

## SHAC Revitagro Soil Conditioner

### SOIL ORGANIC MATTER

It has been widely acknowledged for many years that the key to soil fertility is organic matter. Soil organic matter often contains many nutrients and trace elements that have been stripped from the soil through human activity. The use of chemical fertilizers, though capable of improving plant growth, is simply not sufficient in replenishing the structure and fertility of the soil. In general, the addition of organic material, and more specifically humic substances, has been shown to improve soil quality and productivity.

*FACT:* Soil organic matter impacts soil aggregation, tilth and soil water characteristics.

*FACT:* Soil water holding capacity, permeability, infiltration, and surface crusting are improved with the addition of organic matter to soil.

*FACT:* Soils high in organic matter tend to be more productive and more biologically active.

### HUMIC ACID IN SOIL

SHAC *Revitagro* is an excellent source of Humic Acid. Humates and humic acids act in many important ways to make soil more productive and fertile.

- Humates (metal complexes of humic acid) help to supply growing plants with food. They also act in other important ways to make soil more productive and fertile.
- Humic substances increase the water holding capacity of soil; therefore, helping plants resist drought.
- Humic substances help retain water soluble inorganic fertilizers, releasing them as needed to growing plants, and help prevent nutrient leaching (through chelation).
- Humic substances result in increased aeration of soil.
- Humates establish a desirable environment for microorganism development in the soil.
- Humic acids form stable complexes with metals (ex. chelation of salts), thereby limiting the effects of soil salinity.

### BENEFITS OF USING REVITAGRO

- Increases the organic material content of soil, resulting in improved soil structure (e.g. reduced compaction) and moisture retention.
- Increases the humate/humic acid content of soil, resulting in increased fertilizer retention and soil productivity.
- Limits effects of salinity in soils through chelation of excess salts.
- Environmentally friendly and safe to use.

### HOW REVITAGRO WORKS

SHAC *Revitagro* has been developed as a soil conditioner for the purpose of improving the physical condition of the soil, increasing fertilizer retention, and controlling salinity. The raw materials in SHAC products are acquired from one of the highest quality humate sources in the world. In addition to containing an excellent source of organic matter and humic acids, *Revitagro* contains the following:

- **Activated Carbon**

Activated carbon in the product can limit the effects of salinity in soils with a high pH

- **Essential Trace Minerals**

Most chemical fertilizers contain only Nitrogen, Phosphorus and Potassium. However plants must obtain many additional nutrients from the soil such as Calcium, Magnesium, Sulphur, Iron, Manganese, and Zinc that are not found in many chemical fertilizers.

*Revitagro* contains 32 essential trace minerals which are necessary for both plants and beneficial microbial populations.

## RESULTS

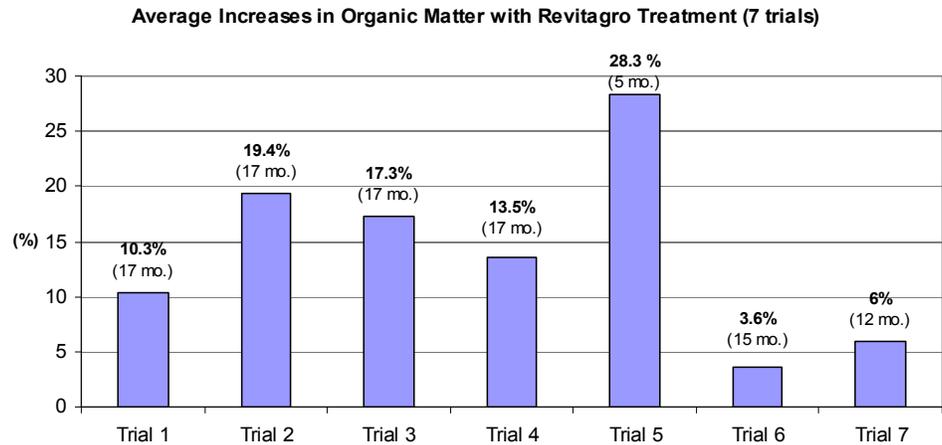
Many lawn and turf soils are limited in their ability to sustain healthy grass due to their tendency to become compacted and hard, reducing the soil moisture absorption and retention. Soil compaction often occurs in soils which are low in organic matter and dominated by clay sized mineral material. Clays impede the drainage of water and limit air space in the soil, making it hard for roots to move and grow, ultimately making it more difficult for plants to prosper. Heavy clay soils also tend to harden to the extent that water, dissolved fertilizer and pesticides can be lost through surface run-off as water tends to soak into the soil more slowly than it is applied. Improvements in soil organic content and reductions in soil compaction result in soils which are more capable of maintaining healthy root zones and reducing surface run-off. This ultimately allows the soil to maintain optimum moisture retention and reduce fertilizer and pesticide losses, and reduces the economic and environmental impact of maintaining healthy, green lawns and gardens.

*Revitagro* has been developed as a soil conditioning product for lawns and gardens with the ability to increase available soil organic matter, decrease soil compaction and improve moisture retention within a single growing season.

Turf and lawn soils were treated with recommended rates of *Revitagro* over various lengths of time to determine the corresponding rate at which available soil organic matter would increase. In 7 separate trials to determine efficacy of SHAC *Revitagro*, the following results were observed:

- a minimum of 3.6% and an average of 14.1% increase in available soil organic matter in the first year of treatment.

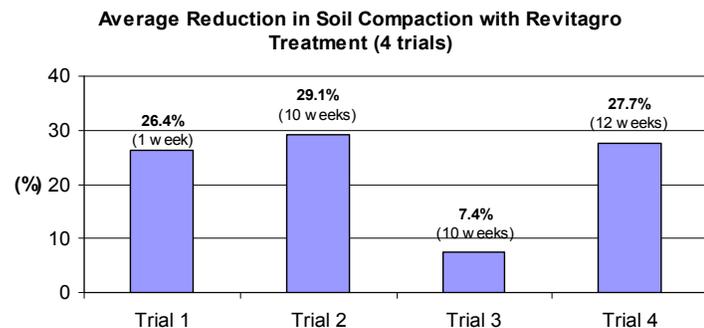
(Note: Trials spanning the same time period were treated with equivalent amounts of product.)



( ) represents length of treatment

In 4 separate trials to determine efficacy of SHAC *Revitagro* as a soil conditioner, the following results were observed:

Average 22.7% reduction in soil compaction  
The results of soil compaction trials conducted on lawn and turf indicated that *Revitagro* has the potential to positively impact soil compaction (i.e. condition the soil) over short periods of treatment at regular recommended rates.



( ) represents length of treatment

**For the authorized distributor or dealer nearest you, contact SHAC Environmental Products at 1-888-533-4446 or visit us at [www.shac.ca](http://www.shac.ca)**

## References

- Bentley, C.F., Robertson, J.A. *Soils and Fertilizers for Gardens and Lawns*. Department of Extension, University of Alberta, 1971.
- Brock, Thomas D., Madigan, Michael T. *Biology of Microorganisms*, 6<sup>th</sup> Ed. Prentice Hall, 1991.
- Jackson, William R. *Humic Fulvic and Microbial Balance: Organic Soil Conditioning: An Agricultural Text and Reference Book*. Jackson Research Center, Colorado, 1993.
- Land Resources Network Ltd. *Organic Material as Soil Amendments in Reclamation: A Review of the Literature*. Alberta Conservation and Reclamation Council Report No. RRTAC93-4, 1993.