

# Ball Diamond Turfgrass Management Programme

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The City of St. Catharines has been blessed with a number of fine playing facilities. These sports fields range from tyke diamonds to senior softball diamonds to single "A" professional diamonds. In 1994, the city will play host to the Canadian Junior Men's Softball Championship.

During the past decade, sports field maintenance has undergone a dramatic change. Largely due to public demand many facilities are being maintained like golf course fairways, and many infields like golf course tee decks. A comprehensive turf programme is, of course, not without cost. Certainly, when drafting a turf management programme, the cost will dictate the size of the overall programme but a fully integrated programme will contribute to the overall success of the initiative.

The following is a brief synopsis of the components of the turf management programme used on the sports fields by the City of St. Catharines.

## Soil Tests

This practice is relatively inexpensive and is essential to the success of the programme. We will take soil tests on our fields at least once every three years. The testing of the fields occur in the spring at approximately the same time that the flower beds are tested. We believe that the soil test will assist our programme by determining pH levels, macronutrients and soil porosity.

## Aerification

If there is one area that demands a higher profile it is the aerification of sports turf. All sports fields are cored twice a year. This is accomplished using a tow-behind aerifier. The spoon is a 5/8 inch tine and it is closed. All infields are aerified twice a year using a ride-on aerifier. The spoon is also a 5/8 inch tine and it is closed. We use closed tines in all our aerification practices to ensure that the core plug is removed from the soil. This practice encourages adequate water and air penetration into the root zone, forces

roots deeper into the soil and creates a natural topdressing medium.

## Fertility

All of our sports turf is fertilized using an inorganic slow release product. The analysis is 28-4-8 with 60% sulphur coated urea. The outfields are fertilized using a tow-behind spreader, while the infields are fertilized using a walk-behind spreader. The walk-behind spreader reduces compaction and allows for more consistent coverage. The slow release product encourages a solid even growth pattern rather than growth surges that often render the turfgrass plant weak and susceptible to weed and insect infection. All sport fields receive one fall application per year. High use fields receive two applications (mid-June, mid-October). The rates are 4 lbs/1000 square feet (160 lbs/acre) or one pound of nitrogen per application. The late fall application enables the plant to develop deeper roots, store sugars within the plant shoots and encourage a balanced growth rate during optimum conditions in the spring.

## Cutting Heights

A cutting height that is maintained without being altered develops stronger shoot growth. Our outfield cutting heights are maintained at two inches. The turf is mowed using a ride-on rotary and/or a seven gang, five blade reel Parkmaster. Our infields are maintained at approximately 1 1/2 inches using a walk-behind 20" rotary mower or a 21" walk-behind reel-type mower. All infield grass is bagged with each mowing operation. The practice reduces the amount of thatch accumulation. With improved technology many companies are producing rotary-type mowers that provide the user with excellent performance while reducing the downtime normally associated with reel-type mowers. These qualities should not be overlooked when seeking to improve the efficiency of your operation.

## Vertical Mowing and Topdressing

Our sole purpose for vertical mowing is to reduce the amount of thatch accumulation in the crown of the plant. This thatch reduces the percolation of water and nutrients into the root zone. Our sports fields, like most in Southern Ontario, contain a large percentage of annual bluegrass. This turf type will grow in accumulated thatch rather than in the soil. Our park-attended sports fields are

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vertically mowed once a year. Other sports fields are vertically mowed on an "at need" basis. While vertically mowing turf we do not penetrate the soil any deeper than 1/8 inch. The thatch is then removed using a large turf vac and the fields are topdressed immediately following this procedure.

For topdressing our fields, we use mortar-type sand. The pH is high at 7.8. However, the sand is an excellent medium. We find it extremely difficult to find a non-calcareous medium. As a result we are particularly careful to pay close attention to our soil pH levels.

## Environment

When one considers the environmental factors in a turfgrass management programme, some of the areas that must be identified are weed encroachment, fungus and insect infestation, soil drainage, and turfgrass irrigation. Our programme seeks to ensure that sports turf is healthy, vigorous and the turf type that will reduce injuries furthering a case for liability.

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