(Continued from page 9)

the opportunity to participate in a program that takes them all across Wisconsin to see and feel a few of the things that make our state what it is. This year, Frank Rossi went on that trip.

I kept track of the tour this year through an account by a reporter who travelled with the new professors. Their itinerary included a visit to the Leopold shack and conversation with Professor Leopold's daughter, Nina Leopold Bradley. I was anxious for Frank to return and tell me about the small building in sand country that had captured my curiosity.

He told of forty people gathered in the shack, out of the rain, quietly listening to Mrs. Bradley talk of her dad. She also read from A SAND COUNTY ALMANAC.

Frank was emotionally affected by the experience. I could tell. When he and I talked about it, he offered to call Mrs. Bradley about the possibility of the two of us visiting the little building. She kindly invited us there, Frank for a second visit and me for the first time.

We took off early on a Friday afternoon in May to make our appointed time of 3:00 p.m.

It was a wonderful trip to the Leopold Memorial Reserve. The day was cool and comfortable, and the plentiful rain had given the landscape a rich and prosperous feel. I was ebullient the whole way there from Madison.

I knew I was on the verge of experiencing a dream come true, something that doesn't happen all that often in life. The chance to meet Professor Leopold's daughter seemed to take on greater significance the closer we got to our destination.

The Bradley home is a short distance west of the shack. We drove the lane to their house and Frank got out to announce our arrival. Mrs. Bradley greeted us with a warmth and friendliness that put me at ease. My nervousness of "interfering" was gone immediately.

She led us along the Rustic Road to the shack. It is a short walk from the road to the shack.

As we leisurely walked together, she told Frank and me how the land looked when her father purchased it in the mid-1930s—barren and destitute and desolate. It seemed impossible that it was like that as we walked on the edge of a tall pine woods. The pines were planted by Professor Leopold in what is now almost two generations ago. As we strolled along, I thought about what he had written about pines—"I love all trees, but I am in love with pines."



My first view of the shack left me with the thought that it was smaller than I had imagined. But it looks just like pictures I've seen—rustic and very cozy.

Mrs. Bradley unlocked the door and she and Frank stepped inside. I hesitated, maybe wanting to savor and remember the moment forever. As I entered I surveyed the little room slowly, recalling every word I'd ever read about it. I was flushed with emotion I cannot describe.

Mrs. Bradley invited us to sit as she opened one of the shuttered windows.

I was happy Frank was with me; he is well read and interested in many of the things that go on at the Reserve. He carried the conversation. I was a bit overwhelmed for a while.

Mrs. Bradley was happy to answer all of my very unintellectual questions: "how tall was your dad?" "Did he talk a lot or was he quiet and reflective among his family?" "What do your brothers and sister do now?" "Did your mother enjoy coming here?"

And so on. Very personal questions patiently answered by a sweet and intelligent woman who was clearly very proud of her father.

We lingered a while. Somehow, at once, we knew when it was time to leave. I think Mrs. Bradley knew better than even I why I needed to see this place. I would guess she has seen others with the same need.

We got up and left the shack. She and Frank were visiting about prairie restoration as she locked the small building. I walked around all sides for a final look. On our way back, a few hundreds of yards from where we parked, Frank and I stopped to see where the **Good Oak** grew "on the bank of the old emigrant road where it climbs the sandhill."

Somehow, I feel more complete, more satisfied now, having made that pilgrimage of sorts. I wonder if I exaggerate to myself when I think of it as spiritual experience.

I know this: I have felt similarly only a few times before—when Cheryl and I visited very early on a cool and misty autumn morning the place of Thoreau's cabin on Walden Pond, when we stood on the Lexington green, when we crossed the bridge at Concord, and when I discovered the graves of many of my ancient grandfathers over the years.

I also know this: how proud we in Wisconsin should be to have had in our midst at a time in history this "mere professor" who has become so influential in environmental matters. It saddens me that he was not fully and truly appreciated during his life. Nearly a quarter of a century passed before his force and vision and wisdom were known as well as they are today.

