



Any program that reduces the need for equipment can save significant amounts of money.

Organics

might help
with budget concerns

Editor's note: The following is an edited transcript of an interview with Gary Maurer, president of Green Pro Solutions, on using plant-based organic programs for athletic fields.

ST: Why do you think Molloy College (a private school on Long Island) is a good example of your program and the results that can be obtained using organic-based products?

Maurer: Well, there are a number of reasons. First, Molloy is in a densely populated urban/suburban area that is very expensive. Labor, utilities, equipment and equipment maintenance, land, water—everything is expensive. So a turf program that can produce great results with a minimal amount of water can save a lot of money.

ST: You mentioned labor. It is easy to understand why a program that can reduce labor costs would create value. But what about equipment maintenance?

Maurer: Any program that reduces the need for equipment can save significant amounts of money. If a piece of equipment is used less, there are reductions in maintenance costs. Unless all of the services are contracted out, almost every facility has a minimum amount of multi-use equipment,

like a tractor with a host of attachments. Minimizing the number of attachments saves on costs for acquisition, maintenance, and storage.

ST: So you are suggesting that a school or organization does not have to buy all kinds of equipment to maintain their fields if they use organic products and, consequently, they can save a lot of money.

Maurer: Let me give you a qualified 'Yes' on that. Molloy College is a good case in point. They have used organic products on their baseball field for the nearly 20 years. Currently, application of the products is managed by Warren Getch, branch manager of Nature's Pro of Long Island; he says year in and year out the only piece of equipment on the field is the mower. Of course, they do have equipment to maintain the clay surfaces, but nothing else goes on the turf.

ST: So, no aeration at all. That seems pretty remarkable.

Maurer: Many in the turf management field would think it impossible. Or, they

would imagine that the quality of the field would be unacceptable. A soil probe provides clues as to why the right kind of organics works. In the spring and late fall of the year, a soil probe will penetrate 15 inches into the soil. Approximately the top 3 inches is topsoil. From there down it is all clay. If I ball that clay up in my hand, it will become a rock in 48 hours as it dries out.

ST: How deep can you probe the rest of the year?

Maurer: If moisture levels are maintained, 15 inches. But the real story is the depth of the grass roots. In the spring, the turf roots can be protruding from the end of the probe, more than 15 inches. Now in cool season grasses we know that some of that stored energy will be consumed by the grass plant during the stressful hot days of summer. The roots may only be 6-8 inches deep then, until the cool weather of the fall. At that point the grass roots will again grow deeper as they begin to store carbohydrates for the next season.

We use liquid aeration. Unlike equipment, which actually causes a certain amount of compaction while it is doing its aeration, liquid aeration products actually cover 100% of the field, not just 5-10% of the surface area. Liquid aeration may not be quite as fast, but it does cover 100% of the surface area and can be done in a fraction of the time at a fraction of the cost. And it is cumulative; every application builds on the previous applications. Many, many dollars can be saved.

ST: How do organic products produce such deep rootzones in what is essentially clay?

Maurer: There are a number of things at work here. Initially we begin with a more advanced soil test that determines nutrient availability and it determines what is functioning. The difference between the two can be very significant. Based on these test results, our special computer program analyzes the data and generates specific instructions on how to make the soil healthier, which we call a "Prescription."

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paction, puddling and weeds are symptoms of sick soil. We address the causes, not the symptoms. When we produce healthy soil, the turf automatically responds.

ST: So if your soil is healthy enough, weeds won't grow, is that what you're saying?

Maurer: Turfgrass management is about creating and sustaining a monoculture. The natural order of things is toward greater diversity, so creating a single type or very narrow diversity of plant species is an uphill battle. Weeds have a different nutrient profile than turfgrass. By providing the nutrient components in the correct proportions to optimize turf production, weeds are discouraged from germinating and growing. We create an inhospitable environment for weed growth.

ST: The word "organic" gets thrown around a lot. What does it mean in terms of turf products?

