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NEWSLETTER

PRESIDENT'S MESSAGE

Well — another dry summer has passed, and for many of us it was a real struggle to keep grass actively growing. For those of you who have both adequate water supplies and irrigation systems, count your blessings.

At the University of Guelph, the grounds department in conjunction with the Physical Education Department and the Guelph Turfgrass Institute are experimenting!

Two fields were renovated and hydroseeded on May 15, 1989; half of each field was seeded to tall fescue variety-Carefree and the other half to perennial ryegrass variety-Prestige.

Both have shown good summer colour. The tall fescue, though longer to establish, does well in a variety of soils, has good drought tolerance and low fertility requirements. Both will stand a reasonable amount of traffic. One field was open for play the week of August 15, and the other should be ready for September. The tall fescues

may well be the grasses of the future, particularly for those of us who do not have irrigation. We will keep you posted on results in future issues of this newsletter.

As you construct, renovate and maintain those fields, remember the words of creativity consultant Roger von Bach: "The real key to being creative lies in what you do with your knowledge". Creative thinking requires an attitude or outlook which allows you to reach for ideas and manipulate your knowledge and experience.

Lastly, to quote from a Royal Bank Newsletter: "By making creativity a way of life at work, at home and at play, we can not only fulfill ourselves personally, but contribute to the building of a better world." (Better and safer sports turf).

Good luck with your endeavours.

Michael J. Bladon

WELCOME! To Our New Members

City of Niagara Falls
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Ontario Seed Company

**Resort Municipality
of Whistler**
Whistler, B.C.

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Forty Niners Set New Standard For NFL Training Centres

When a National Football League franchise wins one Super Bowl, competitors try to discover what its winning formula is. They look hardest at players, coaching and the play book. When the same team wins two Super Bowls, the formula becomes the subject of intensive analysis throughout the league.

When the San Francisco Forty Niners won its third Super Bowl of the 1980s, the world of professional football wanted to know everything about the organization, from the flavour of its PowerBurst drink to the type of drills it puts players through.

One of the most notable changes at the Forty Niners' camp last summer was its new training facility. The team worked out for the first time at the 11-acre Marie P. DeBartolo Sports Centre, in Santa Clara, CA. Edward J. DeBartolo, Jr., who purchased the team in 1977, named the complex as a tribute to his mother.

DeBartolo wanted to show his players and his coaching staff that he intended to field the best team on the best fields. For years the Forty Niners had trained on two 60-yard fields in Redwood City, CA, one natural and one artificial. The old complex just didn't fit the needs or the image of a team that was becoming a dynasty. He immediately began to explore building a complete professional training center, one that met the standards of the Youngstown, OH, based DeBartolo Corporation, a developer of upscale shopping centers and real estate developments.

When the city of Santa Clara got wind of his plans, it approached DeBartolo about developing a 11.2 acre site across the road from the new Great America Theme Park, Santa Clara Convention Center, Santa Clara Golf Course and Doubletree hotel.

"We explored building a new facility in Redwood City," recalls Norb Hecker, executive administrator of the center, "but the Santa Clara site gave us the chance to expand our thinking further. It gave us room for three fields instead of two, with plenty to spare for the headquarters and training center." Hecker is also executive assistant to Coach Bill Walsh and was a former assistant to Green Bay Packer legend Vince Lombardi.

DeBartolo spared no expense during design and construction of what has become a model for professional football training centers. He wanted an architect experienced in professional sports, one familiar with the details required, from the weight room to the surface of the fields. He chose HOK Sports Facilities Group in Kansas City, MO, designer of major stadiums and training facilities for both baseball and football.

HOK's Joel Leider worked with Lou Zarlenga, head of engineering for the DeBartolo Corporation, to put together specifications for the training center. They included a two-story main building, a maintenance building, one artificial turf field and two natural turf fields. The main

building houses the executive offices, a swimming pool, audio-visual center, cafeteria, weight room and lockers. In addition to large maintenance and storage areas, the second building also includes two racquetball courts.

As construction began on the buildings, HOK turned its attention to the fields. It was clear from the beginning that there were two major factors in selection of field surfaces: water and player safety. Every effort had to be made to conserve water throughout the year and to reduce the number of injuries during training. Drainage was not a serious problem, since the area averages less than 18 inches of rainfall per year.

