



By Bill Roberts

A Great Experience

Two years ago, in the January-February, 1986 issue of "THE GRASS ROOTS", I submitted my first "President's Message" for your consideration. I wrote that I felt a re-examination of the age-old question of "What is the Wisconsin Golf Course Superintendents Association doing for me" might be in order.

It was, and is, obvious that one could, and can, avail oneself to any number of excellent educational opportunities at monthly meetings and to an outstanding golf turf management event at our annual WCGSA Symposium. Further, there was, and is, an informative, timely publication in "THE GRASS ROOTS" and support of two outstanding golf turf management organizations, the Wisconsin Turfgrass Association and the O.J. Noer Research Foundation. The list goes on of course.

The underlying answer, however, that makes the aforementioned possible, at least for me, continues to be that what the Wisconsin Golf Course Superintendents association really does for me is that it "provides me the opportunity to participate, to share, to question, to answer, to pursue and to grow with any number of individuals who, choosing to do likewise, help me, in an orderly, directed fashion, to achieve my, and our goals."

It has been my privilege and pleasure to serve for the past two years as President of the Wisconsin GCSA. It has been an opportunity to serve in a unique capacity in which all perspectives must be considered and an honest attempt at such a process can be a lesson in itself. It becomes obvious quickly that if an organization is to be successful it will be because of a "number of individuals". I know

this from the experience of my predecessors. I have reinforced the notion in my mind through my own experiences. I offer it to my successors and their successors.

Quite simply, without the Miller's, the Bell's the Johnson's the Worzella's, the Smith's, the Semler's, the Marach's, the Grassl's, the Norton's, the Belfield's, the Kienert's, the Quasts, the Harrison's and all the others, this opportunity for me to participate would not have been possible. Without the support of a membership that is spe-

cifically directed to the advancement, on all levels, of the Golf Course Superintendent, mutual progress would not have been possible.

I believe we are making such progress and will continue to do so. I am grateful, again, to the Wisconsin Golf Course Superintendents Association and I will continue to participate, as appropriate, because by "getting involved" and by "staying involved" one can "enjoy the benefits". That has been my experience and for that I thank you.

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Thanksgiving

By Monroe S. Miller

Cheryl says the reason I like Thanksgiving so much is because I love to eat. She's at least partially right, no doubt. And I bet most Americans associate that meal of turkey and dressing, mashed potatoes and gravy, and pumpkin pie with Thanksgiving.

For so many years, the excitement of Thanksgiving in Wisconsin was amplified by the thought of gathering around the television to watch the Green Bay Packers do battle on the gridiron. Lombardi may have hated it, but the faithful of Wisconsin loved it. It seems as though in recent years the Packers have found their way back to that game. These holiday games rekindle many fond memories of Thanksgiving past.

I believe that autumn has always had special meaning for rural families like the one I was part of in my youth. Somehow this holiday signals the end of that season. The bitter sting of disappointment over a poor harvest has faded, and thoughts have turned to the next year. Next year will probably be better, farmers think. If the crops were abundant and profits good, Thanksgiving was the perfect time to gather and celebrate that good news. In a lot of ways, Golf Course Superintendents experience those same emotions. We have to think in longer terms

than a single season or one year because we know there will always be bad seasons to go with the good ones. Thanksgiving brings this reality to the forefront.

Some trace Thanksgiving back to the Harvest festivals of the Greeks and the Romans. Me? I think it's an all-American holiday. I'm not even sympathetic with those Virginia historians who claim the first Thanksgiving was held at Berkley Plantation in 1619, two years before the Pilgrims observed it in New England. In fact, I recall the minor hassle President Kennedy got involved with over this dispute. My memory tells me it was 1962. Virginians protested that Kennedy hadn't mentioned their state in his Thanksgiving Proclamation. JFK half apologized, pleading an "unconquerable New England bias". I guess I have that same bias.


We went to Plymouth, Massachusetts this fall as pilgrims ourselves to see where, over three centuries ago, the Mayflower landed in the New World. The story of the Mayflower and its long voyage, the misery and hardships of the Pilgrims, and the success of the Plymouth Colony are cherished stories that are extremely important in our heritage. They left Plymouth, England in early September of 1620 and headed for Virginia. Two months later they arrived, not in Virginia but on the Cape Cod shore. They had been diverted by a terrible storm. They explored the region for five weeks, tried to sail to Virginia and again were thwarted by strong winds. They then set sail and travelled to the bay Captain John Smith had mapped several years earlier, landed and established the Plymouth settlement.

