The Grass Roots

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About the Cover:

Michael Semler, new WGCSA president.

Cover artwork by Jennifer Eberhardt.

"Pile high the hickory and the light
Log of chestnut struck by the blight.
Welcome – in the winter night.

Here are question and reply,
And the fire reflected in
the thinking eye.
So peace, and let the bobcat cry."

– Edna St. Vincent Millay

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(L to R) Scott Schaller, Mike Handrich, Tom Schwab, Bruce Worzella, Bill Knight, Mark Kienert, Mike Semler, Joe Kuta and Pat Norton .

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"OUR ASSOCIATION"

By Michael Semler

My wife and I were recently blessed with the birth our first child. Holding him in my arms, I will always be amazed at the enormous sense of responsibility I feel toward him. I am sure this is due in part to the fact that he is our first child and there is a certain amount of nervousness and uncertainty surrounding his arrival. More likely, however, it is probably due to an expression of our hopes, dreams and aspirations we have for him and his future.

When I was first elected to the WGCSA Board of Directors in 1987, I had many of these same feelings about our Association. Now that I am the president, those feelings—nervousness, hopes, dreams and aspirations—come back even stronger. Fortunately, I feel our Association membership is strong, has a solid board of directors, and has such a great rapport within its membership that being president is made an easier task.

I think it is important to understand why I keep using the term "our association". Because this is exactly what it is, Our Association! As president, and as elected board members, we try to make decisions using our best judgment and background information. We utilize our hopes, dreams, aspirations and some nervousness to formulate policies and decisions that affect the membership and this organization.

More often than not, our decisions will be the best ones we can make. Sometimes maybe not! There is, however, one element in our decision-making process that cannot be left out. That element is having a good rapport among our members. For as hard as we try as a board of directors, if we don't understand what you like and dislike, what you want and don't want, we will not be considered a successful board of directors, nor a successful association.

I relate this back to my newborn son who has a certain, although limited, ability to communicate with his parents. His smile while in our arms brings a playful and joyous response from us. But a cry at 2 a.m. brings a weary parent to his side for some tender nurturing. For our Association to be successful, the board needs to know how the members feel. Now I am not advocating a 2 a.m. call to a board member to discuss WGCSA policies, but keeping lines of communication open between all members will go a long way towards making our Association successful for everyone.

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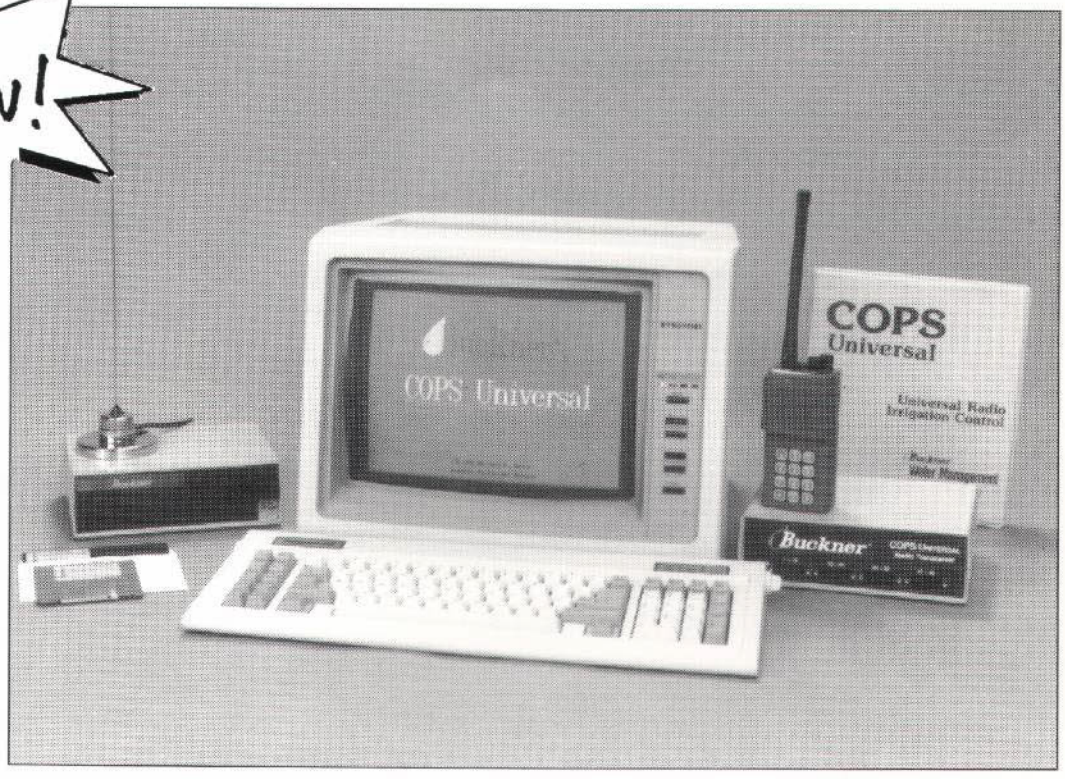

