



HARDY KIWIFRUIT: EMERALD GEMS

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Look at hardy kiwifruit plants and it is easy to see why, although introduced as ornamentals about a century ago, they have not been longer and more widely grown also for their fruits. The fruits of these cold-hardy cousins to the fuzzy, supermarket kiwifruit are smooth and green, so have usually gone unnoticed beneath the foliage. It is only the past two decades that the fruits have begun to be appreciated for themselves, but one taste would have rescued them from obscurity sooner. The fruit are grape-size, borne in clusters, and can be eaten just like grapes, skin and all. They have the same sparkling, emerald-green flesh and similar flavor to supermarket kiwifruits, except that hardy kiwifruits are much sweeter and more flavorful.



The great market potential of hardy kiwifruit comes not only from its delectable flavor and convenience in eating, but also because this new fruit can ride on the

established marketing coattails of the fuzzy kiwifruit. Fruit from commercial and experimental test plantings have fetched high prices and enthusiastic consumer reaction. Hardy kiwifruit have no significant pest problems, so also are well suited to “organic” or “sustainable” production and marketing.



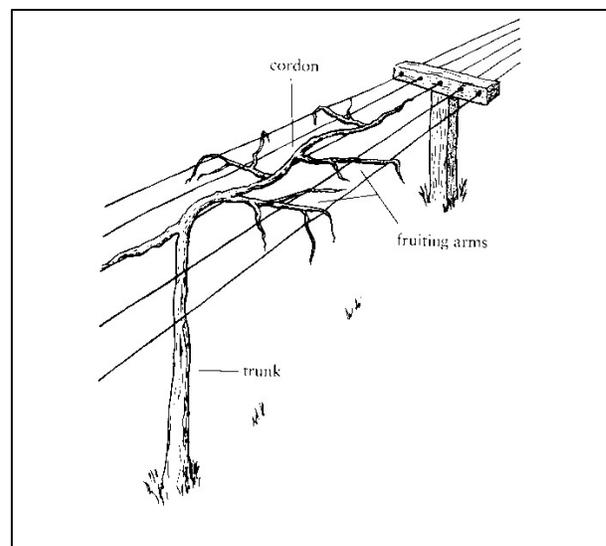
Plant Description

In their native habitats within or along the margins of humid mountain forests in eastern Asia, the twining vines clamber up trees or sprawl over the ground. Hardy kiwifruits are represented by a number of species, but the two most prominent are *Actinidia arguta* and *A. kolomikta*, hardy to U.S.D.A. Zones 4 and 3, respectively. *A. arguta* needs about 150 frost-free days to ripen its fruit; *A. kolomikta* needs about 130 days. Of the two species, *A. arguta* is more vigorous and prolific. Other major differences between the two species are that *A. kolomikta* fruit are smaller and ripen earlier than those of *A. arguta*, and they sometimes drop when ripe.

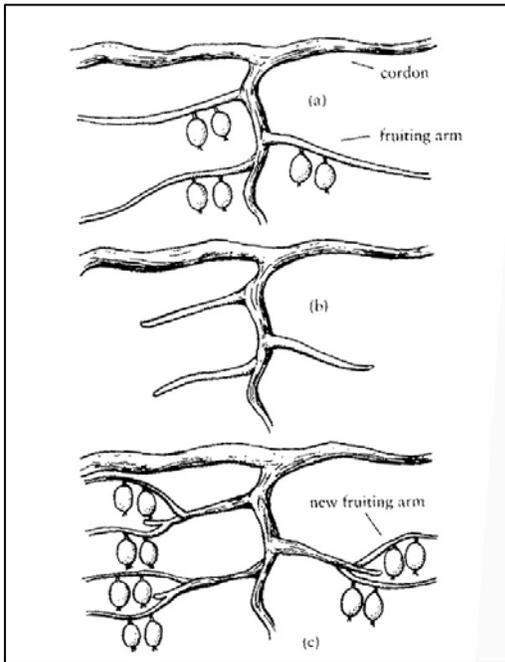
A number of varieties of both species are available. ‘Anna’ (a Russian selection whose full name is ‘Ananasnaja’) is very reliable, although it just barely ripens in northern areas. ‘Issai’, from Japan, ripens similarly and is somewhat self-fertile but not very cold hardy. Very tasty and earlier ripening are ‘Geneva’, ‘MSU’ (‘Michigan State University’), and ‘Dumbarton Oaks’ (all three propagated from old ornamental vines in the U.S.), and *A. kolomikta* varieties such as ‘September Sun’ and ‘Krupnopladnaya’.

