VOLUME 3
ISSUE 4
JANUARY
1991

SPORTS TURF Newsletter

...for better, safer Sports Turf

EVENTS CALENDAR

January 28-31, 1991 — Professional Development Program of Turf Managers: Managing People at Work. (To receive a brochure with further information, contact the Continuing Education Division, University of Guelph, (519) 767-5000 or fax (519) 767-0758.)

January 29-30, 1991 — Athletic Fields Sports Turf Seminar, Parke Hotel, Columbus, Ohio. To register, phone (614) 292-0492.

February 24-27, 1991 — Western Canadian Turfgrass Association Conference, Sheraton Landmark Hotel, Vancouver, B.C. Contact K.M. Warner (604) 434-5037.

February 4 - March 1, 1991 — The 22nd Annual Turf Managers' Course. (To receive a brochure with further information, contact the Continuing Education Division, University of Guelph, (519) 767-5000 or fax (519) 767-0758.)

June 1991 — 4th Annual Field Day, Town of Markham, Fred Bockel.

PRESIDENT'S MESSAGE

As usual, time flys when you are busy. And time is flying by for your executive. Between employment, family and association responsibilities, there never seems to be enough time.

Your executive secretary has been getting himself organized over the last few months. He is there to answer or find an answer to your questions. So please, don't be afraid to contact him.

If you have any ideas on improving our newsletter, field day or conference, please pass this information on to your executive or executive secretary.

Yours truly,

Bruce Calhoun

EDITORIAL

We trust you have enjoyed your newsletters and found the information helpful to your particular situation. We are always looking for newsy articles so don't be shy, send them along to share with the membership. Future issues will include articles on soil testing, irrigation, winter maintenance, integrated pest management, horticultural training and education, and conference highlights. One fairly new publication that may be of interest comes from the U.S. "Northern Turf Management" it may be obtained by writing to N.T.M., Box 1420, Clarksdale, MS 38614-1420, U.S.A., cost $15.00 U.S. for 1 year, $30.00 U.S. for 3 years.

IN THIS ISSUE

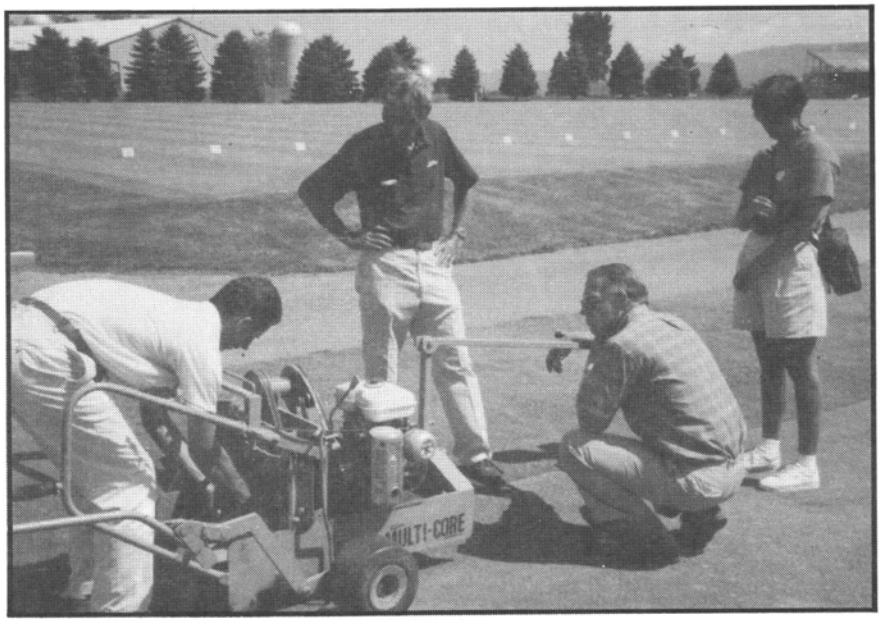
AERATING: A NEW APPROACH

By
Nigel Rennie,
Multitynes Ltd., Markham

The benefits of aerating a sports field are generally well understood by Turf Managers. The process involves puncturing the hard upper crust and permitting air and oxygen to reach the root zone. Air and water become once again available in the growing medium. Plants that can breath and drink with their roots will thrive and thicken especially if the aeration process is accompanied by a fertilizer application.