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A Simple Proposal: GCSAA Should Cut Dues in Half

By Monroe S. Miller

There is a lot of discussion about the GCSAA these days, and much of it is controversial and negative.

The last couple of years have not exactly been the GCSAA's best. Top management has resigned, with little explanation other than foggy references to "the Anderson Study".

A new building is built with trumped up publicity that undoubtedly cost a small fortune. That was okay. Members figured they needed the room. But an addition was then, very quietly, built. Today, that addition, for all practical purposes, sits empty.

The former headquarters building also sits empty and unsold. Great way for our dues money to be spent—a pair of underutilized properties.

The Singapore episode was a fiasco—thousands can chime "I told you so." How many thousands of dollars were wasted on that doomed affair? How many first class air fares (and for whom) did we buy for no good reason?

If you want reason to cry, check out our record in the area of lawsuits. We lose all, or almost all, of them. Probably because the association is guilty of something.

Some of us, a while back, got wind of an incredibly dumb idea that was apparently given serious consideration. You may want to sit down just in case you haven't heard this one; it is a beauty. Somebody actually thought it would be a wise move to create a "University of GCSAA"!

I don't know how true it is, but I heard it too often from too many places for it not to have some truth to it.

I kid you not. We have a system of land grant universities in America that does a superb job of educating young people interested in a career as a golf course superintendent. Students learn from tenured faculty, from members of the National Academy of Science, even once in a while from a Nobel prize winner. Among these land grant colleges are the world's best research institutions.

But some loose canon thought GCSAA should compete with the land grant institutions with its own university! Bets are the creator of anything so devoid of merit didn't earn a four year degree, therefore having no clue as to what such a plan entailed.

There is more, but why go on?

And, as always, there is a heavy shroud of secrecy in Lawrence. You'd almost think the officers and directors we elect take some sort of vow of silence about the business they conduct—our business, by the way—behind closed doors.

Somebody ought to do a study someday that looks into what happens to the seemingly normal and competent people we elect to our board. Some become arrogant, secretive, and devoid of any candor. They lose common sense. Somehow, the notion of service to members gets lost. It is at times unbelievable.

A colleague and I were visiting about this ship we call GCSAA and how adrift it is. Both of us are long time members, well into our third decade of membership in GCSAA. We wear the member pin with pride, and appreciate the good scholarship program, the health initiatives and several other things the association does well.

But we are both dissatisfied of late. My friend said to me, "I have the answer that will straighten affairs in a hurry.

"Those people in Lawrence simply have too much of our hard earned money to play with, and they are unaccountable for how they spend it. If we cut our dues in half, they will get into a fraction of the trouble."

I think he has something there. Often, the GCSAA seems like just another form of government with an insatiable lust for taxes (dues, in this case). When they get the extra funds, the return to us diminishes to ridiculous projects.

The officers and directors would do well to drop the oddball activities—lots of members will volunteer to help create that list—of the recent past and present, and return to the basics: provide GCSAA members the things they need and will benefit from.

Among those are education, a good quality conference and show, appropriate lobbying, and turfgrass research support.

