President's Message
continued from page 1

end the athlete will suffer injury through playing on fields which can no longer be maintained effectively due to reduced or eliminate resources.

However, with adversity comes the need for greater creativity and innovation. Some ideas to consider are leasing equipment instead of purchasing, pooling resources with another institution, town, or community and purchase a shared overseeder, topdresser or fertilizer spreader. Think about group or bulk purchasing tenders for products such as grass seed, fertilizer, sod, or top soil to receive discounts through volume purchasing.

If you are not charging User Fees for outdoor sports fields, then lobby your Council, elected officials, or administrators to approve User Fees for outdoor sports fields in your community. In most cases minor hockey has been charging it for years - why not athletic fields? If you are collecting User Fees, then review the percentage recovery rate, or rethink the field categories to maximize your revenue.

To end on a bright note I would like to officially welcome Harold Van Gool as a Director. Harold is affiliated with Plant Products and brings to us a wealth of knowledge and experience related to the horticultural industry and we look forward to working with him over the next two years.

As many of you struggle once again this year to try and deliver quality sports field maintenance programs, and satisfy the users of your facilities, I wish everyone much success with your athletic field maintenance programs this spring. May it be said "the winter has been kind to your turf!"

If you have ideas or comments on the Association or athletic turf maintenance do not hesitate to contact me or our Executive Secretary at (519) 763-9431.

Best wishes for better, safer sports turf.

Christopher Mark
President

GTI HILITES

Dollar Spot Disease Control

Dollar spot is one of the most common and destructive diseases of bentgrasses that are maintained in a close mowed regime. Dollar spot is characterized by beached spots about the size of a looney that may overlap under severe infections causing large, irregular areas of sunken dead turf. Individual leaves at the edge of the spots typically have straw-coloured bands across the blade with reddish-brown borders.

The pathogen (Sclerotinia homoeocarpa) enters the leaf through freshly cut ends and stomates when the plant surfaces are wet. Thus periods of wet weather or heavy dew and temperatures between 20 and 28 C are when the disease is most likely to occur.

When the disease is in the early stages of infection only the leaf blade is damaged and recovery is rapid. At more advanced stages the entire plant is killed and recovery is by spreading of adjacent normal plants over the infected area. Good nitrogen nutrition favours the recovery by increasing the rate of spreading of adjacent plants.

The search for more effective chemicals for the control of dollar spot is part of the continuing research program of Prof. Tom Hsiang of the Dept. of Environmental Biology at the Univ. of Guelph. In 1994 he compared several new chemicals against the two chemicals that are registered and recommended for control of dollar spot in Ontario; Daconil 2787 and Tersan 1991.

Twenty-five treatments were compared in four replications of 1 by 2 meter plots from July 6, to Sept. 1, 1994. The experimental area, except for uninoculated checks were inoculated with viable fungus two days after application of the chemicals to insure a high, uniform level of infection. Estimates of infection were made by estimating the number of infection centres on a plot at weekly intervals during the test period.

The influence of the various treatments on the dollar spot infection is recorded in Table 1. Ten spots/m^2 or less was considered to be satisfactory control. No phytotoxicity from any of the chemicals was observed.

During the 1994 growing season, July was much wetter than normal, and August had more typical warm, humid days and nights. Thus all inoculated plots had an extremely high disease pressure from July 20th onward.

Both the registered chemicals, Daconil and Tersan, gave excellent control, even at the high disease pressure. Two new chemicals, not yet registered in Ontario, also provided equivalent control.

