

# Organic Fundamentals

## Organic Conversions Illustrations

All organic materials introduced to the soil convert from a solid form into soil acids formed by soil bacteria.

When any organic material is applied, its effectiveness is measured by the level of soil acids it generates in the soil. All organic materials will eventually decompose into soil acids. Microbes are most efficient with organic materials that are the pH and in a form of their favorite nutrition. What differs is the amount and quality of soil acids that result from the decomposition. Soils with large quantities of soil acids that are have high levels of chelated nutrient molecular structures will be superior soils. Turf grasses grown on soils rich in soil acids require less water and are more resistant to drought. They are also less susceptible to extremes of temperature.

**Biological Fertilizers (CNEF)** - The most efficient of organic materials in their conversion into soil acids. These fertilizers are scientifically manufactured to achieve a high rate of efficiency in conversion. CNEF type fertilizer is pH balanced, nutritionally balanced, stable, it has a correct carbon:nitrogen balance, it has a homogenous texture, and it contains the correct bacteria - fungus balance. CNEF is nutritionally packed with high levels of chelated minerals. Soil acid molecular structures are large, extended, and complete with high levels of NPK, secondary and trace nutrients.

**Blended Mono-Ingredients** - Most blended mono-ingredient organic fertilizers are not reacted to reach a uniform pH that is ideal for microbial conversion. While the analysis of the product may seem similar to a biological fertilizer these products offer soil microbes a range and variety of pH values for each blended ingredient that may or may not provide microbes a maximized efficiency.

**Manure** - Poor efficiency of transformation mainly due to high level of bacteria which accelerates the volatilization of nutrients into the atmosphere leaving less nutrients for conversion into soil acids. As a biologically active nutrient it converts its organic material poorly into soil acids. If the manure contains shavings or sawdust then it can be out of carbon:nitrogen balance causing nitrogen immobilization.

**Compost** - Compost made with high levels of carbon prior to composting are basically reduced to humin by the long term heat of the compost pile. Humin is an inert form of humic substances and a poor producer of soil acids.

**Dried Leaves** - The majority of nutrients are gone in dried leaves. Composted dried leaves concentrate salts. A ton of dried leaves offers only a fraction of the nutrients of a ton of a biological fertilizer.

## Independent Laboratory Tests Show over a 500% increase in soil acids with Perfect Blend CNEF Biological Fertilizers.

It's all about Conversion of Organics into Soil Acids.

Conversion of an organic into soil acids starts with the nature of the organic material. All organic material will, sooner or later, convert into soil acids. The question then is one of efficiency. How efficient is a material that is being converted into soil acids?

Tests have proven that Perfect Blend is extremely efficient in conversion from a dried state into soil acids. The reason for this is due to the research and technology that is a part of every ton of Perfect Blend Organics fertilizers. At Perfect Blend we know that the soil is a biological rather than strictly a chemical medium. Our fertilizers are built to feed soil microbes as we know that the growth of these microbes will work in a synergistic manner to increase soil nutrition. Independent laboratory biological tests (Soil Foodweb, Inc.) show that a massive balanced increase in soil microbes occurs within 72 hours of application. The soil microbial increase is balanced between active bacterial biomass and active fungal biomass. Given the short life-cycle of soil microbes it is only a matter of days before they die and lend their high protein bodies to the soil. When this occurs, the 14% nitrogen content of protein along with the other natural nutrients is left in the soil to be combined into the soil acid matrix for a slow natural feed to your turf.

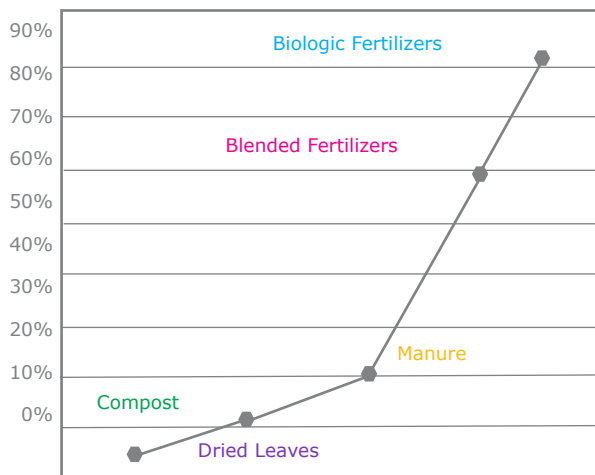
When your soils need additional biological action buy a biological fertilizer.



*Technical Series*

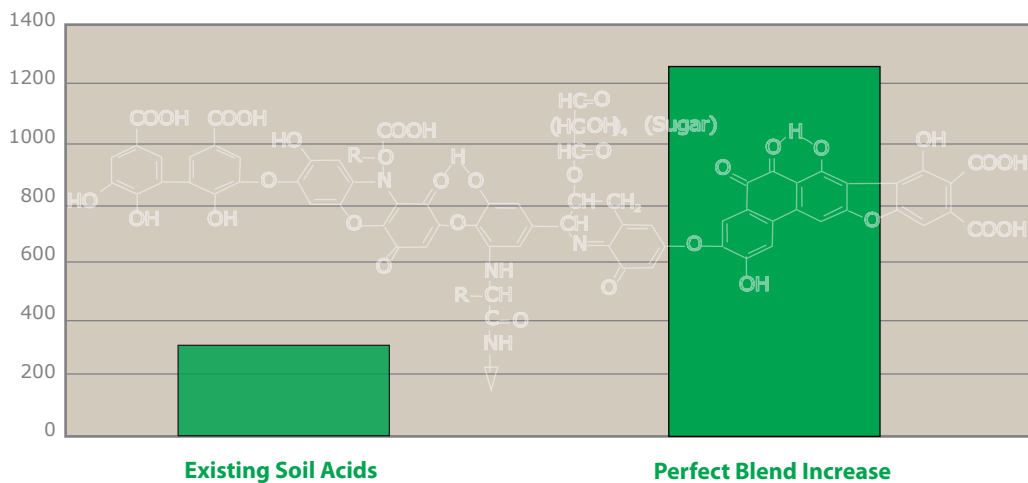
# Conversion of Organic into Soil Acids

Organic Material each have a different efficiency of conversion.



Factors affecting the efficiency of conversion.

- PH
- Carbon Nutrient Level
- Carbon Nutrient Form
- Carbon Nutrient Variety
- Carbon Nutrient Stability
- Carbon Homogeneity
- Mineral Content
- Mineral Content Form
- Carbon:nitrogen ratio
- Bacteria Content
- Bacteria Types
- Temperature
- Moisture
- Wind Speed



**Perfect Blend Organics**

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