Imagine if, during the forties, our forefathers had invited Professor Leopold to speak at a WGCSA meeting. He likely would have accepted such an invitation.

The best we can do today is still pretty good. Let us read and think about what he wrote. We can contemplate and commune, each in our own way, with Professor Leopold, even today.

The land we manage and maintain will be better for it.

So will we. W

The Growing Sensation All over Wisconsin

The L.L. Olds Seed Company has been a growing sensation for over 100 years. We've offered qualified advice, the finest turf seeds available, and customer service that surpasses expectations.

One of the reasons Olds is a leader in the turf seed industry is because we can accurately analyze difficult growing conditions and recommend custom seed mixes that will grow green and lush. Our staff includes a certified seed technologist, agronomists, and horticulturists. It's their job to develop seed mixes that will grow successfully for your unique situations.

We work with five major seed producers in the Pacific Northwest. This means we can offer a superior portfolio of turf seeds, customer mixes and our Olds Special Mixtures.

- Olds Madison Parks -blended for sun and light shade.
 - Olds Velvetread -a premium blend for full sun and light shade.
 - Olds Shady Place -blended for light to dense shade.
 - Olds Wear n' Tear -blended for high traffic areas.
 - Olds Quick-2-Gro -blended for a variety of areas, priced for the economically minded.

Many of our customers need their seed soon after they order. That's why we offer Priority Shipping for turn around within 24 hours to 48 hours.

At L.L. Olds we do whatever we can to make everything you plant a growing sensation.



P.O. Box 7790 • 2901 Packers Ave, Madison, WI 53707-7790 1-800-356-7333 • 608-249-9291 FAX 608-249-0695



What is it with Plant Growth Regulators?

By Dr. Frank S. Rossi Department of Horticulture University of Wisconsin-Madison

In the first part of this series I attempted to describe in general terms the mechanics of regulating the growth of plants. We learned about classification of PGRs as Type I or Type II, differences in activity between grass species and affects on plant morphology (wider leaves, enhanced rooting, etc.). It is critical to understand the nature of plant growth regulation before you embark (no pun intended) on a management strategy that includes intensive use of PGRs. In this article I will focus on specific use aspects of PGRs with research based information so you can decide for yourself if you can accomplish the goals you set (and tell the golfers to expect).

Clipping Reduction

The most obvious benefit from plant growth regulation is the reduced elongation of turf leaf blades, which results in extended mowing frequencies. For example, instead of mowing 5 times per week now you can maintain the same height and playing conditions with only 3 mowings per week. This would reduce wear and tear on your mowers, reduce energy consumption, and minimize clipping handling problems.

Many annual research reports include evaluations of PGRs for clipping reduction and mowing management. The level of growth reduction depends on many factors: timing of application (the earlier in the season the PGR is applied the greater the reduction), turf species being treated (generally ryegrass and tall fescue require higher rates than Kentucky bluegrass), and rate and frequency of application. There appears to be significant tradeoffs between increased regulation and reduction in turf quality, but many optimal rate strategies have been determined. As mentioned in the first article, an important consideration should be made for the level of soil activity: Cutless and TGR are persistent in the soil while Embark and Primo are primarily foliarly active. This could have a significant effect on the intensity and duration of turf injury. To this point, no significant growth regulation is without at least small compromises in turf quality, just by the very nature of the process. Our research at the Noer Facility is investigating clipping reduction and any disease incidence that might result from reduced leaf growth.

Currently, we are evaluating the clipping reduction potential of several PGRs applied at different rates and frequencies (every 2 weeks or every 4 weeks) on a Penncross creeping bentgrass fairway maintained at 10mm (0.40"). Our objective is to determine if PGRs can reduce the number of mowings and maintain the high quality turf the golfer expects. Additionally, the cost effectiveness of PGR use for clipping reduction will be evaluated. By the time you read this you will have viewed our plots at Field Day and it might make more sense.

