

(Shattercore cont'd.)

of the thrust creating a pan or compacted layer. No doubt, there is some compaction at the bottom of the thrust even on hollow tined aerifiers as well. Our objective, therefore, is to compare the two methods as well as combinations of the two methods. We will be measuring the parameters of infiltration and permeability rates of water, bulk density of the soil, and turf quality aspects.

There was excessive variability in the water infiltration studies, but this may change in another year, although there are some interesting trends. Bulk density of soils of this nature (silt loam) is a reasonably accurate measure of compaction. It is interesting to note that no aerification resulted in a lower bulk density than any aerification treatment. A bulk density value over 1.5 g/cc might indicate excessive compaction in a silt loam soil.

These data were developed from an area maintained as putting green turf, but without heavy traffic. It is probable that these values will change more within 2-3 years and even more so if traffic is applied.

Solubles Can Burn, But Insolubles Cannot

We all know that a dog's urine will burn grass. But why? There is nothing in the dog's urine that is toxic to the grass. It is all a matter of concentration. In other words, diluted dog's urine will not burn. What is involved is a physical-chemical principle of osmosis. The grass is a victim of reverse osmosis.

A simple explanation of osmosis is in order. Imagine two water solutions divided by a membrane. The membrane could be a piece of cellophane, or sausage casing which is the intestine of a pig, or any cellulosic membrane. This membrane is semipermeable, which allows soluble salts (ions) and water to pass freely through it. If the two solutions are at different concentrations, the salts will pass through at a higher rate from the more concentrated to the less concentrated, and water will pass through at a higher rate from the less concentrated to the more concentrated. This will continue until the concentration is the same on either side of the membrane.

In the case of the dogs urine, water flows out of the cellular walls from the inside of the plant into the dogs urine, and the salts the same, the cells will not collapse or swell due to osmosis (the movement of water and salts freely flowing through these membranes.)

The chemicals which the golf course superintendent is using can be divided into solubles and insolubles. If the chemical is insoluble in water, the manufacturer must micropulverize it to micron size and then add a wetting agent in order to get it to disperse in water so that the super can use it. But even though it is micropulverized it is so coarse that it cannot pass through the cell walls. However, if the chemical is soluble it is reduced in water to a molecular size which is still at least a million times smaller than the micron of the insoluble chemical. Then, and only then, can it pass freely in and out of the grass plant.

What we have learned from the discourse is that insoluble chemicals such as wetttable powders or flowables cannot burn no matter how much is used because they cannot freely pass through the membrane or cell wall of the grass plant — not even the stomates. Whereas, solubles can burn if they are sprayed at too high of a concentration.

Credit: Divots 8/86

From the Diary of Cec. Kerr:

Most of the superintendents experienced severe drying out last winter with loss of grass on their fairways. Early growing conditions were not conducive to establishing new grass therefore recovery was extremely slow. It was extremely dry in April following winter desiccation. *Poa annua* seeded earlier than usual. Dandelions were prolific; high winds made spraying very difficult.

On May 14, 1986, John Ebel, Barrington Hills CC bent was successfully replacing *Poa annua* as a result of light weight mowing with Toro 84 and Toro greens mower.

Jim Evans, Turnberry CC Penn Eagle and seaside bent seeded September 4, 1985, was exceptional on May 14, 1986.

Rick Johnson has done a fantastic job of selling and improving the performance of the Jacobsen HF5, Mark and Chris are not taking a backseat. We are fortunate in this industry to have so many professional salesmen. We learn by working together.

Early June toured Peter Voykins, Twin Orchard CC with Wayne Trometer. It was a pleasure to witness such a beautifully groomed course.

In late May and early June golf courses in central Illinois and eastern Iowa were suffering from pink snow mold (*Gerlachia Nivalis*) if they failed to spray with Calo-Clor, this strengthened my belief in Calo-Clor.

Rick Tegmeier formerly superintendent of Hinsdale CC and Bill Byers, Des Moines G and CC showed me their outstanding fairways seeded to Penn Eagle following Roundup renovation. Rick Tegmeier has planted wild flowers in the roughs and planted several memorial flower beds in honor of deceased members.

July 1st, Mike Hart, Bon Vivant CC was experiencing problems with "Take all Patch" (*Ophiobolus Patch*, *Gaeumannomyces Patch*). He has been using ammoniated sulfur and has had some success with treatment of 8 oz./1,000 sq. ft. of Thiram. On July 1, Ray Schmitz, Flossmoor CC was pleased with results from his Cutlass application.

