

Why Turf Professionals Specify

SAND-AID[®] Granular Sea Plant Meal

for Superior Greens and Playing Fields

What's In A Name?

In the case of SAND-AID, everything. It describes exactly what this incredibly versatile amendment does. SAND-AID helps solve some of the serious problems associated with sand-based rootzones:

- Low CEC, high fertilization requirements and high irrigation expenses
- Anemic or non-existent microbial populations
- Greater vulnerability to diseases.

SAND-AID Granular Sea Plant Meal

This unique, highly effective, environmentally safe soil amendment will enhance:

- ♣ Establishment
- ♣ Playing characteristics
- ♣ Appearance
- ♣ Ability to survive severe environmental and cultural stresses
- ♣ Performance of any organic fertilizer with which it's used.

SAND-AID has been thoroughly tested and proven at leading turfgrass research centers. More importantly, SAND-AID has established its efficacy on golf courses and athletic fields all over the world.

The Microbiology of Sand; Why It Requires a Fast Decomposing Organic Amendment

While high sand content rootzones offer many advantages, they are not without problems.

"Sand has a weaker, thinner microbiology," says Iowa State's Dr. Clinton F. Hodges. High sand content greens and tees are much more vulnerable to certain diseases because they have lower levels of microbial populations that are naturally antagonistic to invading pathogens.

Sand's weak microbiology, lack of moisture holding capacity and absence of major and minor nutritional elements require amending. Typically, peat is added for this purpose. However, peat is a slow decomposing amendment and its complex structure makes it less than ideal for "jump-starting" microbial populations. SAND-AID, on the other hand, contributes a fast decomposing source of organic matter to increase microbial activity. In addition, it accelerates the breakdown of the peat, rendering the peat more effective.

Organic Matter Matters

Organic amendments are among the most important factors that determine the physical and biological characteristics

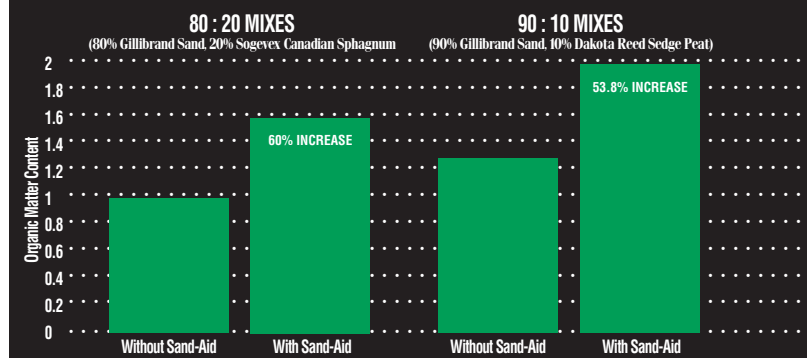
of sand-based root-zones. SAND-AID Granular Sea Plant Meal is the ideal amendment to enhance sand-based systems because it boosts organic matter without negatively impacting the physical performance characteristics of the soil.

Independent testing confirms that SAND-AID produces benefits quickly without degrading percolation or infiltration rates. It favorably affects the dominant microbial population and the available nitrogen content of the root zone. Its rapid organic fraction provides a far more readily available organic substrate for microbial activity than any other amendment. Nothing can match SAND-AID for stimulating microorganisms in high sand content systems. That means higher carbon release rates which in turn means more raw material for building turfgrass plant tissue.

No soil amendment stimulates microbial activity faster or better than SAND-AID. Because of its very favorable carbon to nitrogen ratio and because it contains almost no complex carbon

Sand-Aid Produces Superior Playing Surfaces

Adding Sand-Aid to sand/peat mixes increases organic matter content 53-60% without any adverse effects on their water holding capacity or infiltration rates.