That first winter was brutal and they were poorly prepared for it. Sickness, a lack of food and the harsh elements took half of their numbers to the grave. But the following spring brought renewed hope. They made friends with a group of Indians who taught them to hunt and fish and raise crops in this new land. The summer was good and the fall crops were bountiful. After the harvest, the Pilgrims joined their Indian friends in a three day festival - the first Thanksgiving - to give thanks for the many blessings they had received.

That first Thanksgiving marked gratitude for more than just a good harvest. It found the newcomers to America free from the tyranny of their home government, the reason they took such a great risk in the first place. They had maintained peace with their Indian neighbors. Their worst fears probably hadn't been realized; the greatest disasters and catastrophes hadn't happened. I'm sure they realized that if they worked hard the future held more plenty than want.

But wouldn't one guess they were most thankful for the same thing we should be today - opportunity? I believe that, on both counts. The Pilgrims had persevered and therefore gained opportunity—to worship as they pleased, to go where they wished, to be as successful as they wanted and to govern themselves. Their opportunity for freedom is one that has passed through the years to us today. That is an awful lot to be thankful for.

The story of bedraggled little band of foreign newcomers needs to be told more often. Their story makes each Thanksgiving we celebrate even more special.



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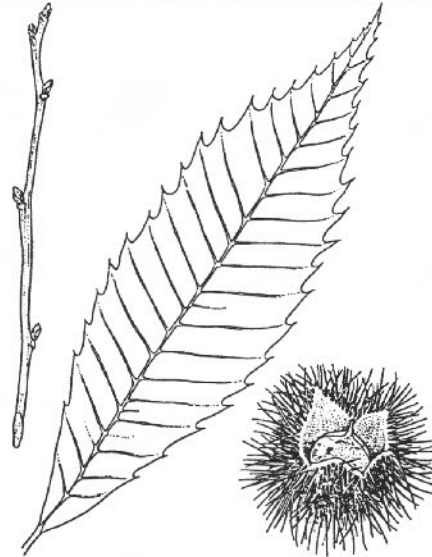


An American Tragedy

By Monroe S. Miller

What any one of us may be today, as well as the things that interest us, can usually be traced to people in our past. In youthful years, we are much of what fathers and grandfathers or older brothers and favorite uncles were. Special high school teachers leave great marks on many, I suspect. They sure did on me. Our early working years are influenced by the person who is our boss at any given job - I have a good bit of Peter Miller and Jerry O'Donnell in me. And as we study and struggle through the college experience, university professors have the opportunity - some say "responsibility" - to positively influence young and maturing people. I was particularly fortunate, while a student at our great State University in Madison, to attend classes taught by a number of influential men. I'm a better person for the impact they had on me, not just because of facts and figures and theories given by them, but rather for the lessons in rational and expansive thinking. They were able to open my mind to greater appreciation of many things in life. I am thoroughly convinced that those things are more important than the details of a particular course; they made many like me more cosmopolitan than we ever imagined possible. Men like Jim Love, Frances Hole, Dick Corey, Bob Newman and John Walters did all of those things for me. So did Ed Hasselkus.

I'll forever be grateful to Dr. Hasselkus for my personal interest, awe and near reverence for trees. He taught (and still does, along with other courses) a two semester class in woody landscape ornamentals. I've practiced much of what I learned from him for fifteen years on my golf course. Any Golf Superintendent must necessarily be aware of, if not really interested in, trees. They are significant features of most golf courses and critical hazards on many. My interest goes deeper than that, however. Broad topics like forest succession and climax vegetation, tree ecology and species identification are interesting to



read about and to observe. Phenology is another happening I learned to appreciate and enjoy from Ed. Bruce Allison's writing and the work he does have intrigued me for some time. Because of an interest that is more than casual, I have tried, over the years, to diversify the collection of trees we have on our golf course. I've had to do some searching and suffer some failures, but we've planted Kentucky Coffee trees, Shagbark Hickory, White Oak, Burr Oak, new Elm varieties, English Oak and Chestnut Oak, to name a few. That's Chestnut Oak by the way, not Chestnut. But I **do** have a pair of chestnut trees on our golf course, a claim few anywhere in the country can make.

