



Pineapple (*Ananas comosus*) is a tropical perennial plant from the Bromeliaceae family. Its name refers to its pine-conifer-like shape.

After the pineapple produces its first fruit, it produces side shoots (called suckers) in the leaf axils of its main stem that form the base for new growth. It grows up to 1-1.5 meters tall and develops a short, stocky stem.

A pineapple fruit develops from 50-200 individual flowers fused together to form a multiple fruit - piney hexagons connected to the fruit pulp. The fruit can reach 30 cm height and 1-3 kg weight. Pineapple is a parthenocarpic fruit- it has no seeds at all, and each plant produces only one fruit from its stem.

Pineapple has two growing stages: the pre-flowering stage takes 12-18 months from planting, and the post-flowering stage lasts for another 6-12 months. The date of flowering is usually controlled by spraying synthetic ethylene and urea, depending on the stage of reproduction (12-16 months after planting).

The pineapple plant combines tropical and desert characters, using CAM photosynthetic mechanism. Since its stomata are only open at night to adsorb CO₂, it allows a beneficial water economy. That feature is used by growers to apply foliar fertilizer through the foliage in the winter while roots are at their dormant stage.

Pineapples are best grown at a high temperature and a high level of moisture, without direct sunlight, on a low pH, well-drained soil.

Global pineapple production amounted to 25.8 million tons in 2016, mainly from Costa Rica, Brazil, and the Philippines. As most of the pineapple is consumed in the country of manufacture, pineapple accounts for 20% of tropical fruit production worldwide. Nowadays, there are more than 100 known cultivars of pineapple, but only 8 grown commercially, as yield is usually 4-8 tons/dunam according to the cultivar.

Pineapple is a non-common crop in Israel, only 1500 dunam. The main cultivars are the US cultivar MD-2, Queen from South Africa, and Cayenne from the north of Brazil. Typically, in Israel, pineapples are grown on greenhouses or plastic tunnels; in the winter (November-April), they are covered with plastic to avoid the cold; and in the summer, they are covered with 50% shade net to avoid direct sunlight. recommendation is to plant around 5,000-7,000 plants per dunam.





Fertilization

First, before planting it is recommended to sample soil from 0-30 cm depth, to get an insight about nutrient quantity: nitrogen, phosphorous, and potassium. Furthermore, it is best to check EC and pH levels, chlorides, and sodium.

There are several protocols considering pineapple fertilization. Some growers apply fertilization by fogger, and others use fertigation by the dripping system. Fertilizing by fogger is less efficient than fertigation by drippers, so you should apply a higher dose of fertilizer. Further than that, fertilization management also depends on the medium- the type of soil or substrate. Constant fertilization of NPK should be applied while growing on soilless media. Calcium, magnesium, and microelements should also be added depending on irrigation water, plant medium, and the plant's developing stage.

We recommend fertilizing with two different fertilizers compounds, one for each stage. During the vegetative phase (12-18 months) we recommend using **Gatit 21-7-21 + TE** with a total of 30 kg nitrogen/dunam. After flowering and until harvest, **Gatit 17-9-27 +TE**, with a total amount of 15 kg/dunam, is the appropriate compound. Usually, the fertilizer applied is chloride-free, with magnesium and calcium supply as needed.

All fertilizing instruction are recommendation only. To adjust a proper fertilization program to your plantation, please contact our agronomist team.

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references:

1. "Agrotechnics of pineapple growing in Israel", 2017, guiding services, Ministry of Agriculture, Israel; Southern R&D.
2. "Genosar-agro"
3. Exotic fruit association in Israel.

