

CONFERENCE HIGHLIGHTS

DAMAGE CONTROL ON COMMUNITY SPORTS FIELDS

This article is taken from a presentation made by Al Higgs, Executive Director of Parks for the City of Etobicoke, and focuses on the positive effects improved growing conditions provide to the quality of a premier sports field.

Parks and Recreation Services in Etobicoke permit approximately 200 ball diamonds, soccer and football fields, cricket pitches, etc. Our maintenance varies from cutting the grass and marking the field, to a very extensive program that I will talk about on our Centennial Park Stadium.

The Stadium is located in Etobicoke Centennial Park which was started in 1966 as a Centennial project. The park is presently 525 acres and includes ski hill and chalet, twin pad arena, stadium, and outside sports fields, Etobicoke Olympium, our olympic pool and gymnasium facility, our greenhouse conservatory, picnic area for up to 10,000 people, 12 acre man-made pond, privately operated golf course, indoor soccer arena, two sets of tennis courts, etc.

Centennial Stadium was built in 1967 and contains a regulation irrigated football/soccer field, complete track and field facility, including a 400 meter, eight lane synthetic, state of the art running track - seating for 2,200 + berm seating, two snack bars, washrooms, 12 change rooms. The track is sanctioned for world record competitions. This facility is very heavily used and during 1990 we held 144 soccer games, 16 at professional level, since this facility is the home of the Toronto Blizzard of the C.S.L., 31 semi-professional (Metro Italia and Metro Croatia of the Metro Toronto Soccer League). In addition, there are 97 community level soccer games; we hosted a total of 57 Track and Field meets; ten football games and five miscellaneous events.

Compare this use to most stadiums used by professional teams. Our first booking was the week of April 16th (Track and Field) and our last event was the High School Football final Nov. 6/90.

In the past the intensity of use of this facility has required that we re-sod from 2/3 to the entire field each year. Sodding took place after the high school football final in the first 10 days of November and the field was opened for use the first week of May the following year. There was only one year when the weather prevented our sodding the field that late, and the following spring we were lucky and sodding was completed the first week of April. Each year special arrangements were made with our sod supplier to receive sod this late. We had even gone so far as receiving sod a week or ten days prior to the last use and storing it on pallets in an unheated storage building.

The conditions for sodding were usually so poor that no attempt was made to rototill or incorporate, sand, peat, etc., because if we opened up the soil and got any kind of moisture, we would not get the sod down. The practice resulted in severe compaction and poor growing conditions.

Back in the mid 70's we actually went as far as investigating the possibility of putting a synthetic surface, such as AstroTurf, down in order to meet the demand, and help reduce the annual cost associated with the re-sodding.

Our investigation very quickly showed that we could not, in fact, save any money and that the cleaning and repair costs on artificial turf were nearly as great as the maintenance costs on natural turf. Our information showed that installation costs at that time would be in excess of 1 million dollars, and that

most facilities with artificial turf were having to replace surfaces after 7 to 10 years. A 1 million dollar expenditure at 10% interest equates to \$100,000 carrying cost per year without paying any of the capital. In addition, and equally important, was the fact that most athletes do not like to play on artificial turf, and the incidence of injury is greater.

The frequency of use has meant that in order to maintain a good surface for this sports field, an extensive maintenance program has been developed. In addition, we have made some repairs and modifications to the irrigation system to make it more efficient. We have also spent a considerable amount of time with staff so they understand the principles and are constantly thinking of the health of the field. The net result of our efforts for the 1990 season was that we only re-sodded approximately 175 metres of sod after the November 6/90 high school football final.

1990 was very much a learning year; however, we found that we could substantially reduce the amount of re-sodding that is required. We used light tech sod, supplied by Bellhaven Sod Farms as an experiment. The areas re-sodded were the two goal mouth areas and centre field. We excavated these areas to a depth of 3-5", replaced the material with 70% sand, 30% topsoil, rototilled, raked, applied superphosphate, and rolled. The light tech produced root, even in the cold November soil and completely knit in April.

For the light tech sod we have used two different types at each end of the field - one end in 40% fescue, 60% rye, the other end is 100% fescue. Performance of each product will be assessed over the 1991 playing season.

