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# Minnesota Turf & Grounds Foundation Germinates

Like a newly planted seed, progress on establishing a turf and grounds foundation in Minnesota has been slow. This green industry umbrella organization has been envisioned for many years as evidenced by a proposed constitution drawn up in 1986. Now, after years of dormancy, work on its establishment has once again begun. The driving forces for this endeavor have changed and lie in many areas. Budgetary crunches at the University, the reassignment of extension professor, Brad Pedersen, to the St. Paul campus, along with renewed industry interest have jointly led to the foundation's rebirth. But like any newborn plant, this foundation must learn to sprout before it can grow.

Work on the foundation began over two years ago as the various green industry organizations were surveyed to identify their specific interests and benefits which could be served by the foundation. A steering committee of industry leaders was then assembled to open lines of communication, to develop trust and to investigate the various foundation models throughout the country. By the middle of 1993, a model was chosen, a new constitution was drawn up, and our foundation was on its way. Then approval by the newly allied associations had to be secured as they reviewed the new constitution and selected representatives to the new Board of Directors. The long dormant seed of the Minnesota Turf and Grounds Foundation was about to germinate!

Our first Board meeting was January 12, 1994 as we identified possible goals for the upcoming year and elected officers. We began assembling mailing lists of the allied associations, identified the proper organizational and legal structures and established an events calendar for the year. The Board has since met two more times, formulating a mission statement, creating a logo and working on a strategic plan for this year and beyond.

Like any other emerging seed, this foundation is going to require some time to mature, making comparison with other foundations at this time unfair. However, in the future, we expect to supply many of the same services and benefits derived from similar endeavors. Our first scheduled event, sponsored by the Minnesota Park Supervisors Association, will be a summer exposition featuring maintenance equipment for turf and grounds. This will then be followed by a December educational conference and trade show, under the auspices of the Minnesota Golf Course Superintendents' Association. Expanded educational opportunities and a larger trade show will greet the new and past attendees.

Future ideas include regional research seminars, turf and grounds field days throughout the region, golf tournaments and other fun, exciting opportunities. Yet, we are really in existence to meet the goals of our mission statement.

1. To support unity within the turf and grounds industry by encouraging the continued growth of each allied association.

2. To exchange knowledge among the members for the improvement of the industry through education, confer-

ences, workshops, shows, and field days.

3. To encourage and support research, education and outreach at the University of Minnesota.

4. To be pro-active in matters that affect the turf and grounds industry.

The Foundation would like to recognize the following people and organizations for their help and participation. Please contact your association's representative for further information.

Steve Balfany . . . . . Sod Producers

Dean Heng . . . . . Park Supervisors

(Vice President)

Jim Habstritt . . . . . Seed Producers

John Hopko . . . . . Vendor Representatives

Greg Hubbard . . . . . Golf Course Superintendents

(President)

Doug Madsen . . . . . Nursery & Landscape

(Secretary)

Jim Ostvig . . . . . Cemeteries

Brad Pedersen . . . . . University of Minnesota

(U/MN Advisor)

Tom Redmann . . . . . School Districts

Tom Rudberg . . . . . Sports Turf

— Greg Hubbard, President

Minnesota Turf & Grounds Foundation

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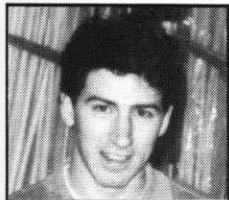


Mike Redmond  
612/422-0785  
Leif Erickson  
507/437-2825 or 800/728-0354



## Mike Hilliard Joins Par Aide

Par Aide Products is pleased to announce the addition of Mike Hilliard to the Par Aide office staff. Mike will



be assuming the responsibilities of controller.

Mike Graduated from the University of Minnesota and

was a CPA with a major St. Paul public accounting firm for the past four years.

Steve Garske says the fact that Mike has a 10 handicap, and that Garske's team in the Scholarship Scramble hasn't been doing that well, had nothing to do with the hiring decision.

## California Golf Course Loses Battle With Butterfly Population

Plans to build a county owned Northern California golf course have been abandoned because of fears that the development would encroach on the native habitat of an indigenous butterfly. Backers of the plan fought the butterfly for 13 years before losing the battle.