On July 2, observed results of fairways at Edgewood Valley treated with turf-cal. Harold Frederickson reported that the fairways decreased from 50% to 5% *Poa annua* after Turf-Cal treatment. A new improved Turf-Cal formulation will be available late August.

Bob Kronn, La Grange CC is doing an outstanding job of tackling a new challenge. He will win.

In early July, I was really impressed with the condition of Olympic Fields fairways. Brian Chalifoux is a demonstrated professional superintendent.

Dave Ward, Ravisloe CC and Randy Wahler, Knollwood Club are testing a new numbered Crabgrass killer with Mallinckrodt research department. This industry will continue to grow as long as this close cooperation is prevalent.

Visited James John, Northmoor CC mid-July. Northmoor's beauty is the result of a hard working dedicated superintendent.

Bruce Williams, Bob O'Link GC tree and ornamental program is a program all of us could take a lesson in applied beauty.

Recently I visited Adolph Bertucci's new shop. It is a 60' by 246' building both attractive and functional. His office is more spacious with fine paneling than the mayor's office in downtown Chicago.

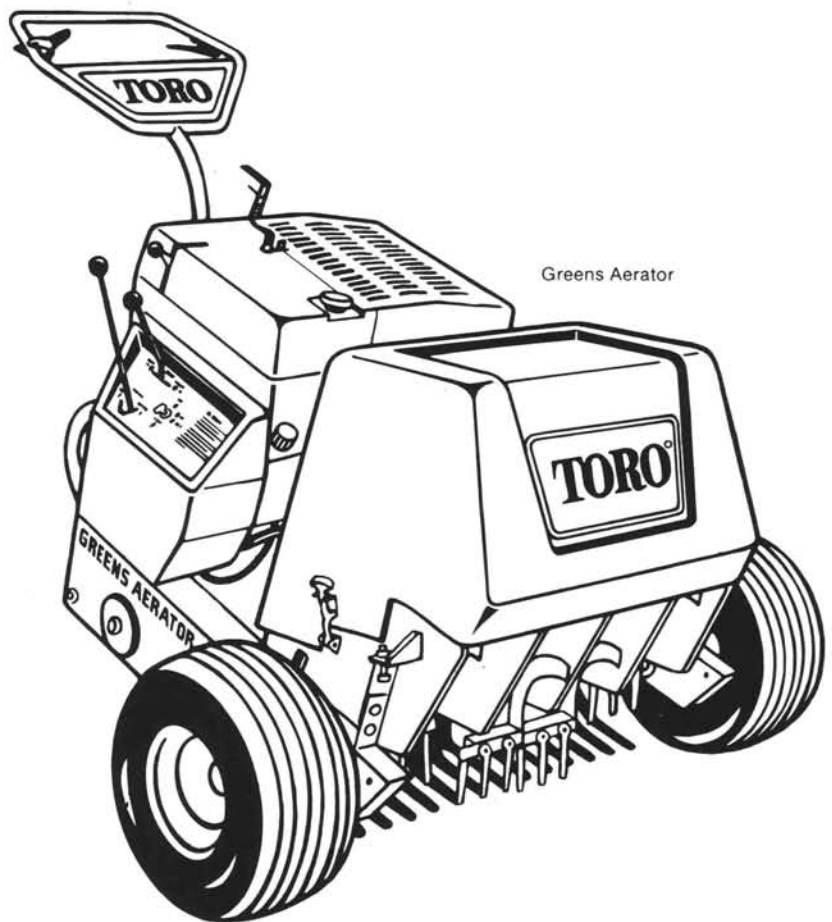
(cont'd. page 14)

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Midwest Breezes



Upcoming Events — Mark Your Calendar

September 8 — MAGCS monthly meeting at Deer Creek G.C.
September 15 — ITF Golf Day at Byrn Mawr & Evanston G.C.
October 6 — MAGCS monthly meeting at Wilmette C.C.
November 10-12 — Penn State Turf Conference
December 9-11 — North Central Turfgrass Exposition
January 26-February 3 — GCSAA Conference in Phoenix

Oscar Miles did an outstanding job in preparing Butler National for the Western Open the last of July and first of August. The course had to have been the best conditioned in the Chicago area. The Penneagle was superb! The press that Oscar got was just great throughout the entire event. Oscar sure made the Midwest stand out as a great golf center for the world. Congratulations Oscar for a job very well done.



