Researchers from New Zealand are conducting trials on a new type of turf which consists of natural grass grown into a synthetic matting on a sand base. The result is a surface with the playability of natural grass with the wear resistance and durability of synthetic turf. This type of turf is compatible with a Prescription Athletic Turf system or any other field construction, provided there is good drainage. Maintenance practices are very similar to a natural turf field, however the field could not be aerated but could be verticut to control thatch. Water use may be less because the mat provides a barrier which slows down evapotranspiration. Optimum mowing height for this type of system is 1 1/2 inches which is similar to a natural turf field. There are two fields in the United States which have this system - Rice Stadium at the University of Utah and University of California at Los Angeles practice field. This system also shows promise for golf tees and walk-off areas near greens. (see following article)

New Zealand has also developed protocols for measuring the quality of sports turf surfaces. The idea behind this is to have a minimum standard for sports field surfaces. If a field falls below the minimum the teams are not obligated to use the field. The motivation is to provide a high quality, safe playing surface for all athletes.

The ITS board member from Japan reported on the current economic recession in Japan. Although golf course construction is down by 20% there is an increase in interest in sports field construction. This has partly been triggered by the fact that Japan will be hosting the World Cup Soccer tournament in the year 2002.

As you can see there are many new products and techniques being investigated around the world to make your job as turf managers easier, or more challenging. By the time 2001 arrives there will be many more innovations. I hope many of you will mark your calendars for the 9th International Turfgrass Research Conference to be held in Toronto in July 2001. Again, I want to thank the Sports Turf Association for making this trip possible.
polypropylene or nylon, and has a more grass-like feel.

"The fibre is thicker," says Bergevin, "and I don’t allow them to use the secondary latex backing because that makes it impervious (to air and water and gas exchange)."

"SportGrass is stabilized horizontally and vertically, which is very important," says Gundolf Becker, U.S. marketing manager for Desso DLW. "SportGrass is stabilized horizontally by the backing," explains Becker, "to distribute the load. Vertically, it’s stabilized by the fibres."

Bergevin says SportGrass are compatible with a Prescription Athletic Turf system or any other viable field construction, provided there is good drainage.

SHORT GROWING SEASON - Bergevin realizes that playing on a newly established field is not always the best treatment for tender young seedlings. "Generally," he admits, "you like to have a full growing season. But it will survive fine as long as they don’t play on it too much. The second season it will be great."

"We’re still doing a lot of testing," says SportGrass Marketing Manager Donny Jones, who adds that he’s had inquiries on how SportGrass can be used at golf driving ranges and in tee boxes. "It’s working well in high traffic, walk-off areas on test golf areas," says Jones. "We’re almost there for tees, but the main focus is ball fields."

SODDED VARIETY - Three thousand square feet of SportGrass sod were recently installed at a UCLA practice field. Dave Ashman, facilities director, is most impressed with SportGrass’s "instant playability."

"The sodded material gave us such an advantage because you didn’t have to wait to get on it," says Ashman. "It gives the team a competitive advantage and gives them a safe environment. It may not be the final answer, but it’s close."

Bergevin cautions against thinking of SportGrass as a "perfect" turf, but he says it still is subject to the pests which plague normal turf, but without the problem of root-feeding insects.

"It’s still 100 percent natural turf," reminds Bergevin, but he adds that he doubts pest problems will appear in the same degree of severity as they can on a field that does not have the artificial underbelly.

AIR CONDITIONED - An added feature of Rice Stadium field is the SubAir cooling system. Developed by Augusta National superintendent Marsh Benson, SubAir picks up cooler air from the tunnels below the stands and blows it through the subsurface drainage system to oxygenate and cool the turf.

Eric Chapman specializes in nutrient movement through sand-based profiles. He’s consulted with Bergevin during the Utah SportsGrass establishment phase, and gives the field high marks.

"There would never be a need to aerify if you maintain an aggressive verticutting and thatch control program via nutrition, catching clippings and irrigation," says Chapman. "Verticutting is advised at the rate of four to six times a year."

"There may be some management changes in water use because the mat actually provides a barrier against evaporation," suggests Chapman. "It may be that this field uses less water in the long run because of the barrier to evaporation."

EARLY FERTILITY PROGRAM - Chapman explains that during establishment a granular fertilizer was used, continued on page 10
The Best of Two Worlds
continued from page 9

one that contained a bit more soluble nitrogen rather than a full-blown slow-release product.

"It's young field," reminds Chapman, "and as in sand-based situations, the microbiological activity needed for breakdown of slow-release materials isn't there yet. So we're using more of quick-release fertilizer for now. They'll be able to use a blend of nitrogen that has more slow-release as the field ages.

Optimum playing height for SportsGrass is one-and-one-half inches.

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Reeling for Turf Health, Beauty

by Don Lindenfelser
John Deere Ltd., Golf & Turf Division

Reel mowers are precision machines that need daily maintenance to retain the turfgrass's well-groomed appearance. The scissor-like shearing action of a reel mower is only possible if the reel and bedknife are sharp and the proper reel-to-bedknife clearance is maintained.

Cutting action begins as the bedknife positions the grass to be cut at the cutting edge. The reel then pulls the grass toward the bedknife where it is sheared by the cutting edges as they pass one another.

For the grass to be cut at the proper height, it must contact a bedknife with the proper angle at the cutting edge. Without a relief angle, the blade of grass will contact the lower edge of the bedknife and bend over at too much of an angle prior to being cut. When mowing greens, where very small cuts are being taken, an improperly aligned bedknife may not capture the grass at all, and no grass will be cut.

Close examination of the reel-to-bedknife relationship reveals two square edges passing one another with approximately .002 of an inch clearance. This clearance is necessary because:

- If the reel contacts the bedknife, the square (sharp) edge of the reel and bedknife will roll over, becoming dull.
- Contact between the reel and bedknife generates heat which can distort the shape of the bedknife, and cause the bedknife to draw closer to the reel, resulting in the cutting surfaces rolling over more, and more heat being generated in the bedknife.

- Drag produced by an improperly adjusted cutting unit may result in an unacceptable clip ratio, undue strain on drive mechanism and premature wear of the cutting unit.

Reel and bedknife grinding - Reel and bedknife grinding are used to:

- restore the cylindrical shape of a reel that has become cone-shaped due to improper adjustment of the reel-to-bedknife clearance or due to worn reel bearings;
- restore the edge when the grass is not being cut across the entire length of the bedknife due to nicked blades;
- restore the edge when the lack of frequent backlapping allowed the edge to be rounded beyond the capability of the backlapping procedure to restore the edge; and
- restore the edge when the reel-to-bedknife clearance has been improperly adjusted allowing the reel to contact the bedknife.

Relief grinding - Relief grinding restores the factory relief angle to prolong cutting unit life and promote fast between grind sharpening (lapping). To grind a cutting unit without relief is doing half the job, and maintenance costs will increase due to the constant metal-to-metal contact of the "flat" ground reel blade.