The butterfly, called the Bay Checkspot Butterfly, is listed as a threatened species under the Endangered Species Act, meaning it is afforded a great deal of consideration when the matter of its continued survival is at hand.

In order for the proposed 18-hole facility to be built in Redwood City, county officials are required to obtain a federal government permit because a threatened species is involved. However, the permit will be issued only if developers can prove that the butterflies' habitat would not be disturbed.

County officials, faced with mounting social and political pressure from all sides, recently backed away from the proposal.

## 1994 MGCSA MONTHLY MEETINGS

Mon., April 11	Benson Golf Club
Mon., May 9	LeSueur Country Club
Mon., June 13	Tianna Country Club
Mon., July 18	<b>GARSKÉ SCHOLARSHIP SCRAMBLE</b> Rochester Golf & Country Club
Mon., August 8	MGCSA CHAMPIONSHIP Wayzata Country Club
Mon., Sept. 12	<b>STODOLA RESEARCH SCRAMBLE</b> Hazeltine National Golf Club
Mon., Oct. 10	Minneapolis Golf Club
Wed.-Fri., Dec. 7-9	<b>ANNUAL CONFERENCE</b> Minneapolis Convention Center

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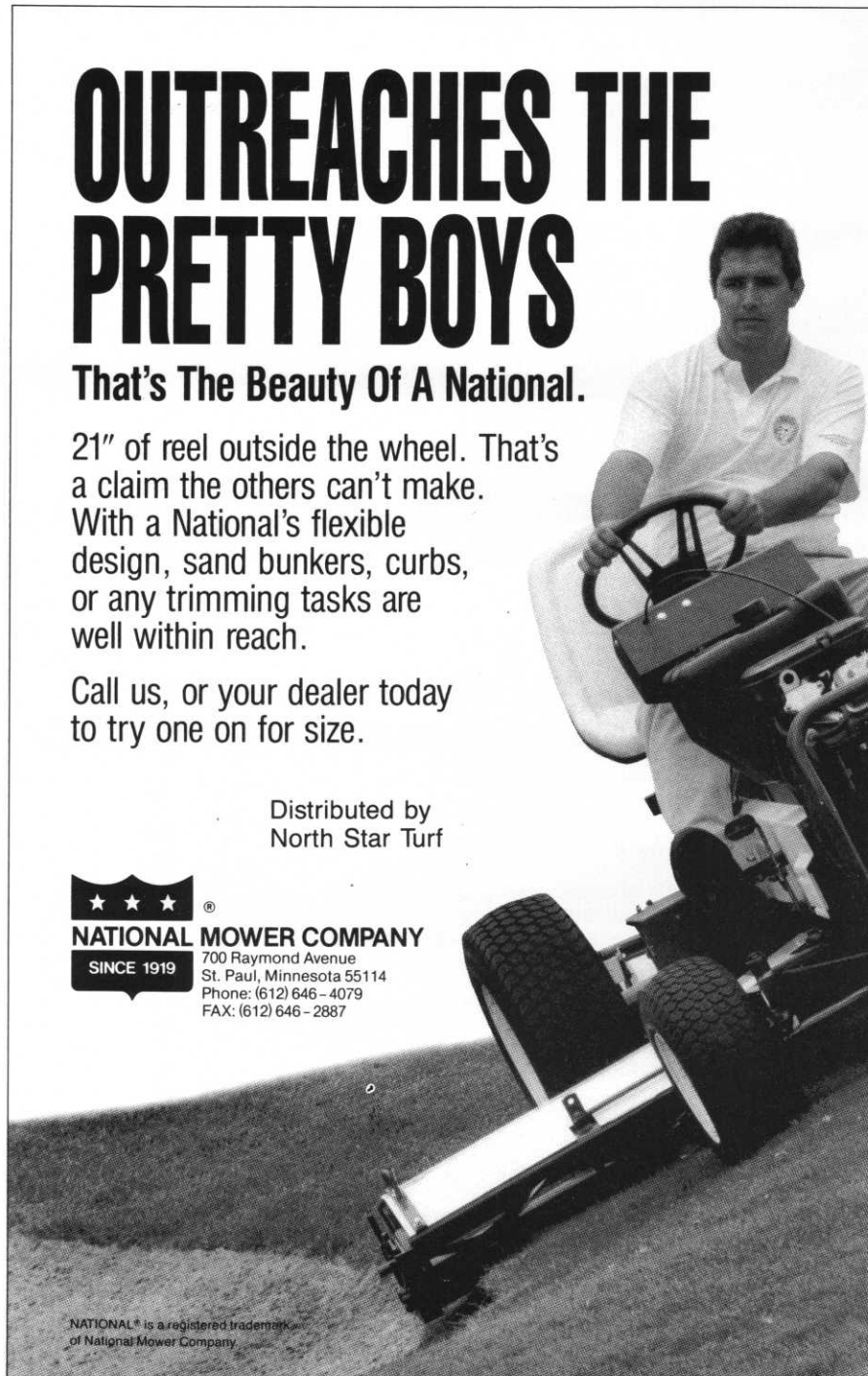
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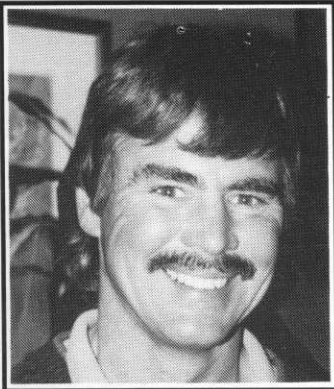