Unfortunately for most grounds keepers, aerating the playing field is a once a year operation. The process is too disruptive and too cumbersome. It is time consuming to aerate an entire football field and it is also time consuming to break up the cores and remove the residues. Aeration is like major surgery: it is difficult for the doctor and even harder on the patient. After all that work, who needs the complaints from the players about the disruption to their sport.

Much of this unpleasantness can be avoided by taking a new approach to aeration. It is not necessary to aerate an entire field every time one aerates. There are large portions of the field that receive very little play and, as a result, are not compacted and do not need to be aerated more than once a year. Instead, aeration should be concentrated on the heavier play areas, such as centre field and in front of the goal posts on football fields. Don't wait for the grass to die in these areas before bringing out the aerator. Every grounds keeper, every turf manager knows the heavy wear areas on the fields long before these areas show signs of thinning. I suggest that in mid summer, weeks before the playing season commences, potential wear areas are outlined with spray paint to designate these portions of the field for special treatment. Now, bring out a small self-propelled aerator with half-inch tines at two inch spacings and aerate to a depth of 2-3 inches. Before matting in the cores apply a seed mixture at the heavy rate of 20lbs/1000 sq. ft. The seed mixture should include equal parts of Rye, Fescue, and Blue grasses. Try some of the newer SR rye grass varieties which have been repeatedly proven superior. Use a drop spreader when applying the seed. It is important that at least some of the seed falls straight into the tiny holes. Here the seed will germinate and help thicken the stand. This process should be repeated every two or three weeks well into the playing season. The soil in the heavy play areas will be well cultivated as a result of this treatment and a new crop of seed will constantly germinate to keep the stand of grass thick. Eventually you may lose the battle at centre field to keep the field playable but it may not be until the last game of the season and you can relax in the knowledge that you gave it your best shot. Then, let an old fashioned Canadian winter, with plenty of freezing and thawing action, aerate the rest of the field while you relax in the Caribbean.



Nigel Rennie, left, demonstrating the Multicore Aerator at Penn State Turf Plots to Dr. J. Duich, Bill Black, Superintendent Congressional Country Club, Washington, D.C. and Ann Witteveen, Turf Management Lecturer, Humber College.

ALAN EAGLESON SPORTS INJURIES CLINIC

By
Christopher Mark,
Superintendent,
Grounds and Vehicles

The Alan Eagleson Sports Injuries Clinic located at the Metropolitan Track and Field complex at York University opened in January, 1984 with its mandate to treat sports medicine injuries. The Clinic, which was originally known as The Bobby Orr Clinic, employs eight (8) therapists, treats up to 1,000 people per week, Monday - Friday, 7:30 a.m. - 7:30 p.m.

Dr. D. Clarfield is one of the doctors who treat people for sports injuries at the clinic. Dr. Clarfield is an M.D. with a specialization in sports medicine and treats Olympic and professional athletes, collegiate and university athletes, amateur and recreational athletes. Essentially the clinic is wide open to anyone but more and more people are being referred to the clinic therapists by family doctors.

Dr. Clarfield indicates that they basically treat two (2) types of sports injuries, acute which includes sprains and twisting injuries and chronic, which are the result of overuse and stress. In terms of sportsfield related injuries he indicates that football and soccer injuries can be easily differentiated. Soccer being a predominantly non-contact sport, usually produces ligament injuries caused by twisting. Football on the other hand, being a contact sport, predisposes athletes to contusions and contact ligament injuries. He feels the clinic is treating more soccer related injuries due to the vast growth of soccer over the past few years and soccer being a longer season.

