



# One Guy's Opinion

By Tom Parent  
*River Oaks Golf Course*

## Sand Top Dressing Native Soil Greens — Is It A Good Idea?

*Editor's Note: This column is intended to spark a debate. It is not intended to anger anyone, and if it does, I apologize in advance. With any luck it will stimulate someone to write a rebuttal. That is what this column is for. I hope you will not get tired of my opinion because of the flood of articles written for this column.*

\* \* \* \*

Is sand top dressing native soil greens a good idea? If you can put down 12" of mix, a gravel layer and drainage all at one time maybe . . . if you can do it gradually, years and years from now, maybe . . . we all know that 1995 was a horrible year to raise turf in many parts of the country. Unfortunately, minor problems that you deal with in a normal year were magnified. Many of us lost turf on some or all of our greens. On many courses, poorly implemented sand top dressing programs can take the lion's share of the blame.

We must look at what we are trying to accomplish. One must assume that the ultimate goal would be to establish USGA type greens over a long period of time without disrupting play. This simply is not possible with a sand top dressing program. First, there is rarely adequate drainage installed. Second, there is not a gravel layer. Third, unless you or your predecessor is/was extremely diligent, layering almost always results.

Do you really want USGA greens anyway? Do you wish to join the ranks of us with localized dry spots, low CEC's, poor microbial environment, algae, etc. etc. USGA greens are just not that much fun to take care of. In short, you trade one set of problems for another. The USGA is not submitting requests for proposals for new green designs for no reason.

Ongoing research at the University of Wisconsin-Madison's O.J. Noer Turf Research Center showed no significant difference in turf quality on side by side comparisons of USGA greens and native soil greens. These tests were conducted under simulated wear condition and used a variety of cultivars and management practices.

Many sand top dressing programs are initiated to pro-

mote internal drainage and reduce thatch. In 10 to 30 years you may eventually have a 12" layer of sand mix. If proper drainage is installed you may succeed. Until then, however, you could have a very shallow perched water table. In years like 1995 when there were weeks of humid weather, greens with shallow perched water tables probably never dropped much below the saturation level.

As a consequence, soil oxygen levels may have approached zero for days or weeks at a time. Roots and beneficial soil microbes cannot live without oxygen. On the other hand, algae which live at the surface thrived. With out subsurface drainage a shallow surface layer of sand mix leave you very vulnerable. The end result . . . dead or badly thinned turf and algae.

Could the use of deep tine aeration combined with drainage achieve the same effect be without the risk? With the advent of 1/4" mini tine you can aerate on a monthly basis with little or no effect on ball roll. Conversion kits are available from most manufacturers and after market suppliers. By recycling your native soil which is rich in microorganisms, you will accelerate thatch reduction more effectively than any greens mix.

Let's look at what native soil greens can offer. First of all, you're raising your turf on soil, not an artificial mix. Except for compaction, native soil generally has many advantages over USGA greens mix. They have higher CEC's. They are usually rich in organic matter and they have a higher potential for beneficial microbial growth with greater water reserves. They were typically built out of the best soil the site could offer.

Ask a farmer which soil he would rather raise his crops on, your native soil or greens mix. Unless they're growing root crops with full irrigation, not many would choose the greens mix.

Without internal drainage, even deep tine aeration holes can quickly become saturated. Remember what the USGA was trying to accomplish with its greens design: resistance to compaction, percolation and gas exchange, and adequate water reserves. They never said grass would grow well on this mix and on many of them, it doesn't. In short, most of them require a tremendous amount of input to keep them healthy. Again do you want this?

If you're on a sand top dressing program, you are committed to continue. Keep in mind, however, the end result should be something that resembles a USGA green. Without internal drainage you don't have a key element of a USGA green.

If you're considering or being forced into a sand top dressing program, first consider strategies to avoid a saturated surface layer. Perhaps with a gradual blending of your native material with the top dressing mix, you could avoid the perched water table. Find a supplier who can guarantee you a lifetime supply of quality 80/20 greens mix. Be religious in your applications. Then use deep tines and mini tines and aerate, aerate, aerate!

