CHALKBOARD

TIPS FROM THE PROS

SUCCESS WITH SOD

One of the hardest yet smartest things a sports turf manager can do when he is unable to keep turf on a playing field is to raise a white flagand quit spending money on maintaining mud. It's hard because it's admitting that with all his special knowledge he can only push natural turf so far. He is no longer a miracle worker.

It's smart because it forces management to put a price on field maintenance and a limit on field use. Items that were once considered luxuries suddenly make more sense. One of those so-called luxuries is sod.

When a field keeps going bare in certain areas because of overuse, and that level of use is expected to continue, periodic renovation and resodding are necessary. It's an investment to keep the field in use and safe for players.

Dr. Henry Indyk, turf specialist at Rutgers University and sports field consultant, believes every sports turf manager should be very familiar with proper sod installation. "It's one of the skills every sports turf manager should have," says Indyk, "even if the areas being resodded are small."

Adequate drainage, irrigation, soil texture, fertilization and soil preparation are as important for sodding as they are for seeding. The whole idea is to get the sod's roots to grow into the soil as fast and as deeply as possible. The field can then be put back into play and the turf will recover rapidly from heavy use.

"Correcting drainage and irrigation problems may cost more than the sod," says Indyk, "but it is the only way to gain control over maintenance costs later." Once the turf manager has control of maintenance, field use levels and weather are the only remaining variables.

Once drainage and irrigation are corrrected, attention needs to be focused on the soil. Soil samples should be sent to a lab for testing to determine if they contain all major and minor nutrients, have a texture which permits water to percolate through them fairly rapidly, and are compatible with the soil the sod was grown in.

Compatibility—"Sod grown on heavy-textured soil will not perform well on a field that is mostly sand," he points out. "A few sod growers have begun to grow sod on sandy soils just for installation on sand-based fields. The only other way to improve compatibility of heavy-textured sod on sand fields is to wash the sod prior to installation."

Santa Ana bermudagrass is sprigged in a sandy, 50-acre field at Pacific Sod's farm in Camarillo, CA.

Selecting a sod grower should be based upon the quality of sod and the compatibility of the sod compared to the field soil. Sod producers in some parts of the country will custom-grow sod to meet a sports turf manager's needs. In such instances, the specifications for the sod must be clear during bidding since the price of the custom sod will be higher than standard sod.

Indyk encourages sports turf managers to incorporate sand into the soil of important playing fields. The sand portion should be at least 80 percent of the volume of the soil. Furthermore, sands vary greatly in size and shape. Dr. James Beard at Texas A&M University recommends sand with particles ranging from 0.25 to 1.2 mm in size for soil modificiation. The cost of such sand can be significant for an entire field.

Preparation—The same preparation for seeding is necessary for sodding. Even if the turf on a field is extremely thin, do not install sod over it. The soil needs to be cultivated to a depth of three inches and smooth-graded to the slope specified in the field design. If topsoil is going to be added to the field, the subgrade should first be loosened by disking or scarifying to a depth of at least two inches to permit bonding of the topsoil to the subsoil.

The soil test will show the pH (acidity/alkalinity). The proper range for soil pH is 6.0 to 7.0. In case of a problem, corrective materials should be mixed into the top four inches of soil.

Lime should be worked into the soil to correct highly acid soils (those with pH below 5.5). The American Sod Producers Association (ASPA) suggests that at least 50 percent of the lime be either magnesium oxide or calcium oxide. No more than 25 pounds of oxide forms of lime should be applied to 1,000 square feet per application.

Moderately alkaline soils (pH between 7.5 and 8.4) can be corrected with elemental sulfur applied at a rate of no more than five pounds per 1,000 square feet. Use of ammonium sulfate and iron sulfate fertilizers during maintenance can also modify alkaline soils. Use of these fertilizers should be avoided on acid soils.

Apply a starter fertilizer in addition to any nutrients that were deficient as indicated by the soil test. Pay special attention to potassium, phosphorus, iron, magnesium and calcium levels. Incorporate the fertilizer into the topsoil. The sod will contain sufficient nutrients to grow up to six weeks

without additional fertilizer.

Faster Rooting—Recent tests by Dr. R. E. Schmidt at Virginia Tech have shown that applications of chelated iron, iron sulphate, certain wetting agents and cytokinin-like fungicides can speed up root growth of Kentucky bluegrass by as much as 100 percent in the spring and 50 percent in the fall. Smaller increases were reported for tall fescue. In Schmidt's test, these materials were applied to sod one week prior to harvesting. After allowing four weeks for the sod to knit, he used a device to measure the amount of strength it took to pull up a section of the sod. He also measured root length.

Over four years, Schmidt has tested these materials individually and in mixes with positive results. Certain turf fungicides and seaweed extracts contain hormones called cytokinins, or chemicals closely resembling cytokinins. These materials stimulate cell division of plants. Bayleton by Mobay and Banner by Ciba Geigy are fungicides which increase root growth when applied to turf at a rate of one ounce per 1,000 square feet. These materials are not labelled for use as rooting stimulators, but are registered for application on turf for disease control. As long as the purpose of the application includes controlling disease, it is legal.

Root stimulation was also found after applications of the wetting agent Aqua-Gro by Aquatrols Corp., chelated iron, iron sulphate and seaweed extract. The greatest results were produced by combining one of the fungicides with one pound of iron per acre and 1/10 pound of urea per 1,000 square feet.

The original intent of Schmidt's research was to find methods to speed up sod growth so it can be harvested earlier. Post-installation rooting is a side benefit he discovered. Like anything else, the cost of the applications, estimated at $90-100 per acre, will be passed down to the buyer. The research is new and many sod producers may not be aware of it.

Sod root growth and knitting are dependent on soil temperatures. A few field managers and golf course superintendents have accelerated the rooting of sod by raising soil temperatures with covers. By creating a greenhouse effect, soil temperature and moisture content are improved to help the sod knit faster.

Indyk reminds turf managers that thicker sod actually takes longer to root than thinner sod. Heavier, thick sod may provide better footing initially but the additional time it takes to root may be a problem for fields requiring well-established turf in four to six weeks. A heavy topdressing with sand is used by some field managers to help weight down fresh sod in emergency situations.

Installation—Protecting sod from shock during transportation, planting and after installation is very important. The period of time between harvesting and planting should be as short as possible. Some sod growers are treating sod with wetting agents to prevent shock from moisture loss during transportation.

The soil surface should be lightly moistened before sod is installed. Sod should be laid in sections with each section taking no longer than 30 minutes to install. Each section should be watered as soon as it is completed. Daily or more frequent irrigation may be required for the first two weeks to keep the soil beneath the sod moist.

Assuming a field is important enough to sod, it is also correct to assume it is important enough for a permanent underground irrigation system. The ultimate goal is to provide a uniform application of water to be stored by the soil beneath the sod. As the sod roots, irrigation frequency should be reduced to encourage the roots to search below the surface for their moisture needs. Too frequent irrigation discourages deep root growth and can cause conditions on the surface favorable to diseases. Wet surface soil also compacts much more quickly than drier soil.

Some people might think spending money on sod is foolish when a field is expected to be demolished by use during the season. On the other hand, sod is reliable and provides an excellent athletic surface. Resodding should not be an embarrassment to the sports turf manager if it is necessary under existing use conditions. It simply is what has to be done under those conditions for a field which is too valuable to keep out of play.