Field Specifications

The growing median is a soil mix and is crowned approximately 20" in the centre. There are two drainage systems below the field, the original system was installed at a depth of 3 or 4 feet, and has proved to be very ineffective. A second surface system was put in and the trenches were filled to within several inches of the surface with coarse stone. There is also a continuous drain along the inside edge of the running track.

The irrigation system is a 10 station *valve strip zone system*. Modifications have been made so that all sprinklers are on swing arms. Watering is generally 2 or 3 times per week, except after aerification, and overseeding when it is done nightly to prevent desiccation. We are applying between 1/2" and 3/4" per application. This amount is adjusted to reflect the weather and drying conditions.

For 1991 our plan is to aerify, in two directions, once a month. We are using both core and slicing equipment. We are attempting to modify the surface tension or resilience by either aerifying and topdressing, or in some cases, rolling. For example, just prior to the football final last year we had two days of heavy rain and the surface was very slippery and soft. Staff rolled the surface with a mott mower, tilted back on the roller, and then topdressed all areas where the turf was thin, with sand. This resulted in a good tight surface for the game and we had very little damage to the field. Intense aerification was performed immediately following the game to again relieve compaction. We are presently applying three complete topdressings of sand each year; however we will need to convert to a mix using sand, soil, peat, etc., in future years.

In 1990 we used a general seed mix, a rye and bluegrass mix, and turf type tall fescue. For 1991 we intend to use a mix of 12% Touchdown or Baron Bluegrass, 13% Haga or Nug-

get Bluegrass and 75% of two of the following rye grasses - Pinnacle, Palmer Two, Omega Two. Last fall, as a result of our 1990 overseeding program, we had semi-mature plants to new plants of several types of varieties and we wanted to monitor what happened over the winter. We particularly observed how the turf type tall fescue sod over winters and how seedlings at the third to fourth leafstage performed. The tall fescue weathered very well and showed new root production in the first week of April. The seedling grasses wintered well until mid-February. At this time we had no snow cover and very cold windy weather. As a result, virtually all seedlings desiccated and by April 1st had melted out.

GRASS CUTTING

In the past, our cutting height has been as long as 2 3/4". This has been reduced to 2" except for football when we let it go to 2 1/2" - 2 3/4". We cut twice per week using a triplex reel mower.

Our fertilizer program in 1990 consisted of six application. The first two were 32% nitrogen product applied at 2 lb. of N/1,000 sq. ft. The last four were 12% nitrogen product applied at 3/4 lb./ 1,000 sq. ft. The schedule for applications was at 1 to 1 1/2 month intervals. Early in the season extensive damage from use and a very low drought tolerance was observed. Since our fertilizer was a 10-1-1 ratio we associated the damage with our feeding practice.

As a result the fertilizer schedule for 1991 has been modified. In early April an application of 10-1-1 ratio 32% nitrogen product was applied at 2 lb./1,000 sq. ft. From May to September we plan to apply a 3-1-2 ratio, 14% nitrogen fertilizer at 3/4 lb. N/1,000 sq. ft. on a monthly schedule.

Here in Etobicoke we feel we have proved that an extensive maintenance system can effectively

compensate for the high volume of use. This procedure does not save money, however the expenses normally applied to the re-sodding of the field at the end of the season have been redirected to the enhanced maintenance program. The net result has been a safer field for athletes to play on. Staff education and involvement in the decision making process is important and should be a part of any program.

TURFECs

Guelph, Ontario. March 23 & 24, 1991 - TURFECs conducted a highly successful pesticide safety training seminar at Springfield Golf & Country Club. Over 40 attendees were represented from all areas of the turfgrass industry including golf courses, parks and lawn care. The goal of the two day seminar was to effectively introduce pesticide applicators to the study material for M.O.E. Land Classes 1 & 3 Exterminators Licences. Upon completion of the seminar, attendees were well informed on the basic safety of pesticide application in the environment. For further information on future seminars, contact TURFECs at 519-767-1611.

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PLEASE NOTE: TURFECs is an educational consulting service in the turfgrass industry. TURFECs is available for detailed interviews and is available to write professional articles for the turfgrass industry. Please contact either John Gravett or Mike Kernaghan.