Putting Green Speed

This area of PGR use has received increased attention in the last few years as our industry continues to strive for faster greens. Clearly, the increased use and acceptance of greens rolling indicates the incredible pressures on course superintendents to have fast greens. Theoretically, if we can regulate growth on the putting surface, we can slightly increase our mowing heights because the grass is not growing as rapidly, thereby maintaining acceptable green speed without sacrificing quality. An important benefit to this practice would be the improved plant health that results from raising the mower height: deeper rooting and enhanced resistance to certain diseases that are more severe as heights drop closer to 3mm (0.125").

To this point there are no peerreviewed publications that address this research. However, Trey Roger's group at Michigan State University have some preliminary results published in the Proceedings of the Michigan Turfgrass Conference (Vol. 21). Cutless and Scott's Turf Enhancer were applied twice during the summer of 1991 at 2 rates on a *Pennlinks* creeping bentgrass green maintained at 4.7mm (0.188"), 4mm (0.157"), and 3mm (0.125"). Topdressing was applied during the treatment intervals and terminated following the last PGR treatment. Based on stimpmeter measurements, the most significant effect on green speed was a result of lower mowing height. As mowing height was increased the PGR treated plots did provide slightly higher stimpmeter readings, however, based on these differences it is not likely that the aver-



Outstanding, longlasting control of dollar spot, brown patch, pythium and more.

RHONE POULENC AG COMPANY P.O. Box 12014, 2 T. W. Alexander Drive Research Triangle Park, NC 27709 919/549-2000 age golfer would notice. There was between .33 meters (1') and .82 meters (2.5') difference in stimpmeter readings from the 4.7mm height and 3mm height regardless of PGR treatment. Additionally, turf color was slightly reduced at lower mowing heights and by the higher PGR application rates.

Based on these preliminary results it is too early to recommend initiating this type of management program on your greens. It might be worth an experiment of your own on a practice green or a nursery. Remember, the aforementioned research was conducted on a predominantly bentgrass green; I would expect much different results on an annual bluegrass/creeping bentgrass polystand. Any option which allows for increased mowing heights on the green is worth keeping an open mind to.

Annual Bluegrass Conversion

The thought of slowly eliminating annual bluegrass from our golf courses while enhancing the competitiveness of creeping bentgrass (or other desirable species) without any significant disruption of play (as with renovation) or reduction in turf quality (as with selective herbicides) quickly attracts attention. It would be kind of like reducing taxes and paying off the national debt! Think of the benefits of less annual bluegrass; reduced winterkill, no unsightly seedheads, reduced N requirement and reduced severe disease spectrum. You may have some personal favorites. No matter how near and dear annual bluegrass might be to you, one cannot deny the attractiveness of this offer. This has been the challenge for PGRs following the report of selective regulation of annual bluegrass with reduced regulation to creeping bentgrass.

One of the definitive experiments conducted concerning this issue looked at several management factors including PGRs. Roch Gaussoin (pronounced Gah-Swah) from the University of Nebraska and Bruce Branham at Michigan State investigated N fertility, irrigation, leaving vs. removing clippings, overseeding vs. non-overseeding, and PGR application on the species dominance of a annual bluegrass (AB)/creeping bentgrass (CB) polystand. The significant conclusion from the study was that the persistence of AB can not be easily attributed to any one management practice but depends on the overall cultural program.

Specifically, practices which favored AB included, light frequent irrigation for existing AB plants as well as new germinants, leaving clippings that acted as a passive AB overseeding program (significantly more viable annual bluegrass seed was found in plots where clippings were returned), and mefluidide (PGR) applications alone. Conversely, plots that were treated with PGRs, had clippings removed and were overseeded with creeping bentgrass had significantly less AB than control plots and plots that were not overseeded. Still, new PGRs have been released and many new bentgrass cultivars are available since this study was conducted. Therefore, our program will expand on the Gaussoin and Branham work to include the new PGRs and overseed new bentorass cultivars. One result I expect in support of the previous research is that PGRs alone will not reduce annual bluegrass populations.

