

Turf Trivia

Editor's note: Here's another installment in the series of little publicized or overlooked benefits of turf — golf or otherwise. I hope you take the opportunity to copy them and put them up on locker room or pro shop bulletin boards. It's an easy way for you to help educate the golfing public at the grass roots level.

Soil Building

Topsoil takes thousands of years to develop. It is lost quickly by wind and water erosion. Turfgrasses finger many fine rootlets into all crevices of the soil where they grow and as they decay, they turn clay into topsoil! Grass is the most effective plant in conditioning the soil.

Lawn grass roots are continually developing, dying off, decomposing and redeveloping. Every individual plant of Kentucky bluegrass produces about three feet of leaf growth each year under favorable growing conditions.

The average lawn produces clippings at the rate of 233 pounds per 1000 square feet a year. By leaving clippings on the lawn and allowing them to decay in place,

the equivalent of three applications of lawn fertilizer is made.

This process builds up humus, keeps soils microbiologically active and, over time, improves soils physically and chemically. Microorganisms in the soil feed on grass roots.

Worldwide grassland soils are best in terms of productivity. Grass improves the soil by stimulating biological life in it and by creating a more favorable soil structure for plant growth (*Hamm 1964*).

Erosion Control

Lawns protect our natural soil resource. Grass roots hold the soil in place, and grass leaves act as a covering to protect soil particles from blowing or washing.

Soil erosion is one of "the most pressing environmental issues facing the U.S. today. Nearly 6 billion tons of soil wash or blow away each year, a figure now exceeding the total amount of erosion experienced during the devastating 'Dust Bowl' years of the 1930s." This soil erosion costs between \$6 billion and \$16 billion per year. All of us share in paying this cost (*Payne 1987*).

Wind causes loss of soil by erosion of bare earth. The lighter soil particles, lifted by the wind and held in suspension as dust, create a safety hazard by reducing visibility. Soil particles that are larger may be dropped and deposited, and in the process act as abrasives. Even a 2-inch bare spot on the ground can be subject to



- Minimal damage to course.
- Minimal labor to replace bunker sand creates opportunity costs.

Golf Agronomics Supply & Handling

Serving Central & South Florida
Coast to Coast

2165 17th St.

Sarasota, FL 34234

(800) 626-1359

(941) 955-4690 Fax

Golf Agronomics meets all your top dressing needs with our ability to customize your mix with a variety of soil amendments including:

**Dolomite • Hi-Cal • Wetting Agents
Charcoal • Humic Acid
Minor Elements • Rock Phosphate
Gypsum • Customer Products.**

Golf Agronomics donates a % of every ton of top dressing sold to the FGCSA. Since its opening, we have donated in excess of \$23,000. Our sincere thanks to all of our customers.



erosion, so plant densities of at least 70% are recommended. A good turf cover meets this need.

The most common soil-eroding agent is water. The impact of raindrops on bare soil displaces the particles and causes them to mix with water and be carried away. The leaves and stems of grass plants cover the soil and intercept the raindrops. They also help to control runoff by interfering with the water as it flows across the ground, slowing the velocity and allowing water to infiltrate the soil (Hamm 1964).

Turfgrass roots penetrate into the soil and hold particles so that they are not lost by wind and water erosion. Fine fibrous roots make up an extensive, branched system that is characteristic of the grass plant. Up to 90% of the weight of the grass plant is in roots (Brown 1979).

Grass binds the soil more effectively than any other plant. One single grass plant grown under ideal conditions has a tremendous root system — 387 miles of roots (equivalent to the distance between New York and Montreal!) Howard Dittmer at the University of New Mexico estimated that a Kentucky bluegrass plant can have 2,000 root branches (Owens 1980).

Roots also loosen the soil and add organic matter, both of which increase soil permeability so there is less water runoff. The denser the cover, the more efficient the turf is in preventing erosion (Watschke 1987), and grass plants remove soil particles from silty water. Studies show healthy lawns absorb rainfall six times more effectively than a wheat field and four times better than a hay field (Anonymous N 1987).

Plant transpiration pulls water out of the soil, helping to keep the soil from getting waterlogged (Margolin 1975).

When new roads are being built, grass seed or sod is put in place as soon as the proper grade is made in an area to prevent soil erosion. The medians are often protected by grass even before the road surface is put down because without such protection, soil would move with wind and water and cover the roadway (Heady 1968).

Golf turfgrass in the United States protects two million acres against soil

erosion. Numerous golf courses have been built on old waste landfills, turning unproductive regions into useful sites and undesirable locations into desirable ones. This is direct land conservation plus conserving topsoil by grassing highly erodible land with turfgrass (Payne 1987).

Silt has filled many water systems around the world. The U.S. Soil Conservation Service found that reservoirs with

dams averaging 30 feet high often filled in completely with silt in 29 years. Grass areas protect soil from eroding and prevent the loss of lakes and reservoirs (Heady 1968). They also lessen the cleanup of drainage channels (Schery 1976). These water storage spaces are important for water supply and also provide desirable recreation areas.

Environmental Waterway Management Continues to Grow!

Services now include

- Lake Management
- Wetlands Planting and Maintenance
- Exotics Control
- Industrial/Agricultural/Vegetation Management
- Right-of-Way Vegetation Control

We proudly announce new services and our new name...



Aquagenix
Land - Water Technologies

1-800-832-5253



Serving Sunbelt States Since 1974