



Connecticut Clippings

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WOODWARD SELECTED GCSAA CHIEF EXECUTIVE OFFICER

Mark J. Woodward, golf operations manager for the city of San Diego has been selected chief executive officer for the Golf Course Superintendents Association of America (GCSAA).

His selection by the GCSAA Board of Directors comes after conducting a national search to replace Steve Mona, who became the chief executive of the World Golf Foundation March 3. A familiar face to GCSAA, Woodward has been actively involved as a committee participant, a member of the board of directors and 68th president of the association in 2004. He is in his 30th year as a GCSAA member and first achieved the status of certified golf course su-

perintendent in 1986. He is the first golf course superintendent to serve as GCSAA's permanent chief executive.

"We were extremely pleased with the quantity and quality of candidates that were interested in the position. Without a doubt, Mark presented the best fit for the association," GCSAA President David S. Downing II, CGCS said. "He is a talented individual with a myriad of skills and abilities that will serve him, the membership, the association, the industry and the game well. He has a strong track record of service to GCSAA and success as a golf course superintendent and an administrator. His efforts have earned him rave reviews in bolstering golf operations for the city of San Diego."



Mark J. Woodward

In his capacity in San Diego, Woodward developed a five year business plan that has resulted in generating an additional \$3 million in revenue from 2006 to 2007, including the implementation of the Advance Tee Time program that added \$500,000 in revenue in the first year. His department has hosted numerous high profile events including three junior world golf championships, three city amateur championships, three PGA Tour events and the upcoming U.S. Open - on top of the three golf facilities annually hosting 260 golf outings. His plan resulted in creating 20,000 additional tee times available for the public golfer. From a golf course standpoint, Woodward has implemented a management plan that has produced drastically improved course conditions and enhanced environmental stewardship.

"Mark will begin his duties at GCSAA on July 1," Downing said. "It is important to him and to GCSAA that he sees to completion the U.S. Open. It is a wonderful celebration of the game and it is only fitting that he finishes his integral role in conducting the event." Woodward was named to his position in San

Diego in January 2005 after serving 31 years in various capacities with the Phoenix suburb of Mesa, Ariz. His last position there was parks and recreation administrator, which included the oversight of two golf courses, a tennis facility, the Chicago Cubs spring training home, a minor league baseball training site, a park ranger program and a cemetery. He is a 1974 graduate of Arizona State University with a degree in environmental resources and holds a master's degree in Business Administration from the University of Phoenix.

In addition to his past volunteer service to GCSAA, Woodward is active in the National Institute of Golf Management sponsored by the National Golf Foundation. He joined the NIGM board of regents in 1992, serving as its chair in 1999. He was a trustee for the Environmental Institute for Golf, serving as secretary in 2004.

Woodward has a strong golf course management background. He began his career as an assistant golf course superintendent at Mesa's Dobson Ranch Golf Course, helping to construct the layout.

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Christian P. Mauro, President

Memorial Day has come and gone and with the summer heat fast approaching I would like to offer a quick update for every one on some of the CAGCS Board of Directors work for 2008 as well as some highlights with the event schedule for this year.

The Board of Directors at its meeting in May discussed and decided that

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The President's Message

beginning in 2009 the Invitational Tournament would be moved to September, this was done with the hope to reduce some of the weather pressures facing the host Superintendent. The Board also at this meeting discussed and approved a change to the Meeting Policy as it pertains to guests; a member must now be present to host all guests at all CAGCS meetings and functions.

Please watch the mail and check the web-site for monthly meeting and social event notices. Some dates to mark on your calendar: Rock Cats Baseball Game - Saturday, July 12th, Invitational at Gillette Ridge - Tuesday, August 12th and Family Day at Lake Compounce - Saturday, Sept. 6th.

Thank you to everyone who has volunteered their time and their facilities to host our 2008 events and thank you to all our commercial members for your help and for all your donations for these events. If you have any interest in hosting a future event, please give Don Beck or Mary Jo a call for more details.

Good luck to everyone with the 100 days of summer and remember each day gone is one day closer to Family Day at Lake Compounce.

