



COMAND[®]

ADVANCED NATURAL TOPDRESSING & SOIL BUILDER

IMPROVED TURF PERFORMANCE

HOLDS NUTRIENTS

SUPPLIES MICROBES

SAVES WATER





COMAND[®] provides a **natural, cost effective** way of maintaining quality playing surfaces, while creating wear **tolerant** and **attractive** turfgrass.

WHAT IS COMAND?

COMAND is a **one-of-a-kind specialty soil amendment** produced with precise proprietary blends of enzyme-producing microbes, some unique composting methodology, and inventive techniques of maximizing beneficial microorganisms in the finished product. **COMAND** is truly a bio-engineered, yet completely natural product.

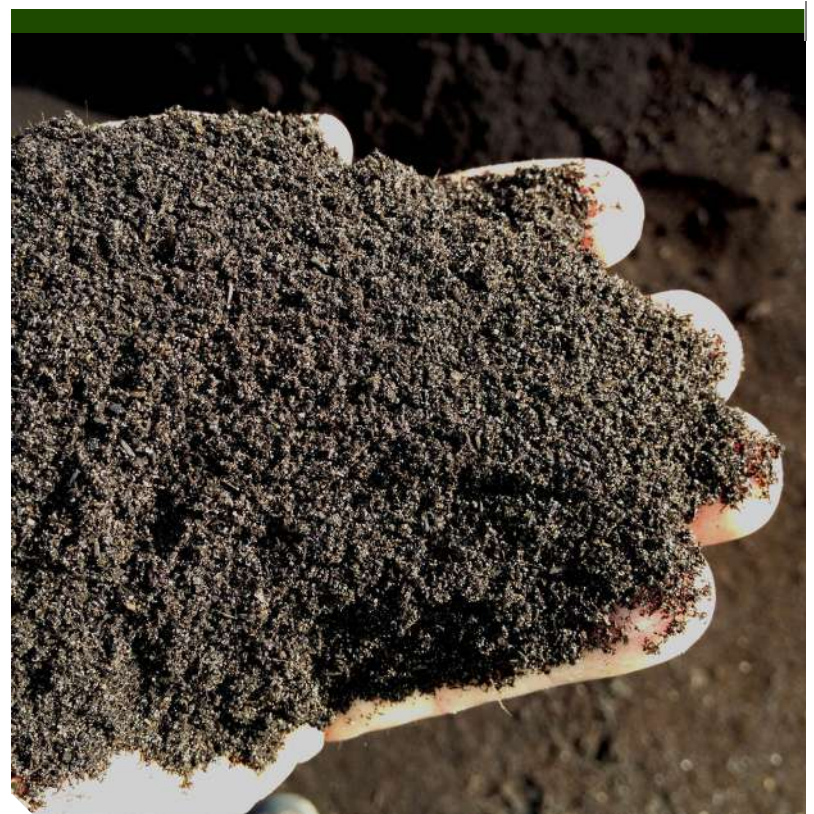
COMAND can be utilized straight, to amend and improve existing soils, or alternatively, can be custom blended with varying amounts of high quality sand to create **topdressings** and **rootzone mixes**.

WHAT MAKES COMAND SO UNIQUE?

Through many years of research, Harvest Quest developed an inoculum, which accelerates and uniquely enhances the natural biological process of composting.

The use of the inoculum reverses the physics of composting, with initial temperatures being generated on the outside of the piles and the heat front moving inwards. This unique phenomenon allows microbes to increase optimally and results in the creation of very mature and biologically diverse compost. Furthermore, a focus on the natural disease suppression capabilities has been enhanced through carefully controlled curing procedures and re-inoculation with mesophilic (ambient temperature) microbiology known to suppress nematodes and root and crown root diseases.

COMAND is screened to a very fine consistency, which removes woody particles, making it suitable for applying to even the most closely mown turf.



BENEFITS OF USING COMAND

COMAND possesses excellent soil building attributes, greatly improving the soil physically (structurally), chemically (nutritionally), and biologically. It adds high quality organic matter to the rootzone, maximizing turf health and performance, increasing its quality and long-term success.

- Supplies stabilized organic matter
- Improves soil structure and porosity, thus creating a better plant root environment
- Increased root density and length
- Increases moisture infiltration and permeability, thus helping to maintain percolation rates and relieve compaction
- Improved water holding in light soils, providing greater drought resistance and more efficient water utilization
- Increased soil cation-exchange capacity (CEC), thus improving the soils ability to hold nutrients
- Supplies beneficial microorganisms
- Aids the proliferation of soil microbes, which assist in Thatch reduction
- Contains humus, assisting in soil aggregation and making nutrients more available to plants
- Improved wear tolerance, promotes faster turf establishment and recovery rates
- More even turf density and color, green-up without excessive top growth
- Complimentary to other management programs, provides for more efficient utilization of fertilizers

COMAND can be incorporated into your turf establishment and maintenance programs all season long and will typically show results within a few days; exhibiting green-up and new lateral growth.