The history of the American chestnut (*Castanea dentata*) is a tragic one. Although it is a tragedy that happened some 75 years ago, it is one our generation can relate to because of our very personal experience with the Dutch elm disease. The chestnut was a tree that had everything. Located from New England down through the mid-Atlantic states and west almost to the Mississippi, the chestnut was probably the most important tree in those forests, economically as well as aesthetically. Someone estimated that one tree in four in the Appalachian mountain region was a chestnut. The tree grew with a long and straight trunk that

was nearly free of knots and other defects. It made excellent lumber. And of course everyone has heard how tasty the nuts were. It was a common sight in the fall to see the burrs open and drop the nuts. They were an important food source for some rural people, for wildlife throughout the region, and they had important economic value when harvested for sale.

The economic value of the trees went beyond all of these things. The wood and bark of the chestnut were excellent sources of tannin, a material critical to the leather tanning industry. A spinoff of the tannin use of the chestnut was the pulp industry. Once wood chips were boiled to remove the tannic acid they were converted to pulp and used in paper and cardboard manufacturing.

And they were beautiful trees. Majestic and graceful in form, they were a favorite street tree, and no doubt found their way to many, many golf courses. Chestnuts did well on a variety of soils and grew quickly, providing shade in a relatively few number of years. It was my New England "friend", Henry Wadsworth Longfellow, who obviously knew the chestnut well and liked it enough to pen the line, "Under the spreading chestnut tree. . ."

This tree, which was the basis for so many industries in those parts of America where it grew abundantly, had another advantage, one at least as important as its rapid growth rates, site adaptation, prolific reproduction or the eager markets for its products. Chestnuts had neither insect nor fungus enemies. It seemed too good to be true to the turn-of-the-century industrialists plotting strategy for cashing in on the chestnut.

Then, in 1904, disaster struck. A forester found that something was wrong with several of the chestnut trees in the New York City Botanical Gardens. Cankers formed on limbs and trunks, spread and finally encircled the stem, killing those tree parts above the point of infection. The disease that caused chestnut blight - *Endothia parasitica* - is believed to have entered the United States in a shipment of nursery stock through a port in New York. It came from stock imported from either Japan or China.

The disease spread quickly and within 40 years it had effectively killed nearly all chestnut trees in the country, some 3.5 billion of them. No comparable devastation of a plant species ever happened before or after, to my knowledge. Not even the American



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Elm suffered so terribly. One reason for so complete and fast a kill of the population is the fact that the blight fungus produces two types of spores: one is a dry and large wind-blown disc; the other is a very small and sticky spore that is basically dispersed by rain. It was the small spores that were the real culprits in spreading the disease into every nook and cranny of the country. Not only did the rain disperse them, they stuck to the feet of birds. They stuck by the thousands - almost 7,000 spores were counted on one downy woodpecker. The movement and migration of birds doomed the chestnut trees.

Our country was slow in getting prepared to fight the disease. Discovered, as mentioned, in 1904, it took until 1911 before any special monies were appropriated to study the disease. By then it had become a disease that had reached totally unmanageable proportions. Just to show how desperate foresters were, they developed plans to cut mile-wide swaths across Pennsylvania and North Carolina to prevent the westward and southward movement of the disease. All chestnuts in these zones were to be removed. But before these plans were even close to final implementation, before the quarantine could be put in place, birds had carried spores well past the zones. Plans were cancelled. All hope seemed lost.

It will hurt you to read this: the disease that devastated the chestnut could have been exterminated in 1904, had the knowledge of today been available. And the cost would have been insignificant. But it has been that way with many human diseases, and knowledge itself takes time to accumulate. There is no use or sense in crying over spilled milk. What matters today are efforts to again establish the American chestnut, an effort similar to, if not as well organized or intense, as the project of the Elm Research Institute on behalf of the American elm. The most vigorous program I've read about is at Virginia Tech in Blacksburg, Virginia.

VPI has a chestnut orchard. It was planted in 1976 by Gary Griffin, a VPI plant pathologist, John Elkins, an organic chemist at Concord College, and Al Dietz, a retired industrial organic chemist. The seedlings first planted in the orchard were ones Dietz grew from the second generation of nuts he had exposed to ionizing radiation. The hope was that the exposure would induce a mutation that would be resistant to the blight disease. The original plantation had 200 seedlings,

and ten years later $\frac{2}{3}$ of them are still alive. They range from ten feet to thirty feet in height. Many of the survivors indeed have had the disease, which isn't surprising since the blight can attack trees at a young age. The goal is to harvest some chestnuts before the blight takes the tree out. Last year the orchard harvest of chestnuts yielded more than 1,300 from trees with no symptoms of the blight. The hope is that one of them has the correct gene combination to resist the disease.

Others are working on the problem, as well. They are dealing with cross-breeding projects. Some are searching wooded areas for that one, single tree that might be prospering, despite the fact that *E. parasitica* spores are abundant. There is hope that a specimen will be found that, at worst, will suffer only minor damage from blight infection, much like it's ancestors in China and Japan must have.