In Dr. Clarfield's estimation, sports injuries are not necessarily increasing even though there is much more participation now than ever. He feels that there is a greater awareness of sports medicine and large advancements have been made in the field over the past few years. In the past, people with a sprain or contusion would go to their family physician who would provide some medication to relieve the pain. Nowadays, athletes and recreational sports participants seek out sports medicine therapists.

An individual attending the clinic for treatment will undergo the following sequence. A therapist will review the patient's history of medical or related injuries, the patient will be examined, diagnosis performed to identify the predisposing injuries then the injury will be treated to correct those predisposing injuries. Dr. Clarfield indicates that older people seeking treatment are often suffering chronic injuries because different tissues wear out and deteriorate. Whereas younger people, because they usually play sports more aggressively, suffer more acute sports injuries such as contusions and ligament damage.

Stats on football injuries treated by Dr. Clarfield between 1984-1990 indicate a higher percentage of knee, shoulder and ankle injuries. Some of the casual factors are because football is a contact sport but the condition of the sportsfields probably are related. Sportsfield managers should recognize the need for aerating, coring, slicing to reduce compaction, topdressing with sand if in heavy clay to provide better cushioning, overseeding and encouragement of deep resistance and recuperative ability of the turf.

Football injuries seen at the Alan Eagleson Clinic between 1984 and 1990:

- Out of 11,000 patients, 496 were football athletes, being professional (CFL), University, High School and recreational community league players.
- 10% of the injuries were sustained by players between the ages of 10-20 years.
- 69% were sustained by players between the ages of 20-30 years.
- The highest percentage of injuries — 46% — were knee injuries.
- The following is a breakdown of injury percentages:

knees	=	46%
shoulders	=	10%
ankles	=	10%
neck & back	=	5%
thigh	=	5%
foot	=	2%
hand	=	2%

less than 2% each = head, arm, elbow, forearm, wrist, hip, pelvis, leg.

THE ENVIRONMENTAL ISSUES FACING THE TURFGRASS INDUSTRY

On November 5, 1990, the Guelph Turfgrass Institute sponsored a one day symposium on this subject. Over 270 turf managers and industry representatives heard seven excellent speakers cover many aspects of the issues. The theme for the symposium is best stated by an extract from the announcement brochure:

"In particular, the turfgrass industry has come under extreme pressure to re-evaluate its responsibilities because of its high public profile and because most turfgrass production has, in the past, used high inputs of fertilizer, water and pesticides. We as an industry have begun to reevaluate our production strategies in keeping with our concerns and those of the public about the environment."

Ms. Shelly Harris reported on a two year study of a home owner, bystander and commercial applicator exposure to 2,4-D. Where dry formulations were used one in eleven applicators showed minimal exposure regardless of whether or not protective garments were used. On the other hand, where liquid formulations were employed, eight out of nine showed exposure. Similar results were observed with professional applicators. *The main factor in the observed exposure was the work habits of the applicator.* For example, an applicator wore protective garments and gloves while spraying, but then removed the gloves to role up the applicator hose. No bystanders showed any detectable 2,4-D nor was 2,4-D detected within the residences during or after the spraying.

Prof. Paul Voroney discussed the role of fertilizer use on turf as a potential environmental pollutant. Of the elements found in turf fertilizer, only nitrogen and phosphorus were considered pollutants. The possibility of phosphorus from fertilizer applied to turf becoming a pollutant was extremely remote for two reasons. The first is that erosion of soil particles from a sod area is extremely low. The second is migration of phosphorus ions downward to the water table through mineral soils does not occur due to its chemical reactions with the soil.

The potential for nitrogen pollution is of some concern. Regardless of how it is added to the soil, nitrogen will be converted to nitrate-nitrogen through the action of ever present bacteria. If not absorbed by the root system of the turf it is subject to leaching to the ground water. EPA regulations stated that drinking water shall not contain more than 10 ppm of nitrate nitrogen. He reported that studies by the Institute had shown less than 2% of the nitrogen applied to sand based systems showed up in the drainage water. The secret to controlling this source of pollution is management; *match the supply of the nitrogen to the demand for the nitrogen by the grass.*

Prof. Martin Petrovic of Cornell University enlarged on the nitrogen problem. He traced the various routes which nitrogen may take once added to the soil, such as uptake by the plant, storage in the soil and thatch, gaseous losses to the atmosphere or leaching to the ground water. Again management was the key issue. He suggested avoiding application from late September to early May as 75% of the precipitation received during that period goes to the ground water. He also suggested lower rates as required by older stands as less nitrogen is being tied up in the organic phase of the soil.

