

## Cydonia oblonga

### C. vulgaris

The quince (/ˈkwɪns/; *Cydonia oblonga*) is the sole member of the genus *Cydonia* in the Malinae subtribe (which also contains apples and pears, among other fruits) of the Rosaceae family. It is a deciduous tree that bears hard, aromatic bright golden-yellow pome fruit, similar in appearance to a pear. Ripe quince fruits are hard, tart, and astringent. They are seldom eaten raw, but are processed into marmalade, jam, paste (known as quince cheese) or alcoholic beverages.

The quince tree is also grown as an ornamental plant for its attractive pale pink blossoms and other ornamental qualities.[1]

The tree grows 5 to 8 metres (16 to 26 feet) high and 4 to 6 m (13 to 20 ft) wide. The fruit is 70 to 120 mm (3 to 4+1/2 in) long and 60 to 90 mm (2+1/2 to 3+1/2 in) across.

The immature fruit is green with dense grey-white fine hair, most of which rubs off before maturity in late autumn when the fruit changes colour to yellow with hard, strongly perfumed flesh. The leaves are alternately arranged, simple, 60–110 mm (2+1/2–4+1/2 in) long, with an entire margin and densely pubescent with fine white hairs. The flowers, produced in spring after the leaves, are white or pink, 50 mm (2 in) across, with five petals.

The seeds contain nitriles, which are common in the seeds of the rose family. In the stomach, enzymes or stomach acid or both cause some of the nitriles to be hydrolysed and produce hydrogen cyanide, which is a volatile gas. The seeds are only toxic if eaten in large quantities.[2]

Four other species previously included in the genus *Cydonia* are now treated in separate genera. These are *Pseudocydonia sinensis* and the three flowering quinces of eastern Asia in the genus *Chaenomeles*. Another unrelated fruit, the bael, is sometimes called the "Bengal quince".[citation needed]

The modern name originated in the 14th century as a plural of quoyne, via Old French cooin from Latin cotoneum malum / cydonium malum, ultimately from Greek κυδωνιον μᾶλον, kydonion melon "Kydonian apple".

*Cydonia* is included in the subfamily Amygdaloideae.[3]

Quince is native to the Hyrcanian forests south of the Caspian Sea,[4][5] although it thrives in a variety of climates and can be grown successfully at latitudes as far north as Scotland. It should not be confused with its relatives, the Chinese quince, *Pseudocydonia sinensis*, or the flowering quinces of genus *Chaenomeles*, either of which is sometimes used as a culinary substitute.[citation needed]

The fruit was known in the Akkadian language *supurgillu*; "quinces" (collective plural),[6] which was borrowed into Aramaic as *sparglin*; it was known in Judea during the Mishnaic Hebrew as *prishin* (a loanword from Jewish Palestinian Aramaic *prishin* "the miraculous [fruit]");[7] quince flourished in the heat of the Mesopotamian plain,

where apples did not. It was cultivated from an archaic period around the Mediterranean. Some ancients called the fruit "golden apples".[8]

The Greeks associated it with Kydonia on Crete, as the "Cydonian pome", and Theophrastus, in his Enquiry into Plants, noted that quince was one of many fruiting plants that do not come true from seed.[9]

As a sacred emblem of Aphrodite, a quince figured in a lost poem of Callimachus that survives in a prose epitome: seeing his beloved in the courtyard of the temple of Aphrodite, Acontius plucks a quince from the "orchard of Aphrodite", inscribes its skin and furtively rolls it at the feet of her illiterate nurse, whose curiosity aroused, hands it to the girl to read aloud, and the girl finds herself saying "I swear by Aphrodite that I will marry Acontius". A vow thus spoken in the goddess's temenos cannot be broken.[10] Pliny the Elder mentions "numerous varieties" of quince in his Natural History and describes four.[11]

The season of ripe quinces is brief: the Roman cookbook De re coquinaria of Apicius specifies in attempting to keep quinces, to select perfect unbruised fruits and keep stems and leaves intact, submerged in honey and reduced wine.[12]

Quince is used as a food plant by the larvae of some Lepidoptera species including brown-tail, *Bucculatrix bechsteinella*, *Bucculatrix pomifoliella*, *Coleophora cerasivorella*, *Coleophora malivorella*, green pug and winter moth.[citation needed]

While quince is a hardy shrub, it may develop fungal diseases in hot weather, resulting in premature leaf fall.[13] Quince leaf blight, caused by fungus *Diplocarpon mespili*, presents a threat in wet summers, causing severe leaf spotting and early defoliation, also affecting fruit to a lesser extent. It may also affect other Rosaceae plants such as hawthorn and medlar, but is typically less damaging than on quince.[14] Cedar-quince rust, caused by *Gymnosporangium clavipes*, requires two hosts to complete the fungal life cycle, one being a cedar (most commonly a juniper, *Juniperus virginiana*) and the other a rosacea. Appearing as red excrescence on various parts of the plant, it may affect quinces grown in vicinity of junipers.[15]

