

Tifton Physical Soil Testing Laboratory, Inc.

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1014.01

Date Received: July 11, 2007

Date Reported: July 13, 2007

Sample Number: L203-07

Test Report For: North Alabama Sand & Gravel, LLC
P.O Box 1045
Decatur, AL 35602
Attn: Rodney Terry

Revised 11/11/03

Recommendations:

The 105 Bama Premium Topdressing Sand from North Alabama Sand & Gravel, LLC was evaluated on July 12, 2007, as a topdressing sand that meets USGA recommendations. The condition of the sample as received was normal.

The Sand had 93.0% particles within the USGA range of 1.0 to 0.15mm for a topdressing sand. This is a very high percentage of particles within this range with a majority of the particles (61.6%) in the medium sand fraction range. The USGA has recognized for many years that the medium sand fraction is the best sand fraction for a topdressing sand. This topdressing sand had only 1.8% particles larger than 1.0mm and only 5.2% "fines" (2.9% very fine sand, 1.6% silt, and 0.7% clay). This sand meets USGA particle size recommendations for a topdressing and rootzone mix (greensmix) sand.

The sand is a silica sand and not a calcareous sand with a pH of 5.8.

The sand had a water permeability rate of 28.6 in/hr. when compacted by USGA procedures to simulate a compacted golf green. This is a very adequate rate for a topdressing sand.

According to USGA guidelines for selecting a topdressing sand, this is an excellent topdressing sand. This topdressing sand will be compatible with any rootzone mix that meets USGA particle size recommendations. This sand is about as good as a topdressing sand gets.

Rowell Ginn

Recommendations are based on the samples received. Results and comments relate to the samples tested. This report cannot be reproduced except in full, and not without written approval of the laboratory.

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PHYSICAL ANALYSIS¹

| MIXES ANALYZED (% by Volume) | | | SATURATED HYDRAULIC CONDUCTIVITY in/hr | POROSITY (%) | | | BULK DENSITY g/cm ³ | WATER RETENTION AT FIELD CAPACITY % | CHEMICAL | |
|-----------------------------------------|------|-----------|-------------------------------------------|-------------------------------|-----------------------------|---------|-----------------------------------|----------------------------------------|-----------------|-----------------------------|
| SOIL | SAND | AMENDMENT | | NON-CAPILLARY (air-filled) | CAPILLARY (water-filled) | TOTAL | | | pH ² | EC ⁷ mmhos/cm |
| 104 Bama Premium USGA Td Sand | | | 28.6 | 30.9 | 11.0 | 41.9 | 1.54 | 7.1 | 5.8 | |
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| USGA Recommendations for Root Zone Mix: | | | Minimum of 6 in/hr. | 15 - 30 | 15 - 25 | 35 - 55 | | | | |

PARTICLE DENSITY⁵ 2.65 g/cm³

PARTICLE SIZE ANALYSIS

| SAMPLES | GRAVEL 2 mm % | SAND FRACTIONS (% Retained) ³ | | | | | SAND ⁴ 0.05-2 mm % | SILT ⁴ .002-.05 mm % | CLAY ⁴ <.002 mm % | ORGANIC MATTER ⁵ % by wt. |
|----------------------------------------|---------------------|------------------------------------------|------------------|-------------------|-----------------|----------------------|-------------------------------------|------------------------------------------|------------------------------------|--------------------------------------------|
| | | VERY COARSE 1 mm | COARSE 0.5 mm | MEDIUM 0.25 mm | FINE 0.15 mm | VERY FINE 0.05 mm | | | | |
| 104 Td Sand | 0.1 | 1.7 | 18.6 | 61.6 | 12.8 | 2.9 | 97.6 | 1.6 | 0.7 | |
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| USGA Recommendations for Root Zone Mix | ≤ 10% (≤3% gravel) | ← Topp Dressing Sand → | | | ≤ 20% | ≤ 5% | | ≤ 5% | ≤ 3% | |

Note: Total 'fines' (very fine sand, silt, and clay) in a root zone mix should be less than (<) 10%.

1. Determined at 30 cm tension by USGA testing protocol (ASTM F1815) 2. ASTM D4972 3. ASTM C136 and F1632 4. PSA Bouyoucos, 1962
5. ASTM D854-98 6. ASTM F1647 7. Soluble Salts, Methods of Soil Analysis, Agron. 9, Pt. 2, 936-940, 1965.