The management of low maintenance turf was discussed by Prof. Don White of the University of Minnesota. Low maintenance requires intelligent management and a full knowledge of the growth habits of grass and ability to optimize those growth habits. Proper soil conditions, drainage, cutting height and use of nitrogen were ingredients for optimizing growth habits. He suggested no nitrogen before July 1 and an application in the late fall. Not more than one pound/1000 sq. ft. of nitrogen should be applied at any one time.

Biological control of diseases and weeds will be no easier to develop than chemical control according to Prof. Greg Boland of the University of Guelph. The time from conception to market with fungicides ranges from 5 to 15 years and the success rate is 1/5,400 items tested. There are ten steps a pesticide must go through, whether chemical or biological, before reaching the consumer. They are selection, characterization, evaluation, specificity, efficacy/toxicity, formulation, enhancement, commercial production and registration. The final step alone can delay a product for 2 to 3 years and the biological systems face the same problems at all steps as chemicals.

Ms. Ivy Wile of M.O.E. discussed some ministry thoughts on pesticides. She posed the question: "should pesticides be used for cosmetic purposes?". Some people are looking for a total ban. The uninformed consider the risk perception as real and do not relate to statements of actual risk. The environmental concerns "expert"

sometimes receive a better hearing from the ministry than University faculty.

One member of the audience summed up the day by saying, *"How does one develop public awareness? — we are a group in a bubble, one talking to the other."*

By attending conferences such as this by the Guelph Turfgrass Institute, becoming knowledgeable of the environment, then talking to our neighbour, we can break out of the bubble.

Lime field markings burn athletes at Windsor high school

Kitchener-Waterloo Record, September 27, 1990

A separate school playing field marked with a lime powder that burned several football players last week should never have been used, an occupational health expert says.

Fifteen players complained of burns Friday and four were treated in hospital after the game between Holy Names and W.D. Lowe separate secondary schools.

Larry Girard of the Occupational Health Information Service said lime reacts violently with water.

It was raining during Friday's game and when the players tried to wash off the irritating white powder in the showers, it made matters worse, Girard said.

A fact sheet on lime calcium oxide provided by the service warns that moisture on the skin "increases the possibility of corrosive tissue damage," or chemical burns.

It advises not to rinse the affected area with water and recommends only oil or grease be used to remove the substance.

"What was it? That's what I'd like to know," said Darren Dixon, 18, a W.D. Lowe running back who has burns on both legs.

WE GET LETTERS

Dear Michael,

First of all, please allow me to commend you on a very informative publication. I have come across articles that are very insightful in respect to the football community as a user group.

As part of Football Ontario's mandate, the association is extremely active in promoting safety through a variety of risk management initiatives. One of which focuses on a safe playing environment. Since you have specific expertise in this area your assistance would be greatly appreciated.

We would like to make coaches and administrators aware of the most basic principles of turf management and give them an understanding of what should be their minimum expectations for a safe field.

Football Ontario, as a sport governing body is often asked to provide developers with information about football fields. Occasionally requests concerning the annual cost of maintenance and upkeep have been received. Could you provide Football Ontario with a sample budget for annual maintenance?

Also, in respect to Football Ontario's risk management initiatives, we are trying to draft a master facility design to encourage any future developers to adhere to. Your input in this respect would be invaluable.

Sincerely,

Ed Slabikowski, Technical Director
Football Ontario

Dear Mr. Slabikowski:

Thank you for your letter addressed to Mr. Mike Bladon to which I have been asked to reply.