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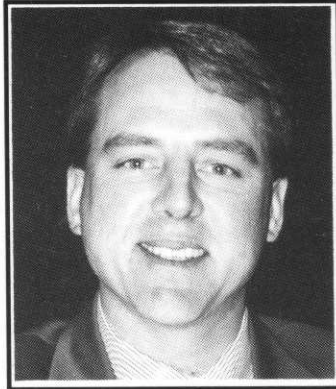
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## What Do You Look Forward To In 1994?



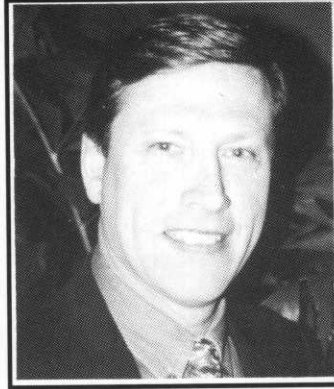
**JOHN BICHNER**  
Dellwood Hills G.C.

"The poor weather in 1993 pointed out several weaknesses in our course, with the number one weakness being drainage. We have several drainage projects scheduled for this season, and this is what I look forward to. These drainage projects will greatly improve the condition and playability of our golf course."



**MIKE BROWER**  
The Minikahda Club

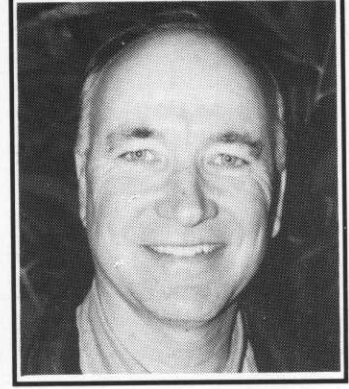
"Attempting to reduce irrigation water used to maintain our golf course, by recording green, tee, fairway and rough gallonage and analyzing what reductions in these watering cycles will do to reach our goal of reducing irrigation water used. Also, determining water quality in our ponds and creek. Generally, attempt to provide even more excellent playing conditions than the previous season!"



**MIKE LEITNER**  
Leitner Company

"Thanks for the opportunity to practice my favorite form of relaxation, communicating via the written word. **NOT.** After much thought, I have concluded my hopes are basic, but important to my overall well being.

Lots of high pressure - the weather type. Long sunny days, cool nights and a stringer of 3 lb. Small Mouths. Also, most importantly, the health and happiness of my family and friends."



**LEIF ERICKSON**  
O.M. Scotts Company

"I am looking forward to all the surprises in 1994. I've found a renewed passion for my profession and for life.

I look forward to the enjoyment and wisdom of my old friends and new friends. I gain the excitement of youth when young turf people challenge the old systems and philosophies. They take on the risks of success in using new technologies.

It's fun looking back over the past 20 years, but I'm looking forward to the next 20 starting in 1994."