HOK had heard favorable reports about the surfaces at the Seattle Seahawks training complex in Kirkland, WA. The natural turf fields there are sand-based, designed by Dr. Roy Goss, extension agronomist for Washington State University. The Seahawks also installed one field of Omniturf, a carpet of artificial turf topdressing with sand.

Leider contacted Dr. Bill Daniel, co-inventor of the Prescription Athletic Turf (PAT) System, as a knowledgeable source on sand field construction. Daniel and partner Laurel Meade developed a proposal for a PAT System for the Forty Niners. The idea was to conserve water by sub-irrigating. The patented system automatically controls both drainage and subirrigation and utilizes vacuum to keep a field in play regardless of rainfall.

When the Forty Niners questioned whether the Santa Clara weather called for such an advanced drainage system, an alternative was suggested. In 1966, Purdue University researchers developed a sand-based system for golf greens. It was given the name Purr-wick, which stands for plastic under reservoir rootzone with wick action. The predecessor to the PAT system has some of its benefits but is totally manual and does not include a vacuum system. However, the system had never been used before for an athletic field.

"The key features of Purr-wick," explains Daniel, "are water conservation and a uniform moisture content. By controlling drainage with a plastic barrier and valves, you conserve water in the root zone. Water will wick up in properly sized sand as much as 14 inches in 24 hours. The wicking action starts out rapidly, moving the first 8 inches in 20 minutes, then slows."

At the time, Jim Eagle, a licensed PAT installer from Fort Worth, TX, was preparing for a large park project in Carson, a southern suburb of Los Angeles. "Since I would have my equipment and crew in the state," he recalls, "we could move up to the Forty Niners' training center after completing our work on Del Amo Park." The timing was right for Eagle and the Forty Niners. With 18 months to go before the opening, Eagle started making arrangements.

"I really enjoyed working with the Forty Niner organization," Eagle says. "They reminded me of the old Dallas

Cowboy. They are truly dedicated to being a winning team and it shows in the way they do everything."

The first order of business was to find a source for more than 12,000 tons of dune sand and 22,000 yards of sod grown on sand. "The sand in the field had to match the sand on the sod," Eagle states. "We found a beautiful type of beach sand near Pebble Beach. Then I started calling sod farms to see if they had sand fields where they could grow Kentucky bluegrass sod *without netting* in a year's time."

Steve Stone, from Warren's Turf Nursery in Suisan, CA, was able to satisfy Eagles's needs by custom growing a blend of four Kentucky bluegrasses at the company's farm in Manteca, CA. The four bluegrasses were Warren's own proprietary cultivars Able 1, A-34, H-7 and I-13. The fields at the Manteca farm were almost pure sand. "I was trying to avoid the problem of washing the sod before it was installed," Eagle explains.

Eagle's crew moved on site January 4, 1988 to direct excavation. The top 14 inches of soil was removed from more than 4½ acres. With the help of lasers, a flat subgrade was obtained for the entire square area. "There is not more than ½ inch difference in elevation in either the subgrade or the final surface," remarks Eagle.

A Purr-wick field must be flat to work properly. When it is used for golf greens, the root zone must be partitioned into sections for each six inches of grade change. If this is not done, water will move by gravity to the lowest point, destroying the uniformity of the wicking action. A crowned athletic field would require the same type of partitioning as a golf green.

The next step was to cut shallow trenches in the subgrade for the network of perforated drain pipe. The network consists of a series of two-inch slitted tubes feeding into four-inch collector drains. Once installed, the collector

drains lead to three gate valves which open to allow water out of the field or close to retain it.

