"FERTILIZATION – going back to the basics in terms of fertilization can save some courses hundreds, and perhaps even thousands, of dollars a year." I got to thinking, and I thought ...He's right. I have some research on <u>that</u> point, that number 8 point.

Although frequent spray applications of nitrogen to golf greens is nothing new, we may have forgotten its roots - that in the past superintendents had dissolved urea (46-0-0) into a spray tank using a water volume of approximately 1-2 gallons per 1,000 sg. ft. and N rates that were measured in tenths of a pound. The practice, which at some point was termed "spoon feeding," dates back to the '80s, '70s, '60s and possibly beyond (according to Dr. Randy Kane). It seems we may have forgotten that urea was the N-source. This study was not about urea, instead the urea was just meant a comparison to other biostimulant products applied at label rates. The lesson learned from Chicago to Maryland – to achieve healthy looking greens with good color, plant density, and vigor, urea just might be the right thing to do. Consider urea in your foliar fertility program in 2009. After all it's going to be a good year for back-to-basics, keeping it simple, and saving some money wherever we can. Urea-ka! I mean Eureka! -OC

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#### **Statistical Advice/Review**

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## Economical Agronomical Thinking – Part 3 Site Specific Fertility

*Q)* What has the farming community been doing for 20 years that we in golf are just now beginning to understand?

#### A) Variable rate fertility.

So, what is variable rate fertility?

At its point of origin, variable rate fertility was and still is a process that farmers use in order to apply only the amount of nutrient needed to each spot in their fields. Sounds complicated but it's really not. While we in golf have only been using Global Positioning System (GPS) for a few years, the "ag" community has been using it for a long time to track yield data, soil type information, and so forth. The process begins with farmers taking soil samples in a grid pattern across their fields. They vary, but 2.5 or 5 acre grids are common. On the computer, each grid is assigned a recommend rate of application of phosphorus, potash, or lime. The prescription is loaded into a spreader which then drives across the field applying the fertilizer. As the spreader moves, flow gates are opened and closed and/or belts are slowed or sped up to increase or decrease the amount of fertilizer being applied. This entire process is controlled by GPS controllers on the spreader and the prescription loaded into the spreader from the computer.

The benefits are many. First of all, by applying what is needed, where it's needed, there is little to no waste. With 20,000 acre farms becoming the norm it is easy to see how dramatic the savings can be. Secondly, by applying only what is needed, less fertilizer (and money) is free to leach into streams and ponds. This is stewardship at its best! The other benefit is that all areas of the farm's production are optimized so that maximum yields are achieved. True, we don't harvest our courses and yield is not our objective, but the same principles apply. Our goal, no different from theirs, is to optimize the performance of every part of our course.

## ....by applying what is needed, where it's needed, there is little to no waste.

So, are you ready to retrofit your spreading equipment to do the same on your course? Do you want to set up 5 acre grids and send out the floater? No takers huh? So how can we learn from our cousins on the farm and apply variable rate fertility on our courses?

Let's begin by renaming it site-specific fertility. Sitespecific meaning that any site we can fertilize differently is worth sampling separately. For instance, the norm in our industry is to take a few random fairway samples and apply the data to the entire course. The fact is that there are many unique soil types and chemistries across our courses that are being mismanaged. Take, for instance, a par 5 fairway that crosses a creek, moves past the pond, up a 150 yard hill to a perched green. Not so hard to imagine is it?

Typically, the soil near the creek where it regularly floods will have a unique chemistry due to such things as silt or road salts that may be flushed in. It is also common to see varying chemistries during creek projects, where cleaning and widening often deposits silts from the bottom onto the surface prior to re-grassing. Second, the area around a pond is often affected by the subsurface material that was moved during the pond construction or often from the shoreline work or periodic dredging. Third, the rise in elevation on the approach to the green often has less topsoil and more clay left during construction. It is easy to see that the chemistry in each location can, *(continued on page 15)* 



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847-475-1877 fax: 847-475-0037 www.nelsjohnsontree.com and often is, affected by these construction and geographic changes.

From an application standpoint, applying the same fertilizer to this entire fairway either under-addresses the needs of one area or over-fertilizes another. Either way, money is wasted and the desired results are not achieved. This explains why so many applications do not provide the same visual or growth response across the course.

While you may not have many creeks or ponds and your course may not have great elevation changes, most courses will have a wide degree of change from hole to hole and from front to back nines so the same philosophy applies. If the 4th hole is very low on phosphorus but the 5th is not; if the 6th has high potash levels but the 7th does not; then applying a single maintenance product to the entire course will overfeed some areas and underfeed others. And, unlike many things, time will not correct this; it will only make it worse. Therein, prudent superintendents are beginning to employ both corrective and maintenance programs. One is intended to correct soil nutritional short comings and the other is intended to maintain turf health.

