



# Tech Talk: Plant Fuel



**Product Purpose:**

Designed specifically for growing indoor foliage crops, vegetables, herbs and other consumables...

**Product composition:** Sunshine Advanced Plant Fuels are formulated from the highest quality professional grade raw materials to optimize vegetative plant growth and blooming. Both formulations were developed as complete, all in one products. Users just add to water—no other blending or mixing required.

## Max Grow Formula 4-1-5

### Guaranteed Analysis

Total Nitrogen (N).....	4%
0.75% Ammoniacal Nitrogen	
3.25% Nitrate Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ).....	1%
Soluble Potash (K <sub>2</sub> O) .....	5%
Calcium (Ca).....	1%
Magnesium (Mg).....	0.3%
0.3% Water Soluble Magnesium (Mg)	
Boron (B) .....	0.005%
Copper (Cu) .....	0.005%
0.005% Chelated Copper (Cu)	
Iron (Fe) .....	0.14%
0.14% Chelated Iron (Fe)	
Manganese (Mn) .....	0.04%
0.04% Chelated Manganese	
Molybdenum (Mo) .....	0.003%
Zinc (Zn).....	0.005%
0.005% Chelated Zinc (Zn)	

**DERIVED FROM:** Ammonium Nitrate, Calcium Nitrate, Potassium Nitrate, Magnesium Nitrate, Potassium Phosphate, Boric Acid, Copper EDTA, Iron EDTA, Iron EDDHA, Manganese EDTA, Zinc EDTA, Sodium Molybdate.

## Max Flowers Formula 1-4-5

### Guaranteed Analysis

Total Nitrogen (N).....	1%
0.2% Ammoniacal Nitrogen	
0.8% Nitrate Nitrogen	
Available Phosphate (P <sub>2</sub> O <sub>5</sub> ).....	4%
Soluble Potash (K <sub>2</sub> O) .....	5%
Magnesium (Mg).....	0.66%
0.66% Water Soluble Magnesium (Mg)	
Sulfur (S) (Combined) .....	0.88%
Boron (B) .....	0.003%
Copper (Cu) .....	0.003%
0.003% Chelated Copper (Cu)	
Iron (Fe) .....	0.1%
0.1% Chelated Iron (Fe)	
Manganese (Mn) .....	0.03%
0.03% Chelated Manganese	
Molybdenum (Mo) .....	0.0004%
Zinc (Zn).....	0.004%
0.004% Chelated Zinc (Zn)	

**DERIVED FROM:** Potassium Nitrate, Ammonium Phosphate, Magnesium Sulfate, Potassium Phosphate, Boric Acid, Copper EDTA, Iron EDTA, Iron EDDHA, Manganese EDTA, Zinc EDTA, Sodium Molybdate.

- Max Grow is formulated to deliver a high performing, quality crop with improved vegetative growth, as well as vigorous stem strength and deep foliage color.
- Max Flowers is formulated to deliver a complete nutrient package for the flowering and fruiting stages of your crops, for higher yields and increased performance.

**Rationale of each ingredient:**

SS Advanced Plant Fuels have all of the essential nutrients required for high performing crops. These scientifically derived formulas contain *High Nitrate Nitrogen* for enhanced availability and uptake of Nitrogen. The Plant Fuels also contain *high potassium* which provides energy for abundant fruit production. The *specialized blend of Chelated Micronutrients (including Iron and Manganese)* ensures that the plants derive the full use and benefit from all essential nutrients. In addition, these formulas were developed to ensure complete nutrient availability over a wide pH range.

### *Professional Grower Formulas:*

Our Sunshine Advanced Plant Fuels are formulated the same way we manufacture nutrient products for the commercial nursery and greenhouse markets. Sunshine fertilizers were originally developed for the professional greenhouse grower and have been used on many flowering crops across North America for over 20 years (?). Ongoing growth trials in our greenhouses ensure that Sunshine Advanced will continue to provide optimized results.

### *Cultivation tips:*

Sunshine Advanced Plant Fuel Max Grow formula is designed for use as a complete nutrient feed for the vegetative stages of production. You should start your own feed program within 7 days of planting or seedling emergence. Our Grow formula is designed with a low Phosphorus charge in order to help grow compact lush plants and to help your Mycorrhizal colony establish. Mycorrhizae prefer a low phosphorus feed for optimal growth and establishment. Continue using Max Grow during the plant's active foliar growth stage.

Sunshine Advanced Plant Fuel Max Flowers formula is designed for use as a complete nutrient feed for the flowering/bloom phase of the crop cycle. Our Max Flowers formula is designed with a high phosphorus and potassium charge to deliver more energy to maximize your plants' flower and fruit production. Change over to the Max Flowers formula when shifting from vegetative to flowering cycle.

Maintain your pH levels between 5.5 and 7.0 after adding all of your nutrients.

### Frequently Asked Questions:

1. How is Sunshine Advanced Plant Fuel different from other nutrient products?  
Sunshine Advanced Plant Fuel Max Grow Formula can be used as an all in one stand alone formula for the vegetative growth phases of your crop. Sunshine Advanced Plant Fuel Max Flowers formula can also be used as an all in one formula during the flowering/fruitletting stage of your crop. Sunshine Advanced Plant Fuel only uses professional grade raw materials, which ensures the highest level of solubility with no contaminants.
2. Can I use additional nutrients in my tank with Sunshine Advanced Plant Fuel?  
Many growers have their favorite additives and supplements that they like to add into their recipes. Make sure to do a "Jar test". Sample the combination of nutrients in a jar at the planned dilution rates to ensure compatibility. Don't mix nutrients in their concentrated form, only mix once diluted.
3. What is the difference between Chelated and Sulfated micronutrients?  
Micronutrients formulated from Sulfates are water soluble, and immediately available, but also can be "tied up" (unavailable to your plants) in your soil or nutrient chemistry. Chelated micronutrients are specifically used in order to maintain their availability to the plant without being tied up prior to their uptake and utilization by the plant.
4. What kind of water should I use in my system?  
Use un-chlorinated water in your nutrient system. Test your water prior to use in your growing system to ensure that your alkalinity is not too high. High alkalinity can be neutralized through the use of acidification in your nutrient tank.
5. What are the benefits of a low phosphorus during the vegetative stage of your nutrient program?  
Lower phosphorus nutrient programs have been shown to keep plants from stretching, and encourage lush, compact growth. Low phosphorus also benefits the establishment of a mycorrhizal colony for vigorous root growth.
6. Where can I go for more information on Sunshine Advanced products?  
You can refer to our website at [www.SunshineAdvanced.com](http://www.SunshineAdvanced.com) or [www.sunagro.com](http://www.sunagro.com) to find additional information on all Sun Gro Horticulture products.