Quince is a hardy, drought-tolerant shrub which adapts to many soils of low to medium pH. It tolerates both shade and sun, but sunlight is required to produce larger flowers and ensure fruit ripening. It is a hardy plant that does not require much maintenance, and tolerates years without pruning or major insect and disease problems.[13] It is favored by landscape architects, such as Frederick Law Olmsted in the early 20th century, for its attractive blossoms.[citation needed]

Quince is cultivated on all continents in warm-temperate and temperate climates. It requires a cooler period of the year, with temperatures under 7 °C (45 °F), to flower properly. Propagation is done by cuttings or layering; the former method produces better plants, but they take longer to mature than by the latter. Named cultivars are propagated by cuttings or layers grafted on quince rootstock. Propagation by seed is not used commercially. Quince forms thick bushes, which must be pruned and reduced into a single stem to grow fruit-bearing trees for commercial use. The tree is self-pollinated, but it produces better yields when cross-pollinated.[13]

Fruits are typically left on the tree to ripen fully. In warmer climates, it may become soft to the point of being edible, but additional ripening may be required in cooler climates. They are

harvested in late autumn, before first frosts.[13]

Quince is also used as rootstock for certain pear cultivars.[13] The resultant chimera is called + *Piocydonia danielii*.

In Europe, quinces are commonly grown in central and southern areas where the summers are sufficiently hot for the fruit to fully ripen. They are not grown in large amounts; typically one or two quince trees are grown in a mixed orchard with several apples and other fruit trees. In the 18th-century New England colonies, for example, there was always a quince at the lower corner of the vegetable garden, Ann Leighton notes in records of Portsmouth, New Hampshire and Newburyport, Massachusetts.[16]: 243 Charlemagne directed that quinces be planted in well-stocked orchards. Quinces in England are first recorded in about 1275, when Edward I had some planted at the Tower of London.[17]

The cultivars 'Vranja' Nenadovic and 'Serbian Gold' have gained the Royal Horticultural Society's Award of Garden Merit.[19][20]

In 2021, world production of quinces was 697,563 tonnes, with Turkey and China accounting for 43% of the world total (table).

Quinces are appreciated for their intense aroma, flavour, and tartness. However, most varieties of quince are too hard and tart to be eaten raw. They may be cooked or roasted and used for jams, marmalade, jellies, or pudding.[13]

Some varieties of quince, such as 'Aromatnaya' and 'Kuganskaya' do not require cooking and can be eaten raw.[22] High in pectin, they are used to make jam, jelly and quince pudding, or they may be peeled, then roasted, baked or stewed; pectin levels diminish as the fruit ripens.[23] Long cooking with sugar turns the flesh of the fruit red due to the presence of pigmented anthocyanins.[24]

The strong flavor means they can be added in small quantities to apple pies and jam. Adding a diced quince to apple sauce will enhance the taste of the apple sauce with the chunks of relatively firm, tart quince. The term "marmalade", originally meaning a quince jam, derives from marmelo, the Portuguese word for this fruit.[25][26][27]

Quince cheese is firm, sticky, sweet reddish hard paste made from the quince fruit, and originating from the Iberian peninsula. It is known as marmelada across the Portuguese-speaking world and as carne de membrillo or dulce de membrillo across the Spanish-speaking world, where it is used in a variety of recipes, eaten in sandwiches and with cheese, traditionally manchego cheese, or accompanying fresh curds. In Chile, boiled quince is popular in desserts such as the murta con membrillo that combines Chilean guava with quince.[citation needed]

A raw quince is 84% water, 15% carbohydrates, and contains negligible fat and protein (table). In a 100-gram (3+1/2-ounce) reference amount, the fruit provides 238 kilojoules (57 kilocalories) of food energy and a moderate amount of vitamin C (18% of the Daily Value), with no other micronutrients in significant percentage of the Daily Value (table).

In the Balkans and elsewhere, quince eau-de-vie (rakija) is made. For a quince rakija, ripe fruits of sweeter varieties are washed and cleared of rot and seeds, then crushed or minced, mixed with cold or boiling sweetened water and yeast, and left for several weeks to ferment.

The fermented mash is distilled once, obtaining a 20–30 ABV, or twice, producing an approximately 60% ABV liquor. The two distillates may be mixed or diluted with distilled water to obtain the final product, containing 42–43% ABV.[28][29] Traditionally, it is not aged in wooden casks.

In the Alsace region of France and the Valais region of Switzerland, liqueur de coing made from quince is used as a digestif.

In Carolina in 1709, John Lawson allowed that he was "not a fair judge of the different sorts of Quinces, which they call Brunswick, Portugal and Barbary", but he noted "of this fruit they make a wine or liquor which they call Quince-Drink, and which I approve of beyond any that their country affords, though a great deal of cider and perry is there made, The Quince-Drink most commonly purges." [30]

Quince is one of the most popular species for deciduous bonsai specimens,[13] along with related Chinese quince and Japanese quince, native to Eastern Asia.

Still-life of quinces by Vincent van Gogh (1887), Albertinum, Dresden

Closeup of Russian 'Aromatnaya' quinces

Ripe Constantinople apple quinces from the Vogelsberg