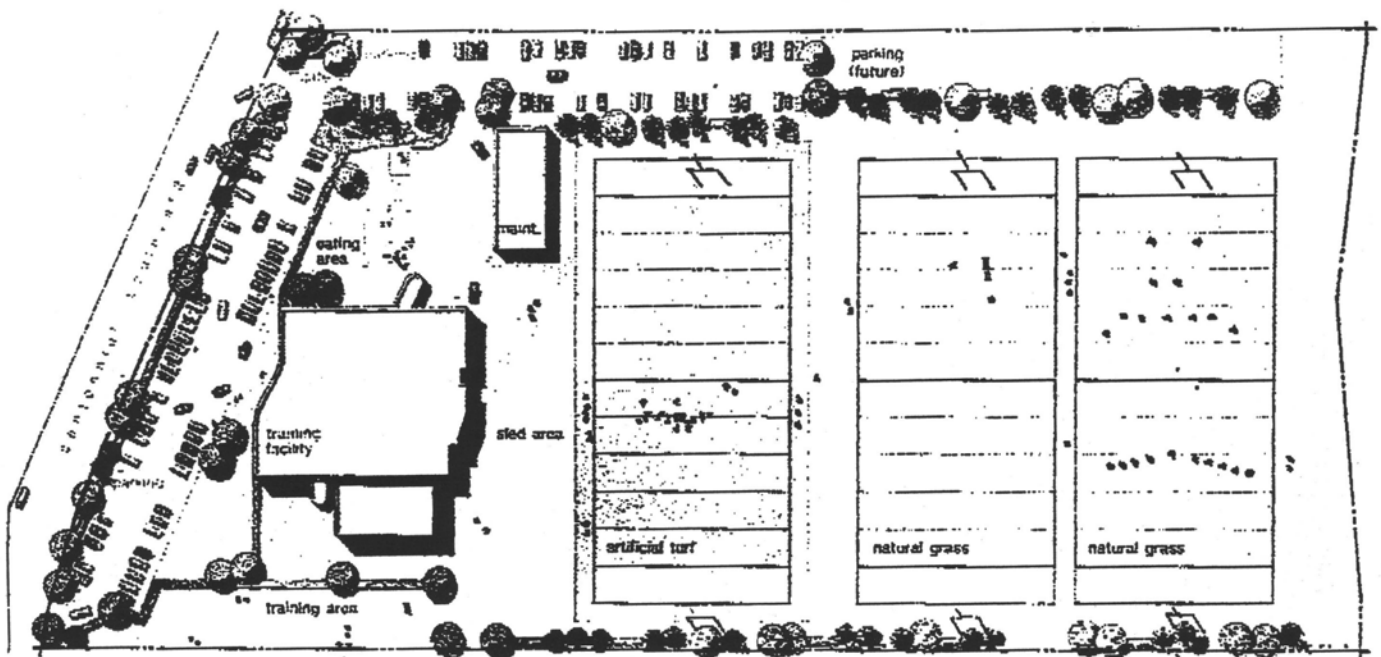
Since Eagle was going to install large valve-in-head sprinklers with swing joints, he also had to provide holes in the subgrade at each head location and trenches for the irrigation mains and laterals. The Forty Niners wanted no sprinkler heads on the playing surface of the two fields. However, three heads are located between the two fields within the area of the Purr-wick system. All other heads are located on a loop outside the fields.

Everything had to be installed above the plastic barrier to assure a closed system. Once all the trenches and holes were dug, the barrier was installed to line the entire bottom and sides of the huge bathtub. "Imagine what an entire stadium field would look like covered with plastic," says Eagle. "This was three times bigger."

His crew worked from first light into the night to install the drain and irrigation lines. "We had to get the sand in quickly to keep the wind from lifting the plastic barrier," recalls Eagle. "We also had to be careful to install the sand without damaging the drain lines."

The trucks started delivering the sand at a rate of 1,500 tons per day. As the tub began to fill with 14 inches of sand, Eagle had another job to do for the Forty Niners. He promised Norb Hecker to help interview prospective turf managers for the facility. Hecker wanted to hire someone before the sod was laid.

"One day we were busy installing irrigation pipe," Eagle remembers, "and I noticed an unfamiliar face among the crew. All the other people I had interviewed went straight to the trailer and waited for me there. A little while later, this person asked one of my guys where he could find me. He turned out to be Rich Genoff, the sports turf manager from Santa Clara University, who had come to interview for the job."



Layout of Marie P. DeBartolo Sports Centre. Photo courtesy: HOK Sports Facilities Group.

Genoff started his turf career at Atlanta Country Club in Atlanta, GA. George Burgin, superintendent in the late '70s, taught Genoff the fine differences between managing turf on sand greens and clay fairways. After three years, the Bay area native returned home and was hired by a landscape maintenance firm to take care of the athletic fields at Santa Clara University.

The Forty Niners trained at the university before moving to Redwood City. They used the school's sand-based Buck Shaw Stadium.