In conclusion, organizing this series of articles on PGRs has increased my awareness of the facts and fallacies we all operate under regarding this management tool. During my first year here in Wisconsin and through my travels across the country, I know of no other golf course management practice employed to the extent to which PGRs are used. That is void of a clear and attainable goal. I hope that reading these articles moves you to guestion your use of PGRs-call the Turfgrass Information File, read the trade journals, talk to fellow superintendents and look for our work to be reported. Get the facts and be clear on what PGRs are able to provide.





Turfgrass Nutrient Demand

By Dr. Wayne R. Kussow Department of Soil Science University of Wisconsin-Madison

Anyone that completed their formal education as few as five years ago probably believes that plant uptake of nutrients is in direct proportion to how much is applied as fertilizer or is available in soil. We now know that much of the time this is not true. A strong relationship between the supply of a particular nutrient in the turfgrass rootzone and the quantity found in the plant arises only when the supply of that nutrient is growth limiting. The reason for this is very fundamental. Recent research has clearly demonstrated that plants themselves have internal mechanisms whereby they are able to control nutrient absorption according to their needs rather than according to how much is supplied to the roots. Nutrient deficiency arises only when plant demand exceeds soil supply.

In the absence of temperature or moisture limitations on plant growth, turfgrass nutrient demand is directly linked to nitrogen supply. The reason for this is the simple fact that today's nitrogen application rates are but onethird to one-half the amounts required to obtain maximum biomass production. In other words, turfgrass is managed in a near continual state of nitrogen deficiency. Exceptions to this probably occur only during the first few hours or days after soluble fertilizer nitrogen application.

Because turfgrass growth is so often limited by nitrogen supply, plant needs for other nutrients are largely determined by the nitrogen status of the plant. Stated differently, nitrogen supply has strong regulatory action on turfgrass needs ("demand") for other nutrients. Nutrient demand is what controls to a large degree plant uptake of these nutrients. Exactly how this control arises is not known. It relates to overall growth rate, but probably relies as well on levels of the nutrient and different organic compounds within plant roots and shoots and on some type of messenger compounds that relay nutrient demands to roots. Hormones produced in the shoots are often thought to be the messenger compounds through which shoots convey to roots the need to absorb more of a particular nutrient.

The degree to which nutrient demand regulates turfgrass uptake of nutrients varies somewhat with the nutrient in question. Phosphorus uptake appears to be closely regulated by nutrient demand while potassium often enters plants in excess of that actually required for growth. The same probably holds true for nutrients such as manganese, copper, zinc and boron that can accumulate to the point of being toxic.

Given that we now manage turfgrass in a way such that nitrogen is nearly continuously deficient has several important consequences. One is that nitrogen demand is almost always high. As a result, nitrate and ammonium ions in the rootzone are quickly absorbed. In fact, research has shown that if nitrate is injected into the rootzone of actively growing turfgrass, it virtually disappears with 24 to 48 hours due very rapid absorption by the grass roots and soil microorganisms. This, then, accounts for the fact that nitrate leaching from turfgrass is typically far less than from other crops where nitrogen fertilization rates are designed to achieve maximum biomass production by avoiding nitrogen deficits.

A second important consequence is that what constitute adequate soil test levels of nutrients other than nitrogen are directly dependent on the rate and frequency of fertilizer nitrogen applied. The majority of the research done to establish what are low, medium, sufficient or adequate, high and excessive soil tests is more than 20 years old and was conducted in an era when nitrogen rates for turf were considerably higher than today. This means that our interpretations of soil tests are likely to be in error. It is guite possible that what was found, for example, to be a high soil test 20 to 30 years ago is in reality excessive for today's turfgrass. The net result is that as a general rule, we're applying more and larger amounts of nutrients to turfgrass than are actually necessary.

Finally, let's properly recognize the strong control plants exercise over nutrient uptake. Putting more nutrient into the rootzone than the turfgrass plant needs and will utilize is wasteful and irresponsible. There are many, many places out there where healthy turf can be grown for a year or even for several years with application of nothing more than nitrogen. When your soil tests indicate high or excessive levels of phosphorus or potassium, or both, fertilizing with just nitrogen is a proper and safe management response.