*Hospitality Tent at Butler National
during the Western Open*

Andy Dauksas, the assistant at Glen Oak C.C. (his wife Elizabeth), and the gardener for the past four years, are the proud parents of a baby girl on August 10, 1986.

MAGCS 1986-1987 Slate of Candidates

President — Jim Evans, Turnberry C.C.
1st Vice President — Mike Nass, Bryn Mawr C.C.
2nd Vice President — Al Fierst, Oak Park C.C.
Bruce Williams, Bob O Link G.C.
Secretary/Treasurer — Dave Meyer, Carson Pirie Scott courses
Director — Al Fierst or Bruce Williams (1 year left on term)
Director — Ray Schmitz, Flossmoor C.C. (1 year left on term)
THREE TO BE ELECTED FOR A TWO YEAR TERM
Director — Dennis Wilson, Sunset Ridge C.C.
Director — Bob Maibusch, Hinsdale G.C.
Director — Dave Loutitt, Oak Hills C.C.
Director — Brian Chalifoux, Olympia Fields C.C.

“Dues Increase Coming”

The Board of Directors will be proposing a dues increase for approval at the 1986 annual meeting. There has not been an increase since 1981. It is necessary at this time to cover the increased costs incurred by our need to incorporate the associate to comply with IRS laws. It is also needed so we may continue to move forward with our goals of increased educational benefits and membership services.

The new dues structure would be as follows with the current dues shown in parentheses.

Class A & B — \$50.00 (\$35.00)

Class D — \$25.00 (\$20.00)

Class E — \$75.00 (\$55.00)

In addition the administration fee for new applications would be increased from \$5.00 to \$10.00.

Ray Gerber Editorial Award Nominees

This year we have only five superintendents who qualify for this award. It is a shame that more superintendents can't write an article for their newsletter. So many of our members can write! That is what is a darn shame that they don't sit down and write an article and be able to qualify for this outstanding award. To be able to qualify is very simple: you must be a superintendent of the MAGCS and have your article published first in **The Bull Sheet**. It couldn't be any easier.

This year we have the following articles for consideration: “Effective Communications to Members” by Bruce Williams

“History of the Midwest Clinic” by John Ebel

“Pfister Potpourri” by Dudley Smith

“Survey of Sand Bunkers” by Fred Opperman

“Unions for the Golf Course” by Robert K. Breen, Sr.

The judges for this year's award will be: Dave Behrman, President MAGCS; Dr. Fred Grau, Dr. Tom Fermanian, Warren Bidwell, and Len Ziehm of the Chicago Sun Times.

The award will be given at the North Central Turfgrass Exposition in December.

Art Benson is doing another 9 holes of fairways this year. Last year he started a 3 year program to kill, strip, and completely regrade 9 holes per year. Last year's results were very good.

Randy Kane, PhD. of CGGA/U of I reports that he has had about 40 plus visits up to the middle of August on the various golf courses in the area. Seems there have been some nemotades chewing on some greens. Also C-15 decline reared up around the 4th of July on some greens in the area and will create a lot of work this fall in resurfacing many greens.

Joel Purpur had the greens at Bartlett Hills G.C. rolling pretty fast for our August meeting. He warned before the round to keep the ball below the cup, and he was right. Dr. Jim Watson from Toro was our speaker for the night and he stressed the fact that we need better turf grasses for the demands that are being put upon them today.

(Cec. Kerr cont'd.)

Red Jaeger is applying a tank mix of 1 oz./1,000 sq. ft. of Fungo 50 and 1 oz. per 1,000 sq. ft. of Vorlan to control Brown Patch, Anthracnose, Dollar Spot and Leaf Spot. Exmoor CC should increase Red's salary \$10,000 for this program.

Breakfast with Dudley Smith is a treat. Every young superintendent should be exposed to Dudley's wisdom as a required basic training practical course.

Dinner with Bruce Burchfield is always a pleasant experience.

Visiting with Paul Boizelle is always a cherished moment in my life.

Rubbing shoulders with Mike Bavier, John Berarducci, Tom Rodems and Ken Goodman is an education — a great group of superintendents.

John Stephenson, Pottawotomi GC is one of the better students of golf course management. I learn from John.

Les Rutan and John Clark may remember when I picked up the tab for lunch and found I didn't have any money!

Art Benson's Butterfield CC renovation program is one of the finest. Ray Schei at Ruth Lake has also a fine renovation program. Somehow Poa must be prevented from returning.

I noticed on a leading course where the cart man gave the members notice — Due to the heat wave — **all carts must be in the rough only until further notice!** It was working.

Discussing Michigan State University with Al Fierst is always stimulating educationally. After all is there any better university than MSU? When are we going to have breakfast again Al?

Carl Hoppfan is like a brother! If I had a choice for a brother it would be Carl.

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John Lebedevs of Turf Products Ltd. reports that Systemic Pythium Fungicides are not controlling Pythium as long as previous years. Dr. Lucas of University of South Carolina and Dr. Hodges of Iowa State report no control of Crown Pythium with systemic fungicides. Koban has immediately eradicated the organism. A systemic fungicide can take up to seven days following application to affect active Pythium blight. Koban not only stops active Pythium immediately, but continues to protect turf up to 10 days. Koban applied in conjunction with a systemic Pythium fungicide stops Pythium blight immediately while the systemic is translocated to provide extended protection.

Mid July has been a killer for golf course superintendents from extreme heat and humidity. The north shore received six inches of rain, resulting in wet wilt causing havoc to many courses.

Friday, July 25 approximately 50 superintendents took a break from their stress at Wrigley Stadium watching the Cubs win 8 to 3. Some of the fellows leading the festivities were Eddie Fisher, Ricky Wilson, Roger Stewart, Tim Davis, Tom Van De Walle (Moline), Mike Nass, Ted Mochel, Dave Louttit, Wally Fuchs and Keth Fuchs and his fine salesmen and Walter Fuchs, Sr. It was good to see Walter. He looks great!

Oscar Miles has had his hands full fighting mother nature preparing for his prestigious tournament. It's always great to visit at day break with Oliver Miles. He runs the forest preserve courses with scientific knowledge sprinkled with common sense.

I have traveled all over the country and am convinced the golfing public of Chicago is fortunate to have the finest conditioned courses in the nation!

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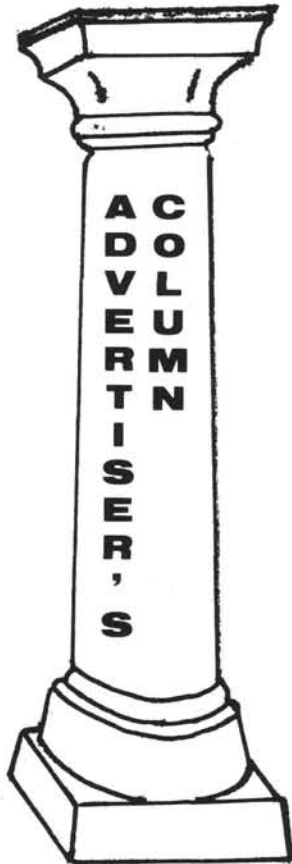
Presently Emily Haddad, Amy Cook and Mary Haddad operate the office. Patrick Gong and his staff handle the computer programming and accounting services. George Haddad and Roger Ogalla service the Chicagoland market with the assistance of John Abell driver-salesman and S.T. Smith trucking service. Our people are highly trained, many degreed or about to be degreed and are motivated and dedicated to serve our many customers.

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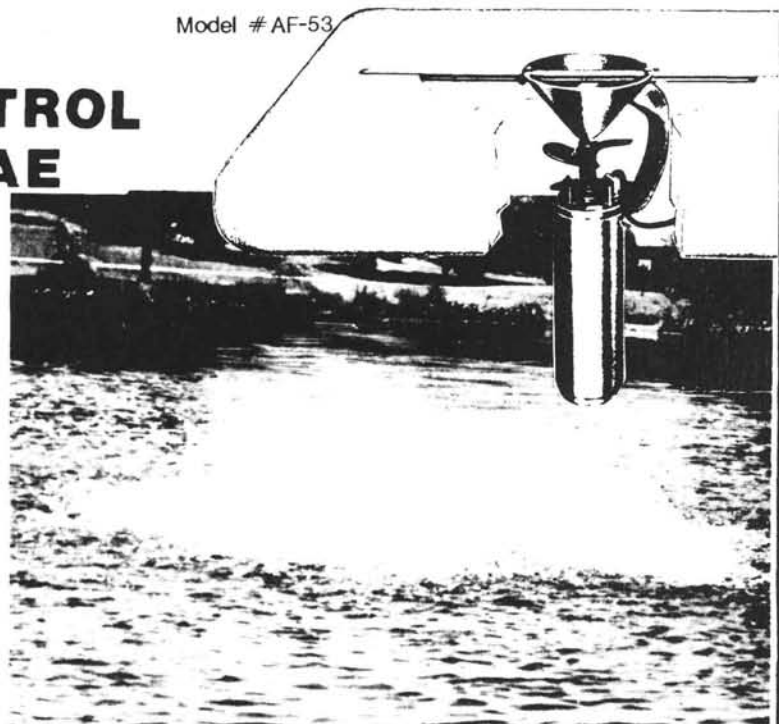
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by Joseph F. Barney, Eastern U.S. Sales Rep.
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Sand bunker maintenance is a routine task most superintendents prefer to spend as little time on as possible and still keep the membership happy. In the last few years hundreds of golf courses, during the scheduled re-furbishment of their bunkers, have lined the entire bunker with a geotextile fabric before putting in new sand. They have done this to drastically reduce the time and materials formerly used to maintain those bunkers in acceptable playing condition. And the superintendents are happy not to have to spend so much time on bunker maintenance.

Problems in the Bunkers

The following routine tasks contribute to bunker maintenance costs: (1) pumping out standing water after rainfall. (2) servicing clogged drainage lines. (3) removing rocks from the sand. (4) removing clods of soil from the sand. (5) raking sand up onto the bunker slopes after rainfall or irrigation. (6) mechanical, or hand, raking to keep the sand "fluffed" and cleaner looking. (7) adding new sand to help mask dirty sand. (8) edging to cut back encroaching turfgrass. (9) removing weeds.

What a Proper Liner Can Do

One superintendent in the Northwest, we have heard, reported that after lining his sand traps with Warren's TerraBond™ Polyester Geotextile Fabric, he has reduced his bunker maintenance costs to two functions: (1) edging and (2) occasional addition of sand to replace that blown, out, chipped out

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and/or volatilized by the sunlight. Using a liner, if a properly designed one is used, will keep the drain flowing, stop rocks from moving upward into the sand from the soil, stop the sand from mixing with the soil, greatly reduce sand wash-down from slopes during rainfall, and reduce or prevent weed growth in the bunker.

The overall end result, the "bottom line", is less time devoted to bunker maintenance, better appearing and more playable bunkers, a far longer time span between sand replacement and bunker reconstruction, happier members and a happier superintendent.

Fabric Liner Selection

The sand bunker liner must be resistant to sunlight (Ultra Violet light) breakdown, hydro-carbon breakdown caused by spilled hydraulic fluid or gasoline and fertilizers being used on surrounding turf, be extremely supple — yet very strong — so as not to tear during installation, and have excellent filtration capabilities which lets water-born particles of silt pass through its body without clogging.

A non-woven, needle-punched continuous filament, polyester fabric like Warren's TerraBond meets these qualifications.

The fluffy matt of supple, strong, polyester fibers allows the roots of the perimeter sod to grow through the TerraBond and anchor into the soil below. Below the bunker sand, water passes easily between and **along** the polyester fibers, yet rock, pebbles, and native soil (which often discolors the sand and impedes water flow in the sand) find their upward journey difficult if not impossible.

Site Preparation and Application of the Fabric Liner

The first step is to construct the drainage system! After removing the old trap sand and bringing the bunker to the desired shape and grade, excavate the drainage trenches with the exit point at a depth below the lowest point of bunker bottom. Then line the trenches with Warren's TerraBond, place a layer of gravel, the 4" flexible perforated drain, and additional gravel to the grade line of the bottom of the bunker. Fold the fabric over the top of the gravel and itself, thus encapsulating the drainage structure with TerraBond. TerraBond's sieve size, or E.O.S. of 70 to 100 mesh, permits fine particles of clay (those which make muddy water, muddy) pass right through. Yet the drain system will not clog with mud or sand, thus ensuring no more puddles of "casual water" in bunker bottoms! Set the sod cutter blade to a depth of 1" minimum and cut back the sod 12" around the desired perimeter of the final bunker shape.

Excavate the soil directly below the upper edge of trap slopes to a right angle (90 degrees), to a depth of 6" to 8". (This technique helps prevent erosion of the sand around the steep slope perimeter areas of the bunker during periods of heavy rainfall or irrigation due to surface run-off).

The bunker is now ready for application of the TerraBond liner. Roll the TerraBond across the bunker and trim with a TerraBond geotextile knife (available from dealer). Overlap 3" to 4" until the entire bunker is covered (including the 12" perimeter where the sod will be replaced). The TerraBond will closely follow all the little contours and corners. Lay back the overlap areas and apply a generous bead of Goodrich construction and sub-floor adhesive. This technique helps prevent mechanical rake entanglement, and insures "one piece" liner integrity. (It is suggested to step on the glue bead along its entire length to squeeze the adhesive into the polyester fiber of both pieces of fabric before backfilling with sand.)

Replace the sod atop the TerraBond around the perimeter of the trap and keep watered to promote "knitting" through the fabric and into the native soil. This is the key to permanent anchoring of a fabric liner, and the permanent elimination of soil erosion of the perimeter of the bunker!

Future edging of the bunker is done quickly and efficiently with saturated wick applications of Roundup herbicide and/or rotary string trimmers!

Sand Selection

Bunkers should be re-filled with sand that meets USGA specifications. Playability and permeability are the most important considerations. The particle shape should be angular, free of silt and fine clay particles, and range in size between 1.00 and 0.25 millimeters (75% in the .50 to .25 range minimum). Deviation from these sizes should be larger, not smaller, to prevent wind erosion where this is a problem.

Conclusion

Lining sand bunkers with a geotextile fabric is now a well-accepted technique across the U.S. It is a proven method for drastically reducing bunker maintenance costs. Be certain, however, that the correct geotextile is used, not necessarily the cheapest one or just because it is called a "filter fabric" or a "landscape fabric" or geotextile. Make certain it is long-lasting, strong, supple needlepunched (mechanically bonded) polyester. Some superintendents have done otherwise and made even bigger ponds out of their bunkers after spending a lot of money on reconstruction.



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Back Into the Frying Pan???

by Dave Fearis, CGCS
Blue Hills C.C., Kansas City, MO

In January, 1982, after fourteen years as a golf course superintendent, I decided to become a salesman for O.M. Scotts. Why did I switch? Was I tired of working weekends or listening to the petty complaints of the members, tired of fighting for more equipment or an automatic irrigation system? All of these contributed, but the main reason was the challenge of a new job. I had begun to notice that I was developing a poor attitude toward my job in my latter years as a golf course superintendent. Since I had been at the course for 14 years, it was "my course." Anyone who contradicted my views or ideas was wrong. Negativism was too much a part of me; so it was definitely time for a change.

What an education sales proved to be!!! I believe that it should be a prerequisite for any golf course superintendent. You see the job from the "other side of the fence" and gain an entire different perspective. Sales helped organize my time. If you have over 220 golf courses to call on, you have to be organized or you'll catch yourself coming and going. Sales improved my communication skills. I wrote a lot of letters, presented seminars, and talked daily to numerous superintendents. This is where my education was really broadened - by communicating, observing, and listening.

Sales was enjoyable, but in November, 1985 I once again returned to the ranks of a golf course superintendent. Why did I switch back? I truly missed being a golf course superintendent. Granted I have to work weekends once again and fight Mother Nature. However, don't get the misconception that sales is a five day a week job. Good salesmen, like Jerry Adank, spend many hours, including weekends, preparing for their weekly sales call. Paper work consumes many of their nights as does keeping abreast of the competitor's products and making sure that you know your product backwards and forwards. I believe that a good salesman puts in just as many hours in a year's time as does a golf course superintendent.

Another reason why I switched back was that I was on the road over 100 nights a year. I have a lovely wife and a seven-year old son that I wouldn't trade for anything. The irrigation system might not be working properly, pythium might be running rampant, or the 350-D is down, but at least I'm home at nights. That means a lot to me.

O. M. Scotts was an excellent company to work for while I was in sales. They believed in their people and had an excellent training program. Because of my four years experience in sales, I believe that I am now a better golf course superintendent. Perhaps I have stepped back into the frying pan, but somehow that pan doesn't seem quite as hot.

*Worry is like a rocking chair;
it will give you something to do
but it won't get you anywhere.*

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1973 Ford 3550 tractor-loader....	\$9,500.00
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