The staff in Lawrence should be allowed to return to doing what they've done well over the years—provide good quality, pertinent and prompt member services.

The GCSAA wasn't created to "make money", and if that ever is the rational for a program, drop the program.

They could do all of the things we need for half the money we now pay in dues. Halving the dues might force some soul searching and tough decisions. It probably will necessitate a leaner and smaller staff. And it will definitely eliminate serious consideration of some of the weird ideas that have leaked out.

Yet, if you read Mark Kienert's Delegate Report from the last issue of *THE GRASS ROOTS*, you know that one of the current officers thinks the CHAPTERS should pay dues!

Hah! What's the old saying—"it has the chance of a snowball in hell." At least here in Wisconsin and other chapters that are guided by fairness and common sense.

A proposal for more dues is evidence of what I am saying. The current leadership must think that money is the answer to everything that ails our profession.

What GCSAA needs is more creative leadership and a clearer focus on purpose. They do not need more money.

And they need to hear that message from every member who believes it.

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SOLVING A DISPOSAL DILEMMA

By Scott A. Mackintosh and R.J. Cooper, Ph.D.
University of Massachusetts at Amherst

While obtaining my Masters of Science Degree at the University of Massachusetts, I wrote the following article which generally describes the research I conducted over a two year period. I worked under the guidance of Richard Cooper, who is an associate professor of Turfgrass Science at the University of Massachusetts. The material originally appeared in the February 1993 issue of Golf Course Management and is presented here with permission.

Sewage sludge is the nutrient-rich semisolid material created during biological and physical treatment of wastewater from homes and industry. Currently, municipal sewage sludge production in the United States is about six million dry tons per year. That is equivalent to 47 pounds of dried sludge for each person in the U.S. Disposal of increasing amounts of sludge in an environmentally acceptable manner has become a major challenge for many cities and towns.

There are many ways in which to dispose of sewage sludge. Disposal of sludge in landfills is presently the most common disposal method in the United States. Landfill capacity is decreasing, however, and many existing facilities are expected to reach maximum capacity within 10 years.

Another popular disposal option is incineration. During 1988, incineration was used to dispose of about 16 percent of the country's sewage sludge. But construction costs, a large fossil-fuel requirement and pollution-control regulations make incineration an expensive option. Also, neighborhood opposition to incinerators and landfills makes permitting and site-selection difficult.

A third disposal option, ocean dumping of raw sewage sludge, has obvious environmental drawbacks and was banned in the United States last year. It is now illegal to ocean dump sewage sludge of any type.

Given the drawbacks associated with the traditional methods of sludge disposal—as well as declining availability of those options—interest in exploring beneficial land disposal of sludge has increased during recent years. As a result, an increasing number of cities are building facilities capable of processing sludge into compost or fertilizer products.

This is not a new idea. The city of Milwaukee has produced the activated sludge fertilizer, Milorganite, since 1926. In the Northeast, Boston has recently completed construction of a facility to process sewage sludge from the city and nearby towns that is producing about 30 tons of pelletized fertilizer per day. Output from the facility is expected to increase to 170 tons of pellets per day by the year 2000. Baltimore, New York and other cities also are currently building facilities that will generate sludge-based fertilizer.

In addition to generating a potentially beneficial fertilizer material, pelletizing greatly reduces the volume of sludge needing disposal. For example, by 1999 the Boston facility will be producing 1.38 million gallons of liquid sludge per day. That amount could fill 69 railroad tank cars. Dewatering the liquid to semisolid sludge cake (about 75 percent water) would reduce the volume to be disposed to about 50 railroad cars. After drying at 800° F to 900° F, the daily production would be reduced to an amount that would fill only 10 railroad cars.

In addition to greatly reducing volume, production of biologically digested, heat dried sludge fertilizer also destroys harmful bacteria and minimizes odor problems while producing a useful product high in organic matter. Because sludge contains nitrogen and phosphorus, as well as lesser amounts of potassium and micronutrients, it can be used as a fertilizer for turf areas.