I've had a real curiosity about the chestnut. There are some historic places in Virginia Cheryl and I want to visit and I have every intention of seeing the VPI chestnut orchard someday. For five years Dr. Jack Berbee was my next door neighbor and, as a forest pathologist at the UW, he had spotted a couple of isolated chestnut trees in Wisconsin's forests. The nearest one was near a ranger station at Wisconsin Dells. I even found that one of our members has one in his yard. It needs more study - last fall (the first time I had checked) the spiny burrs were empty of any nuts. Is it a sterile tree? Or was it merely a case of an unfertilized female tree? What I do know is that it shows no sign of blight. And then there are the two American chestnuts I have on my golf course. This spring was their fifth from seed. A friend gave me the one year old seedlings that were sprouted in Madison. The nuts were from a parent tree growing near Mondovi. At the early stage of their lives I am happy to report they have survived hungry rabbits and reckless cross-country skiers, as well as vicious vandals and errant golf carts. My employees know the price of cutting one of them with a mower would be a fate worse than death. And so far, there is no blight. What a treat to watch these trees grow. Who knows, just maybe one of them will be the tree that restores the American chestnut to the stature it enjoyed seventy-five years ago.

I know that would make Ed Hasselkus as happy as it would make me. We both love trees.

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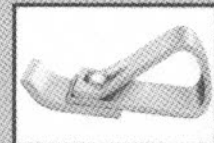


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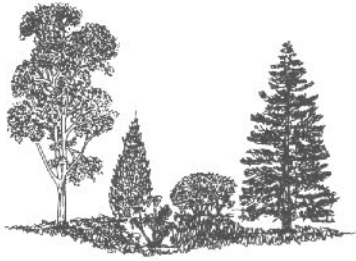


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Fall and Winter Care of Golf Course Ornamentals

By Dr. Lois Berg Stack
University of Maine

The autumn colors remind us that the season is almost over — for golf and also for many landscape projects. There are, however, a number of tasks relating to ornamental plantings that are best done in the fall or winter.

Annual Flower Gardens

In annual flower beds, it's clean-up time. The plants should be removed from the garden or tilled in. Most annuals can be tilled into the soil, to add easily composted organic material. Some annuals, however, should be removed and destroyed. These include any plants that were affected this year by a disease that might be carried over in the soil to next season. Some geranium diseases fall into this category. While cleaning flower gardens, make a note of any plants that performed particularly well this season, as a reminder to include them in next year's plantings. Also make a note of any plants that performed poorly, as a reminder to eliminate them from next year's plans.

Some of next year's annual flower gardens can be planted this fall. Seeds of annuals such as Pot Marigold, Spider Flower and Sweet Alyssum can be sown in place in the fall, and will reliably produce a flower garden the following season. Select a garden that is not prone to erosion and not in an area where the snow plows will pile salt-ridden snow. Till and rake the flower bed, sow the seed lightly in place, and mulch very lightly with a fine-textured organic mulch such as leaf mould or milled peat moss. Next year, the seed will germinate early and grow into an attractive garden as soon as could be done with transplants. After the seeds have germinated next spring, thin them to final spacing (Pot Marigold 10-12" apart; Spider Flower 1-2' apart, Sweet Alyssum 6" apart).

Don't stop with cleaning up flower beds. Be sure to include hanging baskets and other containers. Remove annuals from containers and clean the

containers this fall if they are to be reused next year. This is a good time to evaluate performance of containers. Make note of any plant materials that did well this year and include them in next spring's plant list. If some plants failed, try to determine the reason — was it the summer drought, the plant selection, the container itself, or the location? Containers can be a challenge for the maintenance crew; maybe it's time to consider a new soil mix, or a larger container that will require less frequent watering, or tougher plants.

Perennial Gardens

Perennial flower gardens have flourished on golf courses in the past few years. Perennials have different requirements than annuals. Much of the maintenance can be eliminated with proper plant selection, but there are always some tasks that cannot be avoided.

Consider hardy chrysanthemums. Many golf courses use mums for fall color. Plants are purchased in late summer in full flower, and continue to be showy until they finally die back after several hard frosts. Many people do not expect more than one season of color from mums, and allow the plants to die over the winter. Most of the mums that are sold in full color in late summer are hardy, and can be coaxed into surviving most winters with just a little extra care. After the tops have died back and the plants are completely dormant, cut them back to several inches above the soil line. