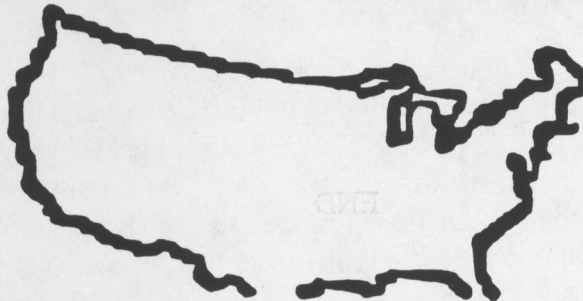


TURFCOMMS



V. 8, I. 3

Nov. 21, '94

PURPOSE: To pass on what we learn willingly and happily to others in the profession so as to improve turf conditions around the country.

ORGANIC FERTILIZERS and ALKALINE SOILS: Below is the body of a letter I sent to one of my customers recently. If you would like a copy of the article mentioned just ask.

The enclosed article "The Use of Compost for the Reclamation of Saline and Alkaline Soils" from the summer, 1994 edition of Compost Science & Utilization may be a little difficult reading but it does, to a small part, substantiate scientifically what has been well known in the real world and that is the use of various organic amendments does indeed improve soil physical and chemical properties of saline and or alkaline soils. Hopefully with this in hand you can have an easier time justifying the use of those expensive organic fertilizers.

HUMATES AND TISSUE TESTING - Gary Grigg responds: 9-13-94, Dear Dr. Hawes.....

Since I have done about as much as any superintendent with tissue testing, I will give you my input for what it is worth. I personally think it is a good tool and my turf looks better than at anytime in my 28 years as a superintendent. I use much less fertilizer than I ever have. The combination of good turf using less fertilizer, is what we are trying to achieve.

My understanding of NIR is that it does not directly read any nutrient. It compares your sample with all of the available data base in its memory. To be accurate that data base must contain several hundreds or thousands of samples all verified in a wet lab --- the more accurate the samples the more accurate the test. Several vendors out there have different data bases. I use one developed by Stuart Buck of Toro Bio Pro (Ed. formerly). He has spent 8 years of his life developing it.....

As you point out the tissue tests are only valuable if you set up a system of sampling and stick to it. As you say -- I am looking for trends. I am also an agronomist and I know from experience where I want my results to fall. I choose the N level based on my experience.

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My management plan calls for both soil testing and plant tissue analysis. I also sample my water regularly. Not always do the ratios of nutrients in the soil test correspond to the ratio in the tissue analysis. Soils are tested for available nutrients. The only way to tell for sure if it is available to your turf under your particular set of circumstances is to tissue test. For example: Soil tests may show an adequate phosphate level in the soil but the tissue test may show inadequate phosphate level in the tissue. The low test could be due to wet soils or soil low in pH. Excessive nitrogen in the tissue can affect the uptake of, potassium, sulfur, magnesium and calcium. Often these nutrients can become more available simply by reducing the nitrogen level in the tissue. You cannot tell the nitrogen level of the tissue from a soil test.

It's like banking. Soil tests show how much you have in the bank. Tissue tests show what is being withdrawn from your account. I have learned a lot about my turf in the last several years by regular tissue testing.

I apply only those nutrients that the tests show are needed. For example: If my tissue test showed my turf to be deficient in potassium, then potassium only needs to be applied to the turf. I don't use a full mixed analysis fertilizer to cure a single nutrient problem.

Dr. Robert Ellsworth of Bio Huma Netics Corporation in Chandler, Arizona has been experimenting with varying ratios of all nutrients in plant tissue for most of his life (he is 68). He finds the grasses healthiest when he achieves the ratio 10N-1P-8K-3Ca-1Mg-1S with all the minors present at their optimum levels in ppm. His is the formula I follow. There are others, not surprising they are all close. He teaches it is not how much nutrient you have in the tissue that makes a plant healthy but the ratio in which each one exists to nitrogen.....Calcium is the hardest one to get to those levels, but combined with proper potassium is the essential one in increasing resistance to disease.

Speaking of reading, try: HUMIC, FULVIC AND MICROBIAL BALANCE: ORGANIC SOIL CONDITIONING an Agriculture Text and Reference book by William R. Jackson, Ph.D., Jackson Research Center, P.O. Box 3577, Evergreen, Colorado 80439. A great book, easy to read format, very interesting 958 pages with a 138 page reference at the end that almost makes it worth the \$150 price tag. Sincerely, Gary Grigg, CGCS (Ed. comment - \$150 book - I'm not making a supt.'s salary, you'll have to loan me your copy.)

CLEARING TREES MAY AID EDWARDS AQUIFER: That was the title for a three column article by the Associated Press in the Sept. 19th Dallas Morning News. Although I had heard previously of similar findings in Australia it was good to see the Dallas area tree lovers and turf haters getting a good dose of reality. The article combines two different research studies that showed the effects of removing cedar trees and replacing them with range grasses in central Texas. In one study runoff from the land increased by 65,000 gallons per year per acre of tree cleared land. In the other a natural spring had its flow increased by 60,000 gallons per year for every acre of tree cleared land in its recharge zone.

The second study clearly shows that trees on natural grassland use more water than the natural grasses

do. That is under non-irrigated conditions. Trees have certain benefits when planted in high rainfall areas but, they do not provide those benefits without a great cost in much of the Western US. It takes a tremendous amount of water to keep a mature tree alive. Mature grass on the other hand can go dormant when water supplies in the soil run low.