Thanks
 Chris P. Mauro

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Two years later he assumed the superintendent position and then in 1987 assumed the additional duties of managing Mesa's Riverview Golf Course. His grandfather Jay is one of only three superintendents to have been inducted into the Arizona Golf Hall of Fame and was recognized as one of 11 GCSAA members to be recognized for outstanding service at the association's 50th anniversary celebration. Other family members to have served in the superintendent profession include his son Matt, son-in-law Cody Swirczynski, a cousin, Mike Pock, and his sons, Ernie and Jay.

GCSAA is a leading golf organization and has as its focus golf course management. Since 1926, GCSAA has been the top professional association for the men and women who manage golf courses in the United States and worldwide. From its headquarters in Lawrence, Kan., the association provides education, information and representation to more than 21,000 members in more than 72 countries. GCSAA's mission is to serve its members, advance their profession and enhance the enjoyment, growth and vitality of the game of golf. The association's philanthropic organization, The Environmental Institute for Golf, works to strengthen the compatibility of golf with the natural environment through research grants, support for education programs and outreach efforts.

Visit GCSAA at www.gcsaa.org.

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Golf course superintendents can't help but notice the steady rise in the price of fertilizer. Why is that? According to The Fertilizer Institute, there are five principle factors at play.

1: Increasing World Demand

World fertilizer demand has grown by 14 percent—nearly equivalent to a new U.S. market—20.6 million nutrient tons.

Fertilizer is a world market commodity, which means that supply and demand factors in major markets around the world impact the

price U.S. farmers pay for fertilizer. Average prices paid by U.S. farmers for the major fertilizer nutrients reached the highest level on record in January 2008, 130 percent higher than the January 2000 level according to the U.S. Department of Agriculture.

Increased global demand for fertilizer has played a large part in placing upward pressure on fertilizer prices. Overall, world nitrogen demand grew by 14 percent, phosphate demand grew by 13 percent, and potash demand grew by 19 percent from FY 2001 to 2006. China, India, and Brazil are the three largest contributors to the growth in world nutrient demand.

The quest for healthier lives and better diets in developing countries is the primary driving factor behind the increased global demand for fertilizer. People in China, India and Brazil are seeking more food—requiring more nutrients to replenish the soil.

2: Increased Ethanol Production

U.S. ethanol production is increasing domestic fertilizer demand.

While world nutrient demand has risen significantly since FY 2001, U.S. nutrient demand remained relatively flat, ranging from 20.7 to 23.4 million nutrient tons. Then came the ethanol boom. The annual capacity of the U.S. ethanol sector stood at 5.6 billion gallons in February 2007. Ethanol plants under construction or expansion are expected to add another 6.2 billion gallons of capacity. According to the U.S. Department of

Agriculture, U.S. ethanol production could easily reach 11 billion gallons in 2011. Farmers are responding to higher corn prices resulting from the increase in demand by planting more corn acres.

Farmers planted 93.6 million corn acres in 2007—a 19 percent increase from the 78.3 million acres planted in 2006, and the highest corn acres since 1944. The average annual corn price received by farmers stood at \$1.97 per bushel in 2005, \$2.28 in 2006, and \$3.39 in 2007—the highest annual average since 1996. Changes in U.S. nutrient use are driven by two factors: changes in crop acres planted and changes in application rates. Strong international demand coupled with increased domestic demand will continue to place upward pressure on fertilizer prices.

3: Higher Transportation Costs

Higher energy prices, a significant demand for transportation, and even weather-related events, have caused shipping and distribution costs to rise. Shipping rate increases include all methods of fertilizer transportation—ocean freight, rail, barge and truck.

Ocean freight rates are up significantly. Continued strong demand for vessels, strong import demand for iron ore and coal, and exports of steel by China and higher fuel costs have been the primary drivers of higher ocean freight rates. Weather disturbances and port congestion have also contributed to higher ocean freight rates by tying up vessels and lengthening the shipping times.

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The cost of shipping fertilizer by rail has increased significantly due to fuel costs, security requirements and liability concerns. Barge rates have risen primarily due to steep demand spurred by competition from other industries. Also factoring in are higher fuel costs and new, time-consuming and expensive security requirements.

Truck rates have been significantly impacted by the continued high cost of fuel.

Transportation providers have significantly higher capital costs such as fleet replacement and expansion. With much of the fertilizer applied in the United States having its origin beyond U.S. borders, it is not only possible but likely that the fertilizer applied on a field in Missouri has taken each of these transportation modes to arrive at the field. Thus, the combined transportation costs are significant.

