

deeper root systems and are more heat and drought tolerant than **Poa annua**. Shallow rooted **Poa** is placed under stress when topsoil dries between irrigations, and this further reduces its competitiveness. Infrequent, deep irrigations can be made more efficient and uniform by the use of wetting agents which improve water penetration in hydrophobic areas.

Lightweight mowing of fairways has been frequently cited as the most important factor in increasing bentgrass populations in mixed bent — **Poa** turfs. Examination of possible reasons for the success of this practice reveals a complex interaction that involves plant responses to changes in soil compaction, wear, and nutrient availability. Alleviation of compaction and wear allows for more aggressive bentgrass shoot and root growth; the vigorous root system is better able to utilize soil water and this leads to reduced irrigation requirements. Clipping removal is important since it prevents leaf decomposition in the turf canopy. This reduces heat stress from the "silage effect," removes possible sites for development of disease organisms, and decreases the amount of available N and P by disrupting nutrient recycling. Also, removal of **Poa** seed heads has obvious advantages, especially if the annual biotype of **Poa** predominates.

In addition to the above strategies to favor bentgrass dominance, several chemical options are available to further inhibit **Poa annua**. Herbicides that have preemergent (bensulide) and postemergent (tricalcium arsenate, endothal) activity against **Poa** are available. Plant growth regulators such as fenarimol (Rubigan) and flurprimidol (Cutless) retard **Poa** growth, and repeat applications can gradually reduce **Poa** populations in bentgrass fairways. Applications of mefluidide (Embark) and Aquagro reduce seedhead production, but do not alter bent:**Poa** percentages to a great extent. None of these treatments are totally selective, and phytotoxicity to bentgrasses may occur. If use of these products is desired, applications should first be made on small test areas to determine appropriate rates and timing.

As a result of conversion to bentgrass fairways, further changes in management will be required. An aggressive thatch management problem will be necessary to maintain overall quality and playability of fairways. Disease and insect control is important to maintain stand density and exclude **Poa annua**, although disease problems may be less severe on dryer, less fertile bent fairways. Hand watering of dry areas plus soiling and seeding of divots may also be required to maintain a dense turf canopy. In all, the increased costs associated with lightweight mowing and thatch control of bentgrass fairways are likely to be offset by beneficial aspects such as reduced irrigation, fertilization, and pesticide applications. Also, many hours of aggravation and worry will be saved, and fairway quality can be maintained throughout the year.

(This column summarizes two reports — "Renovation Techniques for Establishment of Bentgrass Fairways" and "Bentgrass Fairway Management" — which were compiled after discussions with several Chicago area superintendents. These reports will be mailed to all CDGA-member superintendents, and will be available to other interested parties upon request. A small fee will be charged for out-of-state, non-CDGA members. Send requests to: Dr. R. Kane, CDGA, 619 Enterprise Drive, Suite 101, Oak Brook, IL 60521.)



**Dr. Paul Sartoretto** was honored at the recent GCSAA Convention in San Francisco. 1986 marks the 40th year of Dr. Sartoretto's dedicated service to the golf course industry.

**W. A. Cleary** Chemical Corporation, Somerset, N.J. is honoring Paul, their former technical director and president, by initiating an \$8,000 scholarship, \$2,000 per year, for the next four years in **Paul Sartoretto's** name. The donation is being made to the GCSAA scholarship fund.

### New Golf Course Mechanics Association

With the Superintendent's profession becoming more and more refined, the role of the Golf Course Mechanic is critical in the Superintendent's efforts to achieve his goals. Has your Mechanic ever been heard to say?

—There's got to be a better way.

—I'm sure we could've gotten those parts cheaper somewhere else.

—Who do I call to get a straight answer?

Most have!

Following the recent Chicagoland Golf Course Superintendent's Association shop tour, those present felt the experiences gained were too valuable to be limited to an annual gathering. **John Maguire** echoed this sentiment and took the initiative to invite other Golf Course Mechanics to his shop. On February 11, 1986, 27 Golf Course Mechanics gathered at Sunset Ridge Country Club to form an association to discuss common goals and experiences. At this meeting the consensus was that forming an association geared to the exchange of ideas would be beneficial to the industry as a whole. The Chicagoland Golf Course Mechanic's Association was born!

Thoughts and ideas on goals for the organization were in abundance. A few goals of the CGCMA are:

- To better educate it's members.
- To become more professional.
- Finding quality parts at reasonable prices.
- Cataloging parts sources.
- Exchange seldom used specialty tools.
- Borrowing parts for emergencies.