In 1981, the university hired Genoff as its first superintendent of athletic fields. During seven years with the university he had managed 13 conversions between football and baseball seasons. "It was a one-man operation and I spent mega-hours making sure everything was right for the teams," he states.

Genoff also felt strongly about the Forty Niners. When he heard the team needed a turf manager for its new training center, he had to apply. Hecker told Genoff it was a one-man job, but it didn't matter. With Hecker and Eagle's support, Genoff passed the interviews with Coach Bill Walsh and general manager John McVay.

Genoff reported to work in March. A week later he watched closely as Warren's installed the 201,000 square feet of sod on the practice fields and another 70,000 square feet on the lawn area around the buildings.

"Looking at the fields for the first time was just as great as looking at a spectacular golf course," he recalls. "I knew then and there that I wanted to remain a sports turf manager."

The training camp was scheduled to open in August. That gave Genoff the time he needed to allow the sod to become anchored. "There's a difference between rooting and anchoring," he remarks, "and between soil and sand. Just because you get the roots down eight or ten inches in sand doesn't mean the turf can't be pulled up. It takes months for the roots to knit together to form a tough base."

Genoff thinks of the practice fields as being like a hydroponic garden with the turf growing in a nutrient solution. Before the sod was laid, 20 pounds per 1,000 square feet of 6-20-20 was dragged into the sand. A month later he applied ten pounds per 1,000 square feet of 10-8-4 and watered it into the rootzone with the irrigation system. After another 30 days he began applying five pounds per 1,000 square feet of 21-7-14 on two-week intervals.

"The turf grows at a rate of 1/4 to 1/2 inch a day," says Genoff. He mows at one inch seven days a week with a Toro Turf Pro 84 that has three hydraulically-driven reels. "If I skip a couple of days I have to double or triple cut and sweep up the clippings to get the pattern back."

Genoff is following a preventive treatment program for pythium, fusarium, rhizoctonia and patch diseases. He begins applying Chipco 26019 in May along with either Subdue or Alietta. In areas of the fields where *Poa annua* has invaded he applies Endothall. If that doesn't control the weed, he plans to take another approach. In April he alternates Balan and Ronstar for preemergence weed control, followed later in the year with postemergence applications of Turflon. All chemicals are applied very early in the

morning, when no players or staff are around.

Genoff begins some days at 4 a.m., using the headlights on his Cushman 530 Turf-Truckster to help him spray fungicides. The 100 gallon sprayer has a 16 foot boom. Later in the day he might attach a screen drag or brush to groom either the natural fields or the Omniturf. If he's not in his office, he usually can be found near the truckster loaded down with sand or tools.

In case of a break in an irrigation or drainage line, he hooks up a submersible pump to the vehicle's power converter so suck water out of the line. Then he plugs in a reciprocating saw to cut out the damaged piece of pipe. "With the power saw, I can repair a four-inch drain pipe in a few minutes," he reveals. "That same job used to take hours. The truckster is my second man."

Genoff's third piece of multi-use equipment is a John Deere 1050 tractor. To it he attaches either an Olathe drill seeder, a Lely spreader, a Ryan Tracaire aerator or a top-dresser. The final piece of equipment Genoff considers invaluable is a Bomag 130 AD 12,000 pound roller he rents to maintain a perfectly flat surface on the fields.

The training center's irrigation system is as flexible as its equipment. The above ground system serves many valuable purposes for Genoff. In addition to irrigating the turf outside the field area, it allows him to "prime" or syringe the field surface during the summer. It is also used to water in chemicals and fertilizers.