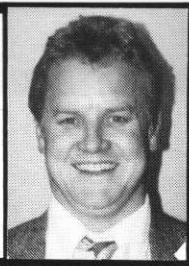
**Bill Johnson, right,** superintendent at Edina Country Club, accepts his 35-year plaque from **MGCSA President Joe Moris.**

Photo by Steve Garshe



# TEE TALK

By  
Scott Turtinen  
Executive Director, MGCSA



1994 Rosters are at the printer, and we hope to mail them around April 10th. Please note the advertisers, and tell them you appreciate their support of the MGCSA.

\* \* \* \*

**The Minnesota Golf Association has changed suites.** They are now in Suite 211. Same address and phone numbers.

The MGA announces the hiring of Christine Geer of Edina as administrator of the Fairway Foundation and communications coordinator of the MWGA.

The MGA also hired Kristen Herrman of Eden Prairie as its new receptionist. Herman replaces Office Manager Anita Hight, who retired after a 21-year career with the association, although both Anita and Warren Rebolz, former executive director, can be seen at the MGA office on occasion.

\* \* \* \*

**Call the MGCSA business office** if you are missing or have changed courses and need a new name tag. The name tag takes about 4-5 weeks to get from the manufacturer.

\* \* \* \*

**If you can host a 1995 MGCSA monthly meeting**, please call Bill Cox at 218/547-2141.

\* \* \* \*

Thanks go out to John Granholt and the arrangements he made for our March 14th Mini-Seminar. Now we hope to see everyone at the April 11th MGCSA meeting at Benson Golf Club.

\* \* \* \*

**Congratulations to Brian Netz**, Interlachen Country Club for receiving a scholarship from the Trans-Mississippi Golf Association.

Founded in 1900, the Trans-Mississippi Golf Association is one of the oldest and most prestigious golf organizations in the United States. Composed of approximately 200 member clubs, the association actively engages in a variety of programs to foster, promote and advance interest in the true spirit of amateur golf.

One of these programs is the TMGA's Turf Scholarship Program, through which it grants 30 \$1,000 scholarships annually to young men and women pursuing careers as golf course superintendents. Netz received one of these for the 1993-94 school year at the University of Minnesota where he works closely with Prof. Don White, who has participated in various MGCSA programs.

A principal goal of the association is to perpetuate the training of qualified young people to become responsible for what it says is a golf club's greatest physical asset — the course itself.

**The Trans-Miss also conducts two major tournaments annually** — a match play competition in mid-summer and a 4-Ball tournament in the fall. Both raise money for the association's scholarship program.

This year the 91st Trans-Miss Mid-Amateur Championship will be conducted July 11-16 at The Minikahda Club in Minneapolis and Somerset Country Club in St. Paul. Entrants must be at least 25 years old, be a member of a Trans-Miss member club and have a handicap index no higher than 5.4. The TMGA's 14th annual 4-Ball Championship will be played October 25-27 at Monterey Peninsula Country Club at Pebble Beach, Calif. Entrants must be at least 25 years old and be a member of a Trans-Miss member club, although they do not have to belong to the same club. A total team handicap may be no higher than 8.

\* \* \* \*

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The family of Roger Kisch would like to thank all members of the MGCSA for all the support that they have received during the last couple of months. The 30 members of the MGCSA who attended the late Dione Kisch's funeral service were part of Roger's family. Although we are not related by blood, we all share a common bond.

\* \* \* \*

### TO THOSE I LOVE

*Isla Paschal Richardson*

If I should ever leave you  
whom I love  
To go along the Silent Way,  
grieve not,  
Nor speak of me with tears,  
but laugh and talk  
Of me as if I were beside  
you there.  
(I'd come—I'd come, could  
I but find a way!  
But would not tears and  
grief be barriers?)  
And when you hear a song  
or see a bird  
I loved, please do not let  
the thought of me  
Be sad. . . For I am loving  
you just as  
I always have. . . You were so  
good to me!  
There are many things I  
wanted still  
To do—so many things to  
say to you. . .  
Remember that I did not  
fear. . . It was  
Just leaving you that was  
so hard to face. . .  
We cannot see Beyond. . .  
But this I know'  
*I loved you so—'twas heaven  
here with you!*

(Found amongst Dione's belongings; it was a favorite poem of hers.)

