

# Department of Plant Sciences

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## PAWPAWS FOR TENNESSEE GARDENS AND LANDSCAPES

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The pawpaw is a unique specialty fruit increasingly prevalent in Tennessee gardens and landscapes. They are the closest relative to tropical fruit that is native to North America. Affectionately known as the “Appalachian banana,” the pawpaw (*Asimina triloba*) is a large, oblong fruit with a very pronounced scent. The taste and texture are rather difficult to describe, so it can be quite a novel eating experience. The skin is not eaten, but the pulp can be consumed fresh or in a wide range of dishes including ice cream, preserves, baked goods, or even used in brewing beer. Restaurants also employ pawpaws in local dishes or Appalachian cuisines. The culture and lore of pawpaws in Appalachian regions is quite unique with summer to fall festivals and events celebrating the crop.



*Figure 1. Nearly mature fruit on a pawpaw tree showing the unique fruit shape.*

### Crop Description and Selection

Although many growers and consumers are unfamiliar with this unique fruit, interest has rapidly increased in recent years. In native forests in the eastern US, pawpaws are often understory trees up to 25 feet in height. The fruit harvested from trees in the wild is typically small with many seeds, but breeding efforts are ongoing to improve size, uniformity of fruit, quality, as well as increasing the flesh-to-seed ratio in the fruit. Because of such challenges, pawpaw is still mainly a novelty or niche crop. Commercial use is rather limited, but the crop is certainly widely grown and enjoyed by hobbyists and small-scale growers.

While wild collected seeds or trees are sometimes grown in gardens and landscapes, growing named and specifically bred cultivars can be an asset. Seeds can be used to grow pawpaw trees, but they require a long (3-4 months) stratification treatment to replicate winter. Transplanting is also a challenge because the thick roots can be brittle and are easy to damage when moving from native sites to the garden or landscape.

Therefore, the quickest path to success with pawpaws is likely to be purchasing container or bare-root trees that will establish and fruit faster. These trees may be seedlings (whole tree grown from seed) or grafted (shoots from named cultivar grafted onto a seedling rootstock). Grafted trees are often cultivars selected for fruit taste, size, or other attributes. Local nurseries are starting to carry more pawpaw trees, and they can also be mail ordered.



*Figure 2. Pawpaw flower on a young tree. Blooms are often pollinated by flies and have a carrion scent as an attractant.*

While there are few publicly funded research or breeding programs for pawpaws, Kansas and Kentucky both have done work with the crop. Some cultivars coming from public and private breeding programs are KSU- Atwood™, KSU-Benson™, NC-1, Sunflower, Overleese, Wabash, Potomac, Shenandoah, and Susquehanna.

Pawpaw flowers require pollination from a genetically different tree, so they are generally self-incompatible. This is another reason to purchase named cultivars to ensure that two different trees are present for good cross-pollination and fruit set. Pawpaw flowers are pollinated by insects, usually flies or beetles, which are attracted to their scent which is faintly like rotting meat. However, in many settings, this insect pollination can be variable. So, hand-pollination, though cumbersome, is sometimes used to support improved fruit sets.

## Planting and Growing

Pawpaws are appropriate for winter hardiness zones 5 through 8 and prefer cool winters with warm summers that have plentiful rainfall. Their preference is sites with soil that is fertile, deep, and below neutral pH. Good soil drainage is essential. Shade is preferred on small trees in their first few years, but the best production for older trees will be in full sun. So, tree shelters are sometimes used in supporting establishment and early growth.

Container grown pawpaws can often be more successfully established than bare root, and transplanting is often done in the spring as new growth is starting. Typically, these are seedlings or grafted seedlings. Focusing on root development in the first two years is essential in establishment, so supplemental watering and use of balanced fertilizers are recommended for young trees. Fruit production usually occurs by the time the tree reaches 6 feet. However, seed grown trees will take longer to produce than grafted trees. Grafted trees bear fruit within three to four years after planting, while seedlings often take five to eight years.

Weed control is critical during establishment to enable trees to have ready access to water and nutrition. Spring fertilization with consistent moisture during the growing season is ideal. Once the young trees have been carefully established for a couple of years, management is relatively simple. Trees grown with higher levels of shade tend to have a more open habit without many lower limbs while trees grown in the sun are more pyramid-like in shape with limbs closer to the ground. In either case, some but not excessive pruning to maintain a healthy form is needed.

Be cautious about overwatering, which can lead to a fungal disease that can cause fruit to crack and have a black superficial growth covering the fruit. Few pests bother pawpaws, so they can be good candidates for organic or low spray production. Another interesting note and reason for low insecticide use is that pawpaw is the larval host for the Zebra Swallowtail Butterfly.

### Harvesting and Storing

Fruit ripen sporadically, so hand-harvesting should be performed at least every other day over the few week harvest period. Pawpaws are generally harvested in Tennessee from September to October. The strong aroma is often a good indicator of ripeness for pawpaw. Skin color can be used, but it does range from green to yellow. Darker blotches do occur when fruit is quite ripe, somewhat like a banana. Ripe fruit will give a bit when squeezed gently like a peach or avocado. Pawpaw fruit flesh can be similar to custard when ripe, as it has a smooth and soft texture.

Once harvested, enjoy quickly, as pawpaw shelf life is only three days at room temperature. Ripe pawpaws may be stored in the refrigerator for a week or so with unripe fruit lasting up to two weeks. Flesh also can be frozen. However, flavor losses can occur during the refrigeration/freezing process.

### Resources Used and Additional Reading

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