# Preventive Maintenance On Wells Is Essential But Often Ignored

By Allen Anderson  
*Thein Well Co.*

"When I turn on my irrigation system in the spring and the water comes out of the sprinklers, I know that my well and pump is working ok!"

"My flow meter tells me that my well is putting out 500 GPM which is what it has always done, so everything must be fine."

"I only use my well a little over half the year, it's not like a municipal well that is used all year long. Therefore, it doesn't require as much maintenance."

"There is a well company close by, they will drop everything else to get me back on line if I have a breakdown."

These are some of the comments I have heard while discussing wells and pumps used on golf courses. Superintendents work long, hard hours to provide their golfing members with the highest quality fairways and greens possible within the constraints of the budgets they are given. Unfortunately, fine tuning or regular preventive maintenance of an irrigation well and pump are sometimes ignored in favor of some of the other more visible golf course needs.

You may be using the latest and the best technology for seeding and fertilizing, aerating and weed control, but how much attention are you paying to your water source? If you are using the best techniques available to nurture the grasses on your course, shouldn't you also consider the needs of your water supply? It appears to me after visiting with some of the superintendents in our area, that regular well and pump maintenance programs are not given the priority necessary to insure a consistent source of water for their courses. Water is the key ingredient for all courses in the same way that engine oil and fuel are the key ingredients for the car you drive to and from work, or for the power equipment that you use on your course.

Every well system should have a flow meter as there is no other way to consistently monitor the output and efficiency of your well and pump. Accurate measurement of flow coupled with drawdown can give early indications of system deterioration. Have you recently checked your flow meter to determine if, in fact, you are putting out the volume for which your system was designed? Have you checked your meter to determine if it is accurately recording the actual flow of water? Sometimes a meter requires a good cleaning to continue to correctly measure your flow, particularly since it sits in a dry condition for a significant part of the year.

The thought of a well that can no longer produce the quantity of water needed to sustain a golf course is one that obviously should concern golf course superintendents. If you have only one well, how do you supply water during the time it takes to construct a new one? If you are currently

using 300 to 500 gallons of water per minute for a 6-8 hour period of irrigation per day (100,000 to 250,000 gallons), what can you get by with if you should have to find an alternative source? You should also factor in the time needed to construct a new well, as it may be that you will need a month or more to get a new well on line. In some areas, the necessary or unnecessary replacement of a well could also be the most expensive maintenance item with which a golf course may have to deal.

The measurement used to determine the general health of a well is called specific capacity. When a well is originally constructed, the relationship between the amount of water produced and the distance the well draws down during pumping indicates that well's efficiency. Over time, the efficiency of a well tends to deteriorate. The length of time to deteriorate is determined by the type of formation the well draws its water from, the quality of the water, the volume pumped and the velocity at which the water flows through the screen. A general rule of thumb should be that

