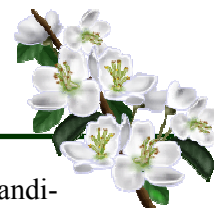


Dutch Elm Disease



A lot of us have oak trees on our properties. A smaller number enjoys the presence and shading canopy of a spreading elm. But even that smaller number is significant . . . significant enough to talk about how to hold on to those elms and the benefits and amenities they provide.

Like oaks, elms come in a variety of flavors. And it's the native American elms that are most susceptible to *Ceratocystis Ulmi*, a vascular wilt disease more commonly known as Dutch Elm Disease. This imported disease first came into this country through Europe in the early 1930's. Over the next several decades it devastated huge populations of majestic native elms.

The usual first sign of Dutch Elm Disease (DED) is the visible random branch yellowing (flagging) and then death in various spots around the upper crown. This flagging is usually spotty and does not initially impact the entire canopy at once. The disease pathogen is introduced into the tree by the feeding of the Elm Bark Beetle as it inoculates various branches and twigs with its fungus infected mouth parts. The beetle galleries can be found between the bark and the wood in the trunk and larger limbs of infected trees.

An exception to this upper canopy flagging may occur when the fungal pathogen is introduced by way of root grafting. In this case it is usually the lower

limbs that first become symptomatic. Root grafting is less common and occurs only when groups of elms grow in close proximity. An tree infected with DED



needs to be removed before the pathogen can travel through the roots to adjacent elms.

If the entire canopy appears to wilt or yellow all at once, DED is probably NOT the culprit. In this case it is more likely to be a mycoplasma disease called phloem necrosis (formerly "elm yellows") or some entirely different environmental problem.

Because the DED pathogen is persistent and because damaged vascular tissue is not easily restored, an elm that is more than 15-20% symptomatic may be a poor patient for treatment. The key word is prevention, not cure. Also, trees that become symptomatic early in the season usually will die within one year if not treated in a timely manner.

There are now several treatment options available. In early symptom trees

that are still candidates for treatment, the best program will a) arrest the vascular wilt and b) eradicate the beetle population. For recommended preventative treatments in non-symptomatic elms, a fungicide alone to suppress any potential introduction may be sufficient. "An ounce of prevention is worth (more than) a pound of cure."

It may also be worth noting that the most popular treatment protocols for this problem incorporate a closed system application, which eliminates the hazard of spray drift and makes the application largely weatherproof.

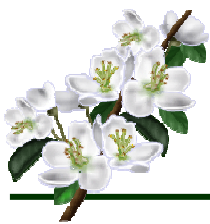
It may be some time yet before classic Americana's canopied "Elm Street" will again be as true to its



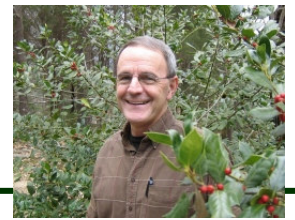
©Jack H. Berger/US Forest Service
An elm-lined street in Detroit in 1971 (top), and the same view in 1984 after a Dutch elm disease pandemic.

name as it once was in Andy Hardy's town. But native elms today are no longer doomed to fall prey to this insidious disease. Effective preventatives have been and are available.





From My Journal: Travel, Magic, and Desire



The rumor is that the world is shrinking. In real technological, economic and political ways I suspect that that may be true. It's surely a hard thing to refute and probably can be seen in a hundred ways. But lately I have also been aware that this is still a very big planet with lots of places that I have not yet been able to visit. And I think I've been looking for something. But now with each passing year it begins to appear that many of those places I will likely *never* see. For example, Viet Nam when it is mostly now back green again and at least somewhat healed from its bomb-cratered scars and defoliated desolation. Or Borneo as it appears on the travel channel, still pristine and Edenically green; that is unless the documentarists have fooled me. Maybe still in the range of possibility are the lush jungles and uncountable wild species of life reputed to reside in Costa Rica.

In callow senior year study hall pipe dreams in the little still callow and rural 1962 Germantown, there on the springtime brink of high school graduation I existed largely on a dream of becoming another traveling writer like Lowell Thomas or a reincarnation of Richard Halliburton's premise that "*... there is no better life than to travel the world and make your living by writing about it ...*" I had no notion then that I would actually, of all things, run out of time. Neither did I have any inkling that the world was then on the very brink of such rapid and drastic change right there before my eyes over those next few years immediately ahead.

