

# **The Importance of Maintaining SOIL-HUMUS STABILITY & EARTHWORM PRESENCE IN SOIL**

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## **TRIDENT ENVIRONMENTAL SERVICES & TECHNOLOGIES**

In our consulting practice we often discover soil which lacks important values. Soil which lacks stable humus and active living organisms, is difficult to prepare for our use. Compacted soil, water-saturated soil, and soil which lacks nutrient balance, can not serve our needs as growers. We are proving that viability of such soil can be returned by high-humus soil-feeding programs, using a simple soil feeding program designed by Trident Environmental Systems and Technologies.

Trident's uncomplicated soil feeding programs and variations of the basic root-zone amendment plans for root feeding, help growers to regain viability in locations where nutrient-depleted turf and farm soil have become compacted, contaminated, and appear dead. Soil needs to be alive, full of beneficial microorganisms, micro flora, earthworms, springtails, and a wide variety of "critters," each of many species bringing unique benefits to maintain soil viability.

### **What kind of "critters" are we considering?**

#### **FOR EXAMPLE:**

It is important for anecic earthworms to return to depleted soil, to do their essential work. At least two types of earthworms provide services of great positive consequence in soils which are to be used for growing of plants which are intended to serve needs of humans. The two very important types of essential earthworms are: "eisenia fetida," the composting earthworm, and the "lumbricus terrestris," a burrowing earthworm which aerates soil. Actions of both types of earthworm, mentioned in this paragraph, benefit soil tilth, soil fertility, enhance disease resistance, and are indicators of soil media values which can support plant root extension and plant growth stability.

Expert researchers from the Sustainable Agriculture Program at University of California, Santa Cruz, (the Agroecology Curriculum), Matt Werner and Robert Bugg, have presented scholarly research which provides proof of the importance of various living organisms in soil. It is clear to this researcher that soil must be of a certain quality to sustain the presence of beneficial earthworms and other organisms which provide long term benefit to soil.

## **MAINTAINING PERPETUAL SOIL VALUE CONDITIONS:**

It is important to maintain a balanced porosity in soil strata, to ensure suitable aerobic conditions and to maintain appropriate drainage characteristics. We have learned that *soil compaction is prevented* where stable humus is maintained in soils. *Flooding is less likely* where soil granularity is maintained by ensuring adequate quantities of good quality soil organic matter. In soils prepared to be acceptable and habitable to the anecic earthworm tribes, undeniable plant-root values exist. For this and other reasons, we process and prepare high-humus soil amendments with two main thoughts in mind: 1. We want to ensure that soil is properly fed; 2. We want to invite and establish/maintain populations of “*lumbricus terrestris*” and “*eisenia fetida*.”

## **YEARS OF SUCCESS HAVE PROVEN SOME SIMPLE FACTS:**

It is a known beneficial soil-healing practice to add high quality humus to soils. Premium quality compost is available at reasonable cost to amend into contaminated and compacted soils. High quality organic source by-products are found in agricultural areas where cotton, corn, soybeans, wheat, potatoes, peanuts, and various vegetable crops are grown and processed. In some locations, confined animal feeding and dairy operations are sited near the location of the crops. This is a great advantage for compost professionals. We maintain training and economic relationships with composters who maintain high-humus biomass in high volumes. The manure of the confined animals is usually an excellent source of nitrogen, phosphorus, potassium, calcium, iron, zinc, copper and other micro-nutrients. The resulting compost is a valuable and trustworthy soil-food.

The high-carbon crop residues and by-products of harvesting and grain/food processing, can provide excellent raw materials for the blends necessary to make high-quality humus products. We can be totally confident of excellent compost and humus products, including highly effective compost teas. We are developing and helping in development of excellent humus-rich soil foods and energetic liquid amendments.

**Our clients are pleased with the results of our work. We are thankful for that fact.**