

Chemical Log

Biostimulants: Long Term Investing Pays Off

By Robert C. Keefe

As with other modern athletic facilities, Trinity University in San Antonio, TX, installed sand-based

grass fields some years ago for the usual reasons: the natural green look, drainage that's as good as artificial turf and, hopefully, fewer injuries. But Mike Schweitzer, who is director of grounds, quickly learned

that, because these fields drain water better, they can also lose nutrients and fertilizers. That's when he started thinking about how he was going to compensate for the losses over the long haul.

The way a number of sport turf managers are doing this is with biologically based products. Some products are based on a class of substances called biostimulants. Harvested by several manufacturers from naturally occurring soil organisms, biostimulants are mixed with other organic substances into formulations that address a range of turf needs.

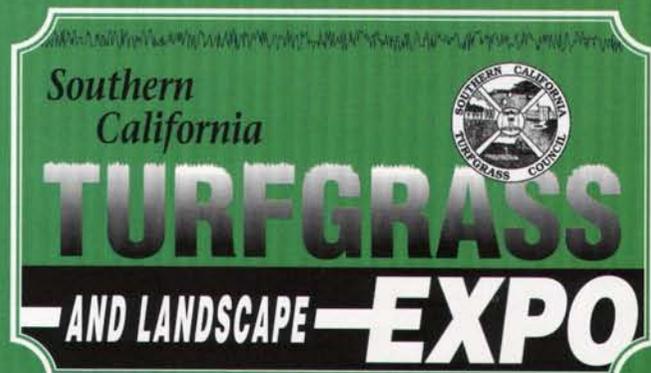
Biostimulant products are packaged and sold in a number of ways depending on the manufacturer. The most common is represented by companies which grow specially selected blends of natural soil organisms in large fermenters. They then harvest the liquid, or exudate, after an appropriate time and blend them with other natural ingredients to create a range of products. Products are usually sold in liquid form.

Other suppliers offer turnkey systems, which grow live bacteria specially selected for particular kinds of soils, plants and climates. The facility purchases or leases the equipment and is responsible for the system, harvesting the organisms, and then applying them to the turf.

Biostimulants derive their name from their capacity to induce the growth of soil microorganisms after applied to the turf. Sand-based athletic fields have lower populations of such organisms because of the hydroponic nature of the technology.

The key to using biostimulants is sometimes finding someone with the experience to help. Mike Schweitzer's turf survives a heavy schedule in part because he started using biologicals about three seasons ago. He also credits the expertise of consultant Darrell Kinsey, who helped him get started and keep running.

Kinsey, of Greenbelt Turf Services in Lindale, TX, says that, while there never is any magic bullet that fixes everything, "Biostimulant products can be an important factor that makes everything else you use work better." He notes that biological products and programs are now available for softening up compacted



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soils, reducing sodium and herbicide buildup, treating thatch problems and for increasing nutrient availability both in the soil and the plant.

Knowing how to use biologicals is all new and therefore must be learned. Kinsey says, "It's not rocket science, but neither can you just put the products down and expect miracles." In fact, unless a client uses his advice in testing soils and in watering, then he suggests these new kinds of products not even be used. He says, "It would be a waste of their money because the soil chemistry in each field is always unique."

Terry Lee, of AgPro Systems of Big Sandy, TX, agrees and points to a couple of his clients in Oklahoma. He says that, unless they had worked with him and first tested their soils before applying his products, he's sure they wouldn't have worked as well. "Biologicals work with any kind of grass and in any kind of soil, but you have to know first the soil's condition. After we do that, then we can advise them on which way to go."

Oklahoma City Schools has been using Lee's products for nearly two years on its

native soil fields. In that time, says Eddie Griffin, director of athletics, "All of our fields seem to regenerate better and are in better shape than ever." One of his fields, Taft Stadium, hosts 130 events per year. Stadium Manager Jim Jones reports there were no bare spots at the end of the season, and roots had grown from a length of three inches to six inches. Jones says, "We cut back on water by 50 percent from the year before, and we had a softer field, which really cut down on injuries."

Nevertheless, Mike Schweitzer cautions people not to expect dramatic or sudden results from biologicals. "It's more like a long-term investment," he says.

He adds, "These products just make everything else work more efficiently, help reduce the effects of natural compaction, and we hope to establish a uniformly deep, healthy rootzone from sideline to sideline."

"There might be some chemical cost savings, but we think that the real benefit is stronger turf, a more acceptable turf." At the same time, he says they've reduced water consumption about 30 percent, mostly because the biological

products he uses are combined with surfactants that cause the soil to use water more efficiently.

Schweitzer adds, "We do think that over time the dependence on chemical fertilizers, herbicides and pesticides will be less."

Other benefits of biologicals noted by grounds managers include their ability to aid in the germination of overseeding and to help green up fields faster. Some people feel that they give you the ability to use slow release nitrogen and apply it just once a month, as opposed to every ten days or so for the quick release nitrogen.

Some familiar with biologicals have seen up to 60 percent savings in water, prompting one manager to suggest that perhaps even more savings could be realized if you put your irrigation systems on separate water meters. In this way, you won't be paying sanitary sewer charges for irrigation water.

The bottom line is that new biological-based products are available to assist sports turf managers, but they have to be learned about and they have to be tried. It takes time, but the rewards may be well worth it. □

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