

a pH > 5.5 contains much more Ca than turfgrass requires and the same generally holds true for Mg.

Employment of the base saturation-cation balance theory as a nutrient management tool in sand putting greens often leads to costly and needless applications of gypsum, magnesium sulfate, or other sources of these nutrients. Strict application of the theory can actually result in K and Mg deficiencies in greens constructed with small amounts of organic amendments. The only beneficiaries of the theory are turf consultants, sales people, and the manufacturers of products designed to correct Ca and Mg imbalances.

The only reliable way to check whether or not soils require Ca, Mg, or K is via testing for the amounts of exchangeable Ca, Mg, and K present. Exchangeable Na is of concern only when putting greens are being irrigated with low-quality irrigation water, and especially with effluent water. In these situations, buildup of exchangeable Na and soluble salts can occur and must be promptly dealt with.

The best I can tell from the scanty literature on the subject, the minimum soil level of exchangeable Ca for turfgrass is 250 ppm, or 625 lb/acre in sand greens. For Mg, the figures are 50 ppm or 125 lb/acre. For sand putting greens that typically have

CEC values of around 5.0 meq/100 g, these levels of Ca and Mg amount to saturations of 25 and 8%, respectively. Applying Ca or Mg to achieve levels several-fold greater than these will not benefit the grass, improve soil physical properties or stimulate soil microbial activity.

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**PLEASE HELP!**

**When you receive your Turfgrass Survey questionnaire from the Wisconsin Agricultural Statistics Service, please fill it out and return it promptly. A strong response from golf courses is important!**



# Made In Wisconsin

By **Monroe S. Miller**, Golf Course Superintendent, Blackhawk Country Club

Dr. John Stier has accomplished what many before him have tried - an economic survey of the turfgrass industry in Wisconsin. The survey questionnaire, which you should have received by now, is managed by a group I have a lot of respect for - the Wisconsin Agricultural Statistics Service. They have been doing this sort of work for a long time and will lend heavy credibility to the results. We all **MUST** do our part by completing both the turfgrass survey and the facility survey and returning them.

The results should be eye-opening and gain us access we haven't had because our impact hasn't been known. Money talks, and when decision-makers in Wisconsin see this burgeoning agricultural enterprise in a time of downsizing in other agricultural sectors of our economy, we should have a greater input on decisions that can affect us.

I think the results will clearly demonstrate that turfgrass is a major crop in Wisconsin in terms of dollars, moving past many traditional crops and pushing hard on the value of the corn crop. The overall impact of the facilities will put us in a place we haven't been before.

This all has refocused my thinking about the major ancillary businesses in the turfgrass industry - the distributors, the service providers and the blenders. They are a big piece of our financial input to the Wisconsin economy.

And then there are the manufacturers of grass machinery that call Wisconsin home. They combine to make the Badger State the center of turf equipment worldwide. The money they must pump into our economy is staggering. A trip through the show floor at the recently completed GCSAA conference and show was like old home week for us. At every turn, there were products from Wisconsin.

The Big Three of turf equipment - Jacobsen/Ransomes/Textron, Toro and John Deere - all have formidable facilities in the state. For almost 80 years Jacobsen's world headquarters have been in Racine and orange equipment has been coming from their Packard Avenue plant for that time. Think if all that machinery manufactured over all those years could be parked in an open field somewhere. The sea of orange and cream would cover hundreds and hundreds of acres.

When Ransomes moved into the North American turf market and started making equipment here 15 or so years ago, the plant they chose was in Johnson Creek, Wisconsin. Expanded greatly since then, turf equipment

is still manufactured in that small village between Madison and Milwaukee. Ransomes is now a division of Jacobsen, but they have maintained their identity (it's still green equipment trimmed in red!) and they still build at Johnson Creek.

If you want an interesting plant tour full of variety, see if you can get a trip through the Toro plant in Tomah. Chances are good that if you own a piece of Toro golf course machinery, it was probably made in that beautiful rural community located at the confluence of I-90 and I-94. Toro has other plants, as most manufacturers do, but I have been told that the Tomah facility is a gem in their manufacturing crown.