Reinders TURF EQUIPMENT

Aerate Without Disturbing Your Greens!

HydroJect 3000

Meet Toro's revolutionary Hydroject[™] 3000. The only aerator that injects water at high velocity to penetrate compacted soils.

- The hydroject 3000 will penetrate 4 to 6 inches and beyond up to 20 inches if needed.
- No more soil cores
- Works on tees, fairways and anywhere you need aeration relief.
- No disturbed turf. No disrupted play.
- And the Hydroject is backed by Toro's Direct Today 48 Hour Part Delivery program.





The Professionals That Keep You Cutting.

Keinders TURF EQUIPMENT 13400 WATERTOWN PLANK ROAD, ELM GROVE WI 53122-0825 PHONES: LOCAL (414) 786-3301 800-782-3300



The Sounds Of Fairway Mowers Are Whirring In My Head

By Rob Schultz

Memo to the golf course grounds crews around the state:

What's wrong with this sequence of sentences?

- A beautiful cardinal singing his sweet music on the branches of a birch tree overlooking the green.
- A white tail deer trotting out of the woods to forage in the rough.
- The wind whispering through the pines.
- The sun rising above the nearby hills or lakes.
- Some clueless kid riding a greensmower—with the throttle open wide —that is so close to a foursome trying to putt that it drips oil on their golf balls.

For those of you who answered that the last sentence doesn't belong with the first four sentences, congratulations, you just graduated from the Sports Page School of Golf Course Etiquette, Class 101.

Unfortunately, and I know this for a fact, there are several of your crew members out there who just flunked. You read those five sentences and said, "Yup, that's life on a golf course."

I've said at least 1,000 times that superintendents and their crews are the most overworked, underpaid, underappreciated group in the golf business.

I also know that today's golf courses demand more care than any other time in the history of the game. All hell can break loose if the fairways aren't cut correctly, if the greens don't register a 10 on the stimpmeter, if there's a weed in the rough. Golfers demand too much of you and the bottom line is that you have to spend more time on the course than in the past years.

But with alarming frequency this season, I've had rounds interrupted by grounds crews that completely ignore the fact that there are golfers lurking out there with them on the course. Fairway and greens mowers don't seem to stop anymore. It has gotten to the point where I don't even dare ask anybody to cut their engines, let alone to stop moving so I can concentrate. It has gotten that bad.

I sometimes feel that you're taking out your anger—that was created by working such a lousy summer—on the golfers.

I yearn for the days when the man, or woman, mowing the fairways would cut his engines to allow a foursome to hit its shots past him, or her, and then wave a smile when everyone walked past. I used to chuckle whenever that happened because I always tried to figure out what that man, or woman, was thinking.

"What a bunch of hackers," he, or she, was probably saying to him, or her, self.

It's not that I haven't encountered any acts of kindness from a member of a grounds crew this year. In May, as I attempted to play The Bear at Grand Traverse in Traverse City, Michigan, a woman on a tractor hollered at me to stop licking my golf ball because some nasty fertilizer had just been sprayed on the greens. It was a swell gesture.

And there have been plenty of others. It's just...it's just that a golf course grounds crew is a lot like an umpire crew in baseball. The best crews are the ones that nobody knows are around. The only times anybody mentions them is when they have something to complain about. It's a no-win situation.

But at least you can enjoy working outside in the beautiful environment that a golf course provides. Birds chirping, deers foraging, the wind whispering though the pines. It's a great life.

Please let the golfers enjoy it, too.

Let The John Deere 2653 Clean Up Your Tough Spots



Introducing the John Deere 2653 Trim & Tri-Plex mower. The 2653 cutting units feature a quick height cut adjustment system that enables changes to be made at 1/8" intervals.