Maurer: There are hundreds of 'organic'

products. To me, they fall into two distinct categories. There are products that are associated with animals and products that come from plants. Plants do not, with few exceptions, eat animals. Products made from animals and animal byproducts can be good for plants but they are made up of components that are too complex for plants to utilize. Enzymes and other biological components must be present in the soil to make these animal-based nutrients plant-available. If these biological elements are present in the soil, the animal-based products can produce results. If they are not present, the results can be disappointing. Typically, the presence or absence of these biological elements is unknown. There are also possible toxicity issues with animal by-products.

On the other hand, plant-based products are immediately bio-available to the plant. Plant-derived products are easily and more quickly broken down and available for use. If you think of a forest, it feeds



itself what it needs and it is all plant-based material.

Humates is a term used to describe these natural carbon-based materials that contain humic, fulvic, ulmic and other organic acids necessary for plant health, much as amino acids make up some of the building blocks of the human body. Since Humates are derived from plants, they provide a rich storehouse of energy containing everything the plant and soil need to be healthy, including a full range of nutrients, enzymes, minerals, natural surfactants, biostimulants, amino acids, and essential components to stimulate microbes and mycorrhizae. Humates provide benefits that animal-based products do not have.

ST: So the products you use are only made of Humates?

Maurer: In part. As you know plants need many kinds of nutrients. We make products with humates and other essential nutrients, like calcium and iron. Depending on the Prescription Soil Test Results, we may apply calcium in one of its various forms, or a number of other ingredients. It depends on what the soil needs and the proper proportion in relation to the other nutrients already present in the soil or required by the soil to make it more balanced and productive. To the extent possible and based on the client's wishes, we try not to use man-made nutrient sources.

ST: So you do use N-P-K in your products?

Maurer: There are many formulations of N-P-K. Many of them are detrimental to the soil or to the soil biology. We are very selective in what we use and limit its use as much as possible. Humates chelate nutrients so much lower amounts are needed. Healthy soil has millions of microbes per teaspoonful which do an amazing job at nitrogen recycling. The healthier the soil, the less artificial ingredients are needed, if needed at all. That is our goal. And as the health of the soil improves, the 'symptoms' begin to disappear.

ST: I am still intrigued by the depth of the roots in your soil probe. How do plant-based organic products produce that kind of result?

Maurer: Energy is part of the process

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but that is a topic for another time. For now, let me just address altering the physical characteristics of the soil. Humates have the amazing ability to make hard soils like clay more porous. Small cavities are opened through the soil that permits air, water and roots to go deeper. Roots cannot grow where there is no air.

Conversely, when added to sandy soils they become less porous. Humates chelate nutrients, holding them in the rootzone. There is less leaching of nutrients into the ground water and less volatility of nitrogen into the air.

In addition, humic material holds up to 20 times its weight in water, acting like a huge sponge. Therefore, between increased root depth and greater water-holding capacity, less water is needed to have quality turf. Again, significant amounts of money can be saved.

ST: Do you have some cost saving numbers?

Maurer: Molloy College applies about 7,000 gallons per watering at a local cost of approximately \$30 per application. It is not

unusual in the high quality soils that I am discussing to reduce water usage 30% or more. For Molloy that could mean \$30-\$50 per week, perhaps \$1,000 per year for one field. Now geographically Long Island gets a fair amount of rain and a baseball field is larger than a football or soccer field. But you can see how the savings really begin to pile up. The savings would be even more dramatic in drought prone or warmer climates, into many thousands of dollars per year just in water savings, particularly if organics are used campus wide, as they are at Molloy College.

ST: But don't organic products cost more?

Maurer: Historically that is true, but with increases in chemical, petroleum-derived

products, the difference is rapidly disappearing. But that is true only if you compare the product costs and not the program costs. When a school, a business campus or any turfgrass manager compares the annualized cost of all of the components in the complete program, organics can often beat the cost of a chemical program. ■

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