

of semi-truck drivers asleep with the diesel engine running the air conditioner at 5 am on a 90 degree morning (it has happened!).

Consider laser grading the field after tilling. Get out to some of your STMA chapter-organized field days and get a chance to look at a laser leveling operation in process. You will be impressed with how close the grade is to perfection when it is complete. This will help drain surface areas if adequate drainage is/was not installed.

Close the mainline valve the night before sodding. This should be standard practice the day before sodding (I can tell you from experience after showing up to a lake with 100,000 square feet of sod ready to go right in the middle of it). Simply turning off the irrigation controller doesn't cut it if a valve breaks in the wrong place.

Consider spending a few extra dollars and request that the sod be sprayed with a plant growth regulator (PGR) a week before shipping. This is effective in two ways. First, slowing down the respiration of the plant will permit less heating in the rolls. This will provide longer transport time particularly useful for sod shipped long distances. The second benefit is the fact that a PGR will generate more growth laterally closing seams while also enhancing rooting into the rootzone while effectively slowing top growth. This will act as a catalyst to generate more rooting before having to mow the turf too soon due to excessive top growth. This works especially well with cool season big roll sod in a warm season climate.

Make sure the irrigator handling the initial watering has both knowledge and control of the irrigation field controller. The irrigation tech must also continually hand water the sod as it goes down with a hose attached to a quick coupler or any other source, particularly on hot days. This specific hand watering will ensure that all sand and soil lying on top of the sod is properly washed off and not heating up and burning the turf below. Hand watering will also increase the effectiveness of finding hot spots that may need more water initially while keeping the water at only the necessary level on other areas where the irrigation system will adequately and uniformly distribute water.

Hopefully you have had an irrigation audit to increase irrigation efficiency; however, we do install sod on windy days and efficiency goes out the window with a slight breeze.

Fertility. We could go on and on about fertility, but there are sev-

eral important points to note. If you have a sand-based field you may lose a lot of nitrogen if applying too much before or even after sodding. You may or may not choose to use a pre-plant fertilizer depending on your soil profile. You should apply water soluble fertility through a fertigation system if you have one or use a spray rig after the sodding is complete and tacked down with roots. If you have questions regarding fertility, talk with your sod farm rep or your fertilizer rep about a grow-in and maintenance fertility program.

And finally—rolling. For many years I have listened to architects, university turfgrass professors, field managers, landscape contractors, sod farm salesmen on the subject of rolling. Here are my thoughts:

If you have a nice firm grade you will only have to roll if your sod installer uses equipment that leaves tracks. If you use turf tires or even a track layer you may be home free without having to roll. If you are sodding with thick-cut material due to a fast approaching event you will need to roll the sod because thick-cut sod will have air pockets that need to be compressed. If you are using a tractor without a side shifter and you are rolling over part of the sod, you may need to use a sod roller to compact all of the seams evenly.

Many high profile athletic facilities will use 1.5 ton rollers but they have different goals and a larger budget than say, a high school field. Professional field managers in some cases have so many other events they have the ability to re-sod annually. In that scenario they will often rip the field and till the soil, which will relieve compaction allowing for some rolling to be done once the field is installed.

A high school field will not have that luxury and each time the field is rolled you increase the rate of compaction. In some cases more harm than good is done when rolling a field with a heavy roller or an inexperienced operator. If you *must* roll, make sure the field has the proper moisture level and be sure to flag heads and valve boxes. Start firm and apply water if necessary.

If you consider all of these steps to sodding you should be in good shape. But remember that your final product is not all about the sod. At our sod farm we like to say that "your success is our success." A good majority is about all of the preparation that goes into the field before sodding and how you maintain the sod thereafter.

-John Marman

Prep for better bermudagrass establishment

Preparing a good seedbed is critical to establishment and can help prevent problems that are hard to correct later.

Planting dates for seeded bermudagrass vary based on climates. There is no one best date to plant, but rather planting windows. Seeded bermudagrass varieties are best planted in the spring when soil temperatures are consistently above 65 F (18 C) at a 4-inch depth. Optimum soil temperatures for bermudagrass growth and development are 75-85 F.

A soil test is the best means to assess the fertility needs and pH

of the soil. If a soil test is not obtained, it is generally advisable to apply a balanced fertilizer containing N, P, & K. Your local Extension Agent or fertilizer rep can provide recommendations for your area. A soil pH outside the optimum range of 6.0-7.5 should be adjusted to provide a more favorable growing environment. Elemental sulfur or gypsum can be added to lower soil pH, lime can be added to raise soil pH.

Use a non-selective herbicide just before planting to kill weeds or undesirable turf that may compete with the new seedlings. This

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.

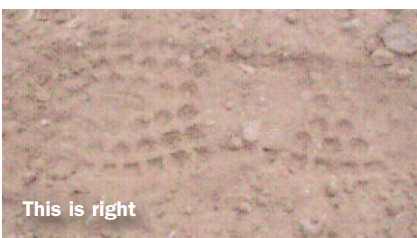
Drainage issues both sub-surface and surface should be addressed before you start. During seedbed preparation, you are providing the future rootzone for your established turf. Make sure that your turf will have a healthy 6-12 inch rootzone by eliminating providing proper soil pH and fertility.



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