



Corn, Maize, *Zea Mayz* (Scientific name) is a cereal plant, is the most widespread agricultural crop in the world, followed by wheat and rice.

In Israel, corn plays a key role in the sowing cycle of field crops.

The growing season of corn is short (80-120 days) while production capacity per Hectare is rather high.

Corn Nutrients Consumption –

Rate and timing of nutrients absorption is essential for the plant development stages.

- 35–25 days from sowing date - Germination stage until appearance of male inflorescence. Characterized by intensive development of roots, slow growth of leaves. The plant absorbs about 5% of the total seasonal consumption of nitrogen, phosphorus, and potassium.
- 25-35 days from appearance of male inflorescence. Characterized by intensive vegetative growth male inflorescence blooms and the plant stops producing new leaves. From the total seasonal nutrient consumption, the plant absorbs about 45% of nitrogen, about 35% of phosphorus and about 70% of potassium. At this stage, the plant is gaining about 30% of the weight of the dry vegetal substance.
- 6-8 days from male inflorescence to female inflorescence appear, the total seasonal nutrient consumption the plant absorbs about 75% of the nitrogen, about 55% of the phosphorus and about 90% of the potassium. At this stage, the plant is gaining about 50% of weight of the dry vegetal substance.
- 15-30 days from fecundation stage - kernel filling till ripening stage, the plant absorbs nitrogen and phosphorus residues and weight of the dry vegetal substance is doubled.

The ripening stage is set according to the purpose of the corn crop

For silage purpose, early harvest at the kernel milk stage, for cobs and industry late harvest at the kernel dough ripening stage and for popcorn late harvest when the kernel is dry.





Recommendations for Fertilization

To prepare a fertilization program, early soil fertility analysis should be carried on fertilization program and its implementation will be based on the irrigation method and fertilization systems used by the grower.

Required Amount of Nutrients

Nitrogen - N

About 300-350 kg / Hectare.

Phosphorus - P₂O₅

Phosphorus Oxide 90-160 kg / Hectare.

* Required value according to the Olsen Test 25-30 ppm. (soil analysis)

Potassium – K₂O

Potassium Oxide 420-480 kg / Hectare.

*Required value CaCl₂ 80-100 mg / kg . (soil analysis)

Nutrients Quantities should be adjusted according to the different types of soil.

It is recommended to consult our agronomists.

Basic fertilization (basal) can be carried out in the sowing bands, according to plots preparation process.

Nitrogen should be added together with **Urea "blue" 45% (Urea + Nitrogen preservative), M.A.P 12-51-0**– mono ammonium phosphate (phosphorus) and **KCl – 61%** - potassium chloride (potassium). Since this combination involves up to 3 products, we, in **Gat Fertilizers**, have created a family of solid fertilizers called "**Granu Blend**".

It is possible to produce in advance, for each plot, any combination of the 3 required nutrient elements and thus proceed to a basal fertilization in one application.

Nitrogen fertilization during growth, is usually the only fertilization supplied during fertilization season after basal fertilization.

About 250-200 kg / Hectare of nitrogen, 60 days from germination to the stage of kernel fill, about 5-7 weeks of fertilization. Optimal nitrogen fertilization is about 30-35 kg / Hectare per week.





Fertigation through dripping or sprinkling or center pivot. Within weekly application of fertilizer, required amounts of nitrogen can be set according to the consumption of corn plants development rate in the field.

In pivot irrigated plots, some farmers tend to line/row fertilization with a knife fertilizing machine, within two additional applications when it is possible to enter while supplying about 100-120 kg / Hectare of pure nitrogen in each application, about 200-240 kg / Hectare in solid **Urea** or **Uran 32%** about 240-300 liters / Hectare.

Uran "Blue" 32% which includes a nitrogen preservative, prevents nitrogen leaching to the ground depths during irrigation and thus added nitrogen is fully exploited while using precise amounts of nitrogen according to the state of the field.

In order to test efficiency of fertilization, a plants samples analysis can be performed during the growth to examine accumulation of nitrogen, phosphorus and potassium in the whole plant and thus, decide whether to increase or decrease the fertilizer doses during growth. The plants samples are performed on whole plants of about 30 cm height (leaves in stages 5-6). It has been found that values obtained in this analysis can be very efficient.

Our team of agronomists is at your disposal for the preparation and implementation an optimal fertilization program.

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