

is important for perennial warm season turf that may already exist on the site such as weedy off-type bermudagrass, zoysiagrass, bahiagrass, centipedegrass, kikuyugrass, etc. that is undesirable in the new turf or creeping perennial weeds such as nutsedge, nimblewill, etc.

In the Northern area of bermudagrass adaptation (USDA zones 6-8a) it is necessary to spray out perennial cool season grasses such as ryegrass, tall fescue, Kentucky bluegrass, etc. and perennial cool season weeds such as quackgrass, etc., that could compete with your bermudagrass. Make sure that any herbicides used do not have soil activity that could inhibit seed germination or cause injury to seedlings.

Apply starter fertilizer and soil amendments to the soil surface and incorporate using a disk, rototiller, or similar piece of equipment; put one-half in one direction and the other half perpendicular to the direction of the first pass. Work up the ground to a minimum depth of 6-8 inches but preferably 8-12 inches using a disk or rototiller. Disking and rototilling will bury weeds, organic matter, etc. and will provide a clean soil surface. It also will eliminate/reduce layering in the soil profile, and improve tilth and drainage of the soil. Incorporating fertilizer and amendments will provide a deeper, healthier rootzone for the young seedlings and established turf.

If you have a heavy clay soil or extremely sandy soil, the addition of organic matter may be done before rototilling/disking.

Organic matter will improve soil structure, allowing for better drainage in a heavy clay soil. In a sandy soil, organic matter will increase the water and nutrient holding capacity of the soil. It is often necessary to make 2-3 passes in different directions, or offsetting in the same direction to incorporate materials to the desired depth and break the soil clods to a small, desirable size.

Use a landplane, box scraper, blade or laser grading to achieve a final grade. Usually a 1-1.75% grade is sufficient for surface drainage.

Proper seedbed preparation is critical for the establishment of the turf, and short cuts should not be taken. Seedbed preparation is something that is only performed once for the life of the turf site, and by providing an optimum rootzone for the establishment and future growth of the turfgrass, many potential future headaches can be alleviated.

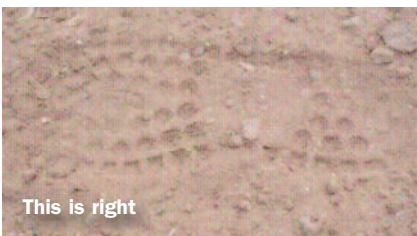
Drainage issues both sub-surface and surface should be addressed before you start. During seedbed preparation, you are providing the future rootzone for your established turf. Make sure that your turf will have a healthy 6-12 inch rootzone by eliminating providing proper soil pH and fertility.



Too soft



Too hard



This is right

Photos courtesy of Pennington Seed

soil layering and  
-Russ Nicholson

## Better sodding results Part II

There are many different situations that require sports turf managers to install new turf, and each one has different situations and timelines. They can range from the projects that are 2 years out that can be planned ahead of time down to "I need turf tomorrow so we can play on the field this coming weekend." Each project requires a different approach, although the steps are all equally important.

Starting with your general managers and ending with the person in charge of the final steps of the project, you must outline all of your expectations and goals from start to finish. You are the final say on every step of the project. If everyone knows your expectations going into the job, they will be better prepared and willing to go the extra mile to make your project a long-lasting success. It is important to review those expectations and goals regularly. Also, be willing to keep an open mind with outside ideas.

The process of selecting your turf means that you are going to be building a relationship with the sod grower that will last over the years, making repairs and re-sodding easier. This can be an educa-

tional time for both the producer and the sports turf manager.

Research is vital. Check out the farm's resume and follow up with previous customers to find out their history. Visit the farm you want to work with, examine the product, walk the fields, dig around, and observe the overall operation and get a feel for their standard of quality. If it is feasible, visit the farm periodically to inspect the product. It takes time to develop trust with your vendor. Don't assume anything. When you are visiting, don't be afraid to express your opinions and ask questions.