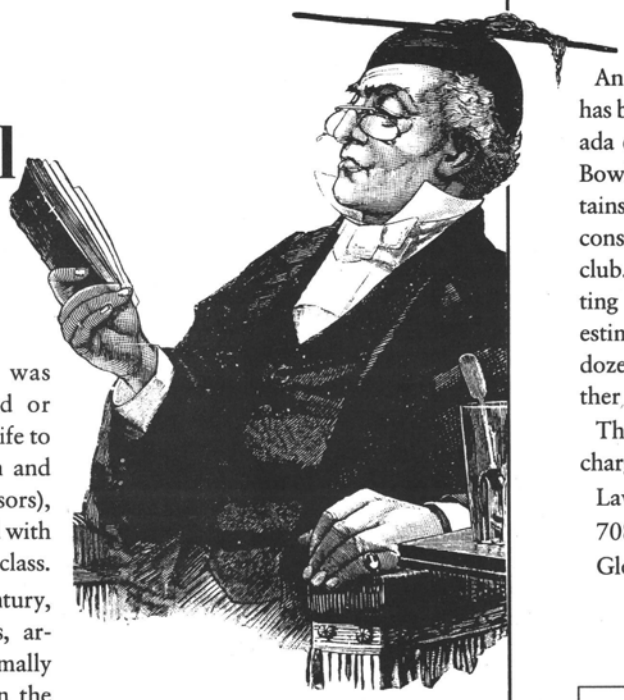
The availability of new chemicals is to be desired as disease organisms are known to develop resistance after repeated applications of a chemical. Thus, the potential availability of an alternate control chemical is welcomed news. Even the rotation of treatment between Daconil 2787 and Tersan 1991 is worthy of consideration.

Figure 1: The influence of selected chemical treatments on the dollar spot infection of creeping bentgrass.

			Mean Number of Spots								
Treatment	**Product**	**Interval**	**7/6**	**7/13**	**7/20**	**7/27**	**8/3**	**8/10**	**8/17**	**8/24**	**9/1**
	(product/m^2)	**(days)**				**(spots/ $2m^2$)**					
Uninoculated Check			0	1	1	3	4	4	68	11	28
Inoculated Check			0	1	36	203	210	210	228	325	375
Daconil 2787	180 mL	14	0	1	1	2	7	0	8	0	3
Tersan 1991	30 g	21	0	1	0	1	0	0	1	1	1
Tersan + Daconil	95 mL + 30g	14	0	2	2	1	1	0	0	0	0
Banner	31 mL	21	0	1	1	11	1	0	1	1	0
Banner	58 mL	21	0	0	1	1	1	0	0	0	0
Eagle	15 g	14	0	0	8	1	1	0	0	0	0
Eagle	20 g	14	1	1	2	0	0	0	0	0	0

EDITORIAL

On Being Professional



The original professional was someone who had vowed or "professed" to devote his or her life to the service of God. In the 17th and 18th centuries teachers (professors), physicians and lawyers combined with the clergy to form a professional class.

By the beginning of this century, dentists, accountants, engineers, architects and others had been formally added to the list. From then on the meaning of the word - professional - was expanded informally to include other workers who had university degrees or the equivalent. It was suggested that professionals were those who did not dirty their hands in their job.

In sport, professional status separates those who perform for money - today measured in millions - from those who perform for the love of the game.

There is another perception of professionalism, which is that professionals are very good at their work. Hence the expression "a really professional job." It is in this connotation that Sports Turf Managers become truly professional.

Professionals are supposed "to know their stuff." They must have confidence in their own abilities. It is this self-confidence that allows the professional to allow them to break with tried and true techniques in the search of fresh approaches to a problem.

If there is one characteristic of the established professions which sets them apart from other forms of employment, it is the continual renewal of knowledge and expertise through reading publications, attending conferences, seminars, field days and so forth.

Turf managers nowadays are continually having to learn about new equipment, processes, methods, chemicals. To fail to do so relegates one to menial tasks and denies him or her the classification of professional. Even those in sales are constantly being called upon to learn the intricacies of even more complex product lines.

Education in its many forms, therefore, is the key to professional status. The Sports Turf Association, through its initiatives such as this magazine, strives to fulfil part of that need.

In essence, the professional man or women is one who behaves professionally, not necessarily one who is certified or licensed by some administrative body. Professionalism cannot be conferred on you by a plaque or slip of paper. It consists of what you expect of yourself.

INFORMATION AVAILABLE

An excellent, comprehensive booklet has been prepared by Lawn Bowls Canada entitled "Getting Started in Lawn Bowls." This 30-page publication contains a wealth of knowledge for anyone considering the starting of a lawn bowls club. It even contains a section on getting the club started and a section on estimates of costs (1991 dollars). A half dozen references are provided for further reading.

This booklet may be obtained free of charge by writing:

Lawn Bowls Canada Boulingrin
708 -1600 James Naismith Drive,
Gloucester, ON. K1B 5N4

GTI Turf Research Field Day

August 19, 1996 is the date of the second Turf Reasearch Field Day to be held at the Guelph Turfgrass Institute in Guelph. The experimental plots will be in their second year of operation.

