and fruit thinning is required. Much of the fruit thinning can be accomplished during pruning. Limiting the number of 1-year-old shoots per scaffold will effectively reduce the potential crop load to a manageable level. Preferentially select the 1-year-old shoots that are of moderate vigor (pencil diameter and 12 to 24” long) removing the most and least vigorous shoots.

Thinning: In order to obtain large fruit with adequate sugars and good flavor, fruit will need to be thinned. Part of this thinning is accomplished during pruning by limiting the number of 1-year-old fruiting lateral shoots, and then removing excess fruit by hand. Depending on cultivar and tree health, a good rule of thumb is to leave about 20 to 25 fruiting laterals per scaffold branch at pruning, ensuring that the laterals have sufficient flower buds. Flower buds can be easily distinguished from vegetative buds based on their location and shape (Figure 2). Then, thin each fruiting lateral to 1 to 3 fruits when fruit is golf ball size.

Pest and Disease: Be proactive in the prevention of disease and pest damage. See Table 2 for common insect pests and diseases. For more detailed

information visit [Utah PESTS diagnostic page](#). For a complete management plan, see the [USU Home Orchard Pest Management Guide](#).

Table 2. Brief description and control method for common diseases and insect pests of peach.

Diseases/Insect	Identification	Control
Coryneum Blight (Shot Hole)	Fungal disease causes round, purple-tinted lesions on leaves that turn black and centers fall out leaving many small holes. On fruit, circular, reddish spots are the first sign of infection and eventually turn black. Black cankers form on branches which will eventually die. The first visible lesions are on young leaves. Infected buds die and exude gum.	Prune out heavily infected branches. Clean up debris, including leaves, in fall. Prevent irrigation water from wetting leaves. Apply fungicide sprays (captan or chlorothalonil) just after petal fall in spring and copper spray at 50% leaf drop in fall.
Crown and Root Rots	Yellowing leaves, general decline and lack of vigor. Branch dieback. Common with newly planted trees due to overwatering and poorly drained soils.	Manage irrigation carefully based on soil type (most critical on heavy soils). Ensure good drainage, avoid planting in turf.
Cytospora Canker	Fungal disease causes amber-colored ooze, flaking bark, brown tissue just under the bark. Cankers grow larger each year. Spreads during wet weather.	Prune out diseased tissue, prevent wounding, and keep trees healthy. No fungicide management option.
European Paper Wasps	EPW bite holes in soft, ripe fruit. They build easy to identify umbrella-shaped grey nests in protected spots.	Remove rotting fruit from the ground and regularly pick ripe fruit. Traps can be successful.
Gummosis	Proliferous gelatinous-like ooze of sap on bark that is clear, milky, or amber colored. Response to borers, diseases, wounding or poor growing conditions.	If ooze is milky or dark-colored it is caused by an insect or disease. Try to alleviate tree stress to reduce gummosis.
Peach Twig Borer	Chocolate brown larvae emerge from overwintering sites on peach limbs in the spring and tunnel into succulent shoot tips. Infested twigs wilt and die back. In summer, a 2nd generation enters the fruit. Look for sawdust-like frass on fruit.	Subscribe to USU Pest Lab updates for spray timing and registered products (utahpests.usu.edu/ipm). Control with spinosad, carbaryl, and malathion.
Powdery Mildew	Fungus effecting leaves and fruit. Apple powdery mildew only attacks the peach fruit (not leaves) and causes a rusty mottling Peach powdery mildew attacks leaves and fruit and causes fuzzy spots. Results in reduced yield, stunting and distortion.	Rake and remove all leaves and debris in the fall. Lime-sulfur, myclobutanil, or propiconazole work as preventives but will not cure already infected tissue.
Greater peachtree borer	Clear wing moth species lays eggs on bark near the base of the tree. Borers are often present in the base of the trunk and upper roots. Look for round holes near the soil-line and oozing sap mixed with frass, sawdust-like insect waste.	Subscribe to USU Pest Lab updates for spray timing and registered products (utahpests.usu.edu/ipm). Control with permethrin or carbaryl applied to the bottom 12 to 18 inches of trunk.
Aphids	Multiple species infest trees. Small, soft-bodied insects that suck sap from leaves. Early season leaf curl and deformation and sticky leaves are signs of aphids.	For minor/moderate infestations treat with an insecticidal soap or 1% horticultural oil. Encourage beneficial insects like lady beetles, lacewing & syrphid flies. Control rarely requires stronger insecticides.
Spider Mites	Prevalent when weather is hot and dry. Leaves develop a mottled or stippled, dusty appearance. Over time, branch dieback is common. Webs may be seen as populations build. Especially common on trees excessively sprayed with a pyrethroid or carbaryl due to natural predators being killed.	Low populations can be ignored and are often kept in check by predatory mites. Treat moderate infestations with an insecticidal soap or horticultural oil every 5 to 7 days. Infestations rarely require stronger insecticides.
Earwigs	Round holes in fruit chewed by adults, black dots near feeding areas. Usually infest ripening fruit.	Remove debris and weeds from base of trees. Trap with rolled cardboard strips tucked into limb crotches. Carbaryl and spinosad provide short interval protection.



Figure 2. Buds on 1-year-old peach shoots. There can be up to three buds at each node. The center bud is narrow and pointed and is a leaf bud. The larger round-shaped buds on either side are flower buds. Notice that some nodes do not have all three buds present.

Photo Credit: Mark Longstroth, Small Fruit Educator, Michigan State University Extension.



Figure 3. Ripe fruit on peach tree. Note that the fruit was not thinned adequately, leaving too many fruits on a single fruiting lateral.

Harvest, Storage and Use

Harvest time is determined by cultivar and location. In Utah, early cultivars can be harvested as early as mid-July and harvest continues into September. Watch for a change in color of the fruit as the first indicator of ripeness. Depending on cultivar, ripe fruit will be yellow/orange or red. Fruits soften as they ripen, although be careful using this method to check for ripeness as fruit will bruise easily. Allow the fruit to stay on the tree until ripe to achieve the best flavor. However, if fruit needs to be harvested early due to weather conditions it will continue to ripen somewhat off of the tree but will not have the flavor like a tree ripened fruit will. Once harvested, keep the fruit in a cool area for up to 2 weeks. Depending on peach tree size, expect 1 to 6 bushels per tree. Peaches are delicious fresh, in various desserts, and are a canning favorite.

Additional Resources

- Murray, M., and D. Alston. 2011. The Backyard Orchardist: Peach and Nectarine. Utah State University Extension and Utah Plant Pest Diagnostic Laboratory, Logan, UT (6 pp.). <http://extension.usu.edu/files/publications/factsheet/peach-pests.pdf>
- Perry, R. 2011. Planting Fruit Trees. Michigan State University Extension. http://msue.anr.msu.edu/news/planting_fruit_trees
- Olcott-Reid, B., and W. Reid. 2007. Fruit Integrated Pest Management. Fruit and Nut Production. Stipes Publishing. Champaign, IL.
- Utah Pests. 2016. Home Orchard Pest Management Guide. Utah State University Extension. <http://utahpests.usu.edu/ipm/htm/fruits/home-orchard-guide/fruit-pest-control-peach>.

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