Meetings will be held once a month on a rotating basis at various member's shops. All Golf Course Mechanics in the Chicagoland area are cordially invited to attend future meetings. Please feel free to contact any of the following for dates and places.

**John Maguire** - Sunset Ridge Country Club 446-5222 ext. 29

**Mike Davis** - Bartlett Hill Country Club 837-5270

**Rod Halenza** - Medinah Country Club 773-1704 ext. 277.



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(Fast Greens cont'd.)

The most frequently mentioned reason for the turf decline on fast greens was something as seemingly simple as poor drainage. I say "seemingly simple" because everyone knows that bad drainage will cause a problem on any green regardless of its speed. The difference, here, is that on slow greens, you can generally identify a limiting drainage problem based on simple visual symptoms like "puddling". On fast greens, the tolerances are much much tighter, and you might not have any visual symptoms of bad drainage, yet still have a drainage situation that is contributing to turf decline. The only way to determine this is to have the soil on your greens tested by a lab. If the "Rate of Permeability", which I feel is the key measurement, is not up to the USGA specs of 6-10 inches an hour, you are very likely to experience a turf decline on these fast greens that you wouldn't experience if you were still maintaining them at slower speeds, even given identical drainage situations.

To correct this problem, we increased the number of annual aerations, went back to removing the cores (where we had been chopping them up and dragging them back in), and most importantly switched to what I call a "high permeability topdressing". I use that term instead of "high sand topdressing", because there are topdressings on the market with 70-80% sand that actually do nothing to improve the permeability of a green, usually because the remaining 20-30% contains a large amount of "fines" — silt and clay — that simply clog the pore space you're trying to create with the sand. So don't just test your greens' soil, test your topdressing material as well, and make

sure the "Rate of Permeability" is up to spec. in both cases.

A second observation that I found extremely helpful is that several very common green maintenance procedures that are perfectly safe on moderate-speed greens, prove to be too abrasive when they're performed on a green which is already being stressed by a fast greens program. The best example of this is the traditional matting techniques that are used to work in topdressing, referring here to the steel-mesh type of dragmat. Another example is the steel-bristle brushes and steel combs which attach to green mowers for grain control. They do a good job of grain control, but they can cause problems on fast greens because of their abrasiveness. One agronomist I spoke with even felt that the verdict was not yet in on the "rotating fiber-bristle brush" which has become as popular on green mowers the past few years. Again, it is unquestionably an excellent grain control system, but there are early indications that it, too, may be too abrasive for the sensitive nature of these very fast greens.

A third suggestion has to do with the fact that virtually everyone who is maintaining greens for peak periods is using what we refer to as a "weihle" or grooved-type roller. Another excellent method of reducing turf problems is to switch to solid rollers, just for the brief period of peak summer stress (generally July and August in my region). If you've used weihle rollers the rest of the year, this brief switch-over seems to have little impact on slowing down the speed, but it does go a long way toward preserving the turf quality during these most difficult weather spells.

(cont'd. page 16)

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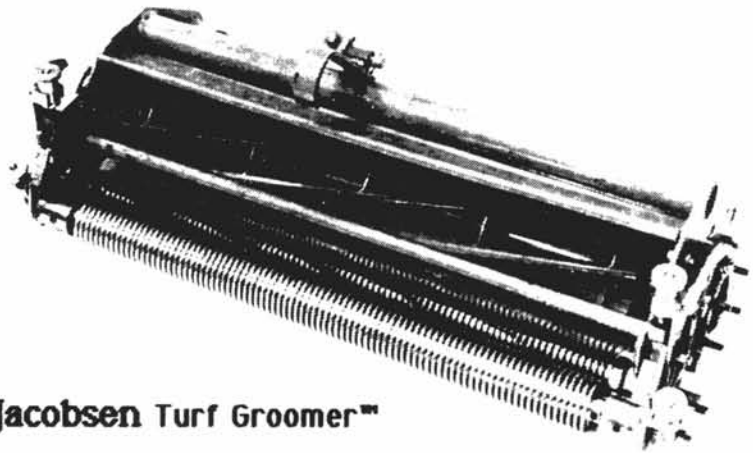
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Lloyd was greens superintendent at Pancho Canada Country Club and Vice President in charge of Laguna Seca and Pajoro Valley Country Clubs. He spent two years researching, developing and doing extensive testing on the Turf Groomer. His primary goal was to combat fast thatch build-up on dense turf areas such as putting greens.

After additional testing of Lloyd's new invention by Jacobsen, the benefits were obvious.

