



Source: [Papaya](#) | [FAOSTAT](#) | [Infonet Biovision](#)

Watch Out For:

- pests and diseases.
- Calcium deficiency. It depresses growth and fruit set and enhances fruit drop. Liming of soil (to a pH of about 6) is the remedy.

Papaya (*Carica papaya*) is considered one of the most important fruits because it is a rich source of antioxidant nutrients (e.g., carotenes, vitamin C, and flavonoids), the B vitamins (e.g., folate and pantothenic acid), minerals (e.g., potassium and magnesium), and fiber. In addition, papaya is a source of the digestive enzyme papain, which is used as an industrial ingredient in brewing, meat tenderizing, pharmaceuticals, beauty products, and cosmetics. Papaya is native to Central America and is grown in tropical and warmer subtropical areas worldwide. Global papaya production amounted to just over 14 million metric tons in 2021, a decrease from around 14.2 million metric tons in 2020 (FAOSTAT).

Papaya thrives in warm areas with adequate rainfall and a temperature range of 21-33°C. Its altitude range is often around 1600 m. However, they grow best in areas below 1000 m. The quality and yield are low at higher altitudes. Frost can kill the plant, and cool and overcast weather delays fruit ripening and depresses fruit quality. Fruit tastes much better when grown during a warm sunny season. Evenly distributed annual rainfall of 1200 mm is sufficient if water conservation practices are employed. Plantations should be in sheltered locations or surrounded by windbreaks; strong winds are detrimental, particularly on sandy soils, as they cannot make up for large transpiration losses.

Papaya grows best in light, well-drained soils rich in organic matter with a soil pH of 6.0-6.5. It can tolerate any kind of soil provided it is well-drained and not too dry. The roots are very sensitive to water logging and even short periods of flooding can kill the plants.

Papaya is propagated by seed. To reproduce the desired characteristics, it is best to get seeds through controlled pollination. The fleshy outer layer of the seed coat (sarcotesta) enveloping the seed is removed because it inhibits germination. This is achieved by rubbing the seed together against a fine-meshed screen under running water. Thoroughly dried seeds stored in air-tight containers remain viable for several years. Seeds are sown in small containers (tin cans, plastic bags, or paper cups) at the rate of 3-4 seeds per container. The use of sterilized soil minimizes losses resulting from nematodes and damping-

off fungi. Germination takes 2-3 weeks. Another practice is to sow the seeds in sterilized nursery beds and to prick out at the 2-3-leaf stage, transferring 3-4 seedlings to each container. Seedlings are transplanted about 2 months after sowing when they reach the 3-4-leaf stage or 20 cm height, preferably at the onset of the rainy season. During transplanting, take care not to disturb the roots. Older seedlings recover poorly after planting out.

Papaya needs adequate drainage and is often planted on mounds or ridges. Transplants must be watered regularly until they are established. Field spacings are in the order of 3 x 2 m to 2.50 x 1.60 m, giving densities of 1667 and 2500 plants/ha (4,167 and 6,250 plants/acre) respectively. The same densities are obtained by planting in double rows spaced (3.25+1.75) x 2.40 m or (2.50+1.50) x 2 m. Thinning to one female or one hermaphrodite plant per hill is done when the plants reach the flowering stage. In the absence of hermaphrodite plants, 1 male plant per 25 - 100 female plants is retained as a pollinator.