

Watching Your Tees & Q's

By STEVE BATTEN AND BUD WHITE
United States Golf Association-Green Section
Southeastern Region



Florida Mucks & Peats

Organic soils which contain peat and muck are common to all coastal regions in the Southeast from Texas to North Carolina. Fibrous peats formed from decomposed vegetation are common to the cooler regions of North America such as Canada, but in Florida, the warm humid climate has helped to form one of the largest accumulation of well decomposed organic soils in the world. These Florida organic soils range from well decomposed black muck to less oxidized red peats. Both are common to the water flowing regions of central Florida.

The red fibrous peats are common in north central regions north of Okeechobee. The black muck soils can be found in large deposits in the lower water storage areas of the Everglades from Lake Okeechobee south to the tip of the Florida Everglades west of Ft. Lauderdale and Miami. The texture can vary from a fine well oxidized muck to peaty mucks, mucky peats and fibrous peats. The peats most commonly mined east of Tampa and La Belle, Florida are peaty mucks used as solid amendments for agriculture.

Muck is a localized term that is used to refer to the black or dark brown organic soil formed from the oxidation of marsh grasses and other vegetation. The oxidation of the marsh vegetation is referred to as Trophiphacation.

Muck can absorb up to 33 percent water by weight, so they can have some advantage in agriculture by helping to store soil nutrients such as nitrogen. However, on golf courses this water storage capacity has cost thousands of dollars annually in golf car rental revenue by closing a course after a rainy period. The ability of muck to hold water similar to a sponge makes muck fairways difficult to drain.

Often muck layers as deep as 3-5 feet below a fairway will cause a wet soil condition even if the topsoil is fine

sand. Muck should therefore be removed prior to construction or mixed into the sand to form a mixture that is dominant in sand to organic matter.

Of course most Florida golf course superintendents are aware of algae and disease problems associated with wet greens soil mixtures that have a large amount of muck. The largest concern by most turfgrass managers however is what's below the greens soil mixture. If solid muck is below, then a subsurface tiled drainage system should definitely be considered prior to construction. Also all muck should be removed, if possible, away from the actual green site to prevent future water retention problems.

A layer of muck on the surface does have its place. If used on birms and non irrigated areas, the nitrogen and water holding characteristics of these soils can be taken advantage of. Often better quality turf and fewer nematode problems are observed on birms in roughs with a muck cap over a sand subbase. This is where a few dollars and a little care taken during golf course construction can pay big dividends in reducing future maintenance costs.

Common sense management of these slightly acid organic soils will help to produce good quality turf. Since these soils are lacking calcium and magnesium, dolomite will provide an excellent liming material. Be sure to keep up on steady applications of phosphorus and potassium to encourage turfgrass root development. When applying micronutrients, concentrate on zinc and copper because these two are commonly deficient in muck soils. When faced with growing turfgrass on muck soils, the best thing we as turf managers can do is to turn off the irrigation and let the golf cars roll. ■