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# GCSAA Voters Say "Yes" to 13 Amendments

At their recent meeting in Dallas, members of the Golf Course Superintendents Association of America (GCSAA) were asked to consider 15 proposed amendments to the organization's bylaws and articles of incorporation. All but two of the 15 issues received the two-thirds majority required for adoption.

Voting on the proposed amendments took place Feb. 7, 1994, during GCSAA's International Golf Course Conference and Show.

The first amendment approved in Dallas revised the association's mission statement. Voters adopted the following wording for both the preamble of the bylaws and the Articles of Incorporation:

*The purposes for which this Corporation is formed are:*

*(a) To provide for and enhance the recognition of the golf course superintendent as a professional.*

*(b) To advance the art of greenkeeping and the science of turfgrass management; to collect and disseminate information concerning efficient and economical management of golf courses and related environmental issues.*

*(c) In general, to have all the powers conferred upon a corporation by the laws of the State of Delaware which are consistent with the Certificate of Incorporation and the Bylaws of this Corporation.*

The bylaws amendments also redefined a golf course superintendent as "one who is entrusted with the management and operation of the tract of land defined as a golf course, including involvement in construction and maintenance of golf courses and related equipment."

The two bylaws amendments that failed involved the establishment of separate, non-voting membership classifications for golf course maintenance staff, club officials and golf association staff members.

Ballot 5, which would have added six new classes for staff members such as equipment managers and irrigation specialists, received a simple majority (2,954 "yes" to 2,321 "no"), but not the two-thirds required to add them to the bylaws.

Ballot 6, which would have enacted a separate Class F for course officials and golf association staff members, failed by

a wider margin: 2,485 "yes" to 2,790 "no".

Voters did approve other changes to the bylaws dealing with membership classification:

- Authorizing the board of directors to establish qualifications and levels of privilege for all membership classes except AA, A, B and C (Changes to AA, A, B and C still require a bylaws amendment.)

- Simplifying the definitions of Classes B and C. Now, superintendents with fewer than three years of experience

*(Continued on Page 36)*

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# How to Determine the Actual Product Being Applied in Your Fertilizer Program

By Tom Skinner

Vigoro Industries

Specialty Products Territory Manager

In determining a fertility program, there are as we know, many factors to consider.

Some of which are: How much N.P.K. will be the most beneficial in our management program? What nutrient sources do we want to use? How long do we want the nutrients to be available? What ratio of N. to P. to K. do we want? Do we need minors? The list of decisions can go on and on.

As we all know the fertility program is only a part of the overall management practices used in promoting quality turfgrass; however, fertilizer used properly can enhance desired results and aid in the overall success of our programs. Everyone has his or her own criterion used to monitor the success of a fertility program. It may be turf color, or density of growth rate, or root depth, or tolerance to stress or the ability to recover after stress. All of these are good, but the criterion used can only be made by the turfgrass managers in their particular circumstance.

It becomes apparent that with all the decisions to be made, a thorough knowledge of the plant nutrients you are applying to the turf and what you can expect by their use is most important. You must decide what nutrients you want to apply and then purchase product based on anticipated results and cost according to what your budget or bid provides. It is not uncommon to determine the cost of a fertilizer program based on the number of weeks the nutrients are available. Also the amounts of each nutrient is important. **EXAMPLE:** Should a nitrogen source release over a period of twelve weeks, you could base the cost factor by taking the cost per acre and divide by (12) the number of weeks for feeding. This would determine a weekly cost per acre.

In the case of a three-week material, divide the cost per acre by (3) to determine a weekly cost. The question then has to be, is a fertilizer analysis with a ratio of 20% slow release nitrogen that feeds for 12 weeks and 80% of the nitrogen that feeds for three weeks considered a three-week or a 12 week material? The answer is that it is neither a three week or a 12 week material. A product or a portion of a product has to be judged and cost accounted for by the results delivered to the individual. The reason this is mentioned is because with the literally hundreds of fertilizer analyses available, the purchaser must have the ability to look at a product breakdown and compute the percentages of the nutrients they will receive based on the label or the

literature description. Purchases have been made based on cost with the intent of purchasing a slow release type material that in reality has a very low percentage of slow release.