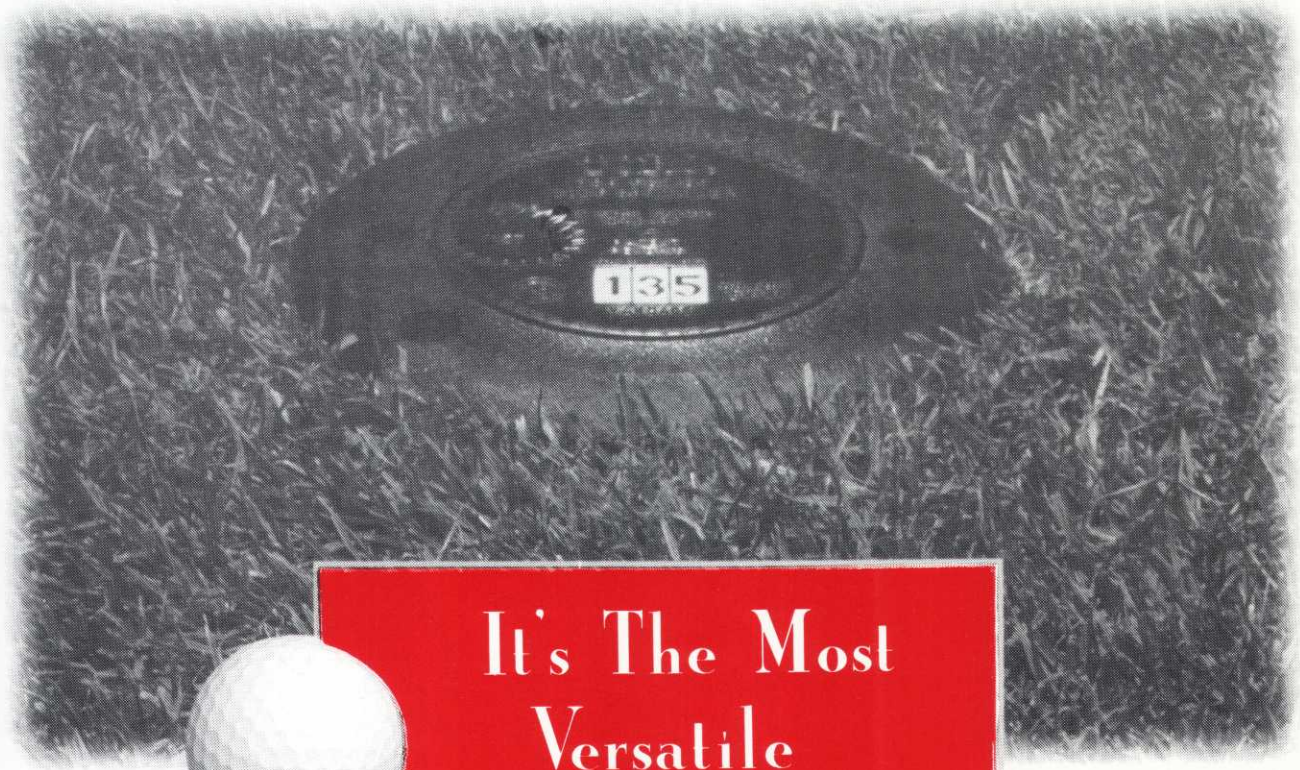
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# Wisconsin Turfgrass Greenscape Expo '96

## HIGHLIGHTS

By Tom Parent  
*River Oaks Golf Course*

If you're looking for educational opportunities close to home, this is a good one. The WTA winter conference is run in a similar manner to our fall conference with sessions for golf, lawn and landscape and public grounds management. There were many speakers which I had not heard before and lots of useful information. Here are some things we need to look for in Minnesota.

### Pythium Root Dysfunction

This is a disease of newly established bentgrass turf.

*The symptoms:* Dead turf and lots of it. Reseeding fails until fall or cooler weather. Duration: worst in first year, over by the third year.

*Cause:* A complex of root infecting organisms of which pythium sp. are always present. A lack of digestible organic matter in the mix allowing for the unrestricted growth of the pathogen(s).

*Cure:* Wholesale death of turf supplies organic matter to soil which builds biological diversity in the soil and prevents further infection.

*Prevention:* Avoid stressing plants in first year. Keeping height of cut no lower than 3/16 in a normal year will reduce or prevent the expression of symptoms. Using microbial amendments and organic fertilizer?

The message given over and over by all the speakers was if you wanted them to help us we must first help ourselves. There was a collective shaking of heads at the simplicity of solving most of our problems especially the ones that are so called "New diseases." Cut our grass higher and don't starve it. Until we start smelling the coffee, I had the impression that they lost respect for our profession and were tired of trying to fix the impossible.

### Soft Spikes

There was overwhelming evidence of the value of soft-spikes on green speed, improved roll, turf quality and reduced disease. In speaking with superintendents from clubs that have switched, they were universally positive with members strongly enforcing the rules due to improved playing conditions. Perhaps this is an area in which we can work with the MPGA and MGA to start an educational campaign and a target date for voluntary conversion statewide. If a lot of courses convert all at once, the impact to the golfer who plays many courses could be lessened.