In response to your request for an estimate of the cost of annual maintenance of a football field, Mike has put together a cost estimate based on his experiences as Superintendent of Grounds for the University of Guelph (see this issue "Cost Estimates"). This field is maintained at an average to above average level, comparable to those fields having seating for 2000 - 5000 spectators. Other practice and inter-mural fields would receive a lower level of maintenance, particularly in the area of mowing.

Regarding your master facility design to encourage developers to use, we are presently in the final stages of writing a booklet on Sports Turf Construction and Maintenance which may assist you.

On behalf of the Association I would express a desire to work closely with your association in developing improved, safer sports fields, whether they be for football, baseball or lawn bowls. If you would desire a meeting I am sure that myself and one or more of our Directors would be available.

Have a good day.

R.W. Sheard, P. Ag.
Executive Secretary

Profile:

SEEDS OF SUCCESS: OSECO INC.

By Shirley Lessard
Brampton Times

The seed industry is a fascinating business, one that is absolutely vital to the world's survival, said Gabriel Eros, the president of Oseco Inc., of Brampton, though its impact on the food chain is not immediately apparent to the man on the street.

"Seeds are the beginning of all food production."

However, the industry's low profile hides a highly specialized industry within the agricultural market. Within the seed industry, seeds are grown for cereal and oil products, flowers, vegetables, corn, trees, and ground cover.

Each seed process and market requires special knowledge. Oseco, on Wandless Road off Highway 10, specializes in turf grass and forage seeds. It's a market the company has been involved in since 1939. Today, the company has grown and imports about 40 per cent of its seeds from markets all over the world.

Eros built his company by selling to countries such as Japan, New Zealand, Western Europe, the United States and Australia — countries with climates similar to Canada's.

"If seeds grow well here, we know they'll do well there."

The business, started by his father, John and his wife Margaret, both Hungarian immigrants, was originally called Ontario Seed Cleaners and Dealers Ltd.

"My father was an expert in seed cleaning, the process of removing impurities picked up during harvesting. He set up the seed cleaning business in Toronto and it has grown into the merchandising business we own today."

Eros said the seeds were put through an elaborate process to clean them, making their seeds the "best product on the market." It was a system that kept them in business, at a time when the market was just beginning to grow.

In 1961, the founder of Ontario Seed Cleaner died of a heart attack leaving Eros, at the age of 25, to run the company. Although the company changed its name and moved to Brampton from Toronto in 1967, the method of cleaning seeds remains virtually the same. Only the amount of seeds cleaned, the technical equipment and the growth of business has changed, he said.

In its 22 years in Brampton, after several expansions, Oseco has grown from 40,000 square feet to a 70,000 square-foot building with warehouse and office space. Two subsidiary companies, Canadian Seed Coater Ltd., with a main plant in North Battleford, Sask., and Paladin Hybrids Inc., which has its head office in Brampton and laboratory facilities in Ottawa, are in the Oseco building.

"But it took a lot of effort to get here. It did not come easy. Our growth has been a combination of selling good, new products and good service."

The company has diversified to include a complete range of seed coatings and conola seeds, said Ervin Fox, a member of the Brampton Board of Trade business development committee, which awarded Oseco a Business Achievement Award in May, 1989.

Oseco is a major participant in a multi-million dollar research program now underway to develop new and improved products, Eros says.

The Oseco company is used as a testing facility for all new experimental varieties. Eros says, this bio-technical research has led to molecular techniques to make new hybrid seeds.

Shortly after Eros moved to Brampton, he originated the bulk movement of seeds across the nation in rail hoppers rather than by bags, Fox said.

The unprocessed seeds arrive in bulk from contract growers and are stored in unheated warehouses. They are sold in packages of 1000 grams to containers which hold one tonne of grain.

Oseco is a wholesale company which sells to retailers, who in turn sell to farmers who do the seeding. There are 70 full-time employees and from five to 10 seasonal employees.

The seed industry has changed since Oseco moved to Brampton. Eros says there are many different varieties available today because his company and others have gone into scientific plant breeding.

The changes in the hybrid seed industry have complicated Eros' life but "have provided better choices for customers," he says.