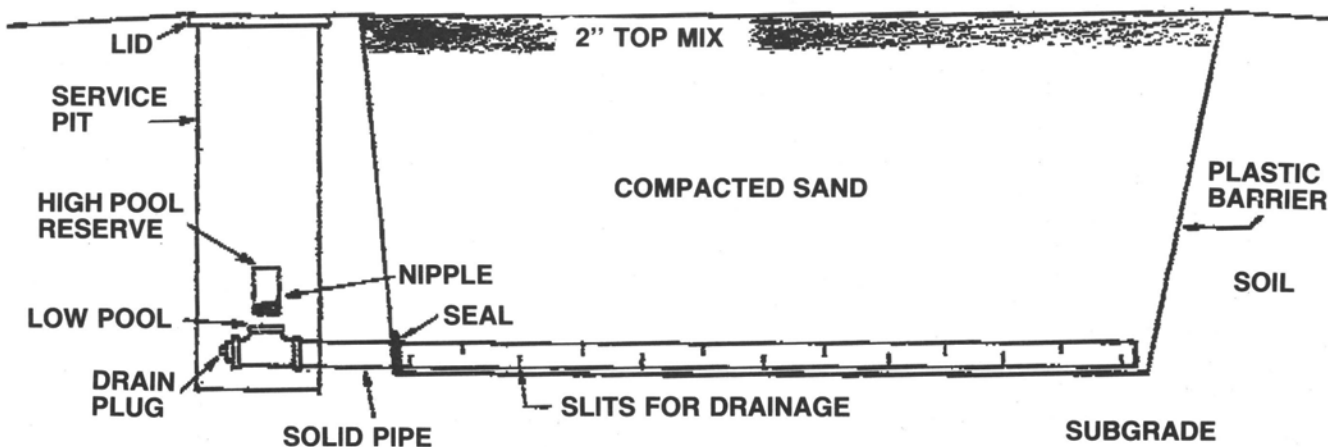
"There are no irrigation heads on the field surface," he points out. The basic configuration is two side-by-side fields facing north and south. Half-circle heads are located on the perimeter, with one row of full circle heads between the two fields. Each Toro 690 head has a radius of 110 feet at 110 psi, provided by a PSI pump station drawing from a city water line. The turf outside the field area is irrigated with Hunter Sod Cup I-40 heads. All 17 sprinklers are valve-in-head and crolled by an Irr-Trol MC Plus 12-station clock.

Because the subirrigation system has done the job so well, Genoff has only had to depend upon the surface irrigation system on three or four occasions since the sports center opened. "With the subirrigation system I can irrigate while the team is practicing without anyone knowing," he reveals.

Generally he subirrigates every two to three weeks. This is accomplished by opening three automatic supply valves in the drainage pit for an hour and a half. The water is distributed throughout the sand rootzone by the drain tubes. Genoff can check the water level at any time by inserting a dipstick into sleeves buring in the sand. "I know exactly how much water the turf uses," he adds, "and we don't waste a drop."

During extremely hot weather, Genoff watches for dry spots to make sure the wicking action is not upset by surface evaporation. "If I see a dry spot, I'll turn the sprinklers on early in the morning for 15 to 30 minutes to prime the wicking action between the surface and the water level in the field," he notes.

The only time Genoff has opened the drain valves was for heavy winter rainstorms. "You've got to remember that the nutrients are in the water," he warns. "The object is to



Cross section of single-tier Purr-wick rootzone.

conserve both water and nutrients."

One of the major advantages of the Purr-wick system is the freedom it gives Genoff to take a square space and turn it into a number of different field configurations. "Since we have portable goalposts, I can actually rearrange things to provide five or more different fields," he reveals.

"I make sure the Forty Niners have the best turf possible between the hash marks all the time. We use one field at a time, switching from field to field on a weekly basis," he continues. "That gives me time to rest, repair, spike and remark the other field." Last fall, Genoff wasn't satisfied with the center of either field, so he removed two sprinkler heads and turned both fields east to west. When he advanced to the Super Bowl, he removed a third head and set up a field down the middle facing north and south.

Following practice, Genoff sweeps the field used that day to remove any loose turf or debris. Before mowing, he also drags the field to lift any turf knocked down by players. "The rollers on the Turf Pro smooth out any divots or bumps," he adds. When he is finished for the day, both fields have a definite striped pattern.

During the winter, Genoff mows every other day and sweeps once a week. This past winter he core aerified, toppedressed with 100 tons of lapis sand, and dragged the fields in six different directions. This March, he drill-seeded the fields with three pounds per 1,000 square feet of A-34. "When the mini-camps started last month the fields looked new again," he said proudly.

Maintaining artificial turf was new to Genoff, but he has mastered it quickly. No marking is required, since the

lines, hash marks and team logo are actually colored carpet inserted into the green Omniturf.

The sand dressing on top of the carpet does need to be brushed frequently and irrigated periodically. "The Omniturf field has its own irrigation system," says Genoff. "We had a small problem with wind blowing the sand around at first, but I've got a handle on it now."

