GTI Hilites *(continued from page 9)*

The concentrating effect of the more rapid rate of breakdown of the grass clippings relative to the herbicides would appear to have peaked with 2,4-D after two weeks. This would suggest the microbial population responsible for the degradation of this herbicide have built up to a level where they are removing the 2,4-D molecules as fast as the organic molecules in the grass clippings were being converted to CO_2. This equilibrium breakdown does not appear to be the case for Mecoprop and Dicamba whose concentration in the composting clippings continue to rise with time.

The next step in this research by Stephenson and his associates is to determine the phytotoxicity of the compost after the composting operation has stabilized. They also plan to determine the effect of the diluting of the compost where clippings are continually added to the system.

In the meantime sports turf managers should exercise some caution if they are using clipping-generated compost on sensitive areas such as flower beds on their properties.

ARTIFICIAL TURF - Is it Always No?

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One might be accused of heresy to write an article on artificial turf for a Sports Turf magazine. Yet sports turf facility managers must be aware of alternatives to natural turf for use in special situations.

One such situation occurred at Wilfred Laurier University in Waterloo, Ontario. The University was land locked, with only one undersized football field. Their Physical Education and Athletics program required the rental of off-campus space at a significant cost and with considerable inconvenience to the athletes. Natural turf did not appear to be a solution.

Their thought processes were guided by an article in "Athletic Business," Sept. '94, which stated - a single synthetic field provides the same utility as 12 to 18 natural fields. While the statement may be considered an exaggeration, it lead the administration at WLU to examine the cost and design factors of artificial turf. While costs were the major factor in choosing the design they also considered the base on which to lay the artificial turf, the shock absorbing pad and the type of fibre to use in the artificial turf.

The base of the field has many similarities to a sand based rooting system for natural turf such as tile drainage. Likewise the layering of different stone sizes with sand immediately below the artificial turf are concepts familiar to the design of natural sand-based fields. The materials were similar in size, but did not required the depth of a rooting zone. For example only 15 mm of sand was necessary under the shock absorbing layer. The choice of an aggregate layer in preference to concrete or asphalt would tend to add resilience to the system.

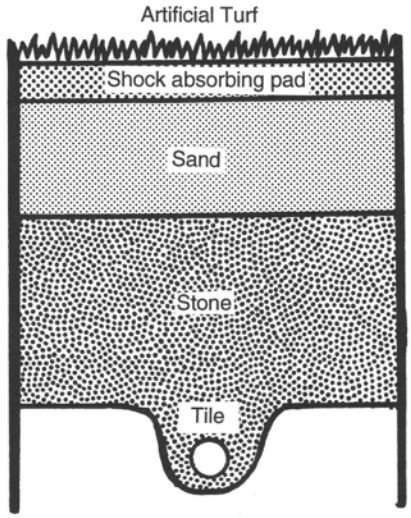
The choice of a tile drained aggregate base overcame one of the deficiencies of artificial turf on an impervious concrete or asphalt base. Rain or snow melt was quickly discharged from the system.

After considering four types of materials for the shock absorbing pad, they chose a shock absorbing layer which is an 80% granular rubber, 15% pea gravel, 5% granular foam mix, held together by urethane. The choice was based on the deficiencies of closed-cell polypropylene, which softens in hot weather, and closed-cell polyvinylchloride, which hardens in cold weather and compresses with time.

The choice of the artificial turf was between nylon and polypropylene. Polypropylene was the selected material due to lower costs, a softer, less abrasive material, and having superior wet weather traction. A new fibre product using a polypropylene/polyester blend from Holland was the final choice. The manufacture provided a 100%, zero deductible, eight year warranty on the product.

The total capital cost was $1,600,000.

The facility has flood lights and a 6,000 seat stadium. Included are a 6-lane brick dust running track, long jump pits and high jump run ups. The design permits use for football, soccer, lacrosse, field hockey



and two slow-pitch ball diamonds.

The facility permits 24-hour use, rain or shine. As a result the field was used for 13 Ontario Minor Football final games on one weekend in November, 1994, a time when most fields had already closed down to avoid field damage to natural turf. Plans are to use the field for "on the snow" recreational touch football and rugby during January and February. Beginning March 1 soccer and softball preseason practice will start. In essence the availability of the field is limited only by the user demand for bookings and cleaning time.

The first evaluation of the system indicates the users are satisfied with the "feel" and "give" of the surface. No evidence of "artificial turf related" injuries have been recorded. Above all, a consistent surface is provided, regardless of the weather.

On the plus side for maintenance is the elimination of all mowing, fertilizing, topdressing, aerating, and irrigation.

On the negative side is the 1.6 million dollar capital expenditure. Based on their a eight year guarantee that is a capital expenditure equal to one sand-based rooting zone field per year.

Another negative is the need to sweep the field. Any garbage, even discarded tape by football players will be visible and must be swept away to maintain the appearance of the field. In this site brick dust from the running track has to be swept away on a regular basis. In addition, all reports on artificial surfaces indicate they result in a warmer environment for play.

[Based on an address by Mr. Robert Vanderspeck, Wilfred Laurier University, at the 1995 Turfgrass Symposium, Guelph.]