J.W. TURF 14N937 U.S. Hwy. 20 Hampshire, IL 60140

708-683-4653

Editorial



Gazing in the Mirror: A Year of Ideas

By Dr. Frank S. Rossi Department of Horticulture University of Wisconsin-Madison

I've thought about this article since Monroe interviewed me about a year ago for this publication. Since then I have been interviewed 4 or 5 times for golf magazines, radio, newspaper, and trade journals. "Simple," you say, "just be yourself." Yet, the challenge is to try to expose aspects of your personality that can be captured by someone who writes every 4th or 5th idea you state and remembers every 10th idea. I feel that when I am interviewed by the public, it reflects on all of us (University and Industry). Being myself isn't always the easiest when you represent a group as diverse and proud as turfgrass professionals, however, the idea is what gets translated. What follows are personal ideas of my first year at UW-Madison.

The O.J. Noer Idea

My arrival in August, 1992 marked a point in my life that I had dreamed of reaching. An opportunity to be a fullfledged member of a University Turfgrass Faculty with broad-reaching responsibilities. I came to a program that was like a fueled rocket, ready for launch, waiting for the crew to get in position. It has been one of my great joys to work with Wayne, Chuck, and Julie. All have shared their ideas with me openly and freely, and as long as I remain open-minded (see Remaining Teachable from the May/June GRASS-ROOTS) there is tremendous opportunity for professional and personal growth. Our interaction each week in our travels or at the Noer Facility I believe would be just what O.J. himself would have been proud of.

I have been told by Dr. Don White (University of Minnesota) and Dr. Al Turgeon (Penn State) that I have the best turf job in the country. While I was at the International Turfgrass Research Conference in July I had the pleasure of meeting Dr. Jim Watson (Toro Co.), and he complimented me on some of my articles and work that he heard I was doing. Jim Watson was a close friend of O.J. Noer and said, "O.J. would have been thrilled about all the good things happening in Wisconsin." I don't know about you, but, for me professionally that is as good as it gets. The only thing that could surpass that would be to know that each and every member of the turfgrass industry in Wisconsin felt a part of what we are doing at the Noer Facility and out through the state.

The Student Idea

My most favorite of all activities in my job is chatting with a student about careers, dreams, hopes and fears of the future, and their idea of "all this turf stuff". My primary contact with the students is in the Introductory Turf class where for 50 minutes I have a captive audience (well as captive as a college student can be at 7:45 a.m. in the dead of winter). My first class was filled with all the diversity you might expect at a world class institution like UW-Madison. Each student brings ideas and experiences to the class discussion and each is worthy of the chance to express them. As much as I try to create a safe atmosphere for exchanging ideas, many lack the confidence or skill to verbalize their thoughts. This inability to communicate and stifling of ideas goes to the heart of the challenges we face in educating our children. Somewhere many of us learn to take the safe route through education; memorize and regurgitate rather conceptualize and innovate.

Our students are the universities' most precious resource and in turf we have so very few, relative to the many disciplines across the campus. I want our turf students to extend themselves and I have been impressed with their competence as evidenced in the wonderful research projects many of them conduct under Dr. Kussow's direction. We as the turf industry must help the students to understand that the learning does not end in the class! That is only the beginning of the learning experience, the foundation on which you build your career. The education of a true professional is lifelong and your level of success is determined by your own set of values (personal and professional). My greatest frustration is with the "Image is Everything" mentality pervasive among superintendents and students. You know it: put a tie on, make \$50-\$60K per year and play golf and you are a professional. It upsets me because it lacks respect for good hard work, but, more so because it devalues diversity and ideas!

The Wisconsin Idea

"The boundaries of the University are the boundaries of the state..." So goes the famous Wisconsin Idea. How does Wisconsin Iay claim to an idea that is the idea behind the land grant college and Cooperative Extension missions? What is so special about the Wisconsin Idea? Very simply in my opinion: it is the people!

This past May I had the wonderful opportunity to participate in the 9th Annual Wisconsin Idea Seminar. I read about it in the faculty newspaper, did the footwork to get nominated and then had to tell my Dean what it was he was nominating me for. It was a chance to take a week-long trip through most of the state, stopping at locations that were each a part of the culture that we call Wisconsin (which by the way is an Indian name which describes the Wisconsin River).