When you are satisfied with your choice of sod producer, you can begin choosing your turf. Start with the sand/soil selection. Check the analysis of the growing medium on your sports field and ask for soil samples from the farm to verify that they closely match. If the sand/soil selection is not what you want, decide if it is close enough to succeed. If a closer match is needed, start talking about importing the correct growing medium for growing the turf.

Once you have established the correct soil type, move on to the



Photo courtesy of Graff's Turf Farms

varieties of grass. Find out what turf the farm grows and why. If these varieties work for you, you're all set. If not, decide if they will be close to what you require. Depending on your circumstances, you can decide if the turf variety offered will perform well in your field. If not, ask yourself if you have time for a custom grow. Custom grows are a great option and allow you to implement all of your ideas.

The next consideration is the depth of harvest. This is critical: Will you play tomorrow or in 3 months? What time of year is the turf going in? Who is playing on the field? All of these factors must be taken into account when deciding depth of harvest. Inform the farm of your mowing height and request that the sod comes in at or under what you prefer.

Just as important as the turf is the equipment used for harvest. Is the machinery in good condition? Can they see your job through with no delays?

The foundation of your playing surface must be perfect; there is no room for error. As with the turf producer, choose your contractor carefully. You will want a long-lasting relationship here as well. Throughout the process of the field preparation, watch every step of the operation to insure it will meet the specifications. The turf farmers and turf installers will thank you for your diligence on the final grade. The extra care shown here will visibly enhance the high-quality of the product you have chosen. If at any time during the project you have questions or concerns, stop and clarify.

As with the turf producer, check the history of the company doing the install. If you are not already, this is the time to become a perfectionist! Machinery is top on the list here. There are several options out there: track machines, wheeled machines, forklifts, or tractors.

For example, we use lightweight, truck-carried forklifts with four large floatation tires. These are exceptionally versatile machines that can unload trucks, move turf in and out of the field, and install turf. They leave very few imprints on the grade and are very nimble when turning on graded surfaces or freshly installed turf.

You and the installation crew must protect the final grade at every step of the job. It is difficult to fix the grade once the turf is laid. Walk the job as the installers are working, making sure the simple things are correct: seams tight, ends tucked and butted

squarely, and when there is patching to be done, the largest possible pieces are used.

As the turf is going down, start watering. Although the turf may appear fresh and healthy, it is stressed—after all, its lifeline was just severed. No matter what the weather is like (unless snow or rain), water! Designate one or two individuals to hand water as the turf goes down, and communicate with the installers. (Don't water them or their work space; they melt!)

The working relationship with the installers is crucial, for time and quality are very high on the priority list. Everyone must communicate throughout the day so the work at the jobsite flows smoothly. As with every step of the project, communicate your expectations of what you want done.

Everyone has different opinions on fertilizing turf: how much, the analysis, timing, dry or liquid, etc. There are many good options out there, so use what you are comfortable with. Start with soil and tissue samples and build your program from there. A critical issue here is the fact that when the turf was harvested, a bit of your roots and nutrients remained on the farm. Typically it requires 12 to 18 months to develop the root system; you have a very short window of opportunity to get them going again. An aggressive fertility program is needed to quickly establish a healthy and stable turf that is safe and playable. Continually monitor your root development using a soil profiler. This will keep you informed on progress and also if there are any problems developing with the grow-in.

Irrigation also plays a vital role in reestablishing your root system and maintaining the density of the turf grass. Before the turf goes down, check your watering system, and after the turf goes down, check your system again. Make sure the water is being applied evenly over the entire field. If it is not, you will notice a difference in the quality of the turf density and root establishment. Don't hesitate to pull back turf to check moisture throughout the turf and root zone.

New turf can stress on top even when the subsoil moisture is sufficient. (Usually this occurs in hot, windy conditions.) Beware of over-watering; allow the roots to develop. There is a fine line between not enough water and too much water so observe constantly.

To achieve the best results know your goal(s) and share them. Set up a program that will get you the desired results. **-Marty Thiel. ■**