Source: Turf Diagnostics and Design

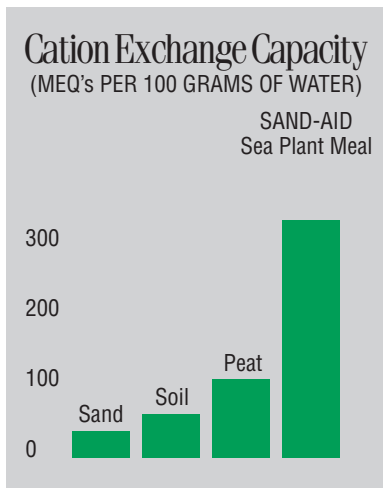
structures like lignin, cellulose or hemicellulose, SAND-AID is the fastest decomposing soil amendment available. For the same reasons, it can be safely incorporated in high sand topdressing programs without "layering."

SAND-AID Maximizes Fertilizer and Irrigation Efficiency and Keeps Nutrients and Moisture in the Root Zone Longer

SAND-AID significantly increases both moisture and nutrient retention. That's because the naturally-occurring carbohydrate, alginic acid (which makes up about 26% of SAND-AID's dry weight analysis), emulsifies in sand, greatly reducing both water losses and nutrient leaching. It helps keep other major and micro nutrient fertilizers in the root zone longer.

The ability of the soil to exchange cations is a measure of its potential fertility. SAND-AID has the highest cation exchange capacity (CEC) of any natural organic product.

SAND-AID is also an extraordinarily diverse source of nutrients. It contains every major, secondary and micronutrient known to play a role in turfgrass establishment and growth. It's the richest known



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source of trace elements—all of which are chelated by the natural sea plant sugar, mannitol. So SAND-AID not only provides significant holding capacity, but is itself an outstanding nutrient source. Clearly, it's an exceptionally cost-effective product to use.

Favorable Cost Benefit Impact

Since SAND-AID makes other amendments and fertilizers far more efficient (see research on our product OptiMil®), it can have very significant cost benefits.

SAND-AID can also improve tolerance to extreme environmental and cultural stresses. Research conducted over several seasons at Michigan State University found:

- ♣ SAND-AID "clearly improved turf quality as well as stress tolerance"
- ♣ SAND-AID's effectiveness also increased over time and the more intense the stress, the more obvious the differences were between treated and untreated areas."

After construction, SAND-AID should be applied as a topdressing amendment during aerification.

Playability and Stress Tolerance Go Hand-in-Hand

Greens and tees with superior playing characteristics require superior stress tolerance characteristics. Simply put, greens and tees that incorporate SAND-AID have higher stress tolerance thresholds. They will withstand more severe environmental stresses like high and low temperatures and drought. And, they will tolerate more culturally induced stresses like those associated with lower mowing heights and faster greens.

All Granular Sea Plant Meals Are Not Created Equal

SAND-AID is a unique blend of North Atlantic sea plants harvested in carefully regulated cycles and produced using a proprietary process to preserve the most beneficial constituents.

SAND-AID's moisture content is lower any other sea plant meal. So you receive more active beneficial ingredients per pound of SAND-AID. Moreover, our state-of-the-art drying process dramatically increases product purity and shelf life.

Similarly, we filter out the fine powdery particles in our production process as well as the coarse, larger particles for a more homogenous, non-dusty material. There are many other significant differences that make SAND-AID ideal for golf course and sporting turf applications.

"I recommend SAND-AID (which is fast decomposing)... lightly tilled into the green mix before seeding, as a supplement to the 15-20% of slow decomposing organic matter added to give the sand other properties. As the greens mature, the superintendent can then incorporate SAND-AID as a supplemental topdressing constituent...and also as an aerification amendment. And because it breaks down so quickly, there is no risk of layering..."

Dr. Michael J. Hurdzan, ASGCA, "Organic Amendments to Soils," Golf Course Management

Why SAND-AID is the optimal organic constituent:

- ♣ Stimulates microbial activity
- ♣ Improves seed germination
- ♣ Reduces nutrient leaching and water losses in sandy soils
- ♣ Holds and releases more moisture than any other natural organic material, including peat
- ♣ Improves soil fertility and fertilizer utilization
- ♣ Highest cation exchange capacity of any natural organic amendment
- ♣ Extraordinarily rich source of micronutrients and trace elements
- ♣ Won't layer.
- ♣ Has the fastest decomposition rate of any commercially available organic material.
- ♣ Environmentally safe; non-toxic, non-polluting, completely biodegradable



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