

**AGRISERUM®** is feeding the life in the soil.

*AGRIRSERUM® will work in your soil to restore the biological life, namely, bacteria; and this will create a soil condition that is favorable to the proliferation of the very desirable earthworm. Earthworms are major decomposers of dead and decomposing organic material and their nutrition comes from bacteria and fungi that grow on the organic material. Earthworms play a big part in soil structure, water movement, nutrient cycling, and plant growth. The presence of earthworms is an indication of a healthy ecosystem.*



Earthworms work to improve soil structure.

**AGRISERUM®**

**OMRI®**  
**L i s t e d**

**AGRISERUM® Since 1947**

**CROP RESOURCES, LLC  
5635 LOOP ROAD  
DORSEY, IL 62021-1111  
www.cropresources.com**

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**AGRISERUM®**

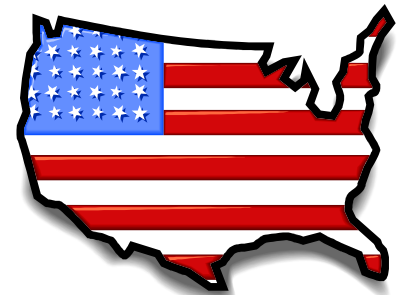
Since 1947

**A NATURAL PRODUCT  
MADE BY:**

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Or toll-free  
1-888-377-6237**

*AGRISERUM® is feeding the life in the soil. The life in the soil is the fertility.*



**AGRISERUM® AN AID TO THE HEALTH  
AND WEALTH OF THE NATION**

# AGRISERUM<sup>®</sup> BACTERIA FOR THE SOIL

## WHAT IS AGRISERUM<sup>®</sup>

AGRISERUM<sup>®</sup> is bacteria and bacteria feeders designed to enhance the biological activity in the soil. Microbes in the soil for the most part feed the plants. Bacteria are the most abundant of the micro-organisms in the soil, but tend to be most abundant in or adjacent to plant roots, an important food source. There are four groups of bacteria. Most are decomposers that feed on root exudates and plant litter. A second group of bacteria are known as mutualists they form a kind of partnership with the plants. Nitrogen-fixing bacteria fall into this category. A third group of bacteria are pathogens. Pathogens can cause plant diseases such as crown gall disease. Lithotrophs are the fourth group of bacteria. “Lithos” meaning rock and “troph” meaning consumer gives us the “rock eating bacteria”. These lithotrophs obtain their energy from compounds of sulfur, iron, nitro-

gen or hydrogen instead of from carbon compounds. A teaspoon of healthy productive soil may contain up to one billion bacteria; however, soil that has received excessive amounts of fertilizers and other chemicals will not have high bacteria counts. Bacteria are important in the carbon cycle. They contribute carbon to the system by fixation (photosynthesis) and decomposition. Bacteria are important decomposers of crop residue. Certain microbes also live near plant roots where they help stimulate plant growth. Bacteria are particularly important in nitrogen cycling. Bacteria fix atmospheric nitrogen, adding to the soil nitrogen pool. Some bacteria excrete a sticky substance that helps bind soil particles into small aggregates. So despite their small size, they help improve water infiltration, water-holding capacity, soil stability, and aeration. Bacteria are becoming increasingly important in bioremediation, meaning that we can use bacteria to clean up our messes. Bacteria are capable of filtering and degrading a large variety of man-made pollutants in the soil and groundwater so that they are no longer toxic. The list of materials they can detoxify includes herbicides, heavy metals, and pe-

troleum products. Many farm chemicals and fertilizers are of a petroleum base and the over use of them have killed many of the bacteria that are naturally in the soil. By adding AGRISERUM<sup>®</sup> to the soil we are helping the soil replenish the bacteria life in the soil.

**How to use AGRISERUM<sup>®</sup>.** AGRISERUM<sup>®</sup> can be applied to the seed a few days or several weeks before planting. The general rule when applying product to the seed is one pint per bushel of seed. Note depending on the crop this may need to be adjusted accordingly. AGRISERUM<sup>®</sup> may be incorporated into the soil or sprayed on a hay field after a cutting. AGRISERUM<sup>®</sup> may also be added to a true solution starter type fertilizer only if it has a near neutral PH and a 3-18-18 analysis. For more detailed application methods consult your distributor or contact Crop Resources, LLC directly. Does your soil have enough bacteria?