There is one other innovative section of turf Genoff and Eagle are proud of: the training track. At the request of the trainers, Eagle designed a turf area 40 yards long and 15 feet wide. It slopes 3½ degrees from end to end. Players sprint down the slope to develop greater speed, or up it to stretch tendons and muscles.

"The two natural fields next to the Omniturf field are a sight to see," he concludes. "Who wouldn't be proud to work or play here? I always keep in mind that Ed DeBartolo, John McVay, Bill Walsh or Coach Seifert can look out their windows anytime to see the fields. But I also make sure the players and trainers like it. The bottom line is championship turf."

As the Forty Niners prepare for another season, the Denver Broncos and Phoenix Cardinals are installing similar natural and artificial turf fields at their training centres in arid regions of the country. Turf has been recognized as a major factor in the success of professional sport franchises. At the same time, the sports turf manager is playing an increasingly vital role in the winning formula.

"Nothing beats working for a world championship organization," remarks Genoff. "It's a dream job for me!"

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Changes to Pesticide Regulations Delayed

The Ontario Ministry of the Environment is not expected to amend Regulation 751 of the Pesticides Act until at least January.

Kent Groves, chairman of Green Care Ontario says that the ministry received over 500 responses from all areas of the pesticide application industry. Each response will be

reviewed individually. Since this is such a large job, Groves doesn't expect any new regulations until the new year.

Green Care Ontario is made up of members from 18 different associations, including Landscape Ontario. It was originally formed to respond to the Ministry of the Environment's proposed regulation changes.

Renovation of a Sand Based Field

Bill Harding

With the use that some of our best maintained fields are getting these days, it makes it increasingly difficult for the turf manager to produce results that users expect, and deserve. It is quite common for a field to be used for football, soccer, track, rigger and special events with changes occurring within a few days. How do we get a sand based field that has been completely destroyed by one season's use, back into play and in good condition by early June, or even earlier?

The first thing that comes to mind is to relevel the area and sod the entire bare area. This gives good results in a soil based field but sod on sand will create a layering effect in the soil strata and could ruin your soil structure and cause many problems, including a perched water table. If we could find a sod that's grown on the identical sand that the field was constructed this could possibly be an alternative. It appears that the only practical way to renovate the sand based field would be with seed.

An experiment was tried at North York's Esther Shiner Stadium in 1988-89. The field was constructed on a sand based mixture with small amounts of peat mixed into the top inches of the mix to help germination of the seed. Drainage tiles and irrigation were installed. The field drains very well, so water is not a problem. The only real problem with the field is overuse.

The last game on the field was November 19. 60% of the field was completely bare of any turf cover. Below is a breakdown of the dates of jobs that were done to get the field in play.

- Nov. 14 — Field aerated two ways with Ryan greensaire 2, cores matted into holes.
- Nov. 15 — Low areas filled with sand to level.
- Nov. 17 — Preparation for final football game of the season.
- Nov. 18 — Final game.
- Nov. 19 — 7:30 a.m. field was frozen, had to wait to overseed. 9:00 a.m. overseeded field with Jacobsen seed 3 ways (mixture Blazer, Fiesta II)
- Nov. 22 — Broadcast seed and topdressed entire field with sand.
- Nov. 23 — Put down green cover to protect field through winter months.
- April 18 — Tested irrigation system.
- April 19 — Began watering field with cover still in place (note: very cool spring).
- May 1 — Noticed first signs of germination. (Still quite cool). Took cover off and spot seeded and topdressed sparse areas ½ lb. N fertilizer 25-5-10. Had to mow the grass that was under cover, it was approx. 4" long.
- May 23 — ½ lb. N Fertilizer 32-4-8.
- June 4 — North York Rocks play the first game on the field. Turf cover about 95%.

The winter of 1988-89 was, in the Toronto area, quite mild, there was some concern that the seed under the cover might germinate in January due to warm temperatures and bright sunlight. The spring was very cold, germination of the ryegrass did not occur until May 1, there was concern that we would have to cancel the first game. If not for the cover holding the seed in place and keeping the soil temperatures up we would have not had our field in shape for opening day.

When the cover was lifted the turf under was very succulent and soft so it would appear that timing of the lifting of a cover is very critical to health of the new plants.

