

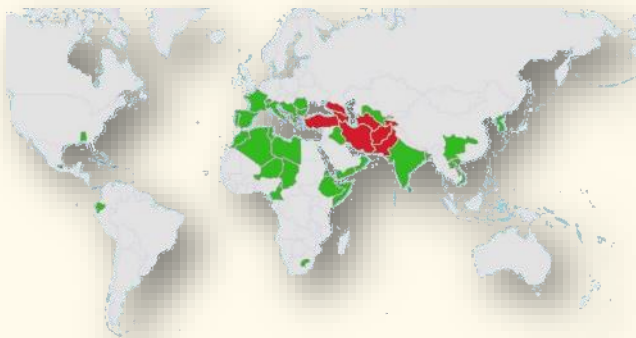
Pomegranate

Punica granatum

In June, newspapers and magazines around the world reported a remarkable discovery from the 2000-year-old ruins of Pompeii – a newly excavated fresco portraying the *first ever* image of an Italian pizza. It depicted a flatbread near a goblet of wine, topped with dates and *pomegranate*. Of course, it's missing tomato, as they were not introduced to Italy for another 1,500 years! This reminds us of the ancient history of pomegranate cultivation, dating back to the Early Bronze Age ~ 3300 BC. Pomegranates were recognised from a carbonised exocarp (the leathery skin forming the outermost layer of the fruit) found at Tell es-Sultan on the West Bank of Palestine. Pomegranates were also known from the reign of Queen Hatshepsut (ca. 1507 – 1458 BC) in Egypt, reflecting their extensive cultivation across the Middle East. In these ancient worlds, the frequent association of pomegranates with perfume, gold and jewellery, and with houses of wealthy individuals, provides strong evidence that they were a luxury item!



Pomegranates are believed to have originated in a region extending from Türkiye on the Mediterranean to western and northern Pakistan. For millennia, they have been of great significance to many cultures and religions around the world.



World distribution of Pomegranate

▲ Natural ▲ Introduced



The recently excavated fresco found in the 2000-year-old ruins of Pompeii portraying the *first* image of a pizza.

Pomegranates have a thick, red leathery outer covering (pericarp), with a spongy white tissue (mesocarp) inside. Technically, they are classified as berries, each fruit containing multiple seeds, each of which is covered with a fleshy, crimson seed coat termed a *sarcotesta*. Although often classified as a *super food*, there has only been limited research to determine nutritional and pharmaceutical value.

Pomegranate fruits are borne on a pedicel (stalk), linking them to the plant, a source of water, sugars and nutrients. In the final stages of fruit maturation, the flow of water and nutrients slows significantly. As with many fruits in the late ripening stage, a *one-way system* operates, enabling water, sugars and nutrients to become concentrated in the fruit without any resources returning to the parent plant. This is known as *hydraulic isolation*, where xylem conduits are gradually blocked as the fruit develops. Think of grapes, where the fruit on the vine stays succulent and juicy even after the vine has become dormant, or pumpkins, where the plant eventually withers and dies, but the pumpkins themselves stay solid and full of moisture. In pomegranates, the combination of hydraulic isolation and the exceptionally tough outer coverings of the fruit make them ideal plants for cultivation in arid and semi-arid regions of the world and substantially increases their post-harvest shelf life.



Photo: Mehr News Agency. Golrokh Askarieh. Making pomegranate molasses. Pomegranate Festival in Southern Iran. *Iran Front Page*. <https://ifpnews.com/pomegranate-festival-in-southern-iran-photos/>

Finally, pomegranates are classified as *non-climacteric*. *Climacteric* fruits, such as mangoes, bananas, avocados and apples, can ripen after they have been harvested as a result of rapid respiration and a burst of the hormone ethylene. *Non-climacteric* fruits such as pomegranates, strawberries, grapes don't have a peak in respiration or ethylene production as they ripen, so need to be harvested when they are fully ripe.



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Wikipedia: <https://en.wikipedia.org/wiki/Pomegranate>

Alison Downing, Brian Atwell, Karen Marais, Kevin Downing
School of Natural Sciences



Pomegranates in a bazaar in north-western China, they were introduced to China during the Han dynasty (207 BCE to 220 CE).



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