However, sludge can also contain appreciable amounts of undesirable elements such as arsenic, mercury, cadmium, chromium, nickel and lead. The type and concentration of these elements in a particular sewage sludge is directly related to the amount contributed to the sewage system by its local industry. Sewage treatment plants are required to routinely monitor the heavy metal content of their sludge to assure that acceptable levels established by state and federal environmental protection agencies are not exceeded.

Sludge-based fertilizers are perhaps the most highly regulated type of fertilizer on the market, largely because of the realization that they contain heavy metals. Many other fertilizers used on turfgrass, however, also contain heavy metals, but are not required to meet the stringent quality-control standards that sludge-based materials must meet.

It is interesting to note that fertilizer derived from leather tankage material, for example, may contain chromium at levels greater than 15,000 ppm compared to sludge-based fertilizers which typically contains less than 100 ppm chromium.

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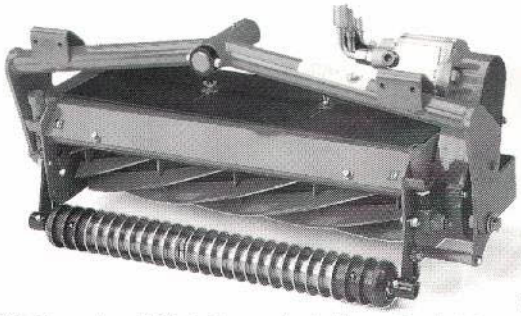
Table 1.

EPA Pollutant Limits For Selected Elements In Sludge-Based Fertilizers.

Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	Molybdenum	Selenium
ppm									
41	39	1,200	1,500	300	420	2,800	17	18	36

One part per million (ppm) is equivalent to one second in 32 years.



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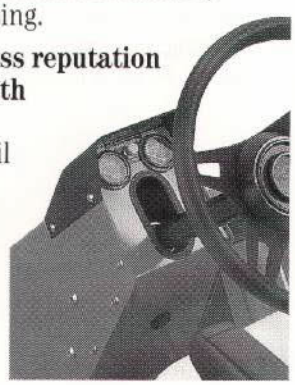

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Table 2.
Fertilizer Products Used In The Study.

Product	Nitrogen
Hagerstown (5-2-0)	Heat-dried sewage sludge
Milorganite (6-2-0)	Heat-dried sewage sludge
Ringer Turf Restore (10-2-6)	Hydrolyzed poultry feather meal, blood meal, wheat germ and bone meal
Urea (45-0-0)	Synthesized from ammonia and carbon dioxide

Fertilizers derived from ironite (mined in from pyrite in Arizona) have been found to contain more than 20,000 ppm arsenic compared to less than 10 ppm in sludge-based fertilizers. Rock phosphate mined to manufacture superphosphate for blended fertilizers can contain cadmium levels around 100 ppm, while sludges typically contain less than 10 ppm cadmium.

Golf courses and other turfgrass areas offer large potential for utilization of sewage sludge. Turfgrasses require many of the nutrients normally present in sludge while providing an area for disposal not subject to grazing by animals or production of food crops for human consumption.

Although there is likely to be an increase in the amount of sludge-based fertilizer applied to turfgrass in the future, additional information regarding its potential environmental impact is needed to increase its acceptance in the market place.

In an effort to learn more about the environmental impact of sludge-based fertilizers, research was initiated at the University of Massachusetts during 1991 and is still in progress. Fertilizers being evaluated are slow-release, natural-organic materials including: Hagerstown sludge (5-2-0), a commercially available material that is characteristic of the type of sludge-based fertilizer that cities are likely to produce in the future; Milorganite (6-2-0), a widely used heat-dried sewage sludge; and Ringer Turf Restore (10-2-6), a byproduct of the poultry industry.

All products are applied at 2 lbs. N/1000 ft2 in May and August to stimulate a medium-maintenance approach suitable for fairways or home lawns. The Hagerstown sludge is also being applied at rates higher than normal, twice yearly at 4 lbs. and 6 lbs. N/1000 ft2, to determine possible turf injury and leaching of nitrates and heavy metals. Products are compared to a program using urea 1 lb. N/1000 ft2 applied four times per year and a non-fertilizer control. Because research results were similar for both 1991 and 1992, only the 1991 data are discussed.

