



President's Message

A RHAPSODY IN GREEN

Each season has its color(s), and there is no arguing that the color of summer is green — infinitely varied shadings of green. It reminds me of an old Bohemian legend I once read about. This legend tells of twelve silent men — the twelve months of the year — sitting round a fire that never goes out. The fire is the sun, and three of the silent men wear cloaks of green. Those three are the months of summer. I have no doubt that the deepest green cloaks are worn by the months of May and June.

These are the grass months. That realization couldn't have been brought to my attention more embarrassingly than it was about an hour ago. I was, in fact, admiring how nice the golf course was looking — everything that should be mowed, has been. The members tell me that the greens are putting beautifully. The fairways have responded really well to two years of lightweight mowing, and it brought to mind the old ten-bladed gang mowers. Panic! I hadn't seen them for a couple of days, and as I looked across and back over the out-of-the-way area where they are parked, I didn't see them. Vandalism has always been a serious problem, but how in the world would anyone steal a seven gang set of mowers? And what would they possibly do with them? Then my face got red — my gang mowers were parked in the middle of some foot high bluegrass! At least they had been very neatly trimmed around — small consolation. Yes, these are indeed the months of the greenest grass. And I did send a man out to move the mowers and cut that long bluegrass!

I think that May and June are probably the months that should find Wisconsin Golf Course Superintendents the proudest. Recovery of any winter damage is usually complete, our enthusiasm and exuberance are still very high, most of us now have a full staff, the golf course is in beautiful condition, and the grass is healthy and growing. I have long thought that a Golf Course Superintendent in June is a little like the man in the Grimm Brothers' fairy tale who could hear the grass grow! There are June days that I think I can hear the grass grow, too, and I could swear it starts to grow up your pants leg if you stand in the same place for longer than five minutes. We would be lucky to have our golf courses looking so refreshed and alive in August.

And it is not just the various turfgrasses that give our golf courses such a vibrant verdure. As with other seasons and in other months, the trees add immeasurably to the color of the golf course landscape. For example, an apple tree might have 100,000 leaves and an elm tree (one of the few that each of us has left) can have more than a million leaves. And more surprisingly that either of these numbers is the fact that a single sugar maple may be covered with half an acre of leaves! Someone should someday take the time and estimate the area of the summer leaves on his golf course — it would be a staggering number.

When thinking about the greenness of these days, I have to stop and reflect on the miracle of plant life, the miracle that is made possible by photosynthesis and chlorophyll, the green ink of plants. This great chlorophyll producing time of the year, the time of such green grass and such green leaves, makes one wonder about the volume of chlorophyll that there is within the boundaries of his golf course. Is there enough to fill a small pond? A philosopher from centuries before Christ, not knowing any of the details of chlorophyll and sugar production, recognized its importance by writing, "The plant captures air, water and salts, and, with the sun's aid, builds them up by vital alchemy into the bread of life. All flesh is grass." That last line may be a slight overstatement, but for

us, grass is at least a living and a good way of life.

Others are thinking of green grass, too. One of my favorite members asked a rather interesting and perceptive question a few days ago. He basically was curious as to why grass is able to continue to grow and remain healthy and vigorous with repeated mowings, when you are obviously unable to do that with other plants, like corn, oak trees or zinnias. I know full well others have wondered about this, but just haven't asked. The answer was an easy one — for a plantsman — grass plants have the growing point at the crown or base of the plant. As a result the stem is continually being pushed up during growth from the bottom. Mowing just cuts off the tops of the leaves and stems and the growing point is untouched. Frequently, growth is even stimulated by the removal of grass blades because mowing will allow more sunlight to reach the growing point and the result is an increase in the rate of growth. He asked a good question, one that was different than most I get.

These days of early summer in Wisconsin, when everything is going green and beautiful, were noted in a responsive reading in a church service Cheryl and I attended fifteen years ago. I clipped it from the church bulletin and retrieve it each year at about this time to read and enjoy. It is worth sharing:

Let us now praise the Lord through the Psalms and through the experience of Wisconsin in June. Let the heavens be glad.

Thank you, Father, for the skies on a summer evening.

And let the earth rejoice

Our earth sings with the greenest of grass, and the golfers are happy.

Let the sea roar, and all that fills it

Our lakes are blue, and the fishermen are happy.

Let the field exult, and everything in it

It's haying time, and the dairy cattle rejoice.

