

ATHLETIC FIELD MANAGEMENT NATURAL AND ARTIFICIAL TURF

**Lowell Spotts
Athletic Grounds Supervisor
Michigan State University
East Lansing, Michigan**

At MSU we have a variety of athletic field areas. They range from Old College Field which houses baseball, softball, soccer and lacrosse; Landon Field, an auxiliary field for marching band, flag corp, and physical education classes; Dem Hall field where the marching band practices; the outdoor pool lawn area for sunbathers; the outdoor track area; Secret practice varsity football fields; IM West and IM East student recreational fields for softball, football, soccer, high school band camp area, rugby fields area; and the artificial surfaces of the Duffy Daughtery Building, Spartan Stadium and the IM West turf arena.

NATURAL TURF

The wear and tear on the natural turf fields stem from the usual team practices and games or student recreational use. There are other factors which also impact some of the natural turf fields:

- vehicle parking on field areas for football game Saturdays (this contributes to compaction and tailgating leaves behind charcoal dumped from grills, broken glass and assorted other problems)
- Michigan Festival being held on field areas in late July and early August
- winter snow plowing of fields for vehicle parking
- spring floods on Old College Field

All of these factors lead to fields which need to be renovated in some way each year to ensure that each field meet the uniformity, aesthetic and safety needs of each particular sport.

Renovation can mean a couple of things; either total renovation or spot renovation. Where total renovation is needed, we plow or disc the area; drag and fit the soil, add topsoil to return the area to a proper grade, pick stones and rocks, and then finally seed the area.

In seeding we use 3-4 varieties of perennial ryegrass. The varieties are selected based on current recommendations from MSU's turf specialists. We use perennial ryegrass due to the quick 7 to 10 day germination and the availability of varieties which hold up well under athletic conditions.

For spot renovation, we have utilized our Toro fairway aerifier. We go over the area two different directions to insure good loosening of the area. We can then topdress as necessary to establish proper grade, then we apply the grass seed. The application of the seed can be done in several ways: (1) hand application with a whirlybird seeder or push cyclone fertilizer spreader, (2) broadcast using a tractor mounted fertilizer spreader, (3) Brillion seeder, or (4) the Olathe slit seeder.

After application of the seed, you may want to increase the seed contact with the soil; for this we use a mat drag made out of an old steel entrance door mat!

Following seed incorporation, strawing or mulching is done. We have used a bale thrower for placing straw but we usually use a manure spreader due to the availability of straw from the Veterinary Clinic or University Farms.

After the straw mulch has been applied, immediate watering is desirable. This helps to hold the straw in place in case of wind and moistens the soil for quicker seed germination.

We irrigate in two ways: (1) a portable irrigation (aluminum pipe with impact heads) or (2) with a quick coupler irrigation system.

Fertilizing is done at the time of seeding. We prefer to use Milorganite until the grass is up to mowing height and then follow with some 12-12-12.

All the renovation work takes place from late spring to mid-summer. This is not prime establishment time but this is the only window we have since school is recessed in early May and begins again in late August.

The fairway aerifier has been a great addition to our equipment. This type of aerifier is fairly fast so many fields can be aerated in a short period of time. It penetrates about 3-4 inches. A Veri-drain aerifier is hired at times to do deep tine aerification on areas where cars are parked. This works very well but is extremely slow.

Our annual fertilization program on our turf consists of a dormant fertilization with 26-0-26 at 1#/1000 sq ft, a mid-May application of 26-0-26 or 12-12-12 at 1/2-1#/1000 sq ft, with a mid-summer application of SCU at 1#/1000 sq ft, followed by an early fall application of SCU at 1/2#/1000 sq ft.

Field marking for all sports is done with a Trueline marker, the propellant is CO₂ from 20 lb. cylinders; the field marking paint we use is a cheap white latex we buy in five gallon pails. We cut the paint with water 50/50. This gives a good consistency of paint that lasts approximately 7 to 10 days depending on mowing and rainfall.

ARTIFICIAL TURF

Care of artificial turf is similar to care of indoor/outdoor carpet. The following are necessary considerations:

- sweeping regularly to remove debris
- being sure your equipment does not leak oil or other fluids
- the removal of chewing gum
- acid dripping from batteries (ie. electric golf carts)

The inside practice field in the Duffy Daughtery Football Building is steam cleaned every summer before fall practice begins. This is contracted out rather than done by campus employees. Field marking paint used is a type of paint that will wear off which is to prevent a build-up. The painted areas in Spartan Stadium are usually touched up before a televised football game.

In preparation for a game in Spartan Stadium, the turf is swept. If the morning of a game brings rain, it may be necessary to force the excess water off the surface. This is done using what we call the 'squeegee'. This is a tractor mounted machine that runs off the PTO; brushes in the machine force water into the side drains on the machine and, with each pass, the water is forced to the side lines of the field. This process takes 1-2 hours for the entire field.

If we have a snow covered field, we use a snow plow with a rubber blade edge. If this happens a day before a game, the snow is hauled out of the stadium; if it snows the day of the game, the snow is pushed into the corners of the stadium.

Following snow plows or with a light snow, we have a 580-D Toro mower with the front deck removed and a poly-broom attached which runs off the hydraulic of the 580-D. This is a fast broom and the field can be broomed in about an hour.

If ice is a problem on the field, or the field is wet and to prevent it from freezing, we apply Urea (46-0-0) to the surface. Depending on the temperature, the Urea will work in about 1-1/2 hours. Once the ice is released from the turf, the broom then sweeps the ice and Urea off of the field.

One other treatment on artificial turf is used to lower the surface temperature during the summer months. The treatment consists of syringing the artificial turf with water which lowers the surface temperature of the field.

From the above discussion, you can see that grass and artificial turf poses different concerns and different options in caring for those concerns.

If you have questions or you feel I can be of assistance to you, please feel free to call me. I can be reached at (517) 355-0323. My address is:

Grounds Department
Michigan State University
Stadium Road
East Lansing, MI 48824-1216