In this article my objective is not to compare one source of plant food to another or to compare one product line to another or to suggest one particular analysis over another. My objective is to provide some information and math formulas that can be used to breakdown a fertilizer analysis. Product information is provided by all fertilizer companies on their analysis and can be found on the bags, on the specification sheets and on the literature. With this information we can determine exactly what is being applied to the turf areas. That coupled with knowledge of what to expect from each plant food will allow individuals to take any product and equate a cost based on what they are receiving. In dealing with cost it is impossible to compare one fertilizer analysis to another based on cost per bag, cost per ton or cost per acre, without knowing the breakdown of the product you are using or are planning to use. I will illustrate by using two fertilizer analyses for examples. I suggest looking at the products you presently use to determine if you're getting what you want and what you are paying for.

All fertilizer analyses are based on percentage per ton of the plant nutrients listed in the analysis. **EXAMPLE:** fertilizer with a 24-4-12 analysis is 24% of 2,000 lbs. actual nitrogen. 4% of 2,000 lbs. actual phos. and 12% of 2,000 lbs. actual potash. The same holds true for all nutrients listed in a fertilizer analysis. The analysis itself does not determine the cost of the material. The costs are determined by the products that make up the analysis. **EXAMPLE:** 24-4-12, the nitrogen percentage is 24%; however, the make-up of nitrogen is derived from three different sources. We are 1.6% ammoniacal 10.8% W.I.N. from IBDU and 11.6% urea W.S.N. This information is listed on the bag as well as our literature and specification sheets, as it is with all fertilizer companies. By totaling the three nitrogens that make up 24-4-12 you see they total 24%. With this information you can now mathematically compute how much of each nitrogen source you're applying to your turfgrass. The first step is to find out how much total N.P.K. and other nutrients are contained per bag. The second step is the coverage per bag and the number of bags needed per acre

*(Continued on Page 30)*

# Fertilizer Program —

(Continued from Page 29)

or per M to apply the amount of plant foods or total N. you desire. The math formula to determine N.P.K. plus other nutrients is to take the nutrient percentage X the weight of the bag, and divide the total by 100. Note: make sure you have the proper bag weight due to a number of different bag weights available. Step 1: 24-4-12, 24% N. x 50 lb. bag = 1200 divided by 100 = 12 lbs. actual N. per bag. 4% P. x 50 = 200 divided by 100 = 2 lbs. actual P. per bag. 12% K. x 50 = 600 divided by 100 = 6 lbs. actual K. per bag. .7 MG x 50 = 35 divided by 100 = .35 MG per bag. 5% S x 50 = 250 divided by 100 = 2.5 lbs. S per bag. .4% Fe. x 50 = 20 divided by 100 = .2 lbs. Fe per bag. Step 2: Determine actual N. desired and multiply amount by 43.56 the number of 1,000 sq. ft. per acre, for instance, .5 lb. N. desired per M x 43.56 = 21.78 lbs. actual N. needed per acre.

We know that there is 12 lbs. actual N. per bag 24-4-12, so to compute the number of bags needed per acre we would take the desired N. 21.78 lbs. divided by 12 the number lbs. N. per bag and find that we need 1.815 bags 24-4-12 per acre to apply .5 lbs. N. per 1,000 sq. ft. 1.185 bags per acre x 50 lb. bag = 90.75 lbs. material divided by number sq. ft. per acre 43.56 = 2.08 lbs. material per M to apply .5 lbs. actual N. per M. The same math holds for all nutrients contained per bag. To deliver 1 lb. actual N. per M, the same math holds true. If we want 1 lb. actual N. per M, take 43.56 divided by 12 the number of lbs. actual N. per bag to see that we need 3.63 bags per acre. Bags per acre 3.63 x 50 = 181 lbs. total material divided by 43.56 = 4.16 lbs. material per M sq. ft. to deliver 1 lb. actual N. The cost per acre is determined by the cost per bag x the number of bags being used. To this point we know how much actual N. is being applied as well as how much other nutrients are contained in each bag. A key point now is to break down the nitrogen sources and compute how much of each we are applying to the turf. A note before proceeding, any company can produce a 24-4-12 fertilizer analysis or a 32-3-8 etc. The key is to know your nutrient sources and percentages to determine if the products are equal to one another. The 24% nitrogen in 24-4-12 again is made from three nitrogen sources. We are 1.6% ammoniacal 10.8% W.I.N. from IBDU and 11.6% urea W.S.N. In order to compute the amount of each being applied to the turf, we must see how much of each is contained per bag x the number of bags being applied per acre. We will use as an example 1 lb. actual N. applied per acre. The math series is 1.6% ammoniacal x 50 weight of the bag = 80 divided by 100 = .8 lbs. ammoniacal per bag x 3.63 bags per acre for 1 lb. N. = 2.904 lbs. ammoniacal applied per acre when applying 1 lb. actual N. per M. 10.8% W.I.N. from IBDU x 50 = 540 divided by 100 = 5.4 lbs. W.I.N. per bag x 3.63 = 19.602 lbs. W.I.N. per acre. 11.6% urea W.S.N. x 50 = 580 divided by 100 = 5.8 lbs. W.S.N. per bag x 3.63 = 21.054 lbs. W.S.N. applied per acre. Add the totals and you have 43.56 lbs. actual N. per acre.

