### شركة القوافل الصناعية الزراعية Al-Qawafel Ind.Agr.Co.



### Micronate 15

- A mixture of chelated microelements by Ethylene Diamine Tetra acetic and citric acids easily absorbed by plants.
- Effectively treats and resists yellowish problems that appear as a result of micronutrient deficiency.
- Rich with organic acids, amino acids and the vitamins needed for plants and increases growth.
- Contains special additives and spreading components, which maximizes the benefits achieved from the available nutrients.
- Provides fresh leaves and increases plant resistance to frost and weather changes.
- Easily absorbed by leaves through foliar application or through the roots by soil application.
- Used for protection and treatment of nutrient deficiency.
  - Apply the minimum rate when used for protection.
  - Apply the maximum rate when used for treatment.
- To prevent micronutrient deficiency, it is recommended to use Micronate 15 during the stages of growth and fruiting.
- Recommended for mix deficiency of micronutrients.
- For treatment, Micronate 15 should be used every 1 − 2 weeks when deficiency symptoms appear on the plant.

Micro- nutrient	Role in Plant	Deficiency
Copper	Protein building. Activating element for many enzymes specially the photosynthesis process. Decreases the early destruction of chlorophyll.	Curling of the leaves.  Dieback in citrus.  Defoliation in new growth tips.
Iron	Chlorophyll synthesis (green stain) Necessary for photosynthesis and plant respiration. Essential for protein synthesis. Essential for Nuclear acid synthesis (RNA).	Chlorosis of new leaves appearing in the form of yellow blades while the leaves remain green. (In case of severe deficiency, the yellowish color will cover the leaf surface including the veins.  Death of growing leaves tips and edges.  Dieback on the tree tip or end of branches and stems in case of severe deficiency.  The deficiency symptoms on the field crops appear as yellow and green alternative lines along the leaf's surface.
Zinc	Activation of certain enzymes necessary for plants. Plays a role in the formation of chlorophyll and protein synthesis.	Little leaves especially in the growing tips. Rosette of apple due to shortening of the inter nodes. Spots and yellowing of main veins on new leaves. Spots on citrus leaves.

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	Amine acid synthesis (Tryptophane) composed of the plant hormone (IAA) endole acetic acid needed for cell elongation.	In tomatoes, stunted growth (dwarfism), thin stems, upwards bending of leaves and irregular leaf spots.
Boron	Synthesis of plant hormones. Activates enzymes reactions. Facilitates sugar movements through cellular membranes and controls the conversion of starch to sugar inside plant cells. Regulates osmosis pressure in plants with other elements through increasing plants' ability for potassium absorption.	Plant stunting (dwarfism), death of lateral nodes and tips of branches.  Deterioration and curling of leaves.  Decrease of fruits production, small fruits with deterioration.  Hen and chicken disease on grapes. Very small berries near big berries in the same cluster.
Magnesium	Plays a role in building chlorophyll particles. Activates many enzymes. Essential for producing energy ATP. Protein building. Initiates plant hormones.	Interveinal chlorosis on old leaves. Defoliation (Brush disease). Fruit dropping before maturity.
Manganese	Essential for the photosynthesis process in plants. Chlorophyll synthesis. Regulates osmosis pressure in plants. Participates in enzymes reactions.	Interveinal chlorosis: starts with moderate leaves then young leaves and then old leaves. (Veins and leaf tissues surrounding the veins remain green) Holes in leaves, in addition to tearing and dropping parts of leaf edges.

- Micronate 15 can be used effectively as foliar application.
- Using Micronate 15 through foliar application is considered the best method of application due to the following reasons:
  - The simple absorption and moving the Micronate 15 elements from the leaf surface to the inside of the plant.
  - The complete benefit will be achieved as it increases fertilization efficiency.
  - A fast method to overcome the deficiency of micronutrients during high growing periods.
  - More efficient in providing short seasonal crops such as field crops and some vegetables.
  - Lower costs as the Micronate 15 can be added as a part of the protection program.
  - Solves the variation in soil fertility as it saves crops' needs of micronutrients without solving the fertility problems inside the farm.
  - Helps in turning red of stabilizing micronutrients in the soil.

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Application:

	Crops	Usage
Foliar Application	Vegetables	200-250 g / 200 L of water
	Fruit trees	250-300 g /200 L of water
	Banana	1-2 kg / Ha, 5-10 times during vegetative growth
	Field crops	1-2: kg / Ha
	Ornamental plants	10-20 g / 20 L of water
Soil Application	Green House vegetables	250-500 g / house (500 m <sup>2</sup> )
	Open Field vegetables	250-500 g / 1000 m <sup>2</sup>
	Fruit trees	50-100 g / tree depending on type and age.
	Banana	100-200 g / 1000 L of irrigation water every 2-3 weeks
Fertigation		10-20 g / 100 L of water

#### **Chemical Composition:**

Content	Percent
Iron (Fe) EDTA Chelated Citric Acid	4.00%
Zinc (Zn) EDTA Chelated Citric Acid	4.00%
Manganese (Mn) EDTA Chelated Citric Acid	3.00%
Magnesium (Mg) EDTA Chelated Citric Acid	2.00%
Boron (B)	1.50%
Copper (Cu) EDTA Chelated Citric Acid	0.50%
Molybdenum (Mo)	0.05%

Packing: 1 kg, 5 kg