Now, before you say this is too much of a pain; before you say it's not worth it, check out a couple of examples. Club One is a large, private facility with about 70 acres of bentgrass fairways. Over a 4 or 5 year period they have employed a program that addressed the unique phosphorus and potash needs of each fairway in a fall **corrective program**. Lime is also addressed in this fashion. Throughout the growing season nitrogen is the only nutrient that is applied and no custom applications are necessary. Including dormant fertilizer and corrective potash, this club spent \$7,200 in 2008. Compare this to five years ago when fertilizers cost much less and the same club was doing a spring and fall custom app at about \$10,000 each and a summer treatment for about \$7,000. This club's fairways have never been better, and their savings allow for more intensive programs on greens or elsewhere.

Course Two is a high end, daily fee club, which

typically does three custom apps per year. They are now down to one custom/ corrective application. The rest is addressed with sprayable urea and ammonium sulfate. The cost per acre in 2008 was half of what it was just three seasons ago when fertilizers cost half as much.

The take home is simple: Divide your fertility program into two categories, correction and maintenance. Apply corrective nutrition as needed, where needed, and make sure that your maintenance program is synergistic with your correction program and not competitive with it. The long term, yearafter-year savings are well worth the site-specific efforts that are required for a few short years. **-OC**  Prudent superintendents are beginning to employ both corrective and maintenance programs.





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# To Back-Lap or Not to Back-Lap

Lapping has been around for centuries. It is a way of polishing or shaping objects to fit properly. It is used to remove rough edges or to mate two pieces to create a precision fit. Back-Lapping, as we know it, is the same as lapping two metal objects to fit. The reason we call it BACK-LAPPING is because in order to lap a cutting unit we have to spin the reel in reverse to achieve our goal. What is our GOAL? That's a good guestion.

Our goal when back-lapping is not so much to mate two surfaces or edges. It is to maintain the sharpness of the edges. This maintains the best quality of cut between sharpening of these cutting edges. The entire back-lapping procedure can be completed in as little as 15 minutes. Most of today's equipment comes equipped with on board back-lapping capabilities, making the job much more efficient.

There are four important factors that you need to consider before you attempt to back-lap. When these factors are met, it will assure that back-lapping will be an effective practice.

1. How dull was the reel when you made the decision to lap? Back-lapping is intended to be a

maintenance practice not a repair.

2. How much relief was left on the reel blade?

Relief is needed in order to backlap, thus the efficiency will diminish as the relief angle diminishes.

3. How long ago did you back-lap? Did you lap long enough to effectively put an edge on?

The time needed to back-lap depends on the status of the relief angle and how often you back-lap.

**4. What is your back-lapping procedure?** The effectiveness of the back-lapping process is best achieved by keeping the grit in suspension and dispersed evenly.





Once you've evaluated these factors, then you can begin your maintenance practice of back-lapping a cutting unit.

The correct procedure for back-lapping will be to make light contact between the reel and the bedknife, rotate the reel in reverse, and apply the proper grit compound.

The top face of the bedknife that lies in the path of the reel blade and the surface width of the blade is where the grit of the lapping compound will pass through. The thinner the blade width the less time it takes to back-lap, the wider, the more time is required in order for it to be effective. If the cutting edges are too rounded, this too will require more time.

Without a relief angle, back-lapping should not be considered an option as a maintenance practice. The relief area on the reel blade is where the lapping compound clings, allowing the grit to be suspended in the relief area, and then pushed between the reel blade and the bedknife, making it effective for removing metal.

To summarize, in order to have an effective BACK-LAPPING maintenance practice, you must maintain the original

equipment manufacturer's specifications and maintain a relief angle. The thinner the blade width the less time is required to back-lap. As the relief angle diminishes so does the efficiency of back-lapping.

