Miracle fruit

Synsepalum dulcificum

Miracle fruit, (*Synsepalum dulcificum*), also called **miracle berry**, evergreen shrub of the family Sapotaceae, grown for its mild fruits that make subsequently eaten sour foods taste sweet. The miracle fruit plant is native to tropical West Africa, where it is used locally to sweeten palm wine and other beverages. The unrelated sweet prayer plant (*Thaumatococcus daniellii*) is also known as miracle fruit for its similar ability to make sour foods taste sweet.

The miracle fruit plant grows as a dense shrub or small tree, usually not more than 5.5 metres (18 feet) in height in the wild and generally smaller when cultivated. The simple leaves are oval and tapering at the base with smooth margins and feature a waxy underside; they grow in spirelike clusters at the ends of small branches. The small white flowers give rise to red drupe fruits that are about 2–3 cm (0.8–1.2 inches) in length. Plants typically begin producing fruit after three or four years and require acidic soil.

The flavour-altering mechanism of miracle fruit is due to a glycoprotein named miraculin, which was first isolated by Japanese researcher Kenzo Kurihara in 1968. Although miraculin itself is not sweet, it binds to receptors on the taste buds and causes acidic foods to be perceived as sweet. The effect typically lasts from a half hour to two hours, with the intensity declining over time. The fruit has been proposed as a treatment for the taste changes experienced by some chemotherapy patients, though further studies are needed. In the United States an attempt was made in the 1970s to commercialize the fruit extract as a low-calorie or noncaloric sweetener for use by diabetics and dieters, but the U.S. Food and Drug Administration (FDA) classified the product as a food additive requiring further safety testing, and the venture was abandoned. Similarly, the European Union required a safety assessment before miracle fruit extracts could be used as a food additive, though miraculin has been approved in Japan. The purchase of powdered or whole fruits is legal in most places, and the fruit is commonly consumed as a novelty.