### Cut Worms

Chris Williams, a researcher at the University of Kentucky, conducted some detailed research of cutworm's eggs on greens (endless hours of lying on a green counting eggs). He found that almost all the eggs laid on the green were removed during mowing. His research suggested that the cut worm infestations came from grubs migrating in from up to thirty feet off the green. Although this was only the results from one year of study, the tentative conclusion he reached was that we should be conducting our IPM sampling in a 30-foot radius surrounding the green. Then, if necessary spray only the areas surrounding the green as needed. This would lower golfer exposure to pesticides and perhaps be more effective. Also clippings should be spread no less than thirty feet away from the green as the cut worm eggs survive the mowing process. Worth a try?

### Root Zone Mixes

At the O.J. Noer Turf Research Center, studies were conducted using different types of bentgrass cultivars: upright growth: Chrensha, low growing: Penncross, etc. and management practices, simulated: Daily Fee, Private and Championship. The management practices were varied by the height of cut and mowing frequency. These studies were conducted under simulated wear conditions on both native soil and USGA greens. Under 1995 strenuous conditions there was no significant difference between the turf quality on the USGA green and the native soil green. The only significant differences occurred between management practices, i.e. height of cut or a combination of management practices and cultivar.

### Hydroject

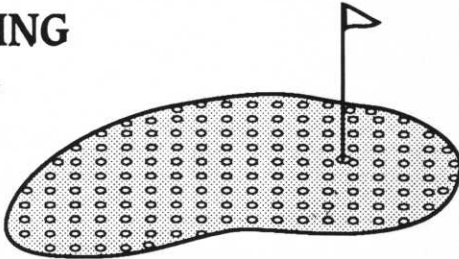
Extensive field trials using high pressure water aeration over several years show improvement in percolation and compaction relief. The study compared the hydroject at: one week and three week intervals, core aeration spring and fall with and without routine hydroject aeration and a control with no aeration. The study showed there was a loss of root mass with all of the aeration schedules. In all but the weekly hydroject schedule the treatments resulted in improved turf quality. The loss of turf quality with weekly aeration was due to the excessive destruction of root mass. Future research will be conducted to see if spring core aeration can be eliminated by routine high pressure water aeration without loss of turf quality.

# A (W)HOLE IN ONE

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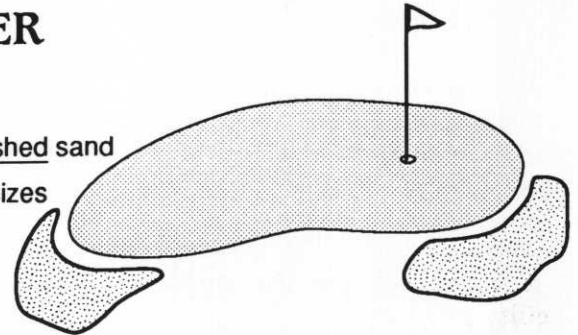
## TOPDRESSING MATERIAL

- 80/20, 70/30, or mix to order
  - Sand screened with 1mm screen (USGA spec)
  - Product blended then rescreened through 3mm screen to assure clean mix
- All specs available upon request*

