

Sup's Scoop

H.G.C.S.A. Tournament Re-cap by: Les Jeremiah Jr.

The annual H.G.C.S.A. tournament held on September 18 at the Waikele Golf Club on Oahu, turned out to be a great success! We'd like to thank all of the H.G.C.S.A. members, affiliates, and sponsors for their participation. A special mahalo to Leonard Smith and Hawthorne Pacific Corporation for their Platinum sponsorship and Peni Tilini and the Waikele golf staff who helped to play a big role in the success of our annual tournament and banquet.

Here is a quick summary of the golf tournament winners:

- Low Gross: Bryan Taylor, Kaanapali GC, 73**
- Low Net: A Flight: Curtis Kono**
- Low Net: B Flight: Dennis Navarro**
- Low Net: C Flight: Rory Allison**
- Low Net: Guest Flight: Guy Hera**



Everyone having a great time at the banquet held after the tournament at the Waikele golf club.

Thanks again for all of your support and we look forward to seeing all of you again next year!



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Use the Nutrients Already in the Soil: Simple Fertilization:

by Dr. Micah Woods

Most of my work is in Asia. I'm at Hong Kong now, was at Japan and the Philippines last week, and will go to Thailand next week. A big issue here is course maintenance costs - it seems everyone I work with is mentioning the need to save money, or the reduction in funds available to spend on course maintenance. I recently registered for the 2009 Golf Industry Show, and I see that the USGA Education Session there will be devoted to the economy. When I was in Hawaii earlier this year, I had a chance to visit a few courses and meet with some superintendents. I must admit feeling some envy for the golf course superintendents who live and work in Hawaii! I can imagine, though, that turfgrass maintenance in Hawaii can be difficult, and expensive.

I want to share my philosophy of turfgrass maintenance, and specifically how I think golf course superintendents should approach fertilization. Perhaps you will garner a few ideas that can help to improve your turfgrass or save money on course maintenance.

When we look at turfgrass management, the job of a golf course superintendent is to manage the grass, modifying the growing environment so that a good playing surface for golf is produced. Grass wants to grow. The superintendent recognizes how the grass is trying to grow, and then modifies the growing environment so that what a golfer sees and plays on is a suitable surface for the game of golf. Superintendents modify the light that turfgrass receives, they modify the water content in the soil, they adjust the air content in the soil, the nutrients supplied to the turf, they control diseases, insects, and weeds that can infest the turf, and they mow the turf. I think that almost every maintenance activity can fit into one of those six categories. What we try to do is modify the soil air, the soil water, the nutrient availability, and the light absorbed by the turfgrass plant, we mow the turf to create the desired playability, and we control invading pests. That is pretty much it.

If we look specifically at fertilization, I have a simple approach, yet it seems that many golf course superintendents doubt that my approach to fertilization can work at their facility. At most courses, I think this approach will work better than you might expect. Of the 14 essential mineral elements, nitrogen, phosphorus, and potassium are usually found in the highest concentrations in turfgrass leaves. We can test the soil to determine how much of each element is present in the soil and available for plant uptake. In most soils, even in sand rootzones such as USGA putting greens, there are adequate supplies of micronutrients and of elements such as calcium, magnesium, and phosphorus. This can all be confirmed by a soil test. Once there are adequate levels of a nutrient in the soil, adding more as fertilizer will have no effect on turfgrass performance.

The argument about what is adequate or not is one that we could have a day-long discussion about. Some fertilizer companies or soil testing services will set the target levels for nutrients in the soil to be much higher than what is required for good turfgrass growth. The base cation saturation theory is particularly notable for trying to "balance" elements in the soil, so even if there are adequate amounts of calcium and magnesium and potassium in the soil, there can still be recommendations to apply more of an element to try to "balance" the soil. This sounds good, but it costs money to purchase and apply unnecessary products.

A Visit to the Philippines *by: Les Jeremiah Jr.*



Golfing at Southwoods Golf Club in the Philippines.

