Supplementing Natural Grass With Artificial Turf

By Kathleen Corteen McCarthy

For years, the debate over athletic field surfaces has turned playing fields into battlefields. Athletes and coaches prefer natural grass because of its resilience and playability. But facility personnel need the durability and easy maintenance usually associated with artificial turf.

Seeking to bridge the gap, SportGrass Inc. has developed a product, SportGrass Athletic Surfacing (SAS), designed to combine the best of both natural and artificial surfaces. The product has met favorable responses so far, and if it continues to impress athletic managers, it will likely become a viable alternative for many playing fields.

When used to replace traditional grass surfaces, SAS can improve field conditions and durability. Synthetic surfaces are also good candidates for replacement — which is good news for professional and college sports teams that like keeping their players happy.

Artificial Debate

As a rule, athletes don’t like synthetic surfaces. If at no other time, this became evident recently when the NFL Players Association released a survey of 965 players. Ninety-three percent said artificial turf is more likely to cause injuries than grass. They believe artificial turf not only triggers a higher rate of injuries but aggravates and exacerbates existing injuries.

The trouble is there is little real data to support their beliefs. One of the few studies to do so relied on data collected during the 1980-1989 seasons by trainers through the NFL Injury Surveillance System. The study, published in the American Journal of Sports Medicine, agreed there did seem to be an increased risk for knee injuries to the MCL (medial collateral ligament) and ACL (anterior cruciate ligament) among conditions in kick-offs and punts on artificial turf. However, the study limited its findings, by recognizing there is no single factor that causes an injury. Among the factors not considered were the height and weight of the players, personal injury histories and the type of shoe worn.

Neglecting the latter is important, since one complaint is that players are hurt on artificial turf by too much traction. This means that artificial turf might not be so much at fault as the type of shoe worn. So, instead of ripping up all the artificial turf in the world, perhaps it would be better to conduct research on “shoe-surface interface,” which would allow players to choose the safest shoes to wear on any surface.

Although research fails to show any real correlation between artificial turf and injuries, it doesn’t really matter. It’s what players believe that counts. This means trouble for clubs that, because of climatic conditions, must rely on artificial turf to supply a playable surface or to get through a season with as few canceled dates as possible. They face the threat of lawsuits because of artificial turf’s reputation and, through free agency, the loss of athletes who want to play on grass thinking it will better protect their multi-million-dollar legs. In trouble particularly are teams that play in domes. Although it may be possible to build a dome that will support grass, some experts say there is not a domed stadium in the United States today that can maintain playing-quality grass all year.
Hope in Utah

There may be hope on the horizon for climatically deprived teams, however, especially if the experiment at the University of Utah this past season proves successful. Last year, in preparation for its 1995 football season, the university ripped out the 88,000 square feet of AstroTurf in its stadium and replaced it with SportGrass, which allows the root system of any variety of grass to grow through an underlayer of synthetic fibers. The University of Utah is the only major college team in the country to play on the newly developed turf system. The surface combines the elements of both natural and synthetic fiber. According to company executives, it offers the stability and durability of synthetic grass, but with the look, feel and playability of a 100 percent natural surface. Although the jury is still out on playability, it is a natural grass grown in a sand-based medium within a layer of artificial grass blades tufted in a woven backing material.

One advantage to the artificial structure is that it shields the grass from injury. On a regular grass field, the grass gets ripped up and destroyed. However, here the root system grows through the synthetic fiber and backing, thus protecting the root system and the crown of the plant from permanent damage. The synthetic component also provides a stable, consistent and level playing surface — all the qualities desired by players, coaches and maintenance personnel.

Utah’s facility and athletic personnel, conducted extensive research into their various options before replacing their old field. One even traveled to the Netherlands, where official test sites compare various sport turf systems. The test results there made SportGrass seem the most promising for conditions at the University of Utah.

To ensure the proper results, the school thoroughly renovated its field. First, since a playing surface is only as good as the soil and drainage underneath, a new subsurface was installed, including 5,000 feet of drainage system and a fully automatic irrigation system. Then 2,300 tons of gravel and 33,000 tons of sand were laid and graded with laser-guided machinery in preparation for the roll-out of nearly 64,000 square feet of synthetic material.

Another layer of sand was mixed into the material; then grass seed and a light crumb-rubber topdressing were put down in May.

The seeding process is a critical stage in installation. A consulting agronomist to conduct careful soil tests and should research various seed combinations for best results. The importance of the choice of grass seed in a sand-based installation cannot be underestimated. For its site, the University of Utah chose a mixture of bluegrass and ryegrass, using only the finest seed varieties from the National Turfgrass Evaluation Program.