Peaches in the Garden

Tiffany Maughan, Research Associate, Brent Black, Extension Fruit Specialist, Andrea Simondi, Student

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

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 trees 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: Interverinal 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.

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.

Figure 1. Peach tree pruned to an open center training system.
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>
<thead>
<tr>
<th>Diseases/Insect</th>
<th>Identification</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coryneum Blight</td>
<td>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.</td>
<td>Prune out heavily infected branches. Clean up debris, including leaves, in fall. Prevent irrigation water from wetting leaves. Apply fungicide sprays (captan or chlorothanlonil) just after petal fall in spring and copper spray at 50% leaf drop in fall.</td>
</tr>
<tr>
<td>Crown and Root Rots</td>
<td>Yellowing leaves, general decline and lack of vigor. Branch dieback. Common with newly planted trees due to overwatering and poorly drained soils.</td>
<td>Manage irrigation carefully based on soil type (most critical on heavy soils). Ensure good drainage, avoid planting in turf.</td>
</tr>
<tr>
<td>Cytospora Canker</td>
<td>Fungal disease causes amber-colored ooze, flaking bark, brown tissue just under the bark. Cankers grow larger each year. Spreads during wet weather.</td>
<td>Prune out diseased tissue, prevent wounding, and keep trees healthy. No fungicide management option.</td>
</tr>
<tr>
<td>European Paper Wasps</td>
<td>EPW bite holes in soft, ripe fruit. They build easy to identify umbrella-shaped grey nests in protected spots.</td>
<td>Remove rotting fruit from the ground and regularly pick ripe fruit. Traps can be successful.</td>
</tr>
<tr>
<td>Gummosis</td>
<td>Prolific gelatinous-like ooze of sap on bark that is clear, milky, or amber colored. Response to borers, diseases, wounding or poor growing conditions.</td>
<td>If ooze is milky or dark-colored it is caused by an insect or disease. Try to alleviate tree stress to reduce gummosis.</td>
</tr>
<tr>
<td>Peach Twig Borer</td>
<td>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.</td>
<td>Subscribe to USU Pest Lab updates for spray timing and registered products (utahpests.usu.edu/ipm). Control with spinosad, carbaryl, and malathion.</td>
</tr>
<tr>
<td>Powdery Mildew</td>
<td>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, stuntng and distortion.</td>
<td>Rake and remove all leaves and debris in the fall. Lime-sulfer, myclobutanil, or propiconazole work as preventives but will not cure already infected tissue.</td>
</tr>
<tr>
<td>Greater peachtree borer</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Aphids</td>
<td>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.</td>
<td>For minor/moderate infestations treat with an insecticidal soap or 1% horticultural oil. Encourage beneficial insects like lady beetles, lacewing &amp; syrphid flies. Control rarely requires stronger insecticides.</td>
</tr>
<tr>
<td>Spider Mites</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Earwigs</td>
<td>Round holes in fruit chewed by adults, black dots near feeding areas. Usually infest ripening fruit.</td>
<td>Remove debris and weeds from base of trees. Trap with rolled cardboard strips tucked into limb crotches. Carbaryl and spinosad provide short interval protection.</td>
</tr>
</tbody>
</table>
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


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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.