Cultivation

Plant the largest vines available, allowing one (nonfruiting) male per eight (fruiting) females. Soil drainage must be perfect. The vines are best supported on a T-trellis that is about six feet high and wide, with 3-5 wires strung between the arms of the T. Space posts sixteen feet apart, with plants at half that distance.



The goals in training and pruning are to make a potentially tangled mass of rampant shoots manageable and easy to harvest, and to keep stems bathed in enough light to remain fruitful.



Pruning also stimulates new growth, important because fruits are borne only toward the bases of new shoots that grow from one-year-old canes (similar to grapes).

An established vine consists of a trunk, permanent cordons, and fruiting arms. Train young plants to a single trunk up to the middle wire of the trellis, then train two horizontal cordons, running in opposite directions along that wire. Temporary fruiting arms, perpendicular to the wires, grow off the cordons.

Hardy kiwifruit vines require pruning in both winter and summer. In winter, cut back fruiting arms to within 18 inches of where growth began the previous season. Whenever a fruiting arm becomes too old and begins to originate too far from the cordon, renew it by cutting it almost back to the cordon. Go over the vines in summer and cut back any rampant stems as well as those that are tangled. Prune male vines drastically right after they finish flowering.

Pitfalls to Avoid

Although hardy kiwifruits are, as their name implies, cold hardy, this cold-hardiness comes only with age; young plants commonly freeze back, delaying production. For this reason, plant large vines and protect the developing trunks from winter sun and cold with 'Tree-Shelters', corn stalks, burlap, pipe insulation, or tree wrap material. Remember, the trunks of hardy kiwifruits are rarely exposed to full sunlight in the wild.

Hardy kiwifruits are remarkably pest free plants. The greatest hazard is from crown rot. Avoid this disease by planting in well-drained soil or atop mounds.

Hardy kiwifruits ripen unevenly, and vine ripened fruits are easily damaged. Firm, nearly ripe fruits handle better, and can be refrigerated and ripened in "clamshell" containers that maintain high humidity. For good storage, harvest whole clusters of fruit when they are slightly under ripe, as indicated by the first fruits softening or by a refractometer reading of 10 to 14 degrees Brix. Under optimum conditions, yields of 23 tons/A, or about 200 pounds per vine, can be expected. Picked soft, with their stems attached, hardy kiwifruits keep for a couple of weeks; firm, they'll keep up to two months.

The Future

Interest in hardy kiwifruits continues to mount, setting breeders to work. Besides the usual goals of increased productivity and flavor, development of self-fertile varieties would eliminate the need for male pollinators. The variety 'Issai' is somewhat self-fertile, but this variety is not very cold hardy, the fruit ripens very late, and a male pollinator, in fact, does increase fruit size and production.

Watch for red hardy kiwifruits. The variety 'Ken's Red' is now available, with a mild flavor and questionable hardiness. Others are sure to follow.

Perhaps the greatest limitation to this wonderful fruit is its name. Something more euphonious than "hardy kiwifruit" is perhaps needed. Perhaps foreign names for this fruit -- *van zhou*, *tara*,

or *kishmish*, for example -- would be more appealing. "Grape kiwi" has been suggested, as has "Baby Kiwi" and "Wee-ki". "Kuwi" anyone?

Nicknames aside, pest resistance and delectable flavor make hardy kiwifruits an uncommon fruit to grow and sell.

Further reading

Uncommon Fruits for Every Garden, by Lee Reich, Timber Press, 2004, \$24.95.

(Editor's note: A review of this book follows in the Small Fruit Reference Library article below. The book can be ordered directly from the author by sending a check for \$28 (which includes postage and tax) to: Lee Reich, 387 Springtown Road, New Paltz, NY 12561.)

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