The experiment has proven to be a success with less than ideal conditions. The field was opened 2 weeks earlier in 1989 than 1988. The use of the greencover has given us some protection from mother nature and seem to have given us a jump on seed germination. The experience of last winter has prompted the purchase of another cover so the entire field can be covered, not just the centre bare areas.

Third Annual Athletic Field Day

About 110 people attended the S.T.A. Field Day held on June 15, 1989 at River Oaks Recreation Centre in Oakville. The rain held off in the afternoon so the equipment demonstrations went ahead as planned. It's good to see that so many suppliers came out to show us some of the new products available to make our jobs easier.

The morning sessions consisted of two presentations from Dr. Paul Ricke of Michigan State University. His talks were informative and valid for the southern Ontario area because of the similar climate we share with northern Michigan.

We also had a panel discussion presented by Dave Dick, Bob Kennedy, Leo Ostner and Dr. Riche, the discussion touched on some very practical ideas and gave all in attendance some food for thought.

The members of the S.T.A. would like to thank all involved and specially the town of Oakville for their hospitality.

See you next year in Kitchener.

New Budget Taxes Pesticides, Herbicides and Fertilizer

Business operators in the landscaping industry now have to pay eight percent sales tax on pesticides, herbicides and fertilizer. This year's provincial budget removed the sales tax exemption as of June 1 for everyone except farmers.

There was no consultation with industry by the provincial government. Because the budget has already been tabled, nothing can be done at this point to reverse the decision.

Kent Groves, chairman of Landscape Ontario's Lawn Care Commodity Group says that something could have been done to lobby on behalf of the industry if word of the move had reached him in time. He blames financial restrictions for preventing the thorough monitoring of government activities by the Commodity Group.

Cornell Publishes Athletic Field Guide

Three turf specialists at Cornell University have teamed up to publish a comprehensive guide to athletic field care titled "Athletic Field Maintenance: A Guide for Sports Turf Managers." Norman Hummell, Jr., Joseph Neal, and Martin Petrovic each contributed to the publication which is intended primarily for grounds managers at schools and parks.

The guide covers a wide range of topics from establishing and maintaining durable natural turf fields to care of skinned areas. Among the subjects included are field drainage, thatch control, fertilization, turfgrass selection, mowing, irrigation, seeding and control of weeds insects and diseases. The focus of the booklet is cultural management of newly seeded, overseeded and established turfgrass areas.

Copies of the guide can be purchased for \$3 each by writing: Cornell University Distribution, 7 Research Park, Ithaca, NY 14850.

OALA Names New Executive Director

The Ontario Association of Landscape Architects (OALA) has a new executive director. Dr. Arthur Timms took over the position on May 15.

Timms brings with him 14 years of experience as a professional non-profit association manager. He is currently president-elect of the Canadian Society of Association Executives' Toronto Chapter, and he serves on their national board.

A native of Ontario, Timms education includes an honours bachelor of science from McMaster University, graduate studies at Texas A&M University, and a PhD in environmental zoology.

Timms joined the Conservation Council in 1973 and became their executive director four years later. He has been executive director of the Canadian Cerebral Palsy Association since 1984.

Timms' past also includes volunteer work with the Sierra Club of Ontario Three Trilliums Community Place, an organization that provides independent living apartments for disabled adults, and on the Board of Great Lakes Tomorrow.

New Turfgrass Variety Cost Executive Director

Arden Jacklin, Jacklin Seed Co.

Most people, including myself at times, have no conception of what it costs to develop turfgrass. My figures here are mostly based on Kentucky bluegrass, as this is the kind with which I am most familiar.

Let's start with a new selection or a new hybrid which has passed the first screening and is ready for more extensive testing. That first screening costs about \$500 for each entry. Of all entries, about 10% pass the first screening. So, we start with a \$5,000. cost on each entry which does not include the cost for getting it.

Two-Thirds Fail

Preliminary testing for turf quality and seed producing ability in our plots runs about \$4,000 per accession. A fair appraisal shows about two-thirds of the accessions fail in this test. So the investment in this test is \$12,000.

The next step is advanced turf and disease resistance in both western and eastern US. Eastern testing is necessary because in the West we don't have all the diseases that affect turf in the largest (eastern) consumption area. These tests will cost about \$5,000 per entry. Assuming an average of two-thirds will fail to show promise, we come up with \$15,000 per successful accession.

