

Why are micronutrients important in every formula?

The micronutrient Miller adds	Why the plant needs this micronutrient	The symptoms the plant shows if it does not get enough of this micronutrient
BORON (B)	<ul style="list-style-type: none"> - Essential for reproduction. - Important for early growth and flowering. - Maintains an excellent balance between sugar and starch. - Necessary for shoot and root tip development. 	<ul style="list-style-type: none"> - Terminal growth dies. - Fruits are small and malformed. - Fruits will probably be discolored
COPPER (Cu)	<ul style="list-style-type: none"> - Essential for photosynthesis. - Helps to develop color and flavor - Required for chlorophyll formation. - Is critical for plant photosynthesis. 	<ul style="list-style-type: none"> - Leaf yellowing. - Stunted growth. - Undersized fruit. - Shoot die-back. - Brown spots on terminal leaves
IRON (Fe)	<ul style="list-style-type: none"> - Required for chlorophyll formation. - Helps energy transfer. - Activator for enzymes that control respiration of the plant. - A very important enzyme component. 	<ul style="list-style-type: none"> - Chlorosis on leaves.
MAGNESIUM (Mg)	<ul style="list-style-type: none"> - Assist in use of phosphorus. - Neutralizes organic acids. - Aids in seed germination. - Promotes early growth. - Helps formation of amino acids, vitamins, sugars, oils and fats. - Enzyme activator. - Very essential for chlorophyll synthesis and nitrogen metabolism 	<ul style="list-style-type: none"> - Yellow leaves with green veins. - Drooping leaves as if the plant lacked water. - Old leaves show chlorosis.
MANGANESE (Mn)	<ul style="list-style-type: none"> - Aids in nitrogen utilization and assimilation by the plant. - Assimilates CO₂ in photosynthesis. - Very essential for phosphorus and magnesium uptake by the plant. - Aids in chlorophyll synthesis. 	<ul style="list-style-type: none"> - Some crop stunting. - Chlorosis appears on old leaves.
MOLYBDENUM (Mo)	<ul style="list-style-type: none"> - Enzyme activator. - Aids in formation and regulation of hormones. - Important for flower formation. 	<ul style="list-style-type: none"> - Reduced growth. - Reduced fruit set. - Some crop tuning.
ZINC (Zn)	<ul style="list-style-type: none"> - Helps in synthesis of plant hormones (auxins) and protein. - Essential for seed formation. - Enzyme activator. - Help in calcium translocation. - Increased fruit size and quality. 	<ul style="list-style-type: none"> - Stunted growth. - Leaves are small and often yellow in color. - Reduced fruit set. - Reduced fruit size. - Chlorosis on old leaves.

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High performance Nutrileaf®, Nutri-Chem® and Sol-U-Gro® foliar fertilizers



Precision fertilizers for precision farming
... for over 60 years

Superior Foliar Fertilizers for Precision Farming

Miller Chemical & Fertilizer Company has been producing foliar fertilizers for over 60 years. Their expertise has given them an un-surpassed position in the USA, Europe and international precision foliar fertilizer markets.

Growers of high quality flower, horticultural and agricultural crops must be certain that their foliar fertilizer is free of impurities such as chlorine, biuret and other impurities which can harm the valuable crop. Also the ingredients must be highly soluble, meaning that the dissolved nutrients will be readily available to the plant and will not block spray or fertigation equipment.

Miller is recognized as being one of the world's leaders in the production of high quality precision foliar nutrients.

Why are Miller formulas superior to other foliar fertilizers circulating in the world market?

Miller carefully selects the ingredients for its fertilizers from trustworthy sources and these are combined in such a way to achieve a chemical and physically optimum product. Miller formulas dissolve fully. Miller's foliar fertilizers are the safest available for use on crops.

The rules that Miller uses to produce their formulas are outlined below:



1. Use raw materials that are free of chlorine

The potassium nitrate that Miller uses is FOOD GRADE and the same quality that is used for food preservation. It is free of chlorine and other impurities. Most other foliar fertilizer products contain low quality potassium nitrate or potassium chloride that contain large amounts of chlorine and other harmful impurities.

Similarly the ammoniated phosphates (DAP and MAP) are FOOD GRADE and are virtually free of chlorine. Most other manufacturers use agricultural grade which is normally harder to dissolve in the spray tank.

2. The Urea is "Slow-Prilled"

The production of Urea produces a bi-product called biuret. Biuret is harmful to treated crops because it can cause phyto-toxicity to foliage, flowers and fruit. Some crops such as citrus and flowers are particularly sensitive to biuret. Miller uses only slow prilled and hence low biuret urea (higher cost).



3. Only EDTA chelated metals that are 100% chelated are used

Every Miller formula contains a full complement of trace elements. The metals (Fe, Zn, Mn, Cu...) are 100% chelated. This means they won't react with the phosphates in the spray solution, and a higher proportion enter the leaf.

4. Raw materials are Ground and Blended (not just blended)

The manufacturing process of the final formula involves carefully grinding the fertilizer to a fine and uniform particle size. It is highly soluble and ideal for both foliar spraying or use through drip irrigation systems. Most other formulas blend the ingredients giving un-even distribution of the ingredients and nozzle blockages are common.

Micronutrients common to each formula:

Boron (B)	0.02% from sodium borate
Copper (Cu)	0.05% chelated EDTA
Iron (Fe)	0.10% chelated EDTA
Manganese (Mn)	0.05% chelated EDTA
Zinc (Zn)	0.05% chelated EDTA
Magnesium (Mg)	0.0251% chelated EDTA
Molybdenum (Mo)	0.0005% from ammonium molybdenum

Precision Formulas for Every Need

Formula	NPK ratio	Application timing	Nitrogen (N)	N-NO ₃	N-NH ₄	Urea	P ₂ O ₅	K ₂ O
20.20.20	1/1/1	General use during the growing season; depending on specific needs, substitute with other formulas	20%	6%	5.2%	8.8%	20%	20%
30.10.10	3/1/1	When the plant requires ready available Nitrogen: <ul style="list-style-type: none"> With adverse climatic conditions. In cereals from tillering phase to stem elongation 	30%	3%	3.7%	23.3%	10%	10%
12.48.8	1.5/6/1	When the plant has a high demand for phosphorus: <ul style="list-style-type: none"> At transplanting to improve the vigor of the root system. At bloom to increase fruit set. Late season in fruit trees to secure bud formation for the forthcoming spring 	12%	2.4%	9.6%	...	48%	8%
9.15.30	1/1.6/3.3	During periods of high demand for potassium such as fruiting and maturation as well as to increase blooming and storage quality of ornamentals.	9%	5%	4%	...	15%	30%

Usage recommendation

Tank Capacity	Rate of Nutrileaf
10L	25g
16L	40g
20L (pre-mix)	50g
300L	750g

Apply fertilizer on a regular spray cycle every 7 - 10 days for annual crops and every 2 weeks for perennial crops

