

TURFGRASS

Visualizing yourself as a turfgrass root



To get the proper perspective on dealing with the below-ground influences on turfgrass plants, Bob Carrow, Ph.D. at the University of Georgia, says you have to "visualize yourself as a root."

Getting "down and dirty" about roots, Carrow outlined their functions at Turfgrass '88 in Baltimore: to anchor the plant, absorb and translocate nutrients and water, synthesize and transport certain growth-regulating hormones, and help store carbohydrates.

To further understand roots, he advised familiarization with characteristics such as growth cycle, rate of extension, depth and density and genetic limitations: "We have to work within the genetic potential of the plants."

Root strength can be limited by physical and chemical properties of the soil, he noted. Compaction, oxygen level, water content and soil temperature limit roots physically. Chemically, pH, nu-

trient levels and balances and salt levels all affect root potential. Influences from other organisms also play a part.

So what does the turfgrass manager do to improve rooting? For starters, Carrow suggests selecting species and cultivars with genetically better rooting systems, information which USGA Green Section can provide.

Secondly, promote maximum net carbohydrate production with greater leaf area from higher cutting heights, provide sufficient nutrition and light and avoid consistent drought stress.

Also, avoid depleting carbohydrate reserves from excessive nitrogen feeding, over-watering and close mowing.

Physical and chemical soil conditions not conducive to strong root growth should be corrected, along with poor biological soil conditions such as the presence of diseases, insects and excessive thatch.

EQUIPMENT

Utility tractors great for landscape chores

Because of its versatility, the compact utility tractor is becoming more important to the landscape/golf course market.

"If mowing is the only thing this guy does, I'll sell him a mower," says Martin LaRue of Brooklyn Tractor and Mower, Cleveland, Ohio. "But if he's going to do more than mowing, I sell him a utility tractor. They're virtually the same price."

The compact utility tractor falls between riding lawn mowers and large (20 to 80 hp) tractors, making it useful for large mowing jobs and/or small landscaping chores.

Most compact utility tractors are made overseas. They come with a variety of accessories ranging from post-hole diggers to loaders, backhoes, plows and mower decks.

Landscapers use them for a variety of tasks while golf course superintendents usually pull reel mowers in gangs behind them.

Probably the most important factor in selecting a compact utility tractor is the amount of power in the power take-off (PTO). Fifteen to 20 hp is usually enough for light landscaping jobs, but golf course superintendents who have larger (seven gangs or more) mowers need at least 30 hp, according



Utility tractors like this one can double as grass mowers.

to LaRue. And for production mowing, a machine with cruise control eventually pays financial dividends.

Ground speed should be one of the

least important factors in selecting a compact utility tractor. Most compact tractors don't top 12 mph for safety reasons.