# MetaGrow$_{TM}$ Decomposer

*Residue Decomposition Inoculant*

**MetaGrow Decomposer (D)** is a broad spectrum inoculant with thousands of microbe species that decompose cellulose and lignans into plant nutrients and soil humus. It is the most diverse crop decomposer inoculant available.

Decomposing crop residue secures plant nutrients and soil humus, improves seed/soil contact and reduces pest and pathogen over-wintering habitat. Humus captures and sequesters carbon in the soil which increases soil nutrient and water holding capacity. It creates a healthier living soil and makes nutrients available for the next crop.

In addition to microbial decomposers, **D** includes dozens of Nitrogen fixing and Phosphorus solubilizing microbe species. **D** also includes many fungal species which are very important workers in decomposition, especially for lignins. Most competitor decomposition inoculant products do not have ANY fungal species, let alone the hundreds of species found in **D**.

## BENEFICIAL FUNCTIONS

Microbe populations in **Decomposer** include:

**Active Decomposers** – The entire diverse microbe community is already in an active plant residue decomposition metabolism. Other microbe competitor products must adapt their metabolism to decomposition functions after application. This difference means our products colonize and break down residue more quickly and effectively even under adverse conditions such as very cold weather.

**Nitrogen Fixing** - 22 different species of Nitrogen fixing microbes at total populations of $1x10^9$/ml – both free Nitrogen fixers as well as Rhizobium N-fixers for legumes. Residue decomposition is the best opportunity all year for Nitrogen fixing in many crops.

**Phosphorus Solubilizing** - more than a dozen species at total populations of $1x10^9$/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 $1x10^9$/ml improve plant nutrient status of **Potassium, Calcium, Magnesium, Manganese, Molybdenum, Copper, Iron** and **Zinc**.

**Decomposer** also contains organic acids, amino acids, vitamins, enzymes and plant bioactive compounds.

- Liquid shelf-stable product that mixes easily for irrigation and foliar application
- Compatible for tank-mixing with all fertilizer inputs
- Suitable for organic crop production. OMRI-listed.



Sustainable Growing Solutions
Clarksburg, Calif.
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## Decomposition of crop residue provides many crop benefits:

- Recovers nutrients for the next crop (free fertilizer) into non-leachable plant available forms
    - Fix nitrogen for the next crop
- Enables faster, more consistent planting without clogging crop debris
- Improves soil structure
    - Better seed/soil contact and higher germination rate
    - Improved soil tilth for better aeration, water infiltration and seedling emergence
    - Improves soil moisture holding capacity
- Supplies and builds soil organic matter (SOM) – 1% SOM increases in a year are not uncommon
- Increases soil Cation Exchange Capacity (CEC) which improves soil nutrient retention and plant nutrient availability
- Establishes beneficial soil biology, including fungi– which supports the next crop
- De-thatches turf

## Application Guidance

Apply **MetaGrow Decomposer** soon after harvest, sprayed directly onto residue with as much coverage as practical, preferably during other field operations such as chopping, crimping or disking.

Apply 2 to 3 gallons per acre.

Apply together with **MetaGrow MFOOD** (0.2 to 0.6 lbs per acre) and with other biological inputs (fish hydrolysate, molasses) and sufficient water for coverage. Please refer to the SGS MetaGrow Decomposition Program application guide **(https://www.sgs-ag.com/docs/sgs-d-comp-sheet-and-app-guide.pdf)** and the product label (https://www.sgs-ag.com/docs/metagrow-d-comp-label.pdf) for additional information. 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