Then shall all the trees of the wood sing for joy

Thank you, Father, for tree-shaded streets.

Before the Lord, for he comes, for he comes

We praise You, O God, for a day in June!

(The leader's passages are Psalm 96:11-13a)

Maybe one reason the grass is so green and growing so well in June is that it is the month of long summer days. It is the month of the Summer Solstice, the longest day of the year. It usually falls on June 21st. I guess that I am always amazed that what seems to be such an early date in the season marks the time, an exact tick on the clock, when the nights grow longer and the days grow shorter. The Summer Solstice is when the

sun rises and sets farthest north, and much to my surprise it pours down one-fifth more heat on the North Pole than on the Equator! From the 21st of June on through the summer months the sun is moving southward, away from us. It seems reasonable to wonder why our warmest days occur when the sun is moving away, but the key lies in the fact that the earth is slow to warm up after the long and cold winter. There is a lag time here for the same reason that the warmest part of the day is not at

noon, when the sun is the highest, but rather in mid-afternoon. At any rate, I suppose that I will always find it hard to believe that the move toward fall seems to start so soon. Needless to say, it is a subtle start!

My wish for all Wisconsin Golf Course Superintendents, including myself, is that this July and August would be as pleasant and comfortable and green as are this May and June. Let's keep our fingers crossed.

Monroe S. Miller

Wisconsin Pathology Report *Help For Trees With Interveinal Chlorosis*

By Dr. Gayle L. Worf



One of the common—and treatable—problems affecting trees in Wisconsin's landscape are oaks and maples that appear quite yellow. Seriously affected trees will continue to decline and die. Soil and tree injection treatments with iron, manganese, sulfur and similar materials have helped to correct interveinal chlorosis on many trees in Wisconsin. However, more of them have responded poorly or not at all. Recent research reports of Dr. A. Steven Messenger, Northern Illinois University, offer some insight into the reason for the failures often encountered, as well as providing remedial treatments that expand upon those we've used in the past.

If you're having trouble getting a good response with treatments you've administered to date, I urge



you to read this article and consider giving this new method a chance before you get out the saw.

Messenger's work indicates that the **high soil pH** associated with chlorosis **can cause both excesses and deficiencies** of nutrients in trees! For instance, chlorotic oaks may be especially high in phosphorus, and also potassium and nitrogen, while low in one or more of iron, manganese, copper, and possibly zinc. Chlorotic red maples may be low in manganese, but high in potassium and iron! Consequently, treatments with specific nutrients such as iron or manganese have frequently failed in the midwest.

Dr. Messenger has developed a series of recommendations for treating trees showing interveinal chlorosis that involve the **avoidance** of certain treatments and the **application** of certain soil surface and soil injection treatments. These have been tested with some success in Wisconsin, and are given below. We have added the footnotes and parentheses for clarification.

Recommended interveinal chlorosis treatment procedures

Avoid the use of:

1. Alkaline hard water (use rain or similar water)
2. Limestone or lime-containing materials
3. Phosphorus and potassium fer-

tilizers

4. Nitrate-containing fertilizers

Apply to soil surface in fall to late winter:

1. Enough sulfuric acid to lower topsoil pH to approximately 6.0: 25-40 liters (6-9 gallons) of 10% sulfuric acid* per 100 square feet beneath the crown. (This reportedly has not injured turf when applied in dormant condition, but be aware of the possibility.)

Apply to soil surface in early spring:

1. 3 pounds of ammonium sulfate per 100 square feet beneath crown and 12 pounds per 100 square feet beyond the drip line.

Apply in auger holes, 2 inches in diameter and 18 inches deep, spaced 18 inches apart in at least two circles around the tree, one circle at a distance from the tree equal to three times the tree's diameter just above its basal flare, the second circle at twice that distance: enough 10% sulfuric acid to fill the hole to within 4 inches of the surface; and immediately add about one teaspoon of manganese sulfate and one teaspoon of ammonium sulfate.

*One source of sulfuric acid is battery acid, which reportedly contains 33% sulfuric acid.

(CAUTION: Use eye shield, rubber gloves and apron, and other necessary precautions to avoid personal injury when handling sulfuric acid! Also, when preparing a dilution, add acid to the water, rather than the reverse.)

I've seen dramatic turnaround of trees in Wisconsin that have refused to respond to Mauget or Medicap injections, or sulfur and iron soil treatments. Let's hope it will work for you!