The day offers an excellent opportunity to see first hand the results of work being conducted on the use of chemicals for pest control, IPM systems, variety trials, chemical movement from the rooting zone and many other items of interest to the turf manager. GTI researchers will be available to answer your many questions.

For further information, call (519) 767-5009.

UNDERSTANDING TURF MANAGEMENT

THE BENTGRASSES

The 19th in a series by
R.W. Sheard, P.Ag.

Bentgrasses are the preferred turf species where true ball roll is the top priority for the turf surface.

The bentgrasses are of minor importance in sports field use, nevertheless those involved in maintenance of bowling greens, grass tennis courts and municipal golf courses will be interested in the use of this species. The bentgrasses originated in Europe and were introduced to North America during colonial times. Today they are found wherever there are golf greens in the cool, temperate climates.

The Bentgrass Family

Although there are at least 100 species of grasses listed in the genus Agrostis there are only four species of bentgrass used in the turf industry. The most common is creeping bentgrass (Agrostis palustris Huds or A. stolonifera). The others are red top (Agrostis alba L.), velvet bentgrass (Agrostis canina L.) and Colonial bentgrass (Agrostis tenuis Sibth.). The latter is also known as browntop in the U.K. and New Zealand.

Except red top, the bentgrasses are used for intensively managed areas where dense surfaces are required. Due to the predominate prostrate growth habit, the bentgrasses are the most tolerant of the cool season grasses to continued close mowing, often as low as 0.2 inches. Under this mowing regime the bentgrasses can form a fine textured, dense, uniform, high quality turf, ideally suited for true ball roll on golf and bowling greens.

All of the bentgrasses are characterized by being fine leaved, cool-season, perennial species. Colonial bentgrass and red top are primarily rhizomatous species, that is, they spread by means of underground stems. In contrast velvet bent and creeping bentgrass are stoloniferous species that have horizontal stems creeping above the soil surface.

The species are generally propagated by seed, however, vegetative propagation is feasible. As a result Toronto C-15, which originated at the Toronto Golf Club in Long Branch and became very popular throughout the North East and Mid Western U.S., was propagated by stolons or sod moved to new golf greens. The more disease resistant varieties available today are all propagated by seed. The standard variety of creeping bentgrass, against which all other improved varieties are rated today, is Penncross that was released by Penn State University in 1954.

Bentgrass Advantages

As intimated above the main advantage of the bentgrasses is their ability to maintain a dense turf under very low mowing heights. The advantage arises from the very short lower internodes. Creeping bentgrass is the superior species in this regard where mowing heights of 0.2 inches or less are required. Colonial bent is less tolerant to low mowing heights and tends to eventually form a mottled, patchy appearance due to segregation into off-type clones. Velvet bent also is less desirable for use at low mowing situations due to heavy thatch formation and the resulting scalping that may occur. The heavy thatch accumulation is due to a relatively slow rate of decomposition of root and stolon material. Colonial bent also has thatch accumulation problems requiring more frequent topdressing than creeping bent grass.

A second, related advantage is the recuperative ability from injury. The recuperative ability of the species of bent is largely related to their means of spreading. Creeping bent has the most vigorous stolon system, hence the most rapid recovery from divots or bare areas caused by disease or winter injury. On the other hand colonial bent and velvet bent spread by rhizomes or short, slow-growing stolons, whereas red top has rhizomes only, giving them slow recuperative ability.

A third advantage of the bent grasses is their tolerance to winter injury. Creeping bentgrass is one of the most winter hardy of the cool season turf species. Colonial bent has slightly less cold tolerance and red top has even less tolerance; to the degree it is sometimes considered a short-lived perennial.

The bentgrasses are also reported to have good tolerance to poor soil conditions, low pH soils, having drought tolerance and being tolerant of poor fertility. While these attributes may be true, optimum performance of the species only occurs where drainage, water, and fertility are enhanced.

Red top's adaptation to coarse textured, low fertility conditions gives the species a niche in the low maintenance and erosion control situations. the reddish hue of the inflorescence provides an added aesthetic appeal.

Bentgrass Disadvantages

The bentgrasses tend to be very prone to disease - Fussarium patch, Sclerotinia dollar spot, Helminthosporium and many others - such that a preventive fungicide program is often used when disease problems are anticipated. Recognition of the particular disease and its control requires a high degree of management skills and costly chemicals.

