



Carrots belong to the Umbelliferae family, including vegetables and herbs such as celery, parsley, fennel, and coriander. During the initial growing stage, carrots develop leaves and a taproot. Once taproot is sufficiently developed and the plant is exposed to enough chilling units, its stem develops, which grows to a considerable height. The stem splits into side branches ending in a canopy-shaped inflorescence. The seeds remain in the dried fruit, containing one seed per fruit. The seeds contain essential oils, giving them their unique aroma.

The taproot develops in three stages: at first, immediately after germination, long spear-like roots grow. In the second stage, taproot thickens and grows longer. At this point, the taproot turns orange. In the third stage, taproot doesn't get any longer but just continues to thicken. Roots of carrots grow in light, well-drained soil, which allows the taproot to grow freely. It is sensitive to high water levels, particularly during the winter when it is growing. Therefore, irrigation should be controlled using remote tensiometers. Israel's main carrot growing region is the Negev (desert/sandy), but carrots can also be grown in all other parts of the country. To set fertilization management for carrots, we recommend conducting soil tests, preferably from 0-30 cm deep.

Phosphorus

We recommend fertilizing with phosphorus if soil tests report a phosphorus value below 25 ppm using the Olsen method. In case of deficiency, base dressing using strip-till should be carried with **Gat MAP (12-51-0)**. **Gat MAP contains ammonium, enabling essential nitrogen supplement for initial growth.**

Potassium

Potassium fertilization is required at potassium value below 80-100 ppm, using CaCl_2 extraction. In case of deficiency, base dressing fertilization should be carried with **Potassium Chloride fertilizer (0-0-61)**.





Grano blend – solid fertilizer adjusted for application in growing carrots. This fertilizer is composed of varying proportions of Nitrogen, Phosphorus, and Potassium, according to growing requirements and soil tests. Phosphorus and potassium supplements should be applied with Grano blend at a rate appropriate to current deficiencies in the field. Part of the nitrogen fertilization can also be mixed into the formula. **The great advantage of this fertilizer is its formulation flexibility and excellent adaptability for supplementing variably proportioned deficiencies.**

Nitrogen

Carrots don't require a high level of nitrogen fertilizer, 12-17 kg per dunam throughout the season. Fertilizing can be done by fertigation using solutions of **UAN 32%**, **UAN 35%**, or **Ammonium nitrate 21%** in the summer, and **Ammonium nitrate 18%** in the winter.

Blue fertilizers

Carrot plants do not deepen their roots, so irrigation is done in brief cycles. Therefore, it is recommended to fertilize using nitrogen solutions, for which the source of nitrogen is ammonium or Urea with a "Blue" additive. **Urea-Blue; Nitrification inhibitor that reduce nitrogen leaching below the root zone (UAN Blue 32%, Urea blue solution 21%)**. Particularly for soil with a high percentage of sand. In addition to reducing leaching, increased nitrogen concentration as ammonium significantly improves the availability of phosphorus to the plant.

Bio Humigat – it is recommended to combine our leading product, **Bio Humigat**, a bio-stimulant that encourages expansion of the root system, improves absorption of nutrients, and improves resistance to stress. **Bio Humigat** combines and mixes excellently with all types of fertilizer.





GaTense Irrigation control system

To irrigate at the right time with the necessary amount, we recommend using the remote notification, advanced control system, **GaTense**, produced by **Gat Fertilizers**. The system includes tensiometers – that monitor ground water pressure and ground temperature measurement, which contribute to receiving cumulative Growing degree days (GDD) data beginning with the planting date, according to a unique formula for carrots. Computing GDD is necessary to establish the optimal date for applying broomrape herbicides.

Probe suction monitoring

Installation of the Probe suction in the field enables continuous monitoring of the nitrogen level and salinity components in the root zone.

Gat Fertilizers professional staff of agronomists are experienced in providing appropriate solutions for growing carrots. For any question, contact Gat Fertilizers export agronomists' team.

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Sources:

[Fertilizing Carrots, Michal Kanot, Gat Fertilizers](#)