He advises anyone going into the business to learn "something about agronomy. The seed business requires a lot of special training, knowledge of seeds and a head for business."

SPORTS FIELD MAINTENANCE AND OPERATIONS

Each year Humber College in Rexdale, Ontario offers post-diploma credit courses as an extension of its Arena Management Program. In the late spring of this year an intensive one week course in sports field construction, maintenance and operation was held for arena operators and others in related recreation professions.

The course was divided into two major areas: the first dealing with sports field planning, design, layout, grading and construction, with a special session on sand based fields; and the second with maintenance procedures focussing on weed identification and control, sports field rehabilitations and turf machinery.

Speakers include Bruce Calhoun, Bannerman Equipment; Don Chase, Humber College; Bob Kennedy, City of St. Catharines Parks Department; Dennis Schram, Chemlawn; and Bob Williams, City of Mississauga Parks Department.

For more information on the Arena Management Program and related post-diploma courses at Humber College, contact Orville Getz at (416) 675-3111, Extension 4548.

COST ESTIMATES FOR FOOTBALL FIELD MAINTENANCE

Prepared by Mike Bladen,
University of Guelph Grounds Department

EQUIPMENT	COST/HR.	HOURS ON JOB	TOTAL MACHINE COST
Tractor & fertilizer spreader	$28.00	6	$168.00
Tractor & sprayer	28.00	4	112.00
Aerifier	17.00	8	136.00
Tractor & overseeder	28.00	6	168.00
Tractor & topdresser	28.00	4	104.00
Tractor & mower	28.00	44	1,232.00
Total Equipment Cost			$1,920.00
LABOUR			
Irrigation [portable]	$11.12	4/wk*	$ 352.64
Weed eating [2x/month]	11.12	11	122.32
Field marking [5 games]	11.38	60	682.80
Garbage removal & cleanup	11.12	10/game	556.00
Total Labour Cost			$1,713.76

MATERIALS	QUANTITY	UNIT COST	TOTAL COST
Fertilizer [6 applications]	44 bags	$7.50/bag	$330.00
Seed	500 kg.	3.60/kg.	1,800.00
Herbicide	10 litres	4.74/L	47.50
Topdressing material	60 cu. yd.	15.00/yd.	900.00
Latex line paint [5 games]	200 L/game	2.00/L	2,000.00
Total Material Cost			$5,077.50
TOTAL YEARLY MAINTENANCE COSTS			**$8,711.26**

*Irrigation used 8 weeks / year

WE GET LETTERS

Continued from Page 5

Dear Mr. Bladon:

Are you aware of any courses specific to playing field maintenance and development which may be available to us and are you aware of any legislation prohibiting the use of hydrated lime for lining sports fields and/or when its use was discouraged?

Yours truly,

Jane Lunn, R.D.M.R.
Director of Parks, Recreation & Culture
Town of Port Hope

Dear Ms. Lunn:

Regarding courses specific to playing field maintenance I would suggest you consider the Turf Managers Short Course which is offered by the Office of Continuing Education at the University of Guelph. This is a very comprehensive course extending over four weeks in February each year. No formal background education is required, however, the requests for admittance are high and it is usually booked at least one year in advance.

There are no regulations regarding the use of hydrated lime for lining sports fields that we are aware of. The material is not recommended because if the powder gets on a wet skin surface, for example in the eyes, it can cause much discomfort or even burn. Another material, calcium oxide, should never be used for the same reason.

There are latex paint materials available for lining fields, however, they tend to be expensive and are removed in mowing. Ground stone dust is often used. One material is ground calcite obtained from Steep Rock Calcite, Perth, Ontario (phone: 613-267-5367). Ground calcite limestone can also be used. Mr. Bladon will have an article in the forthcoming issue of our Newsletter on the subject.

Thank you for your interest in our organization.

Have a good day,

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WELCOME NEW MEMBERS

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University of Guelph

Terry R. Dewey
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Jan. 14 (post conference)	Jan. 31
May 13	May 31
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