4: The Devaluation of the U.S. Dollar

The value of the U.S. dollar has decreased significantly, increasing the cost of imported goods—including fertilizer.

The exchange rate allows for the conversion of one country's currency into that of another, thereby facilitating international trade, and it allows price comparison of similar goods in different countries. The exchange rate is a significant factor influencing the competitiveness of commodities, including fertilizer. Simply put, a weak U.S. dollar increases the price of imported commodities.

The value of the U.S. dollar has fallen significantly in the past few years, increasing the costs of the goods we import. The United States now imports over half its nitrogen and over 90 percent of its potash. With most fertilizer materials priced in U.S. dollars, foreign producers have to raise the price of fertilizer in U.S. dollars to offset the fall in the value of the dollar to maintain the revenue they receive in local currency. For example, if a fertilizer material is priced at \$300 per ton and the value of the U.S. dollar falls by 30 percent relative to the currency in the country where the material is produced, producers in that country will experience a 30 percent decline in local revenue if all else remains equal. In order to maintain revenue in local currency, the price of the material in U.S. dollars has to be increased by 43 percent as follows. The new price in U.S. dollars, \$429, is equivalent to the revenue the foreign producer received in local currency (\$300) before the dollar declined, since $\$429 \times 0.7 =$ the equivalent of \$300 in local currency.

5: Rising U.S. Ammonia Production Costs

The United States is the largest importer of nitrogen (over 50 percent of supply) and potash (over 90 percent of supply) and the largest exporter of phosphate.

Natural gas is the feedstock for producing ammonia, which is the building block for all nitrogen fertilizers. The cost of natural gas accounts for 70 to 90 percent of the production cost of ammonia. Thus, with U.S. natural gas

prices increasing significantly since 2000, average U.S. ammonia production costs rose by 172 percent from fiscal year 1999 to fiscal year 2005.

While fertilizer prices have risen, many U.S. producers were faced with negative margins due to the severe escalation in production costs. High natural gas prices have caused 26 U.S. ammonia plants to close permanently since FY 1999. Several plants also remain idle.

As a result of ammonia plant closures, U.S. ammonia production fell by more than 42 percent since FY 1999. Consequently, the U.S. fertilizer industry, which typically supplied 85 percent of farmers' domestic nitrogen needs from U.S.-based production during the 1990s, now relies on net nitrogen imports for more than half of new nitrogen supplies.

This situation also impacts phosphate fertilizer production, as average U.S. production costs for ammonium phosphates increased by 20 percent from 1999 to 2000. These costs are expected to show continued increases as ammonia prices have risen further.

After years of relative stability, North American potash prices increased significantly beginning in mid-July 2003. The bulk of the price increase realized has resulted from the 19 percent growth in global potash demand since FY 2001.

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Condolences

To Larry and Lee DellaBianca on the passing of their dad Leo on March 31, 2008. Leo was on of the original partners of Westwoods Golf Course, Farmington, CT. In the late 1930's he was inspired to design and build Pine Valley Golf course, Southington, CT, which he opened in 1960. He served there as "Chairman of the Board" until his retirement. He was a member of CAGCS since 1969.

Leo was loved by all of his many family members and respected by all of his piers. He passed away peacefully at the age of 94. He will be missed by al who knew him. Memorial donations can be made to the American Heart Association, 2550 US Highway I, North Brunswick, NY 08902-4301.

To Stephen Foran on the passing of his mother Rosemary on April 5, 2008.

Congratulations

Bruce & Cheryl Moore on the birth of their granddaughter Eva, born Friday, March 28 weighting in at 6lbs 7ozs.

Notes

2008 Travelers Championship, June 16 - June 22, 2008. CAGCS will again have tickets available on a first come first service basis. More information to follow.