There are still places that I *have* been to that are magic. . . or something very close to it. And a few still hold on to that near magic with an admirable

tenacity. Somehow they have not quite yet fallen prey to a rapacious romance-smothering monoculture of gawking tourism and economic opportunism. But even these places are harder and harder to find.

We have always loved to return to Northern Italy, but not long ago we heard that one of our favorite spots is in real and present danger of terminal diminishment. It's not the same anymore, we heard. Not surprisingly, it seems to have "*caught on*" in popularity as a destination in recent years. I have to wonder what our friend Sergio, a life-long fisherman resident of Vernazza, thinks about that now. Once upon a time, even only a handful of years ago, one could hear there the agitated waters of the Ligurian Sea crashing against the pre-historic rocks far below. And it was a proper accompaniment for the wind-swept thrill of a high solitary trek along a breathtakingly precipitous cliff face trail. It was a trail that wound it way above the crags that once witnessed Roman triremes plying its blue



waters far below. The old path followed a its dangerously narrow and romantic way by turns through ancient lemon orchards and steeply terraced olive groves and then back again high over the angry white water, connecting as it had for centuries, one little sleepy medieval town of the Cinque Terre with the next.

But today that trail is dubiously "improved" to accommodate much

larger numbers of walkers. In sections smooth concrete has pushed back the garlands of trailside wild flowers while new steel guard rails and garish warning signs festoon the more precipitous points. All of it for the ostensible benefit of an unending nose-to-tail stream of tourists who, we've heard now pay a significant fee to shuffle their way in lock step like a herd of half-crazed sheep.

Oh yes, the sea *still* crashes against the rocks far below but it's harder now to *really* hear and to soak it in with so many maneuvering for a spot at the shiny new rails. The broad smiles and romantic stories of the grizzled old hillside olive farmers

and the quaint friendly tales of the brown fishermen who lazed at noon by the gunwales of their boats have somehow melted away along with their Mediterranean memories. More and more local lore is restricted to brief conversations with retail shop keepers and ticket takers. So the magic is indeed slipping away, in disturbing ways leaving only a sad cartoon of itself. Now we ponder the wisdom of going back, fearful lest heartbreak should overtake us.

Of course we were from the very start too late in our arrival in the Caribbean. As a young boy I too dreamed of the real pirates of the Caribbean, even writing my own imaginary stories about them. In the mid-60's I had a serendipitous opportunity to learn to sail in the more northern but nonetheless classic waters of the Chesapeake. There I fell in love not only with the craft but with the magic of it, with the special metaphor that it is of life. Then three times in the 1990's we flew down

(Continued on page 4)



A Quick Review of the Arboricultural Basics



As I go through my average day I spend a lot of time talking to people both face to face and on the phone about tree issues, all kinds of tree issues. Very often these conversations also act as prompts for the topics that I need to write about in this letter. In the last issue (Spring '08) I included an index of subjects that have appeared in this publication since the first quarterly mailing in the Winter of '05. If you're dealing now with a particular question or issue, check out that index or call our office. We'll be happy to talk to you and send you a back issue.

With each new season I also try to include something that is relevant to the present time. And now it's summer again! One of the most important things that owners of large trees can do during mid-south summers is to provide **supplemental water** to their trees once a week during dry periods. The back page of last summer's issue went into detail about that (how, how much, and where) and I wrote about it again just recently in a Commercial Appeal article. There's more to it than just increasing the time on your irrigation control panel. In fact, sometimes that can do more harm than good.

Another question that comes up fairly often is the case of the wilting rolling leaves. This disturbing phenomenon seems able to cross species lines with impunity and the standard *initial* guess is that the tree is not getting enough water. However, often as not, the opposite can be true. So while we're dancing around the subject of watering (*right here I'm trying to avoid entirely re-writing last summer's article*), it is important to say that clay soil needs to have a drying/breathing period between

water applications. When they don't get it . . . or don't get enough, clay soil anoxiates (waterlogs) and damages roots and root function.



Gouty Gall

A lot of us have oak trees here. And those ugly hard balls that can appear on the oak's small limbs and twigs (**gouty gall**) are also common. Easy to see in the winter when the tree is defoliated, these up-to-tennis-ball-size

"knots" can also debilitate the host via cambial restriction (vascular flow) and so open up the road to decline from a variety of other concurrent issues. By the way, gall is not contagious in the usual pathogenic sense. So while it does not indiscriminately spread from oak to oak, the vector (a tiny wasp that lays an egg in the twig) does seek out susceptible weak trees. Happily, there is a multi-phase remedy. Part

of that remedy is a soil drench with Merit in January. Merit is an effective insecticide product that is broad spectrum and has a long residual presence in the tissue. It works for gall prevention as well as for much else.