Most people think of plows and tractors and combines when they think of John Deere. Farm machinery is what they started making and what grew their business for 150 years. Lee Bruce thinks of dozers and scrapers when he thinks of John Deere; they are big players in the construction equipment world. Nowadays many golf course superintendents think of turf equipment when John Deere is mentioned. And since they moved into grass machinery 15 or so years ago, their plant in Horicon has played an important role. Various pieces have been made there in that time; these days all the reels are manufactured in Horicon, as is their walking greensmower. The small tractor business, which is huge, is also centered in Horicon. Mention Horicon and the public mostly thinks of the marsh and Canada geese. Mention Horicon, Wisconsin to superintendents and we think of John Deere!

Turf equipment requires a power plant of some description and although they've undergone a lot of changes, Kohler (engines) of Kohler, Briggs and Stratton



**Foley United plant is located in River Falls, Wisconsin. This photo was taken in February 2000.**



This picture gives a bird's eye view of how vast the Foley manufacturing facility is.



Smithco makes a lot of its turf equipment at this plant in Cameron, Wisconsin, at Hwy 55 and Poplar Avenue.

of Milwaukee and Tecumseh of Grafton provide some of those power plants. The small Japanese engines got a foothold in our business in the 1980s and early 1990s, but these three Wisconsin companies have come back strong and regained leadership in the small engine power industry. This is good for Wisconsin!

One of the most comforting sounds in our shop in the winter is the sound of our Foley Accu-Master grinding all of our reels and putting an edge of them for the next golf season. Along with the Accu-Pro, which sharpens the bedknives, we have two of the best pieces of reel sharpening equipment made anywhere. And they were made in Wisconsin. In River Falls, Wisconsin, to be exact, in a new and modern manufacturing facility.

We have four trucksters in our operation and ten utility vehicles. The trucksters were manufactured out of state, but the 10 utilitrucks were manufactured by Columbia ParCar in . . . Reedsburg, Wisconsin.

Wow! There are more. That Smithco bunker rake you use, the Smithco sweeper that is clearing your course for opening day and the Smithco Spray Star you own have the distinction of being Wisconsin manufactured, too, at a modern plant in Cameron, Wisconsin. This was a revelation to me from Curt Larson. It is a big facility turning out lots of equipment for the golf and sports turf worlds.

Terracare products are commonly found on golf courses wherever the game is played - topdressers and aerifiers especially, but also mowing equipment, all "Made in Wisconsin", too, in Pardeeville.

The greens spiker/seeder that has been so well received the past few years - Vince Johnson carries them - is a product developed and manufactured in Custer, Wisconsin by T.I.P., Inc. They also make the Amazone sweeper.

Honestly, it is hard to stop. Perhaps the oldest and best known organic fertilizer in the world is Milorganite, a wonderful product from Milwaukee that many golf courses were using decades before organic was "in". Not forgettable, either, is Milorganite's association with O.J. Noer.

On the national fertilizer scene you will also find

Howard Johnson's and Spring Valley, from Viroqua and Jackson, respectively.

Doing some major renovation or new construction? What are the chances a Brillion seeder/mulcher will be on site? Pretty good, I'd say. And those super solid pieces of equipment are made in Brillion, Wisconsin.

Speaking of Brillion, how much Ariens equipment is there around the world - mowers, snowblowers and more? Lots. And it also came from Brillion, Wisconsin.

Pop that valve box cover off to shut a valve in your irrigation system and you may find it was made by one of The Grass Roots' most faithful advertisers - Ametek from Sheboygan, Wisconsin.

Raise your Greensking or Greensmaster up in the shop so you can work on it - the heavy lifting might be done with a Manitowoc Lift, a Manitowoc, Wisconsin company making specialty lifts for the turf market! The wrenches you turn on the mower, if you like the best hand tools, could be Snap-On from Kenosha, Wisconsin.

Looking to spray a small corner of a green for snow mold in early spring? It might best be done with a motorless Greens Wheelie sprayer that came from the Wheel Spray Corp. in Delafield.

Fire up your irrigation system with a high tech pump station from Watertronics in Hartland, Wisconsin. Sweep the parking lot at the club with a broom attachment on the front of your rotary mower and it may be from MB Companies, made in Chilton, Wisconsin.

Who am I forgetting? I am sure there will be some. I promise to note them in the next issue.

I am starting to feel like the Tommy Thompson of turf. Isn't Wisconsin GREAT?!

Yes, it is. It is a great place to live and experience a career in golf course management. We have excellent schools, super roads, a clean environment and an impressive work force. Those are the same reasons so much turf equipment manufacturing is found here.

And in the world of golf courses, you can almost be certain that every shop in the world has at least one product that carries the proud Badger label, Made In Wisconsin! 🍁