During 1991, Hagerstown sludge applied at 2 lbs. N/1000 ft2 provided visual quality similar to both Milorganite and Ringer Turf Restore applied at equivalent rates. Hagerstown sludge applied at rates as high as 6 lbs. N/1000 ft2 improved quality with no discoloration evident. For typical conditions, however, 2 lbs. to 4 lbs. N/1000 ft2 would be recommended.

Visual quality in response to both urea and Ringer fertilizers was initially better than either sludge material. This is due to the soluble nature of urea and the readily available nitrogen and proteins in the Ringer Fertilizer.

Pelletized sewage sludge initially releases nitrogen more slowly from its complex organic compounds, but typically provides acceptable visual quality for a longer period than quick-release nitrogen sources. Turfgrass clippings were collected every two weeks during 1991 to assess plant growth. The clippings showed that Hagerstown pellets applied at 2 lbs. N/1000 ft2 provided growth similar to Milorganite and Ringer Turf Restore applied at equivalent rates. Initially, urea applied at 1 lb. N/1000 ft2 provided more growth than either sludge fertilizer. Beginning in mid-July, however, Hagerstown sludge provided growth greater than urea applied at 1 lb. N/1000 ft2.

Soil water samples were collected after every substantial rainfall or at least every two weeks during 1991 and 1992 to assess nitrate leaching. The maximum allowable level of nitrate in drinking water according to federal standards is 10 ppm. Nitrate leaching from applications of Hagerstown sludge, Milorganite and Ringer Lawn Restore products applied at 2 lbs N/1000 ft2 were similar to nonfertilized plots during 1991. Rarely was the soil solution nitrate level greater than 1.0 ppm. Even following application of Hagerstown sludge at 6 lbs. N/1000 ft2, average nitrate concentration was only 4 ppm, well below the 10 ppm guideline.

One might expect that adding nitrogen would result in increased nitrate levels in soil water. It seems, however, that the additional growth spurred by the fertilizer results in greater uptake of nitrogen so that, in most instances, soil water nitrate is not greatly increased.

The soil water under fertilized plots also was analyzed regularly to monitor potential heavy-metal leaching. Hagerstown sludge and Milorganite applied at 2 lbs. N/1000 ft2 resulted in soil water concentrations similar to non-fertilized plots.

In fact, soil solution concentrations of boron, cadmium, chromium, manganese, molybdenum, lead and zinc never exceeded 0.1 ppm under plots treated with Milorganite or Hagerstown sludge applied at rates as high as 6 lbs. N/1000 ft2. Even when a substantial rainfall occurred soon after

(Continued on page 11)

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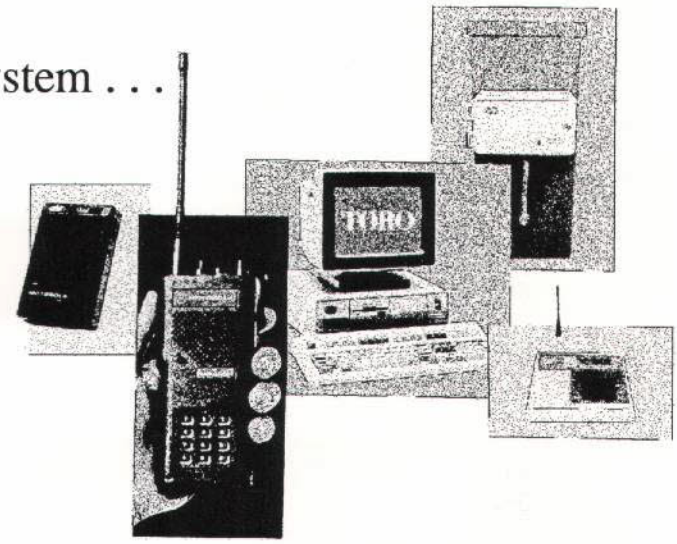

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