In mid July, I had the great pleasure of visiting the city of Manila in the Philippines. I was able to spend about a week there and with the help of Dr. Micah Woods, was able to meet and play golf with several professionals within our industry. I visited golf courses such as Eastridge golf course in Antipolo, Tagaytay golf club in Tagaytay, Orchard golf club and Southwoods Highlands golf club in Cavite. It was very interesting to see many of the same grasses we use here in Hawaii such as Tifdwarf, Tifeagle, and Sea Isle 2000. They all seemed to hold up fairly well for such humid and often storm like growing conditions.

One of the amazing things I found interesting was that the average daily pay for a laborer on a golf course in the Philippines was approximately 380 piso a day, which is equivalent to \$8.26 in U.S. dollars. Think about that for a moment. Our average golf course laborer makes that in about 45 minutes in Hawaii. Wow! What a difference. Many of the staff sizes there ranged from 30-40 staff members for a 18 hole facility. Because of this, much of the jobs we may do with certain pieces of machinery will often be substituted with more laborers versus spending money to purchase or replace equipment that may help to make a certain job faster normally for us here in the states. It's simply cheaper to do things manually in the Philippines. In the photo below, you can see how they will put more laborers to edge cart paths with basic cutting knives and brooms rather than invest in blowers and edgers.



Edging cart paths at Eastridge Golf Club in Antipolo.

Continued:

I will list here, for golf course turfgrass conditions, what I consider to be minimum levels of adequacy for some of the essential elements (these levels depend somewhat on which laboratory is used - feel free to contact me if you have questions about your soil test results).

Potassium - 50 ppm
 Magnesium - 75 ppm
 Calcium - 300 ppm
 Iron - 100 ppm (on a Mehlich 3 soil test)
 Manganese - 35 ppm (on a Mehlich 3 soil test)
 Phosphorus - 35 ppm (on a Mehlich 3 soil test)

Once those elements are present at adequate levels in the soil, adding more will have no affect on turfgrass performance. So we can then consider the nutrient content of turfgrass leaves, and how much nitrogen and phosphorus and potassium are being harvested when we mow and remove clippings. The N:P:K ratio of grass leaves is about 8:1:4, so we can add fertilizer with those elements in roughly that ratio (something like a 24-3-12 or a 22-5-10 fertilizer approximates the 8:1:4 ratio) to each other and get excellent results. If soil phosphorus and potassium are well above the minimum levels listed above, then we can apply only nitrogen and get excellent results. Why? Because the grass can get all the nutrients it needs from the soil (except for nitrogen) when the soil has adequate amounts of them.

What you will find, if you test your soil using the Mehlich 3 test, is that you very probably have potassium above 50 ppm, magnesium above the target of 75 ppm, calcium above 300 ppm, and so on. So at many golf courses, it is possible to get excellent results by applying nitrogen fertilizers and not much else. If you would do that, though, the soil levels of other nutrients will slowly decrease, and eventually some additional nutrients will need to be added. But there is a store of excess potassium and phosphorus and calcium and magnesium in many soils.

If we have enough water in the soil to meet plant needs, we don't turn on the irrigation system. If we have more than enough aeration porosity in the soil, we don't come in and aerify the greens and fill all the holes with sand. If diseases have been controlled, we don't purchase and apply a fungicide to the grass. Why is it with fertilizer that the soil so often has more than enough mineral elements to meet the needs of grass, yet these mineral nutrients are still applied?

I think there are excellent opportunities to save money by making a more simplified fertilization program that utilizes some of the stored mineral nutrients in the soil. And I am certain that turfgrass quality will be the same. Just keep the mineral elements above the minimum level, and monitor any changes over time, and then focus on the more difficult problems, such as mowing, weed control, and keeping the right amount of air and water in the soil. Fertilization should be a lot easier than many people make it out to be.

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*(Below) Dr. Micah Woods Director of the Asian
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