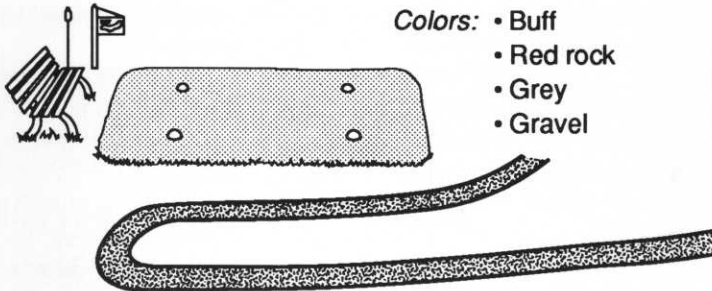


## BUNKER SAND

- Clean, washed sand
- 2 particle sizes to choose from



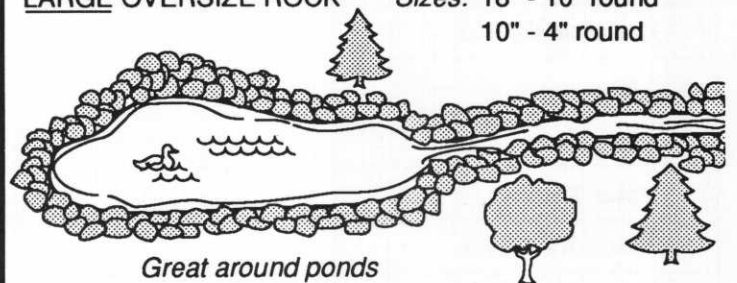
## CARTPATH AGGREGATE



- Colors:
- Buff
  - Red rock
  - Grey
  - Gravel

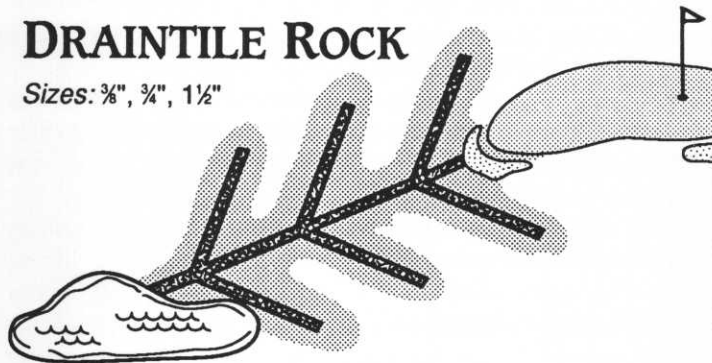
## RIP RAP

- LARGE OVERSIZE ROCK      Sizes: 18" - 10" round  
10" - 4" round



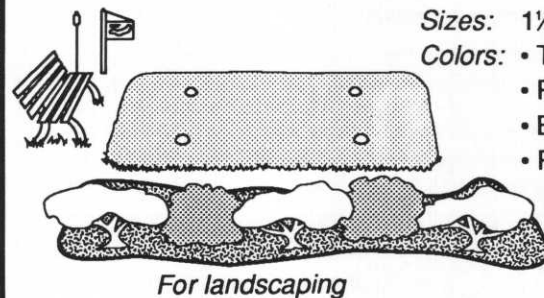
## DRAINTILE ROCK

Sizes: 3/8", 3/4", 1 1/2"

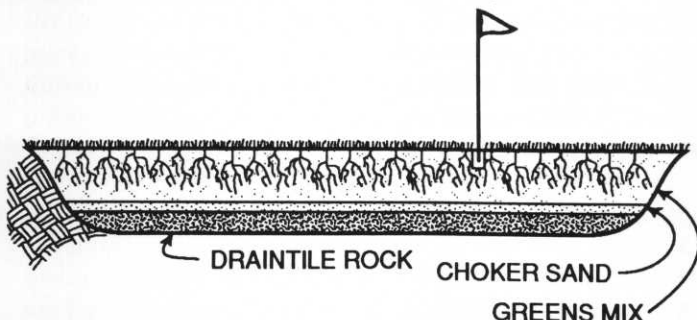


## DECORATIVE ROCK

- Sizes: 1 1/2" or 3/4"  
Colors:
- Trap rock
  - Red rock
  - Buff limestone
  - River rock
  - Granite
  - Salt & pepper



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# TREE SURVEY

By Susie Fobes  
Horticultural Consultant  
Environmental Re-Creations, Inc.

Take the opportunity to learn more about the health and ecology of the trees on your golf course. Complete the questionnaire by circling the number answer that best describes your golf course. The numbers are based on the assumption that the course is an 18-hole facility. If your course is smaller or larger, the answers should be adjusted accordingly. Review the responses to see how well your facility performs!

columns, take a moment to visualize your golf course void of this tree after a severe infestation. Possibly a scarier thought would be the invoice for removal of the trees. Besides disease pressures, the weak wood of green ash provides a ready supply of "clean up" after storms. Currently a supply glut on the market makes this tree a bargain and financially appealing to the purchaser; in final analysis, the "good buy" is not a bargain.