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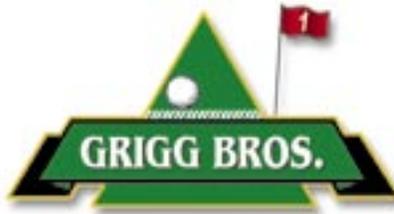
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CAGCS 2008 SCHEDULE OF EVENTS

June 17 Tuesday	INDIAN HILL COUNTRY CLUB Low Gross/Net by Flight, 1st Round CAGCS Championship, MET Team Championship Qualifier	Marc Weston
June 18 Wednesday	UMASS FIELD DAY UMass Joseph Troll Turf Research Center, South Deerfield, MA	
July 1 Tuesday	STANLEY GOLF CLUB Low Gross/Net Blind Partners, 2nd Round CAGCS Championship, New England Team Championship Qualifier	John Napier, CGCS
July 12 Saturday	FAMILY DAY PICNIC New Britain Rock Cats	
July 22, Tuesday	2008 UCONN TURFGRASS FIELD DAY	
August 12 Tuesday	CAGCS INVITATIONAL Gillette Ridge Golf Club	John LaBrie Host Superintendent
August 20 Wednesday	URI FIELD DAY Skogley Research Center, Kingston, RI.	
September 6 Saturday	CAGCS FAMILY DAY Lake Compounce	
September 11 Thursday	PEQUABUCK GOLF CLUB 4 Person Best Ball - <i>Pick your own foursome</i>	Kevin Jaracy Host Superintendent
September 25 Thursday	JOSEPH TROLL GOLF TOURNAMENT Lyman Orchards GC	Mark Pelkey Host Superintendent
October 14 Tuesday	TUNXIS PLANTATION Superintendent/Assistant Tournament, 2 Person Best Ball President's Cup & McLaughlin Trophy	Charles Babcock
November 5 Wednesday	SUFFIELD COUNTRY CLUB CAGCS Annual Meeting - 9 Hole Scramble ABCD	Peter Gorman Host Superintendent
December 6, Saturday	CAGCS CHRISTMAS PARTY, J. Timothy's Taverne	





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By: Michael J. Healy, Ph.D.

If you are having a really good day perhaps you should wait and read this article later.

The word "serendipity" is often used to describe the process by which seemingly unrelated observations, conversations, and communications lead quite unexpectedly to what a scientist or inventor considers a EUREKA moment. I've had EUREKA moments just twice in my career, separated by some forty years of more or less mundane routine.

My latest EUREKA moment came as the result of a four-part serendipity. In late January, 2006 I traveled to Northern Indiana to visit with Agdia, Inc., a company that I had done some work for in the early 1990s. There I met the founder, Dr. Chet Sutula, who had founded Agdia in his basement 25 years before and who was obviously quite proud of now being one of the largest developers and manufacturers of plant pathogen diagnostic test technology in the world, with 50 employees and a 6 acre complex of buildings. At the end of my tour and dinner, almost as an after thought, Chet described a test they were working on for the determination of a toxin produced by blue-green algae (Cyanobacteria) in drinking water. At that point the test was sensitive down to 10 ppb (parts per billion), and their goal was to get its sensitivity down to 1 ppb. As the test did not fit their standard product line of plant pathogen tests, Chet felt they may have to look at various options to market the test, once it was thoroughly validated.

In early January, 2007 I was called to a golf course to look at a Live Oak problem. Live Oak trees, on and adjacent to the course, which had received irrigation water spray, were suffering from leaf blighting- only as far up as the irrigation water came in contact with the leaves. The residents living next to the course were not happy, and since this was a city course, with an elected Mayor, the problem had to be investigated. As it turned out, the blighted leaves eventually fell off, and the new leaves replacing them were unaffected. The superintendent thought that sediment removal from the irrigation pond the previous summer may have had something to do with the problem. I did not find any fungal disease on the symptomatic leaves.

In early May, 2007 I was in Dubai. One evening I had dinner at a Mexican restaurant with several people including Jeff Ferney, an ex-pat Australian having come to the UAE as the manager of the landscape maintenance division of a local company based in Abu Dhabi. It turned out there were many Aussies

working in the UAE, as their drought plagued homeland had made it more difficult for plant professionals to find and keep employment.

During our dinner Jeff began to talk about the serious problem Australia was having with a blue-green algae produced toxin being found in reservoirs. This was potentially a very serious human and livestock health problem. I remembered my conversation with Chet Sutula over 1 year earlier, and said I would pass on Agdia's contact information to him.

At this point, I did not know, had never asked for, the name of the toxin.