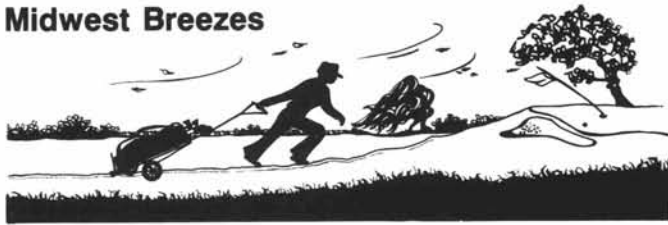
Jacobsen purchased the patent in 1985. Now, in 1986, Jacobsen is introducing for the first time the most modern and efficient vertical greens mower on the market . . . the Jacobsen Turf Groomer.

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## Midwest Breezes



### Upcoming Events — Mark Your Calendar

**April 1st** — Mechanics Association Meeting at Glen Oak C.C. Gun Club

**April 3rd** — CDGA Green Seminar at Butterfield C.C.

**April 28th** — MAGCS Monthly meeting at Olympia Fields C.C. Reservations required.

**May 19th** — Joint Association will meet at Eagle Ridge C.C. in Galena

**June**

**July**

**August 7th** — U of I Turfgrass Field Day at Urbana

**September 8th** — MAGCS monthly meeting at Deer Creek G.C.

**October 6th** — MAGCS monthly meeting at Wilmette C.C.

**November**

**December 9-11** — North Central Turfgrass Exposition

### “April Awakening”

As Nature awakens from Her long Winter sleep,  
Our management strides — in step with Her keep.  
Being involved with the picture She paints,  
We're awed as beholding a Saint.  
Wonder Works creating a new Golf Season,  
As anxious Golfer's glorify the reason.

\*\*\*\*\*

Kenneth R. Zanzig

The deepest sympathy of the members of the Midwest Association of Golf Course Superintendents is extended to John and Ken Lapp and their families on the death of their father, Amos Lapp, age 81, who died March 15, 1986. Amos started with Joe Jemsek right after World War II in 1945 at St. Andrews Golf Club and worked there as Superintendent until he retired in 1975. At that time he became Green Chairman of the 4 Jemsek golf courses. Amos started out in 1924 at the Couquillard C.C. in South Bend, IN. In 1931 he moved to Michigan City, Indiana and worked at Long Beach C.C. until he started at St. Andrews. Amos was a past President of the MAGCS and a Certified Golf Course Superintendent of the GCSAA.

### Superintendent Wanted

Position now open to start construction of a Links 9 Hole Golf Course with a private recreation club near Ottawa, Illinois. Resumes to be sent care of: Bull Sheet, 1022 Shady Lane, Glen Ellyn, IL 60137.

**Editor's Note:** Six months have gone by and few Superintendents have written articles to be considered for the “Ray Gerber Editorial Award”. Come on guys, let's get involved with your newsletter and you may walk away with a beautiful plaque next December at the NCTE.

**Bob Breen** is looking for a working Hispanic Foreman. Benefits are good when you work for the Park Districts. Call Bob at (312) 653-5806.

**Bruce Williams** has been appointed by Editor **Kathy Copley** of “Grounds Maintenance”, to serve on the Editorial Review Board of that magazine.

Congratulations to the new Superintendent at Rolling Green — **Steve Van Acker!** Steve was the assistant under **Peter Voykin** at Twin Orchard C.C.

**For Sale:** 2 sets of caster wheels with pull frames for Toro GM III. Also 2 spring comb kits for Toro Series V Greens Mower. Plus a Rotomist converted to a trailer leaf blower. Call Kishwaukee C.C. (815) 758-5273.

**Dr. Clark Throssell**, the new man at Purdue put on a good conference the first week in March. The Midwest Regional Turf Conference this year had a few changes in it's program and it proved to be a very educational session. Again, it seems we can't get the superintendents in our area to attend some of the local seminars that are for our benefit. Truthfully many superintendents are missing the boat so to speak in getting the up-to-date research information that is available to us. Both the NCTE and the Midwest Regional Turf Conferences were poorly attended.

The MAGCS Board of Directors voted to help support the 3PF fund by sending a check for \$1,000.00 in support of their cause. Round 1 we won by having the District Court strike down Wauconda's ordinance ab initio — from the beginning. But the Village appealed to the United States 7th Circuit Court of Appeals. And, they asked that the case be turned over to the Illinois State Supreme Court. Consequently, more money is needed to fight the appeal. If you haven't helped this worthwhile fund, you need to do so now. The Wauconda ordinance could and will affect how chemicals are used on your course. Send your check today to: 3PF Defense Fund, 1270 Chemeketa St. N.E., Salem, Oregon 97301.