Ref.#	TREE POPULATIONS	NUMBERS			
		0-36	37-54	55-72	72+
1	Green Ash	0-36	37-54	55-72	72+
2	Female/fruited Green Ash	0	5-10	10-15	15+
3	Silver Maple (mature)	0-5	5-10	10-20	20+
4	Newly planted Silver Maples	0	1-3	4-10	10+
5	Boxelder	0	1-5	6-10	10+
6	Blue Spruce	0-10	11-20	21-40	40+
7	Black Hill Spruce	0-10	11-20	21-40	40+
8	Aspen	0-5	6-20	21-40	40+
9	Mature Crabapple Trees with disease & insect problems	0	1-5	6-10	11+
10	'Greenspire' Littleleaf Linden	0-5	6-18	19-36	36+
11	Percentage of new trees purchased were "park or landscape" grade	0%	25%	50%	75%
12	Percentage of young trees (less than 10 years of age) with damaged bark	0%	1-10%	11-50%	51-100%

2) The female or fruiting form of **Green Ash** is an inexcusably, high maintenance tree. Besides problems described in the seedless form, the fruiting form supplies an abundant amount of litter and a constant source of new green ash. Only in unique circumstances, i.e. backdrop to a green, should this tree be maintained.

3) Mature *Acer saccharium* - **Silver Maple** trees can be very beautiful and majestic trees. But an excessive number of them is a guarantee for "clean-up" crews after storms. The fact cannot be escaped . . . fast-growing trees are weak wooded. Young golf courses can benefit from the swift growth of silver maples by using them as a nurse crop. Incorporate slow and fast-growing trees within the landscape. After the slow-growing trees have reached a reasonable size, eliminate the fast growing trees.

4) Silver maple has been improved by hybridizing it with red maple. The result is **Acer x freemanii 'Jeffersred' - Autumn Blaze Maple**. This tree has the fast growth rate of silver maple and an exceptional red fall color. The consistent fall color of this tree is so great that the "maintenance" is justifiable.

5) *Acer negundo* - **Boxelder** is a fast growing, messy maple tree with no ornamental virtues. The number of boxelder beetles housed in one tree is disgusting. Boxelder seeds germinate in any crevice, insuring more messy trees and bugs. Pat yourself on the back if you have no boxelder trees at your facility!