DON'T WAIT TO BACK-LAP – DO IT PERIODICALLY TO MAINTAIN QUALITY OF CUT. -OC

THE BULL SHEET John Gurke, CGCS, Associate Editor



### April 2009

#### **DATES TO REMEMBER**

April 6 – Illinois Golf Forum hosted by the Illinois PGA and the CDGA at Bobak's Signature Events & Conference Center at Seven Bridges. April 6-12 – The Masters golf tournament at Augusta National Golf Club in Augusta, Georgia. Our season has begun! April 15 – Deadline for applications for the GCSAA Legacy Awards funded by Syngenta Professional Products. April 28 – MAGCS monthly meeting and Annual Spring Scramble at Prairie Landing Golf Club, Tony Kalina, Eric Mundt, and Travis Dykstra hosts. May 3 – JW Turf's Annual Equipment Auction at their headquarters in Hampshire, IL. May 9 – North American Birdwatching Open held on International Migratory Bird Day. May 15 – Deadline for MAGCS Scholarship Applications. May 18 – MAGCS/ITF Spring Golf Day at Merit Club, John Nelson and Scott Verdun hosts. May 19 – CAGCS monthly meeting at Glen View Club, Tony Frandria host. June 1 – Deadline for applications for the GCSAA Scholars Competition. June 15 – MAGCS monthly meeting at The Club at Strawberry Creek in Kenosha, WI, Matt Kregel host. The Dom Grotti, Class C, and Senior Championships will be contested at this event.

manager of development at 800-472-7878, ext. 4445 for more information and application forms.

While on the subject of GCSAA awards, our friend **Lee Miller**, formerly with the CDGA's Turfgrass Program, was one of the 2008 Watson Fellowship winners. The Watson Fellowship is funded by a partnership between the Toro Company and the Environmental Institute for Golf, and is

(continued on page 20)

Luke Cella needs your help. He is participating in golf marathon to support the Sunshine Through Golf Foundation (CDGA's renamed foundation). He's going to play a 100 holes in a single day to give back to the most supportive golf association in our country. Help Luke help the Sunshine Through Golf Foundation. luke@magcs.org or 630-243-7900.

Please keep **Howie Shuck** (BTSI) and his family in your prayers while he recovers from open heart surgery following an aortic aneurism he suffered in early March. **Roger Ogalla** has been keeping us updated on Howie's progress, which we all hope will lead to a quick and full recovery. Congratulations to MAGCS member **Dale Morrison** of

Trappers Turn Golf Club on recently achieving certification with GCSAA; and to **Scot Spier, CGCS** of Arthur Clesen, Inc. on his recent recertification.

The deadlines are close at hand for 2 GCSAA programs that could be of benefit to you. The GCSAA Legacy Awards funded by Syngenta provide scholarship assistance to applicants who are children and grandchildren of GCSAA members who have been Class A, C, A-Retired, B-Retired, or AA members for five or more consecutive years. Applicants must be enrolled full time at an accredited institution of higher learning, or in the case of high school seniors, must be accepted at such an institution for the next academic year. The deadline for applications is April 15th. The GCSAA Scholars Competition rewards undergraduate students who are GCSAA members and have shown excellence in academics, work experience, extracurricular activities, and have the potential to become a leading professional in the golf course management industry. The deadline for applications is June 1st. Contact Mischia Wright, GCSAA's senior

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EXCLUSIVE GOLF IRRIGATION SUPPLIER named after Dr. James R. Watson, a retired vice president for Toro and a pioneer in turf research. It is awarded to students working toward masters degrees and doctoral degrees who have been identified as promising future teachers and researchers in the field of golf course management. Lee is working toward his doctorate in plant pathology at North Carolina State University, and his dissertation aims to identify the fungi involved in fairy ring biology and determine the soil temperatures at which they are active and assess their sensitivity to fungicides and other management practices. For his excellent work—and we all remember what an asset he was during his time with CDGA—he received a \$5,000 grant. Congrats to Lee—our little boy is all growed up now, maw.



Lee Miller

As you may be aware, the MAGCS has its own scholarship awards program. There are three \$2,000 scholarships available for 2009 to the children of MAGCS members who are outstanding students and have demonstrated strong potential for future success. To qualify the applicant must have a parent who is a current member in good standing for at least 3 consecutive years in one of these classifications: A, SM, C, D, or E. He or she must also be enrolled full time at an accredited institution of higher learning, or in the case of high school seniors, must be accepted at such an institution for the coming academic year (I'm feeling a sense of déjà vu here). Any number of students from a single family may apply, but only one per family will be eligible to receive the scholarship. You can download an application at www.magcs.org.

On the move last month: **Jason Funderburg**, formerly co-superintendent at Rich Harvest Farms is now a sales representative for Chicagoland Turf where he will service the western and northwestern Illinois territories— all the best in your new career, Jason!

Also making a move recently were **James Chisolm**, former assistant superintendent at Naperville Country Club and **Nick Marfise**, former assistant with the Glen View Park District. James has accepted the assistant superintendent's position at White Eagle Golf Club under **Gilberto Velazquez**, while Nick has taken the second assistant's job at Park Ridge Country Club for **Joel Purpur, CGCS**. Best of luck in your new positions, guys.

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