COMPOST USE IN TURF ESTABLISHMENT & MAINTENANCE

SOIL HEALTH * BENEFITS OF COMPOST USE * AMENDING SOIL WITH COMPOST

BENEFITS OF COMPOST USE

Compost incorporated into the soil before turf establishment or top-dressed over existing turf areas is beneficial to the grass and the soil. Compost can be applied to many different types of grassed-covered areas, including golf courses, playing fields, parks, medians, and residential lawns. The primary benefits are detailed below.

SOIL COMPACTION REDUCTION

Amending soil with compost helps to reduce compaction on high traffic turfs, like athletic fields, by adding organic matter leading to improved soil structure and better infiltration. Compacted soil is less permeable to water and impedes root growth. Because compacted soil is less permeable to water, it increases flooding and surface runoff after rain events (2).

The use of compost to address soil compaction and turf maintenance provides longer-lasting benefits than aeration alone, reseeding, and re-sodding techniques and is less expensive and labor-intensive in the long run (2).

PLANT GROWTH PROMOTION

Compost amended soils promote plant growth, including grass or turf growth, in a variety of ways. Increased organic matter from compost amendment, maximizes uptake of necessary nutrients and water (2). Because compost increases water holding capacity in soils, it keep water accessible to plants in times of drought. Compost amended soil creates a healthier, more stable environment for turf establishment and growth in the long run.

GLOBAL SOIL HEALTH

Through increased land use change globally, soils have become degraded and less biodiverse (1). Healthy soils provide many essential functions including but not limited to:

Biomass production

Nutrient and water filtration

Physical environment creation

Carbon storage

As soil degrades through wind and water erosion, organic matter decline, compaction, overuse, salinization, and landslides, it less effectively accomplishes these functions (1). In areas with turf, this makes it challenging for healthy grass to grow, due to lack of nutrients, soil stability, and water availability. Adding compost to soils supporting grass will help to protect them from degradation and will improve the maintenance of healthy turf.

DISEASE SUPPRESSION

Turf grass in high-traffic areas may experience extensive wear and soil compaction. Compaction makes soils highly susceptible to disease and pests. Top-dressing compost on turf can successfully suppress plant diseases whose diversity helps to increase resistance to turf diseases (2).

Using compost as a disease suppressant decreases the need for chemical fertilizers and pesticides, decreasing environmental impacts.

HOW TO AMEND TURF WITH COMPOST

Compost amendment can be used in turf areas through two primary methods: Incorporation with the soils before establishment and top-dressing after establishment.

ESTABLISHING COMPOST IN DISTURBED SOILS

To incorporate compost into existing soils before seeding, uniformly spread 1-2 inches of compost over the entire surface. Use a rotary tiller, ripping attachment, or similar equipment to get the compost into the soil at a depth of 6-8 inches. After incorporating compost into the soil, rake the soil smooth, then seed it or lay down sod. Soils should be tilled within 24 hours of compost application and seed or sod should be applied within 48 hours of adding compost. Thoroughly water the compost amended area after seeding or sodding (3).

Compost incorporation can also occur ex-situ before soil placement during construction site restoration. For topsoil amendment or engineered soil mixes, heavy equipment is used to mix compost with stockpiled soil or sand. The mixture is then placed in its final location and turf is established.

SELECTING COMPOST

The Seal of Testing Assurance Program (STA) tests compost for stability, maturity, moisture content, organic matter content, particle size, pH, soluble salts, and physical contaminants, which determine if compost will be suitable for sustaining plant growth (3). Look for the STA logo on your compost or ask your compost producer about STA testing and results.

TOP-DRESSING EXISTING TURF

Compost can be top-dressed onto existing turf by using a finely-textured compost of about ¼ inch to 3/8 inch screened. Apply compost to a depth of no more than ¼”-½” per application over the existing turf area. Aerating turf before or after compost application helps to incorporate compost and leads to reduced compaction and improved water holding capacity.

Compost can be raked into holes created through core aeration to further combine with the soil. Top-dress turf annually to help maintain the turf and promote grass growth (3).

To find more information on suitable levels for these parameters visit https://www.compostingcouncil.org/page/CertifiedCompostSTA.

SOURCES

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