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OPTION: Utilizing the Best of Both Worlds

For the diehard chemical fertilizer users

MicroSoil® and chemicals can complement one another, if used judiciously.

Everything we do is designed to help farmers and growers make more money per acre. We do this simply by managing their soils more effectively with our proven MicroSoil® Products & Protocols that utilize existing soil contents and fertilizer inputs more efficiently. However, in order to do this, growers need to reduce their chemical fertilizer inputs, since our products flourish in a more centralized pH environment (pH 5.0-6.5), whereas chemical fertilizers are highly acidic (usually pH 4.0 or less). Soil microorganisms do not and cannot proliferate in these high acid environments. Chemical farming methods using high amounts of NPK will cancel out most everything we recommend due to the aforementioned acid issue. However, using MicroSoil® can make profound increases in crop performance with lesser amounts of these chemical inputs. We routinely recommend reducing chemical input by a minimum of 50%, even in the first year, which we have been doing worldwide for over 20 years now with superior results. Click: http://microsoil.com/tests/

Simply put:

1. **Synthetic chemical fertilizers are highly acidic and the natural native soil micro-organisms cannot live, proliferate or function properly in this environment.**

Excessive amounts of chemical fertilizers are often unnecessarily applied to soils without any consideration of need or reason. This can be VERY costly to the owners and growers. Routine soil analyses should be a standard practice, which would allow growers to intelligently regulate all inputs, both organic and/or chemical.

2. **Growers and farmers of large farms are understandably quite reluctant about reducing traditional chemical inputs, especially nitrogen, which we totally understand. However, almost 50% of synthetic nitrogen will leach into the air, soil and water within about three (3) weeks after application. Why is a reduction of the chemical nitrogen inputs so important? First is the balancing of the soil pH, as noted herein. But secondly, MicroSoil®'s Products and TailorMade™ Protocols, when used with reduced amounts of nitrogen cause the following: *"***When inorganic nitrogen is applied to the soil, it stimulates populations of decay bacteria and promotes plant growth. If used judiciously, it can have a synergistic effect with organic matter to increase overall nitrogen efficiency; large populations of microbes can immobilize a significant portion of the inorganic nitrogen by converting it to protein and stabilizing it into non-leachable, non-volatile, organic nitrogen. When those organisms die, other microbes decompose them and the organic nitrogen is slowly mineralized back into plant nutrients.***"**

3. **Farmers are the biggest gamblers in the world, as they bet virtually everything they have every year that they are going to get a bumper crop. WE UNDERSTAND! However, MicroSoil® works best and delivers the largest profit increases for those growers who are willing to work with us and who will follow the complete protocol which typically indicates some level of reduction in traditional chemical fertilizers. This means a grower needs to understand this and MUST BE WILLING TO USE OUR PRODUCTS, in accordance with our protocols, or any testing with our products is 100% INVALID from day one. Otherwise, it is usually a total waste of the owner's time and money.**

"We believe we have a better way"

Modify chemical inputs based on MicroSoil®'s *20 year proven products and protocols.*

- **The actual role of native soil microorganisms is to break down organic matter into inorganic matter, mineralize soil inputs & transfer the minerals to the plant via root hairs. Soil microorganisms mineralize the macro and micro nutrients present in the soils and turn them into forms plants need to function. Since the beginning of time, microorganisms alone have been responsible for building healthy soils, increasing soil organic matter, and promoting all plant growth on the planet to create all of our natural energy sources like forests, coal, oil and natural gas. Life on earth cannot exist without microorganisms.**
- **MicroSoil®'s principal purpose is to increase the organic matter in soils, increase water and **topsoil retention, and provide a balanced environment which allows for the proliferation of native soil microorganisms.**
- **MicroSoil®, by itself, may not improve some soils; however, our protocols utilizing other organic and/or inorganic materials for balanced inputs are necessary in order to get optimum results.**
- **But unlike the traditional all-chemical approach, we offer more than just a product.**
- **Using our own traditional ratings and values for soil analysis, we also provide protocols with MicroSoil® to help supply and balance all of the more than 90 nutrients required for complete plant nutrition, a far more complete approach than focusing just on NPK, S, Mg & Ca.**