Roots are also a popular topic, especially as they grow near sidewalks, driveways, and building footings. I

had a call the other day from a lady who reported that nearby tree roots had been discovered under her house slab and had cracked and lifted the slab two full inches, messing up a lot of stuff, including the way her doors and cabinets open and close. When I asked her about the history, she said that " . . . oh yes, she did have a plumbing leak, but they found that and fixed it."

Obviously, in her case, they "found it" too late, but a big lesson is this: unless there is water (or moisture from any source: plumbing or other leaks, condensation, ground water, etc.) under a structure, tree roots are not likely to grow underneath in sizes that can cause major damage.

And sometimes roots can kill themselves, a form of *arboricultural suicide*. This can happen through another slow process called **root girdling**. Some species like maples seem to be



Root girdling

especially prone to this.

But many other tree types can also fall victim through poor planting techniques and/or restricted soil and root areas. Often the signs of this can be top die-back (as in maples) or straight in or tucked under truck collars on one side down where the trunk of the tree goes into the ground.

Sometimes property owners walk around and here and there see some evidence of chewing on the leaves of their plants. Or maybe it's a few small yellowish stippled areas or some whitish or black residue on certain leaves. This may or may not be a sign of debilitating trouble from insects. Generally, if you step back a bit and from a distance the overall plant looks normal, these isolated observations may not be worthy of a concerted special response. However, if the effect of the damage is visible at that distance, it needs attention. So monitoring is important. And very often an ounce of prevention truly is worth a pound of cure. While I am a true believer in preventative maintenance I

(Continued on page 4)



Root Issues



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A Quick Review of the Arboricultural Basics

think I can also visit the best kept property in the city and find small evidences of some un-invited inter-loper. The key industry term is “threshold of damage.” Just take an inspection tour now and then.

And soil is the perennial topic. We have clay soil here and that automatically means particular things, good and bad. Clay generally has a good cation exchange capacity, which is a measure of its ability to hold nutrients. On the negative side its small pore size holds water tightly and in modified environments tends to be hostile to important my-

The plant on the right is visibly more healthy, as a result of mycorrhizae, than the plant on the left - Photo courtesy of Mycorrhizal Applications, Inc.



corrhizal presence. **Mycorrhizae** is a universally occurring fungal presence that associates with plant roots and multiplies their effectiveness. Clay soil combined with low organic content which is ubiquitous in suburban landscapes, is a surefire indicator of low mycorrhizal presence and diminished plant function.

How can you find out about the nature and capacities of your soil? Get a **soil test**. A simple nutritional test from an agricultural testing service or from the Department of Agriculture can serve well as a valuable diagnostic tool for

solving multiple problems.

Another way that a soil test can help is to prevent wrong diagnosis and the mis-use of fertilizers. Over and over I've heard folks draw a fallacious connection between **a)** and **b)** that goes like this: **a) That plant sure looks bad to me so b) I really need to give it some fertilizer. Let's see what I've got in that sack in the garage.**

When your trees need trimming or deadwooding, look for companies employing certified arborists. Don't allow anyone climb your trees with spikes on their feet. The only time they are justified is for takedown work or to rescue a climber in trouble.

So I get a lot of calls and a lot of questions. But after a time, as probably is the case in any field, I begin to hear the same things over and over. The ones above are just a few of those 'repeaters'.

(Continued from page 2)
Travel, Magic, and Desire

to Tortola to pick up our boat and for a week each time we broke free, exploring the waters, anchorages and islands around the St. Francis Drake passage. But somehow I knew even then, beautiful and clean and enchanting as it still was, that its pristine magic was again inevitably slipping away. Those innocent pre-war days of the late 30's when Rob White bought the little island of Marina Cay for the British pound equivalent of \$68.00 are gone.

Even now I know that I'm still made for magic. But it's becoming harder and harder to find in the way that my heart knows it and seeks it. Now and then I get a little hint, a whiff, but then it evaporates again right there in front of me and I am reminded again how far from Eden I am. What can that possibly tell me? What does *that* mean? Another word comes to mind: desire. What a fragile thing that is and how easily stifled, even killed. I am almost inclined to believe that if what my heart longs for and thrives on cannot be found, at least never perfectly and never for long, then

maybe I've really been made for another world.



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