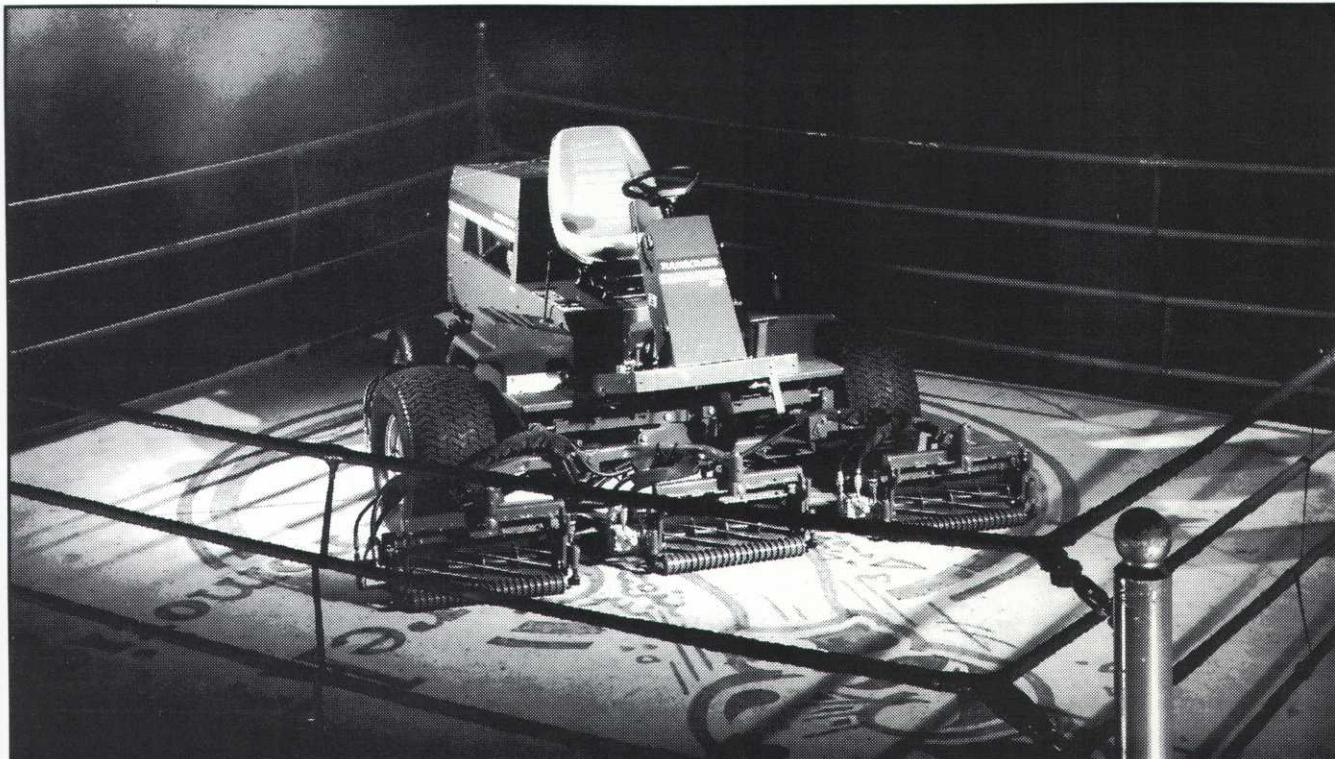
6) *Picea pungens* var. *glauca* - **Colorado Blue Spruce** is a valuable component to our northern landscape; however, the use, the use, the use, the use, the use, and the over usage (get the picture?) of the plant makes it a perfect candidate for a monoculture explosion. Already numerous problems are affecting the tree . . . postpone any further plantings.

7) *Picea glauca densata* - **Black Hills Spruce** is an important evergreen contribution to the landscape but is also suffering from over usage. Sawflies are gaining momentum. The larval stage of the sawfly consumes new needle growth in late May and early June. One year of munching will not drastically alter the tree, but three years of munching will

(Continued on Page 28)

If your answers were generally on the left side of the survey, **CONGRATULATIONS!** Planting and caring for plant material is working. If you found answers on the right portion of the survey, the responses to the questionnaire will be helpful in your continuing efforts to improve tree populations at the golf course.

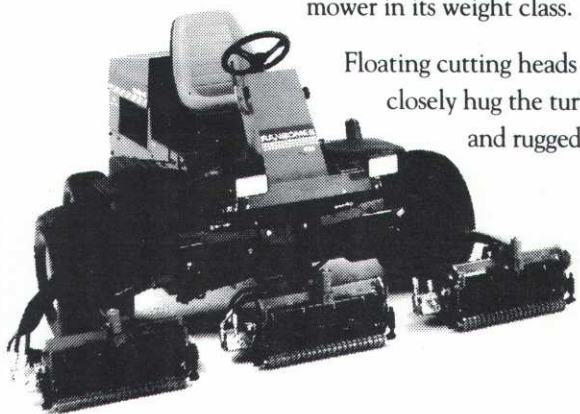
1) *Fraxinus pennsylvanicum* 'Marshall's Seedless' — **Marshall's Seedless Green Ash** is an example of a fast growing, non-fruiting, shade tree that is excessively used on golf courses. The repeated use of green ash has created a climate ideal for widespread disease and insect problems. Already, signs of disease problems (ash yellow and anthracnose) are evident. If your answer fell within the two right



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# MGCSA Affiliate News

## Toro Establishes Revolutionary, New Class Of Rotary Mower with Groundsmaster® 3000

The Toro Company has announced the all-new Groundsmaster® 3000, a riding mower that provides specific features requested by golf course superintendents, and in doing so, establishes a whole new class of rotary mower. The Groundsmaster 3000 combines a 33-horsepower gas or diesel engine of a noticeably quieter performance with improved hillside stability and wider mulching deck.

