

Hardy Kiwifruit

Keys for Success

Be sure to choose cultivars of *Actinidia arguta*, the hardy kiwifruit—not *A. chinensis*, which will not survive New York winters.

Purchase at least one male plant for every nine female plants to ensure pollination and fruit set.

Avoid planting in frost pockets. Sites with northern exposure are good because they delay early growth in the spring, which can be damaged by late frosts.

Construct a trellis system or otherwise support the vines.

Prune plants at least two or three times during the growing season and once during the winter.

While their tastes are similar, hardy kiwifruits are different from the kiwifruits you find in the produce aisle at the supermarket. The hardy kiwifruit (*Actinidia arguta*) is native to northeastern Asia, while its commercially available cousin (*A. chinensis*) is native to southern China. In the eastern United States, the commercial kiwifruit grows only as far north as Maryland and then only in protected spots.

Hardy kiwifruit plants tolerate temperatures as low as -25 degrees F or so, but they are sensitive to late spring frosts. The fruits, which are about the size of a large grape, are not covered with fuzz, have small seeds, and can be eaten out of hand without peeling. They have an excellent flavor, can be dried or made into wine, and are higher in vitamin C than most citrus fruits. Some people find they have a strong laxative effect.

Choosing Cultivars

The hardy kiwifruit plant is a strong-growing perennial vine with small leaves and bright red stems. It can grow to 40 feet in length. If not pruned and trained, the vines will grow up trees and over fences.

Most plants are dioecious—they bear either male or female flowers but not both. For this reason, you need to plant both a male and a female plant if you want to harvest fruit. Some nurseries sell hermaphroditic plants, which bear flowers of both sexes, but their performance has been poor.

In early summer, the vines bear small white flowers with chocolate-colored centers on the previous season's spur growth. They have a fragrance similar to that of lily-of-the-valley and are pollinated by wind or insects. Greenish yellow fruits develop in the summer and into the fall and ripen very late in the season. Plants usually fruit by their fourth year and bear full crops after the eighth year. Once established, plants can live for 50 or more years.

Several cultivars are available through various nurseries. Improved selections that perform well in New York include Ananasnaja, Geneva, Meader, MSU, and the 74 series.

Propagation

Kiwifruit can be propagated from cuttings or seeds. Take hardwood cuttings anytime after the plant has received 500 hours of chilling, or make softwood cuttings in July. Kiwifruits also can be propagated by layering.

To grow plants from seed, remove the seeds from a mature fruit and let them dry for two days. Refrigerate them in moist perlite at 40 degrees F for

four months. Then plant the seeds no deeper than 1/8 inch in a sterile potting mix and cover the container to keep the humidity high. The soil should be moist but not wet. As soon as the plants germinate, uncover the container. After the seedlings are up, put a thin layer of clean sand on top of the medium. When plants have four true leaves, transplant them to individual pots. At this time, use a low rate of liquid fertilizer. Transplant the seedlings to the site where they will grow when they are several inches tall.

Site Selection and Soil Preparation

Kiwifruit can be grown in any garden soil provided the pH is between 5.5 and 7.0. The plants thrive in moist soils but do not tolerate poorly drained soils. They benefit from the incorporation of organic matter before planting.

While most cultivars are hardy in areas up to Zone 4, they require about a 150-day frost-free season. Vines perform best in full sun, but on such sites they tend to break dormancy too early in the spring, when late frosts can damage new growth. Planting them with a northern exposure delays early growth and minimizes this risk. Early fall frosts also can cause damage, so avoid planting in frost pockets. Plants usually regrow if damaged by a spring frost, but this will delay fruit development. The succulent growth is also susceptible to wind damage and hot, dry conditions. Protected moderate microclimates are best, as kiwifruit also do not like sudden changes in temperatures.

Planting

Plant kiwifruit 10 feet apart in mid-May, or after the danger of frost is past. Plant one male for every nine females. Plants require frequent watering from the time they are transplanted.

It is important to select one or two new canes and train them to grow vertically. Do not allow them to twist around the support pole or wire.

Trellising

Kiwifruit require a trellis or other support structure. Set trellis posts 10 feet apart. Trellis wire should have 300 pounds of tension. Kiwifruit trellises are usually in the shape of a T, with the cross-arm about 7 feet off the ground and about seven wires across the 5-foot-long cross-arm. Train the main cane up the pole to the height of the cross-arm, then train arms along the center wire. Laterals grow from these arms and can be tied to the outside wires. (Fastening them will help keep them from breaking off, especially on windy sites.) The fruit hang down through the trellis wires, where they are easy to harvest.

Kiwifruit do best in protected locations.

Pruning and Mulching

Pruning is necessary during both the dormant season and the growing season. Two or three times during the summer, cut nonflowering laterals back to the outside wire on the trellis. Trim flowering shoots back to four to six leaves beyond the last flower.

In the dormant season, remove canes that fruited during the previous season as well as dead, diseased, or tangled canes. Keep the best one-year-old lateral canes that haven't fruited, spaced about a foot apart along the arms. Trim them back to about eight buds.

Plants benefit from a thick layer of organic mulch, which helps control weeds, adds organic matter to the soil, and aids in moisture retention. Keep the trunks of young vines from cracking in cold temperatures by wrapping them with cloth or painting them with white latex paint.

Fertilization

Do not fertilize kiwifruit the year of planting. In early spring of the second year, sprinkle 2 ounces of 10-10-10 around each plant. Increase this amount by 2 ounces each year until the plants are receiving 8 ounces, then do not exceed this amount.

Harvest

Kiwifruit will not reach maturity and flower until about their fifth year. The fruit matures in October, which is after the date of the first frost in many northern regions. For this reason it is difficult to harvest vine-ripened fruit. Fruits will ripen in the refrigerator, but their storage life is much shorter than that of commercially available kiwifruit. Flavor is better, however, in the fuzzless hardy kiwifruit.

For more information, see Oregon State University's web site on kiwifruit production at <http://berrygrape.orst.edu/fruitgrowing/berrycrops/kiwifruit.htm>.