The final part of this serendipity took place in mid-May of 2007. I visited a golf course which first had greens disease problems in the fall of 2006, with a reoccurrence of like symptoms in the spring of 2007. As I rode with the golf

course superintendent he made the comment: "Not only am I having problems with the greens on this nine, but the whole nine, tees and fairways included, just don't seem to respond to fertilizer the way the turf on the adjacent nine does". The adjacent nine had never had any greens related problems, even though it received identical maintenance practices. I then asked a question about the source of irrigation water for these two nines, assuming that the source was the same for both nines. "Oh no", replied the superintendent, "the nine with no problems has its own irrigation pond and pump station, as does the nine with all the problems". "Had the separate sources of irrigation water been tested?", I asked. "Yes", replied the superintendent, "and the water quality test results showed no real differences." The superintendent also indicated that they had pulled soil samples for both nematode and standard soil fertility testing. Later, results

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of these tests showed no real difference between the good and bad nines.

Could there be a toxin being produced in the irrigation pond serving the "bad" nine that was affecting turf quality, perhaps making a conventional disease more difficult to control/ cure? I called Agdia, and spoke with the scientist working on the toxin test. The test turned out to be a microcystin toxins immunostrip assay and Heather Chambers provided me with more background information on the toxin. She related to me that while their primary interest in the test was for use in drinking or recreational water testing, that there had been some articles published on its adverse affect on plant growth, including causing root dysfunction.

Agdia agreed to run samples from the good and bad nines; specifically water from each pond, as-irrigated samples from each nine, and even samples of badly affected turf (in areas having a heavy blue-green algae buildup). The sample test results were startling. The good nine samples all tested negative while the bad nine samples all tested positive for microcystin toxins. Was this a one in ten thousand finding, or was the existence of microcystin toxins produced by aquatic forms of blue-green algae (again, technically a cyanobacteria) a possibility in other golf course irrigation ponds as well?

In the following months I requested and had sent to my laboratory golf course pond and as-irrigated water samples from 35 golf courses located in Florida, Alabama, Georgia, Louisiana, and Texas. Microcystin toxin testing of all samples was carried out by Agdia, using its immunostrip assay and, in certain cases, a standard immunoassay. Positive samples came from golf courses in Florida, Alabama, Louisiana, and Texas. Four of the courses testing positive for microcystin toxins had unusual and/or difficult-to-control disease or disease-like problems on their greens. As of this date, water samples from just over 50% of the ponds tested have been positive for microcystin toxins.

Selected samples archived by freezing were sent to Dr. Linda Lawton at the School of Life Sciences, The Robert Gordon University, Aberdeen, Scotland for additional testing by conventional analytical techniques. On January 9, 2008, Dr. Lawton's lab confirmed the presence of both Microcystin-LR and Microcystin -LA. In addition to analytical capabilities, Professor Lawton is recognized as an expert in the area of microcystin toxins toxicity to plants.

Microcystin toxins are produced by a number of genera of blue-green algae (cyanobacteria), almost always growing in an aquatic environment. These toxins are hepatotoxic cyclic heptapeptides. Microcystin-LR (lysine-arginine) is one of the most investigated of these toxins, as it has been found in rivers, lakes, and ponds throughout much of the world. Factors influencing toxin production along with its sometimes immediate production cessation are not clearly understood.

The major concern over the presence of microcystin toxins is their known mammalian toxicity. Most current water quality standards mandate that potable water contains no more than 1 ppb and that in recreational water, no more than 10-20 ppb. Many countries along with WHO have introduced such standards. As of this date, the US has no microcystin toxins standards, although the US EPA considers these toxins of interest and is headed toward regulatory authority. The impact of these toxins on plant growth is presently being elucidated.

So where do I go from here? I have made my findings known to several organizations, including the US EPA, in the hope of finding sponsorship (read: grant) for a much larger survey. Until then I will continue to seek out courses having difficult to control disease or disease like problems and recommend both conventional plant disease diagnosis along with multiple samples of pond water for microcystin toxins testing. In this regard all testing is done on a confidential basis.

I plan to have a power point presentation soon that can be given on a remote basis, the only requirement being that the location has an electronic projector and a telephone connected to a loud speaker system.

Michael J. Healy is a turfgrass pathologist in private practice operating out of southern Alabama. He can be reached at: 251 986 6240, mjhealy@gulftel.com, or through his website: www.sportsturfdiagnostics.com.

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