National Testing Important

So far, it's only our word that it's a good or superior variety. Therefore, it's necessary to give it wider and more open public testing in the National Variety Testing trials which involve some 30 testing sites. The charge is \$1,800 for a 3-year test. In our experience about one-third will fail, generating a cost of \$2,700 per accession. At this point, still an experimental number yet to be registered as a named variety, we have a total investment of \$34,700 in it.

It is now time to produce breeder seed from which foundation will be produced. Breeder seed fields or plots are small, requiring much work at high cost. An arbitrary cost well above what the seed can be resold for or charged out is about \$4,000.

Plant Variety Protection

Next it is advisable, if not entirely necessary, to "insure" ownership by protecting rights to and registering of the variety. This is done through the PVP (Plant Variety Protection) process which for bluegrass costs \$2,000 per entry. Gathering information for submission on a PVP application costs an estimated \$3,000. The same data for PVP can be used to register the variety with the American Society of Agronomy and provide data to the various state certifying agencies for their certification standards.

The variety must be advertised and promoted to get potential customers and promote themselves in their markets. We have good cost figures here. We average \$30,000

per variety for first year promotion, which includes magazines, in-house publications, convention displays, advertising brochures and favors.

A Whopping Total

The grand total is **\$73,700**. That's a lot of money! To back up or justify that kind of investment requires an ongoing, aggressive marketing setup to reclaim it. Not too many companies will take the gamble, and it practically rules out public agency releases. Conversely, when an accession succeeds and is properly marketed, it becomes a valuable asset.

The foregoing does not include the "ability to do the job" in terms of technical know-how, knowledgeable personnel at each level of development and suitable land sites. Also required are small lot seed processing and plot machinery. Obviously a development program for more than one, or even a few varieties, must operate on a continuing basis for reclaiming costs.

The time frame to go through the foregoing process averages about ten years.

Source: Grass Clippings.

NATIONAL INSTITUTE OF PARKS & GROUNDS MANAGEMENT CONFERENCE

October 29 - November 1, 1989

Hyatt Regency Hotel
Minneapolis, Minnesota

Sports Turf Association Members will receive
Member Rates for this Conference.

For further information, please contact
Eric Madisen, Jr., Executive Secretary
Box 1946, Appleton, Wisconsin 54913
Phone: (414) 733-2301

Upcoming Events

National Institute of Parks & Grounds Management Conference Oct. 29 - Nov. 1/89
Minneapolis, Min.

G.T.I. 2nd Annual Educational Symposium Nov. 7, 8/89
University of Guelph

Sports Turf Assoc./CGSA Conference Dec. 10-13/89
Metro Convention Centre, Toronto

Sports Turf Managers Association Conference Jan. 19-21/90
Wyndamgreens Point Hotel, Houston, Texas

WHMIS In Full Swing

Business operators who ignore the provincial government's new workplace health and safety information system could face up to two months in prison and a \$1 million fine.

Jim Little of the Workers' Compensation Board of Ontario says that the government means business with its new program and the message is getting across loud and clear. "It takes time to get organized. But some of the larger companies responded with a safety system a full year ago."

The new program is called the Workplace Hazardous Materials Information System (WHMIS). It was implemented on October 31, 1988. The Canada-wide system provides employers and workers with the facts they need to work safely with hazardous material.

WHMIS operates on three levels of information. Warning labels are required on containers of hazardous materials. Material Safety Data Sheets (MSDS) that provide further safety information must be close by. And it is the employer's responsibility to train his or her workers on how to use the information.

Outside of certain exemptions, it is illegal to import or sell any hazardous material for use in a Canadian workplace unless the container is properly labelled, and there is an accompanying MSDS.

WHMIS was four years in the making. It was produced by the Occupational Health and Safety Education Authority of the Workers' Compensation Board of Ontario in cooperation with a number of industry associations, and the Ontario Ministry of Labour.

Although larger businesses have been able to implement the system with relative ease, many smaller business operators are finding the financial aspects of such a thorough program difficult. Little suggests that smaller businesses approach the larger companies that they deal with about having their employees sit in on the already existing training programs. He has heard of many large companies doing this for their smaller counterparts.

Landscape Ontario will feature a speaker this coming January at Congress 90 who will discuss WHMIS in detail. If you have specific questions regarding the program, you can contact the Workers' Compensation Board of Ontario at (416) 927-4868.

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