IMPROVED SOIL STRUCTURE

Organic matter plays a key role in the structural stability of the rootzone. Many experiments have shown that compost improves the aggregate strength of soils. A rootzone without organic matter compacts very easily and suffers from poor aggregation. Conversely, healthy soil maintains pore spaces and has much improved oxygen transfer and water infiltration rates. The addition of Comand® improves friability, porosity, and water permeability meaning roots can penetrate more easily and find nutrients and water. Reduced compaction and surface hardness, coupled with the benefit of a smooth and level surface from topdressing, can lead to reduced injury risks on sports fields.

BETTER WATER MANAGEMENT

COMAND has the ability to improve the water holding capacity of sandy soils, while at the same time increasing infiltration and permeability. As a result, percolation rates are maintained, making COMAND an important water conservation tool for turfgrass management. The addition of COMAND can provide greater drought resistance and more efficient water utilization, allowing the frequency and intensity of irrigation to be reduced.

INCREASED CATION EXCHANGE CAPACITY

Coarse-textured sandy soils possess a low cation exchange capacity (CEC) and adding COMAND greatly improves the CEC of these soils. Cations are positively charged ions such as calcium (Ca^{2+}), potassium (K^{+}), magnesium (Mg^{2+}) and iron (Fe^{2+}). The organic matter in COMAND is comprised of negatively charged particles, which attract and hold, through electrostatic forces, the positively charged ions. This enables the soil to better absorb and retain nutrients in the root zone while reducing nutrient losses through leaching.

PROVIDES SLOW-RELEASE NUTRIENTS

COMAND contains a considerable variety of macro and important micronutrients. Since COMAND contains stable sources of organic matter, these nutrients are supplied in a slow-release form. When compared to commercial fertilizers, on a pound-by-pound basis, COMAND has far less nutrients and is not characterized as a fertilizer. However, COMAND can have a significant cumulative effect on nutrient availability and existing fertilizer program inputs can typically be much more effective.



PROVIDES SOIL BIOTA / THATCH REDUCTION

COMAND provides Actinomycetes (enzyme-producing bacteria) and fungi. These groups of living organisms are essential in productive soils and serve a critical function metabolizing nutrients. They also play an important role in the decomposition of organic material (debris), inducing the breakdown of the turf's thatch layer.

Thatch forms a layer in the upper root zone and restricts the percolation of water and movement of air. This coupled with compaction, can result in anaerobic conditions, leading to very shallow root systems, drought stresses, and disease pressures.

The microbial colonists in COMAND can consume thatch, converting it to humus and plant food. Strictly speaking, Thatch is 'organic material' (largely undecomposed), whereas COMAND is 'organic matter' (decomposed, stabilized and partially mineralized). In practical terms, the degradation of thatch (organic material) and its conversion to humus (organic matter) and humic compounds provides the turf manager with a host of practical benefits, potentially saving work time and costs whilst improving the playing surface.

NATURAL SUPPRESSION

It is now widely accepted that disease incidence in turfgrass can potentially be influenced by the level and type of organic matter and microorganisms present in the rootzone. Decades of research conducted by horticulturists, agronomists and agricultural professionals, has shown that increased populations of certain microorganisms help suppress specific plant diseases as well as being antagonistic to nematodes. Through our various production phases, every effort is made to optimize the populations of beneficial microbes in COMAND. Various university studies, as well as, real world applications, are showing very positive results.



COMAND is a registered trademark of Harvest Quest

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PRODUCT APPLICATIONS

NEW CONSTRUCTION

COMAND can be utilized as the organic component of a sand-based rootzone media for golf course and sports field construction. The product can also be incorporated into existing soils to greatly improve characteristics and accelerate turf establishment for parks and home lawns.

MAINTENANCE

COMAND can be utilized for topdressing fairways, tees, greens, sports fields, lawns, and as a component of divot mixes. It will encourage consistent growth and regeneration of damaged turf, boost performance in weak areas, improve strength and rate of germination when overseeding, can accelerate transition from winter dormancy, and will hold moisture in potentially problematic dry areas, such as mound tops and bunker faces.

Turfgrasses beautify our landscapes, improve our physical and mental health, and truly touch each and every one of us in some way every day!

Take COMAND of Your Soil Health and pamper your turf.

