



The herb sector caters to diverse types, growing methods, and markets, of which there are two groups, fresh and dried. Fresh herbs are considered one of Israel's most important agricultural export sectors to which some 1,000 ha out of a total of 3,000 ha are devoted. Much effort is therefore devoted to research, cultivation, and marketing. The major crops are parsley, coriander, dill, mint, basil, chives, and rocket. Herbs are grown both in fields and greenhouses. Half the greenhouse crops are grown hydroponically (in soilless).

Export quality crops must have good leaf and stalk color and form, and good shelf life. Quality can be diminished by over-irrigation, lack of aeration, surplus/ lack of nitrogen and/ or phosphorous, and lack of microelements causing chlorosis, affecting crop quality and quantity. Precise irrigation and fertilization are vital for abundant, high-quality fresh produce.



Common principles for a diverse herb nutrition interface

1. **Soil:** for soil-based crops should be tested for nitrogen, phosphorous, and potassium, as well as EC salinity, chloride, and sodium, to a depth of 30 cm before the growing season.
2. **Phosphorous:** Recommended Olsen P levels – 25 ppm for seasonal crops and 40 ppm for perennial crops. If deficient, Gat Mono Ammonium Phosphate (12-51-0) is recommended for spreading on beds or furrows in the bed center.





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Herb Fertilization Tips

3. **Potassium:** leaching solution potassium levels should exceed $\Delta F=3200$ or according to the CaCl_2 leaching method should exceed 90 mg kg soil. If potassium is deficient, potassium chloride (0-0-61) should be spread on beds or furrows in the bed center as follows:
- Established herb plots that have received base dressing (pre-planting fertilization) for reaching required phosphorus and potassium levels, fertilizer NPK ratio should equal 1:1. Surplus potassium is potentially harmful .
 - At the establishment stage when grown in soil, Elite/ Tov liquid fertilizer is recommended depending on crop requirements and deficiencies at 1000 gr/ ha/ day Nitrogen.
 - From sprouting to full coverage and harvesting, the same fertilizer solution according to requirements is recommended, possibly using nitrogen only – ammonium Nitrate/Uran.
 - Adding Ferrogat (liquid iron chelates) and or Orchard Micro-Gat (enhanced concentration of manganese and zinc) or Micro-Gat (iron, manganese, zinc chelate) is recommended if necessary.
 - In light (sandy) soils, low Cl, complex fertilizers.
 - For hydroponically grown herbs, complex Cl, and urea free fertilizers such as Shaphir/ Or/ Shaphir Sulphate with added Micro-Gat, summer – 3%, winter 6%. N : P_2O_5 : K_2O ratios and fertilizer composition and quantity to be determined by bed type, desired PH values and water quality.
 - On desalinated, water irrigated plots, light soils or hydroponic beds, calcium and magnesium deficiencies should be supplemented with a Yamit Fertilizer solution and Shaphir Fertilizer fertigation for nitrogen, phosphorus, potassium, and microelements, or else OR Fertilizer complex containing both calcium and magnesium.
 - Herbs planted in light soils and hydroponic beds, fertigation monitoring systems such as Internet-based tensiometers, and Soil water Extractors.

This fertilization advice is a recommendation only.

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