Bentgrasses

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Creeping bentgrass, and to a lesser degree colonial bentgrass, have little tolerance to compaction that is often a problem on greens. Furthermore the rooting system tends to be shallow and lacks the toughness required to withstand the tearing action of the player's cleats.

Water stress may be a problem where bentgrasses are produced on freely draining, coarse textured rooting zones. The irrigation demand arises from the relatively shallow root system of the bent grasses. While creeping and colonial bentgrasses have a medium to good level of heat tolerance, mid day syringing is often necessary under conditions of high evapotranspiration.

Creeping bentgrass and colonial bentgrass are subject to root injury from phenoxy herbicides such as 2,4-D.

Creeping bentgrass, colonial bent-grass and red top have low to medium shade tolerance but velvet bentgrass can be grown in partial shade.

Cultural Practices

When used on a playing surface the bentgrasses demand a relatively high fertility level, particularly nitrogen. Yearly applications of up to 400 kg N/ha, split into 6 to 8 applications may be required. Consideration should be given to using at least 50% of the nitrogen as a slow release carrier to avoid foliar burn. Uneven coverage may result in a "freckling" of the turf. Higher levels of phosphorus and potassium are required than for normal sports fields.

Mowing bentgrass is a daily operation. The low mowing height requires a special greens mower which should be well maintained and sharp. The greens mower should be equipped with a comb to prevent grain from developing in the turf which will influence the ball roll. Grain may also be avoided by alternating the direction of mowing.

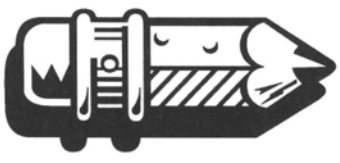
Topdressing for thatch control and to level the surface is an important practice on bentgrass. At the low cutting height used on bentgrass thatch accumulation may result in unsightly scalping

that will also distract from a true ball roll.

Verticutting may also be used for thatch control. In addition vertical mowing cuts the stolons, thus promoting juvenile shoot development and rooting at the nodes on the stolons.

Compaction control is essential for good growth of creeping bentgrass. The problem arises where greens are constructed from local soils or where specifications for materials selection for USGA type greens are not followed. Hollow tyne aerification with topdressing will not only relieve the compaction problem, but will also provide thatch control.

The GTI Advisor



The Guelph Turfgrass Institute, in conjunction with the Ontario Ministry of Agriculture Food and Rural Affairs, has initiated a new information system for professional turf and landscape mananagers.

Starting April 1st, through Oct. 21st, the 6-page *Advisor* will be published every two weeks. It then reverts to a monthly publication until next April.

Subscribers will receive up-to-date recommendations and information throughout the growing season. Additional features planned include weather information, irrigation advice, pest and disease advisories and the latest research information from the GTI and other sources.

A yearly subscription may be obtained for $40.00+$2.80(GST) = $42.80.

Call the GTI at (519)767-5009 for further information.

Irrigation and Water Use

Dr. James R. Watson
Vice President, TORO Corp.

Water is essential for plant growth and plant activity. It is involved either directly or indirectly in all phases of the care and management of turfgrass and landscape areas. Water transpired by leaves and evaporated from the surface serves as a temperature regulator. Syringing of the golf greens during periods of excessive evapotranspiration is based on this phenomena. The amount of water within the cells of grass leaves plays an important role in combating the effect of traffic.

When the plant cells are filled with water, they are said to be turgid, a condition that helps the leaves resist pressure from traffic (foot or vehicular) and avoid the damage, or even death, that might otherwise occur. Wilt is a condition that exists when the cells do not contain enough water and are said to be flaccid. A ten percent loss of water from the plant body will usually cause permanent wilting and death.

To understand the complexity of factors involved in water management and irrigation of turfgrass, one must recognize the fundamental role water plays in plant growth; understand the effects climate and weather have on growth rates and how they influence water-use rates and choice of grass. Further, effective and efficient satisfaction of water requirements of turfgrasses demands a knowledge of the basic physical and chemical soil properties and how these relate to water absorption, storage and drainage as well as the frequency, rate and manner in which water must be applied. All such basic information must be correlated with the requirements for **colour, play or use** adjusted to fit the existing or planned irrigation facilities, and modified to suit or to be adjusted to the level or standard of maintenance at which the turfgrass facility is being kept or maintained.