To determine the long term release percentage of this product we would take the amount of W.I.N. being applied 19.602 lbs. divided by 43.56 total N. being applied to find that 45% of the nitrogen applied is W.I.N. long term release. To complete the math for total nutrients being applied we see that there is 7.26 lbs. P 21.78 lbs. K. 1.27 lbs. Mg 9.07 lbs. S and .726 lbs. Fe. being applied per acre at 1 lb. N. with 24-4-12. These numbers are important when you are putting your program together with them you can accurately compare what you are receiving from one product to another

The next analysis we will look at is 32-3-8. The math series is the same as before. 32% N. x 50 = 1600 divided by 100 = 16 lbs. total N. per bag. 43.56 divided by 16 = 2.7225 bags per acre to apply 1 lb. N. 2.7225 x 50 = 136.125 lbs. material per acre divided by 43.56 = 3.125 lbs. material per M sq. ft. to deliver 1 lb. N. The nitrogen breakdown of 32-3-8 is 1.2% ammoniacal 3.6% W.I.N. from IBDU 6.1% CSRUN (Coated Slow Release Nitrogen) 21.1% urea W.S.N. Total N. sources = 32% N. To total nutrient sources being applied, we again take the total of each product per bag x the number of bags being applied per acre. Math series 1.2% ammoniacal x 50 = 60 divided by 100 = .6 x 2.7225 = 1.63 lbs. ammoniacal per acre. 3.6% W.I.N. x 50 = 180 divided by 100 = 1.8 x 2.7225 = 4.90 lbs. W.I.N. per acre 6.1 CSRUN x 50 = 305 divided by 100 = 3.05 x 2.7225 = 8.30 lbs. CSRUN per acre. 21.1% W.S.N. x 50 = 1055 divided by 100 = 10.55 x 2.7225 = 28.72 lbs. W.S.N. per acre. To determine long-term release percentage, we take the IBDU W.I.N. 4.90 lbs. per acre plus the CSRUN 8.30 = 13.20 lbs. slow release being applied per acre. 13.20 divided by 43.56 = 30% of the nitrogen being applied is slow release. To complete the nutrients being applied, we find there is 4.08 lbs. P 10.89 lbs. K. and 9.52 lbs. S per acre at 1 lb. actual N. The importance in looking at these two products is that 24-4-12 is a higher cost than 32-3-8 when pricing the products on a per acre basis, but to further compare the two we find that the slow release portion of 24-4-12 is all IBDU W.I.N. and the 32-3-8 combines IBDU and CSRUN to arrive at the slow release portion of the product. Also, to look at the pounds of slow release being applied in the analysis at 1 lb. N., we find that 24-4-12 applies 19.60 lbs. W.I.N. slow release and 32-3-8 applies 13.20 lbs. slow release N. per acre. To mathematically compute the percentage difference we take the difference and divide by the lower number. 19.60 less 13.20 = 6.4 lbs. difference (24-4-12 applies 6.4 lbs. more actual slow release per acre than 32-3-8) 6.4 divided by 13.20 = 48% more slow release with 24-4-12. To look at the potash 10.89 lbs. with 32-2-8 and 21.78 with 24-4-12 21.78 less 10.89 = 10.90 lbs. more potash with 24-4-12 which is 100% more potash being applied.

In conclusion, study fertilizer math. Compare what you are receiving in different products.