



Palm Beach Trade Winds



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With the subject of topsoil and topdressing you immediately think of the old jokes in school about soil and just dirt. I distinctly remember my first day in the class of soil principles. The entire class session was spent drilling into our minds the difference between soil and dirt! For two words to be so synonymous, they are absolute antonyms to the agronomist.

First of all, we as professionals must call the media always soil and not just dirt. I think of soil by definition as being the aggregates of the earth's crust, possessing mineralogical values in a relationship to microbiological activity and available air and water pore space to support a biological function for the plant growth. Wow, I guess that's what I mean. However, I think of dirt as simply being a useless accumulation of the earth's crust with virtually no nutritional values, poor structure and density that otherwise can not support plant life. Commonly being the dirt one vacuums from the carpet.

There are times when we easily become discouraged with the soil media that we are often forced to grow turf upon. Perhaps there are even times when we feel the soils make-up of our greens is . . . just dirt. Our seemingly number one major problem of Florida appears to be the morphology of our soils. Professors show us the typical charts of the sand/silt/clay triangle, however, the superintendents are the ones who must work with the lower left hand corner which reveals "mostly sand or pure sand". Research and actual use of sandy soil greens prove that if given enough available moisture and budget to support high fertility levels, one can maintain excellent greens on sandy soils.

Superintendents often produce superlative turf on sandy soils, however, we try to come in and modify the soil with what we feel is a better soil media. This quite often is not the case, for we will pay the bill later through accumulated thatch buildup and the inability of the soil to percolate.

Since our basic media is sand, how can we go about helping ourselves from the very beginning. Fortunately for myself, I was hired at Boca Greens during early rough grade construction. This allowed me to work with golf course architect Joseph Lee, as he employed the ideal choice of construction. Native topsoil was of excellent cultivated farmland. A more expensive and tedious procedure of stripping the farm land, stockpiling, then digging and hauling from tentative lake beds, resulted in the best needs of the contours. Then the native soil was top-dressed at layers of at least 12 inches for the final coating of most all land elevations. It was at these stages of construction that Joe Lee and myself examined the native soils

and tested for the best soil media for the greens. Even though we complain about the sand, yes, we can achieve excellent drainage. This should be one of our primary goals during greens construction. U.S.G.A. specifications of tile and drain pipe along with gravel, seldom are needed in Florida, however testing should be performed of the soil. I had an infiltration test performed, that revealed percolation in excess of eight inches per hour. Yes, this seems ideal, however improper topdressing can destroy such data in a matter of a few years, if soil particle sizes are not matched to the native soil.

One does not necessarily have to be a soil science major in order to achieve proper drainage. There are several laboratories in our industry that are readily available to assist us. Laboratory and field technician, Lynn Griffith, of A & L Laboratories explains an infiltration test. "Taking a part of your existing field and placing it under laboratory conditions to simulate rainfall, thereby measuring the amount of infiltration over a given period of time." The procedure can best be described as taking probes of the upper 4 inches of the soil. Then mix with sodium aexemaphosphate to keep the soil particles from adhering to each other. The soil is then placed within a cylinder of 2 inches in diameter by 12 inches of length. The soil is gently settled to near field conditions. Distilled water is then allowed to infiltrate through this column of soil for ½ hour, to form a homogeneous mixture of soil without air pore space. After this period of time, the testing actually begins. This contraption of hoses, tubes, buckets and graduated cylinders looks much like a downhome distillery, however the device technically allows water to percolate over a prescribed amount of time to quite graphically reveal the amount of water infiltration per hour. It is with this test, I can set the standard for which the greens should percolate. Your topdressing **MUST** be purchased with this in mind.



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When it finally comes time to plant the turfgrass and eventually begin a topdressing program, the controversy really begins. Idealistically, I would choose to topdress with the surrounding native topsoil, so that I might match the exact particle sizes. Obvious problems of weed seed contamination, not to mention other problems, immediately eliminate such thoughts. Because of many outside vendors, who commercially offer a more suitable soil, your homework begins. First you must analyze your comparison of particle sizes. Brookside Farms Laboratories Ass'n., Inc. has analyzed our sieve size in a ratio to allow me to understand the ratio of particle sizes, ranging from the smallest to the largest ones. I can then even test various topsoil medias on the market and feel free to choose that which best harmoniously blends to our existing soil. Tests reveal 75% of Boca Greens soil media falls between the sieve sizes of 10 and 60, (medium through large particle sizes) while only 25% of the material falls into sieve sizes of 80 to 100 (small sizes). The coarser particle sizes will aid in hendering compaction, while allowing proper infiltration of available moisture, nutrients, proper pore spaces and ultimately support deeper roots correlating to a healthier stand of turfgrass.

Once you have finally found the media which is best suitable, you then must decide upon the blend. A test of the percentage of sand/silt/clay should be performed on the native soil. A percentage of approximately 5% clay, 0% silt, approximately 90% sand and up to 5% organic matter will produce an ideal media. To achieve these ratios within a blend will cost a few dollars of laboratory testing. The time and money will prove beneficial with years of dividends.

Our ultimate goal in a topdressing program is to not produce an excessive thatch buildup at an alarming rate. Afterall, thatch by definition is an excessive accumulation of growth buildup. Since we are producing a putting surface at mowing heights below 1/4 of an inch year round, we find ourselves beating our putters against a wall. In order to produce the product, thatch will always be a byproduct, so therefore topdress with a soil media that theoretically will meet your best overall demands— but never use just dirt! ■

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