I was accompanied by 25 other new and not-so-new faculty from across the University, and it was an opportunity to meet peers that a busy extension faculty person might never have again. To say the least, I was thrilled, except for the fact that the timing was rotten for a faculty member from my discipline, with the grass actively growing. But for the encouragement of Wayne, Chuck and Julie assuring me that to go was the right thing, I might have missed my own birth as a citizen of the state of Wisconsin. We started on the top floor of the WARF building on campus, headed to the capital, then the Trek bicycle plant in Waterloo, then a picnic lunch at a family owned and operated dairy farm, then one of the many highlights of the trip, a visit to Aldo Leopold's Shack where his daughter Nina read to us from the *Sand County Almanac* as we huddled by the fire while the rain fell.

The next day started at Sentry Insurance where a lively conversation ensued regarding health care reform, then on to UW Center at Marathon County where we visited with the faculty. It was here that I left the seminar to live the Wisconsin Idea. I was invited to speak months earlier at the Greater Milwaukee Country Club Association meeting at South Hills in Fond du Lac. I asked Scott Thompson (golf course superintendent at Greenwood Hills) to pick me up in Wausau. get me to the airport in Mosinee where I rented a car and drove to Fond du Lac. I had dinner, gave my talk, got back in the car and rejoined the tour that evening in Rhinelander. I even got to spend some time with Fred Fabian at Northwoods Golf Club before I dropped the car off. My colleagues on the trip who do not have extension appointments had the opportunity to see me live the Idea, the same way Wayne Kussow is actively involved in the turf extension program without a formal extension appointment. I love this job!

The rest of the week kept up the grueling pace as we visited the Menominee Indian Reservation, the Green Bay Maximum Security Reformatory, and then to Milwaukee where we visited with Howard Fuller, the embattled and charismatic Superintendent of Public Schools. I was deeply moved by each professional we met and the amount of time that each took out of a busy schedule to be with us. Our faculty at the UW-Madison is truly considered a vital resource for the state. My cynical side says the University powers-that-be use this as an opportunity to build support for state funding at UW-Madison. Even so, I don't mind.

I learned many interesting facts about our state, none that speak to my sense of nostalgia as much as the fact that Wisconsin is #1 in the USA for the number of people who are born in Wisconsin and stay in Wisconsin (65%). This makes for deep feelings and commitment as well as for great ideas! With a year under my belt I can honestly say I am proud to be a part of the culture and state of Wisconsin.

Trapped in the sand?



Hanley's of Sun Prairie will get you back on the fairways fast, with the *all new* Cushman Groom Master.

The Groom Master offers manueverability with features like hydrostatic drive, a tight turning radius, and 2 or 3 wheel drive. A 16 hp engine, 40 inch blade, 73 1/2 inch rake, and 64 inch cultivator provides the production you need. The versital Groom Master will push, smooth and cultivate sand or soil. Up to 10.5 mph forward speed makes it very transportable.



Get out of the Sand - Call Hanley's. Power Equipment & Turf Sales 641 W. Main Street • Sun Prairie, WI 53590 (608) 837-5111 • (608) 257-7815 Toll Free 1-800-279-1422



Brand New! Bigger Than Ever! Equipment and Education!

WISCONSIN TURFGRASS AND GREEN INDUSTRY EXPO

January 3, 4 & 5, 1994

Holiday Inn West · Middleton, Wisconsin

NATURAL ORGANIC

Milorganite

FERTILIZER

America's Number One Natural Organic Fertilizer

Many of the finest golf courses in America are fertilized with Milorganite.

Non-burning, cost-effective, turf fertilizer.

• 90% Water Insoluble Nitrogen (W.I.N.), slow release nitrogen promotes vigorous growth.

Rich in organic iron — 4% minimum guaranteed.

Supplies humus and improves water holding capacity of soils.

FREE LITERATURE

Mail in the coupon below for further information or call 414-225-3333

Please send me further information Milorganite's Specialty Fertilizer Program Milorganite's Iron — Technical Bulletin		
NAME		
DDRESS		-
TY	STATE	ZIP