MOISTURE SMART: I just got in the mail a watering gauge or miniature evaporimeter from Moisture Smart Co. This miniature evaporimeter is just what you need to give to your greens chairman for Christmas or new Year's present. It has been designed and researched to lose water and visually thus show you the evapotranspiration (ET) loss from the turf. But, it will do more than that if set up in the irrigated turf it will show you or the greens chairman whether you are over watering or under watering because it catches irrigation and rainwater to.

Challenge your greens chairman to plant this in his lawn filled to the zero mark and then at the end of each week he should take a reading to see whether it is at the zero mark, under it, or over it. If at the end of a week it is at the zero mark he has added just enough water by his irrigation system to his lawn to replace that lost by evapotranspiration. If the water level is slightly under and the lawn is still green than congratulate him on having saved that much water by irrigating slightly less than what is needed to replace that lost by ET. But, warn him he probably can't keep doing this all summer without a reduction in turf quality. If the water level is over the zero level either he with his irrigation system or the rain have over watered the turf. Warn him of black layer, disease, Poa annua and other problems associated with over watering and tell him to try harder next week.

By the end of the summer you'll either have an awful cocky greens chairman or a somewhat more humble one. I'll bet on the latter. For information on where you can obtain these useful torturing devices call Moisture Smart at (509) 838-3771. I do see one real problem with them for turf areas that are mowed frequently. Unless you have an irrigated but unturfed area that would have the same environment as the turf you will need to carefully set the devise aside each time you mow and then carefully reset it. This is not overly difficult to do, but!

TURF ADVISORY VISITS - NOW'S THE TIME TO SIGN UP

1/2 days still \$650

These rates include all my expenses if done during regular
planned itinerary.

Full day \$1000

Soil sampling done if you wish - with chemical analysis and recommendations - \$25 each

TENTATIVE ITINERARY: first trip, Central U.S. OK, KS, NE, SD, ND, IA, MO, possible
side trip to MN, and/or CO.

2nd trip: Gulf & Atlantic Coast: LA, GA, FL, SC, NC, VA, MA & Montreal 7/30 - 8/2 ASHS
and back through NY, PA, OH, KY, TN, AK.

Third trip: Western States West TX, NM, AZ, CA, ID and back through ???

A NINE HOLE CHALLENGE: Next time you're in Dallas and your golf game is up to a challenge, drive out to the Hank Haney Golf Ranch in McKinney. There you'll find a super driving range and a nine hole course designed by Pete Dye and Hank Haney the local golf instructor guru. It is a par 33 and played from all the way back it is 2516 yards of pure terror. Our threesome found plenty of trees and four inch deep rough. The latter located on the mounds and in grass bunkers. The sand bunkers are not numerous but, you'll definitely remember being in them and the fairways on some holes are so tight they squeak. You'll definitely need a left to right shot on some of the holes and you'll find need for a few other shots most people don't imagine having to hit.

I liked it. But, then it is not every day I get to beat my long, but wild hitting son-in-law. This was definitely not his course, nor our other companion's either. I shot a 50 the first time around and followed it with a 40 for a total of 27 over par for 18 and was very happy with that second time around. The cost on Sunday morning for 18 holes with tax still left me change from a \$20 bill and although I lost two balls I came back with seven more than I started. This is not a good course to play early in the morning on a sunny day. Probably not a good idea to play it late in the evening either. The first and second holes play into the morning sun and the longest hole on the course (#8) plays into the setting sun. But, if you need to work on your short game you'll get a chance. I was only on three greens in regulation and they were all par three greens hit on the second go around. Bring a good mental game and ENJOY!

Went back to Hank Haney's Nine and enjoyed it just as much on a drizzly day two weeks latter. Of course scores of 44 and 38 with no lost golf balls helped. A third trip produced a 44 and 43, and a fourth trip 45 and 45 - I think bogey golf is it for me on this track. If you're in the Greater Dallas area and want to play a quick and challenging nine I don't think any of my three 18 hole rounds have taken longer than four hours.

BEARD'S LATEST: A reminder to all, if you haven't already done it request a copy of Dr. Beard's latest article. It is titled "The Role of Turfgrasses in Environmental Protection and Their Benefits to Humans". A copy can be requested from USGA Green Section, P.O. Box 708, Far Hills, NJ 07931. The paper is nine pages long including two pages of references. Dr. Robert L. Green co-authored it. Read it, it should help you in your efforts to defend turf against its adversaries.

BIOBARRIER: Here is the copy of the body of a letter I wrote recently on this product.

Three or four years ago after a field day at Texas A&M at Dallas you gave me a 17' x 1' piece of BioBarrier. About six months latter I installed it along the edge of a raised garden at my daughter's new home. My son-in-law has been complaining because I didn't do the whole length of the bed. He says it is very noticeable that where I put the BioBarrier there is no bermudagrass invading this flower bed.

ZOYSIA OVERSEEDING: I had always heard that you couldn't overseed zoysia without killing it and recently had that confirmed again, this time someone did in one of Dr. Engelke's experimental cultivars. I would assume Zoysia needs that winter sunlight without excessive competition to properly survive the winter. Good area for a masters thesis work.

END