Evapotranspiration

Evapotranspiration (ET) refers to the water lost by surface evaporation (grass and soil) and from transpiration by the plant on turgrass areas. Transpiration accounts for most (80 to 85%) of the water lost by plants. ET is a solar driven "pumping" phenomenon. Plants literally pump water taken in by the roots through the plant body and pass it off to the atmosphere as water vapour. Only a small portion (5 to 10%) is retained for growth and development.

Transpiration rates vary almost hourly within any given season, They are greater in summer and lower in fall and spring. A similar phenomena, desiccation, occurs during the winter months and is often responsible for the loss of turfgrasss on high, exposed sites. Light intensity and duration, temperature, wind, rainfall and physiological factors all influence the rate of transpiration. Of these sunlight is the most critical. Thus, a measure of solar energy can be used to develop ET data which serves as the key to meeting irrigation needs of turfgrass.

Let me give you some very basic principles which may guide and direct your irrigation programs.

1. Determine texture and degree of compaction of your soil - controls infiltration rate.
2. Determine water holding capacity of your soil.
3. Determine depth of the root system

Then, if the need for moisture as indicated by ET is 0.25 inches daily — as the case may be during the heat of summer in many locations — the soil must supply to the plant 0.25 inches of water between irrigations. Soils that are otherwise very good for putting greens may hold only 0.5 to 0.75 inches per cubic foot. This would be an adequate amount of water for one to two days ***if all of it were available to the plant.*** For this is not the case, the roots must extend through (permeate) the entire volume of soil and the soil must have the capability to supply the needed amount of water at a rate rapidly enough to permit uptake by the roots. The root system of many turfgrass areas, especially golf and bowling greens and often sports fields frequently do not extend to a one-foot depth (especially in the summer). When they grow only to a depth of three or four inches, the volume of potentially available water is reduced by one-third to one-fourth.

Water management under these conditions calls for the reservoir (soil) insufficiency to be replenished by irrigation. Thus, the advice to water deeply and infrequently is not valid for many putting greens; or for that manner, for many turfgrass areas. To water in this manner may not be cost effective. Water cost, energy and equipment wear are higher since a

large portion of the applied water leaches below the root zone or runs off.

Poor aeration, whether from poor drainage, compaction or an inherent soil condition, further complicates the water management practices needed to meet water requirements of turfgrass on shallow soils of low water-holding capacity and poor drainage characteristics. To sustain growth and keep turfgrass green during the growing season requires uniform precipitation throughout the season; otherwise supplemental water (irrigation) will have to be applied in varying amounts.

The problem is ***uniformity of precipitation not amount,*** put another way "location" of rainfall and amount on ***your turf facility*** - not Joe's which lies across town.

The most effective, most efficient, most convenient and most economical way to water golf courses, parks, lawns, sport turf playing fields and other landscaped turf and recreational facilities is by automatic underground sprinklers. Solid state controlled systems, when properly programmed, are flexible and constant - always on duty and available on demand. They are cost effective and a practical means of preventing waste, conserving water and of assuring good watering techniques.

Practical Water Management

Once the physiological requirements of the grass and the influence of climate and soil properties are understood, irrigation management or the proper use of water, relates to the frequency of application, the amount to apply and the manner in which the water is applied.

Actual watering practices become a matter of judgement — judgement based on knowledge and understanding of the particular set of conditions existing on each turfgrass area. The limitations imposed by frequency and amount of play, the capacity of a given irrigation system, the availability of personnel and the prevailing weather conditions, all have important bearing on specific watering practices.

Frequency

The frequency of irrigation is governed by the water-holding capacity of the soil and the rate at which the available water

Actual watering practices become a matter of judgement — based on knowledge and understanding of the conditions on each turfgrass area.

is depleted. Depletion rate is a function of evapotranspiration and drainage. For the most vigorous and healthy growth, watering should begin when approximately 50 percent of the available water has been depleted. Most plants show a marked growth response when soil moisture is maintained between this level and field capacity. Theoretically, maximum growth occurs at field capacity because minimum stress — zero tension exists at this moisture level. Assuming equal depth of rooting, sandy-type soils will have to be watered more frequently than will loams or clays.