According to Rick Rodier, a marketing manager for Toro's Commercial Products Division, the Groundsmaster 3000 was created based on extensive research sessions conducted with turfcare professionals and golf course superintendents.

"The Groundsmaster 3000 is everything these experts asked for in a new riding rotary mower — a powerful, economical machine, stable and durable enough to handle a complete spectrum of mowing needs, including difficult, hilly terrain," said Rodier. "The mower's advanced rotary cutting system provides a quality of cut that meets — or exceeds — golf course standards."

He added that the Groundsmaster 3000 hails from Toro's Groundsmaster® family of mowers. "True to its name, this new rotary mower is a reliable and durable machine with the added agility operators need to work efficiently. Toro expects this new class of mowers to be quickly embraced by superintendents."

Most notable, the Groundsmaster 3000 offers improved hillside stability — and operator safety — due to a larger wheelbase, lower center of gravity and larger tires. A 33-horsepower engine handles bigger, heavier jobs. An added plus is its low noise emission level. Operators and the surrounding environment benefit with quieter mowing conditions. Also, a highly versatile "quick-attach" system means cutting decks and attachments can be changed quickly with few tools, making the mower ideal for year-round use.

The Groundsmaster 3000 has immediately available an enhanced Guardian® 84" Recycler® mulching deck. Hydraulic counterbalance, soft-ride castor wheels and a responsive deck design adjustable to extreme turf contours help ensure a smooth, even cut.

Two versions of the Groundsmaster 3000 are currently available: a two-wheel drive diesel model and a two-wheel drive gas model. A four-wheel drive diesel model with on-demand forward and reverse four-wheel drive will be ready for delivery in the spring of 1996.

Customers can receive additional information about the Groundsmaster 3000 by calling MTI Distributing Co. at 1-800-362-3665.

## Check Signature Announces Conference Contest Winners

Check Signature has announced the winners of the contest at the Trion Lift booth at the MTGF Conference this past December.

The contest was to name the golf course hole pictured and displayed at the booth. The winners are:

Ralph Arnt, Carver;  
Ken Dehkes, Mendota Heights;  
Rick Fredericksen, Woodhill C.C.;  
Bill Larson, Town & C.C.;  
Ken Otto, Valleywood G.C.;  
Eric Netz, Wayzata C.C.;  
Kevin Nieman, Woodhill C.C.;

An eighth correct entry was received but had no name. All winners received a Turfchek® II.

Thanks to all who stopped by the booth.

## New 70" National Hydro Triplex Mower Offers Out Front Cutting For Tees and Bunkers

New customers during 1995 report that the 80" Hydro Triplex is nearly an ideal tee and trim mower. Its out front cutting allows high visibility while its rear wheel steering offers easy turning and high maneuverability. The combined capability makes trimming around tees, bunkers, surrounds and greens go quickly and easily. Specially designed to cut as low as 1/2," the user has the option of attaching snap-on baskets to collect grass clippings

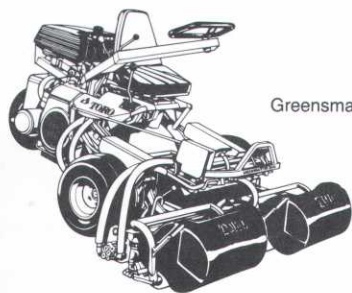
The 70" costs less than a comparable, commercial rotary mower.

Additionally, the company engineered the hydrostatic drive to the wheels and hydraulic lift for mowers for simple maintenance.

For users that want to have the 70" Hydro Triplex handle more than trimming, it provides one of the finest striping cuts available. The shearing action of its six-blade cutting reels brings a professional striping look to all types of turf.

For more information call Stan Kinkead, general manager of National Mower at (612) 646-4079.

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