A BASIC FACT: Plants cannot utilize organic matter. They can ONLY assimilate inorganic materials. Soil microorganisms decompose animal and plant organic matter into an inorganic form which the plants can use. When chemical fertilizers are used, the plants cannot distinguish whether the i.e. (Nitrogen) came from an organic source or synthetic source. Thus you have the chemical fertilizer industry. PROBLEM: It has been proven that the longer and stronger use of chemicals causes increasingly smaller and smaller crop yields. The crops become like drug addicts & demand more chemicals with fewer results.

- **With MicroSoil®'s products and protocols you will realize enhanced microbial activity which results in higher mineralization and assimilation of the nutrients plant require.**
- **It's important to understand that synthetic chemical fertilizers are highly acidic. Acids tend to suppress native soil microorganism proliferation and they routinely retard their growth, which reduces the soil microorganisms' ability to accelerate the mineralization of nutrients critical in the development of all plants. Soil microorganisms simply do not multiply freely in regions with high acid (low pH) content.**
- **An unfortunate fact is that MicroSoil®'s one (1) step forward is therefore countered by the acidic chemical's two (2) steps back.**

Ask us about our:

MicroSoil®'s TailorMade™ Soil Enrichment Program

"We get it – most modern farming in the USA routinely depends on chemicals."

By definition farmers/growers are the biggest gamblers in the world.

- **Each year they literally "bet the farm" that their crops will sell for enough to stay in business and make a living.**
- **That means dealing with one problem after another: the weather, seed and chemical costs, weeds, diseases, pests, yields, government regulations, market prices and global pricing forces, to name a few.**
- **To generate enough profits to stay in business they stay with what has worked and are legitimately skeptical of change.**
- **For many generations of farmers this has meant using an ever increasing amount of synthetic products: chemical fertilizers and an ever broader arsenal of herbicides, fungicides and pesticides.**
- **In the face of this reality, everything we do is designed to increase per acre profits *while recognizing the role played by chemical fertilizers.***

"Only with modified chemical use can really significant profit increases be achieved."

As indicated, the use of MicroSoil® by itself will usually improve results. However, many growers, particularly experienced and successful large farmers, are very insecure about even the most modest decreases in traditional NPK chemicals. As a result, they fail to capture much of the potential profit increase because they:

- **Fail to add the nutrients necessary to address nutrient shortages and nutrient imbalances that diminish results regardless of whether MicroSoil® is used or not.**
- **Pay perfectly good money to add unneeded nutrients that are of no benefit to the plant and are often leached out into the air or water streams or tied up in the soil; all a total waste of money.**
- **Promote the formation of acids and salts from excessive chemical fertilizer levels that reduces and, in extreme cases, all but eliminates MicroSoil®'s beneficial microbial activity.**
- **Ignore the ability to more than offset the cost of the MicroSoil® with even the most modest of chemical reductions.**

**** EDAPHOS, Dynamics of a Natural Soil System, Paul D. Sachs, 1999***

**Erosion

A major environmental concern known as topsoil erosion occurs when the topsoil layer is blown or washed away. Without topsoil, little plant life is possible. The estimated annual costs of public and environmental health losses related to soil erosion exceed $45 billion. Conventional agriculture encourages the depletion of topsoil because most believe that the soil must be plowed and replanted each year. Natural/Sustainable techniques attempt to slow erosion through the use of cover crops in order to help re-build and maintain the organic matter in the soils. The United States alone loses almost 3 tons of topsoil per acre per year. This is of great ecological concern as one inch of topsoil can take between 500 and 1,000 years to form naturally. On current trends, the world has about 60 years of topsoil left. ** Source: Wikipedia, the free encyclopedia