

MetaGrow 5X+ includes an extremely broad spectrum biology (20,000+ species) including bacteria, fungi, archaea, actinomycetes, yeast, micro-algae, bacteria phages and Mycorrhizae. **5X+** has the highest species diversity and population counts of any microbial inoculant (1×10^{11} microbes per ml = 5 billion per drop, which is 1,000 times more microbes/ml than competitor products at 1×10^8).

5X+ is 5 times the concentration of our foundational product, **MetaGrow ST**.

5X+ is in a liquid, shelf-stable, durable and easy to apply form.

5X+ is designed to restore your entire soil biology, not just a few species like other microbe products.

The microbial community in **5X+** provides nutrients to the plant (at the right time, right form and right ratios) based on root exudate signals directed by the plant— which in turn results in a healthier more robust plant and a reduction in the need for applied fertilizer, saving on fertilizer and other input costs.

PLANT BENEFICIAL FUNCTIONS

Microbe populations in **5X+** include:

Nitrogen Fixing - 21 different species of Nitrogen fixing microbes at total populations of 1×10^9 /ml – both free Nitrogen fixers as well as Rhizobium N-fixers for legumes.

Phosphorus Solubilizing - more than a dozen species at total populations of 5×10^9 /ml including endophytic fungi which perform much of the plant phosphorus delivery. Many competitor microbe inoculant products are missing these vital workers.

Cation Chelating - dozens of Siderophore microbe species at total populations of 5×10^9 /ml improve plant nutrient status of **Potassium, Calcium, Magnesium, Manganese, Molybdenum, Copper, Iron** and **Zinc**. Sap analysis results consistently document the significant increase in plant nutrient status of these nutrients from **5X+**.

5X+ also contains organic acids, amino acids, vitamins, enzymes and plant bioactive compounds. These bioactive compounds are built up in our **MetaGrow** products so the plants respond right after application. Competitor microbe products have to produce these compounds over time after application (which ours also do) which means our products provide faster and more effective plant response than competitor inoculants.

- Liquid shelf-stable product that mixes easily for irrigation and foliar use
- Compatible for tank-mixing with all fertilizer inputs
- Suitable for organic crop production. OMRI-listed.
- Proven on over 70 different crops on every soil type to improve soil health and crop production

A healthy and diverse microbial community provides many crop benefits:

- Improves soil structure and porosity, which:
 - Improves soil oxygen exchange for healthier roots and microbe metabolism;
 - Increases soil water infiltration rates which reduces erosion, runoff and ponding of water — enabling earlier planting;
 - Improves soil moisture holding capacity of lighter textured soils;
- Increases soil Cation Exchange Capacity (CEC) which improves soil nutrient retention and plant nutrient availability;
- Supplies and builds soil organic matter (SOM) – 1% SOM increases in a year are not uncommon;
- Provides plant growth factors for increased germination rate, stronger and faster emergence with more uniform stands;
- Reduces the frequency and severity of plant diseases by improved nutrient status and natural plant defense processes;
- Promotes larger root growth which improves drought tolerance and nutrient efficiency.

Application Guidance

MetaGrow 5X+ can be used as a seed treatment, root dip, in-furrow at planting, transplant water, irrigation injection and foliar application.

Typical rate is 50 ounces per acre. Application timing and frequency depends on the crop, soil conditions and farming objectives.

For best results, apply together with **MetaGrow MFOOD** (1 to 2 lbs per gallon of **5X+**) and with other components of a balanced, biological fertility program. Please refer to the product label for additional information [metagrow-5x-label-2024-25-omri.pdf](#) and follow the advice of a qualified agronomist.

Food Safe Production Process

MetaGrow microbes are grown at our facilities from a diverse range of microbe cultures sourced from all over the world. No manure or waste product is used in our source materials. We utilize an intensively aerobic production process which assures pathogens and other plant toxins are not present. MetaGrow products are tested and certified free of pathogens. There are no application restrictions on re-entry or days to harvest.

SGS MetaGrow Principles

SGS MetaGrow inoculants are designed to correct various imbalances in soil health, while also providing an extremely broad spectrum of microbes that repopulates the entire beneficial soil microbe biology and many different microbe species for each plant beneficial function. As a result of this diversity, MetaGrow products work well on all soils and all crops.

SGS MetaGrow crop programs lower the total cost of inputs by reducing the need for fertilizer and pesticides. When plants achieve proper biologically supported nutrition most pest and disease problems just don't occur.

At SGS we believe that healthy plants **direct** healthy soil biology to actively **deliver** the nutrients they need, when needed and in the proper balanced proportion.

Plant Directed Microbe Delivered Nutrition