Some climatic conditions as high wind movement, intense sunlight, low humidity and high temperature contribute to high water use rates. When the transpiration rate (discharge rate) exceeds the rate of intake (by the roots) or flow (by the conducting tissue - xylem) the plant will wilt. It may wilt even through there is adequate soil moisture available. At such times "syringing" to reduce temperature is imperative. This will initiate translocation of accumulated photosynthesis and re-initiate photosynthesis.

Frequent watering (too often and too much) on poorly drained or compacted soils (inadequate amount of large pores) tends to keep the upper layers of the root zone near the saturation point most of the time. This condition will encourage shallow rooting and will promote weak turf which is susceptible to weed invasion (especially Poa annua) and insect attacks as well as further damage from traffic, since soil compacts more severely when wet. Frequent and excess watering of well-drained soils may not, in itself, be too serious but such practices, unless controlled, may not be economical. They cause excessive leaching of nutrients, require more manpower, use more water than necessary and produce more wear and tear on equipment and facilities. In short, poor irrigation practices are expensive and should not be tolerated.

Amount to Apply

The amount of water to apply at any one time will depend upon how much water is present in the soil when irrigation is started, the water holding capacity, root depth and drainage characteristics of the soil. The amount to apply also will depend to a certain extent upon the kind of grass and to a large extend, on local weather conditions. For good irrigation management that amount which is used by the plant should be replenished. Computer controlled systems connected to local weather stations have the capability to calculate daily water use and direct the controller to supply the needed water.

The amount of water actually needed is a function of the difference between evapotranspiration (use) and rainfall. This assumes excess water has drained. When evapotranspiration exceeds rainfall, the deficit must be supplied by supplemental irrigation. Water deficit tables will serve as a guide in determining the amount.

Enough water should be applied to insure that the entire root zone will be wetted. Too, on natural soils (as opposed to those modified for intensive use) sufficient water should be applied to bring about contact with subsoil moisture. Continuous contact between the upper and lower levels of moisture will avoid a dry layer through which roots cannot penetrate. Application of too much water at one time is serious only if the soil is poorly drained and the excess cannot be removed within a reasonable period of time.

Manner of Water Application

Water should never be applied at a rate faster than it can be absorbed by the soil. Irrigation systems that do not adequately disperse water; or those equipped with sprinklers that deliver a large volume of water within a concentrated area, cause surface runoff. Whenever water is applied at a rate faster than it can be absorbed by a given soil, the water is being waste and

Irrigation & Water Use

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costs increase. The sound irrigation program, then, would call for sprinklers that apply moisture slowly enough to permit ready absorption. When compaction exists, it should be corrected by aeration (cultivation) or spiking. This will materially improve the infiltration rate of water. Likewise, lowering of the precipitation rate and recycling after a period of time may be necessary for efficient watering practices.

At any rate, once surface runoff is evident, the sprinklers should be turned off. If the soil has not been watered to the desired depth — this may be determined by probing and examining the depth of penetration — then the system may be turned on again at the end of thirty minutes to an hour, depending upon the permeability of the soil. This type of recycling should be a routine part of programming an automatic system.

SUMMARY

To irrigate properly and conserve water requires an understanding of the fundamental role water plays in plant growth, and of the effects climate and weather have on growth rates; how they influence water use rates and choice of grass. Good irrigation management demands a knowledge of the basic physical and chemical soil properties, how they affect water absorption, storage and drainage as well as the frequency, rate and manner in which water must be applied.

Further, proper use of water means correlating such basic information with requirements for play, for mowing and other management practices and programming a cost effective watering schedule to fit the existing irrigation facilities so as to make the most efficient and cost effective use of them and the available labour force.

[Reproduced by permission from a presentation made by Dr. Watson at the Ontario Turf Symposium, Toronto, Jan. 2 - 5, 1996]

