TURFHEADS TAKE OVER ISSUE

Rethinking Turf Management

Joel Simmons, President, EarthWorks

What's the best way to manage turf? It's a question we've all asked since the first day we began maintaining sports turf and golf courses for the enjoyment of others.

For years, most conversations centered on the plant: nutrition, appearance, and recovery, while the soil beneath it often received less attention. Traditionally, "soil management" meant adjusting pH or nutrient levels.

But the industry is changing. Today, superintendents and turf managers are asking better questions:

- What's happening in my soil biologically?
- How do I encourage beneficial microbes?
- Can I manage stress more effectively by improving soil health?

Across the industry, we're seeing more use of carbon-based materials like humic acids, kelp meal, and sugars. The reason is simple: we're recognizing that healthy turf starts with a living soil.

What Is Biological Soil Management?

Biological Soil Management (BSM) is a "Soil First" approach to turf management. It is the process of managing the soil to promote the proliferation of the native population of beneficial micro-organisms. It forms the foundation of healthy, balanced systems that perform under stress.

Here's how it works:

1. Start with chemistry.
   Soil testing and correction open the soil physically, improving structure.
2. Manage physics.
   Better air and water movement throughout the profile supports stronger root systems.
3. Feed the biology.
   Adding available carbon, or microbial food, allows microbes to thrive and transform organic matter into humus.

The results are measurable:

- Improved water efficiency
- Stronger nutrient flow
- Flocculated, less compacted soils
- Deeper rooting
- Reduced overall plant stress

The Three-Legged Stool of Soil Health

We often describe soil health as a three-legged stool:

Chemistry → Physics → Biology

Each leg supports the next, but biology is often the most overlooked even though it provides the greatest long-term benefit.

There's an adage that says, "*Microbes eat at the table first.*" Every fertilizer molecule must be processed by microbes before the plant can use it.

For example, nitrogen goes through nitrification, transforming from ammonium (NH_4^+) to nitrite (NO_2^-) to nitrate (NO_3^-). This process is performed by soil microbes, and they need energy, and that energy comes from carbon.

Why Synthetic Nitrogen Alone Isn't Enough

When turf programs rely solely on synthetic nitrogen, microbes are forced to deplete the soil's available carbon. This weakens microbial populations and slows nutrient cycling.

Over time, the soil "burns out," and the same fertilizer produces diminishing returns.

Biological Soil Management doesn't reject synthetics; it simply focuses on balance, particularly maintaining a healthy carbon-to-nitrogen ratio (C:N).

By feeding the soil with carbon-based inputs, we:

- Support microbial activity
- Reduce thatch caused by nitrogen imbalance
- Decrease total fertilizer inputs
- Build healthier, more resilient turf

A Simple but Powerful Concept

At its core, Biological Soil Management is about:

- Balancing the soil chemically
- Feeding it biologically
- Letting natural systems do the work

When the soil functions properly, it builds structure, cycles nutrients, and supports turf that performs under stress.

EarthWorks: 37 Years of Biological Soil Management

For 37 years, EarthWorks has been a pioneer and advocate for Biological Soil Management. We've helped turf professionals across golf, sports, and landscape management industries build programs that work with nature instead of against it.

Skeptics once claimed that "organics don't work until the soil warms up," but experience has proven otherwise. Thousands of superintendents nationwide have shared their success stories, many on the EarthWorks Podcast, showing that a balanced soil system delivers real, repeatable results.

The Bottom Line

When you build your program on soil health, everything above it thrives.

That's the promise, and the proven reality, of Biological Soil Management.

EarthWorks NATURAL ORGANIC PRODUCTS

GOLF COURSE INDUSTRY