### \* For Sale \*

2 Jacobsen Turf King II for parts, \$150 for '76 belt driven & \$250 for a '84 Model with Hydrostatic drive. Call (312) 759-0820.

There will be a new MAGCS survey out in early April. If you have not received it by April 15th, call Roger Stewart, Len Berg or Bruce Williams and request one. All surveys must be back in by May 1st, 1986.

(Fast Greens cont'd.)

The next suggestion came from the turfgrass research program at Penn State University. In one of the tests that they ran in their earlier study on how to achieve fast greens, several "plots", all of which were being maintained like fast greens, were fertilized at varying rates from a low of one pound nitrogen per thousand per year to a high of six pounds of nitrogen. The interesting part came when they happened to encounter a severe summer drought spell, and elected to observe the effects of this drought on fast greens at various nitrogen levels, rather than irrigate the plots through the drought. What they found was that the most severe wilt occurred in the plots that had received five and six pounds N, while at the lower rates, the wilt was less severe. So here we have a situation whereby most superintendents on fast greens programs are already using low nitrogen rates strictly to increase the speed! One might conclude based on this observation, that perhaps low nitrogen not only increases speed, but also increases the chances of preserving good turf.

Another interesting sidelight of that same study at Penn State occurred when they were evaluating the effects of multiple daily mowings on green speed. They found as they probably suspected that by double-cutting at a slightly higher mowing height, they could produce the same green speed as if they were cutting only once a day at a higher height. What they also noticed, that they weren't necessarily looking for, was that the plots that were double-cut daily at a higher mowing height showed less turf decline than plots cut once a day at the lower height. Again, both regimens achieved the same speed!

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The last solution that I would recommend is that when you are coming out of winter dormancy, delay implementing your fast greens program for a month or so, and give the grasses a chance to start growing, to develop some hardiness and durability, before you subject them to the stress of low mowing and the other components of your fast greens program. Then, do the same thing in reverse, slow down your greens, before you head into winter dormancy to reduce the chance of winter injury. Your golfers will still have their fast greens in May, June, July, August, and September, and it appears that the turf quality benefits greatly from this "break" you give it during the very early spring and, again, in the very late fall.

In conclusion, let me say that, in spite of the success I've had with some of these suggestions, I'm not convinced that we will ever see the day when we can **guarantee** the dependability of the turf on greens maintained at fast speeds on a season-long basis. Better bentgrasses will help; more research is clearly needed; but we, as professional golf course superintendents must be the ones to encourage that research.

The bottom line is that if we encourage the research to find the answers to the problems associated with fast greens, and the answers are found, everyone benefits! If the answer we get back from researchers is that it simply is **NOT** possible to guarantee the dependability of fast greens, that's OK too. Because at least at that point, we will have made a genuine good-faith effort on behalf of the golfers we serve, and more importantly, if we want to be perceived, as we're always claiming we do, as resourceful, conscientious professionals, we won't just have to tell our golfers that we don't know how to do what he is asking; we will be able to tell him intelligently, "Here are the scientific reasons **WHY** it can't be done."

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As the years went by, business changed and a revival of some sort was needed. It was suggested to us by a local golf course construction company working in the area at that time that a top dressing material was needed to be made in bulk amounts as there was no one in the area doing this type of service.

In 1963 we started producing top dressing for sale in the Chicago area courses.

At that time there were 3 employees and 1 seven yard truck for delivery. In 1964 we incorporated and moved the mixing and screening operation to its present site in Algonquin.

In the beginning it was basically one mixture that was made on a constant basis. Today as you all know, it has become more of a custom mix operation with all different types of mixtures and sands being used.

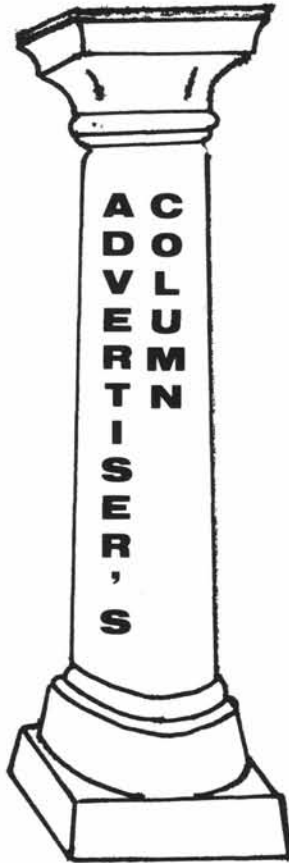
The present delivery system has changed from the original seven yard truck to 4 twelve to fourteen yard trucks and in the peak seasons, semis and other trucks are hired to help out.

We have delivered our product to customers as far as Milwaukee, Rock Island, Springfield, Danville, Decatur, and east to South Bend.

At the present time, there are 6 employees handling the mixing, screening, delivery, bookwork and other related duties.

As in every business, we try our utmost to accommodate our customers in the best way possible and can continue to do so in the future years to come.

Al Frenzer



(Wildflowers cont'd.)  
(also top of next column)

Maintenance of wildflowers is generally low. However, hand weeding may be necessary until wildflowers establish themselves. Mowing is desirable in helping to keep out some weeds and woody plants. We mow our gardens late in the fall when all the seed heads are set. A mulcher attachment is used at its highest setting. If possible we try to mow after a prolonged dry spell. The soil forms cracks, allowing seeds to find their way into the cracks as the leaves and stems are left as mulch.

This helps in natural reseeding of annuals. However, if an ongoing annual display is important, overseeding with a mixture of annual species may be necessary every 3-5 years.

The use of wildflowers, native grasses or prairie restoration is exciting. I am sure the membership at our club enjoyed the wildflowers. There have been more photos taken of the wildflower areas than were ever taken of the "prestigious" 18th green. I realize golf course superintendent's first priority is providing the best playing conditions for the game of golf. But, I believe a close second is to create a diverse, exciting environment, which will provide interest and enjoyment of the outdoors for those who play the game we depend on.

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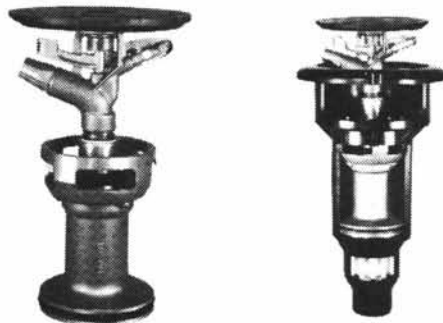
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## Are Aerification and Topdressing Solving Your Golf Green Problems?

by William B. Davis

University of California, Davis, CA

It is the rare superintendent who would not rank aerification and topdressing as primary management practices in the maintenance of golf greens. But when we investigate the use of these practices, we commonly find they have become just a calendared operation. We often fail to completely analyze these practices and how they might truly be used to solve putting green problems.

Depending on how our greens were constructed, what has been their previous management, and how we program these two practices, we may achieve one or more of the following positive results:

1. Relieve surface compaction which can:
  - a. improve surface water infiltration;
  - b. improve the soil-water-plant relationship by:
    - (1) improving root depth;
    - (2) improving nutrient uptake;
    - (3) increasing turfgrass vigor;
    - (4) reducing potential for disease;
    - (5) removing excess thatch and,
    - (6) increasing rate of breakdown of organic matter.
2. These practices may also be used to:
  - (1) true up and smooth out the putting surface;
  - (2) produce a firmer faster putting surface, or
  - (3) change the surface growing media.

Aerification and topdressing should never just become an annual cookbook management operation. These practices in themselves don't make a golfer happy, they require expensive

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specialized equipment, and they are labor intensive. They are a high budget management practice, so we should be maximizing the benefit they can give us.

We first need to thoroughly analyze the profile of our greens to a minimum depth of 6 inches. Our typical aerification equipment with new tines will only penetrate the green surface to a depth of 3½ inches. We may or may not really be solving layering and/or compacted interfaces which are affecting the quality of the green. Even if we just have a shallow surface problem to solve (less than 3 inches), one or two aerifications per year would generally be too infrequent to make any real and lasting change. Assuming your aerifier produces 36 holes per square foot and you are using 5/8-inch tines, you would only be removing 7.5 percent of the surface media. Mathematically, you would have to aerate your green 13 times if aeration tines never hit a previous aerification hole. In practical field studies, it has been shown that a complete aerification and topdressing program eight times per year over a two-year period can completely change the surface media. This would be a very radical program for many golf courses, but it is far less costly and less disturbing to the golfer than completely rebuilding a green if such a program solved a basic green problem.

Complete analysis of your alternatives as to topdressing material also is essential to successful aerification and topdressing programs. If our greens were constructed with the "perfect mix", we would assume that this would continue to be our most