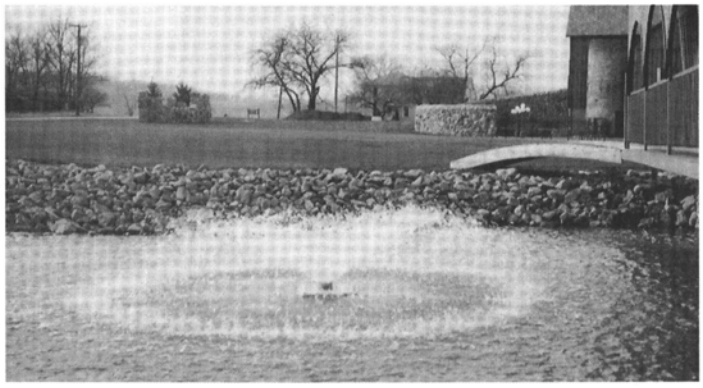
UBC plans Turfgrass Centre

At the 1995 Western Canada Turfgrass Conference, an announcement was made of plans for a turfgrass centre to be established at the University of British Columbia. Dr. Bryan Holl of the Plant Science Department of UBC says the function of the centre would be to research problems of direct and long-term significance to the turf industry and to provide ecological services which relate to sound management alternatives, disease monitoring, identification and prevention.

NEW PRODUCT RELEASES

Rittenhouse Fountain/Aerator

The new fountain/aerators from M.K. Rittenhouse & Sons Ltd. provide a simple, inexpensive and environmentally sound means of aeration for irrigation or decorative ponds. Oxygen is introduced at lower water levels which reduces stagnation and foul odours by inhibiting algae and aquatic weeds. This reduces the requirement for water treatment chemicals and dyes. Installation is a snap as the aerator simply floats on the water surface. All stainless steel and aluminum construction, maintenance free oilless Franklin electric motors with water lubricated carbon bearings provide for a long life backed by a full two year warranty. The 2 HP model will move up to 860,000 gallons per day and will aerate up to an 80,000 square foot pond.



Rittenhouse Fountain/Aerator

Overseeding Blends from Pickseed

Pickseed Canada Inc. is pleased to announce the next generation of overseeding products for sports turf professionals, Futura 3000 and Futura Blue.

Futura 3000 is a three way blend of Cutter, Edge and Express perennial ryegrasses. All three produce lush, dark green turf that stands up to the heaviest traffic. These varieties also have high levels of endophyte which confers resistance to crown feeding insects.

Futura Blue is a blend of Cutter perennial ryegrass and Touchdown Kentucky bluegrass. Cutter is a new variety that has ranked number one out of more than a hundred competitors in the NTEP trial for turf quality for two years in a row. Touchdown is a favourite with sod growers across Canada for its aggressively spreading root system and tremendous root strength.

Both of these products should prove to be a tremendous asset to sports turf managers.

Comlube PM+ Grease

Comlube Technology Inc., a unique Canadian company on the leading edge of equipment lubrication technology, is celebrating its tenth anniversary. Comlube's extensive maintenance background, resulted in the creation of a unique line of preventative maintenance products formulated to reduce costly breakdowns, parts replacement, down time, increase equipment life and reduces

NEW PRODUCT RELEASES (cont'd)

energy consumption.

Comlubes PM+ Grease contains no hazardous ingredients. This grease is registered with Health and Welfare and Agriculture Canada, and should be the product of choice for recreation and playground equipment maintenance equipment. PM+ Grease is formulated to stay in the bearings, resist water, chemicals and pesticides, operate under extreme pressures and heat, plus increase bearing life. Canada's Wonderland doubled the life of their bearings. The City of North York reduced grease consumption by 400% and drastically reduced bearing replace- ment and down time. These results are just two of many that have been achieved by using Comlube's products.

OSECO Releases "SuperShade"

SuperShade by Oseco sets a new standard for turfgrass performance in shaded areas.

SuperShade is a "breakthrough" product which contains a special mixture of traditional shade tolerant species combined with the new European supergrass - Supranova Poa Supina. Oseco supplies SuperShade in "customer convenient", 750 gram attractive retail packaging.

SuperShade is the answer to problems in maintaining grass in deeply shaded areas and is brought to you by the turfseed specialists at OSECO - an all Canadian company.

BIG ROLL SOD

Fairlawn Sod Nursery Ltd. is offering #1 Grade Turfgrass Nursery Sod in a BIG ROLL format. The size is 29 inches (73.7 cm) wide by 125 feet (38.1 m) long.

These are the largest rolls currently available in Ontario. They were installed on softball fields in Riverside Park, Guelph in the Fall of 1994 and in Jaycee Park in Brantford in July, 1995. In Brantford, it was possible to hold a tournament only two weeks after installation because of fewer seams and the large pieces were stable.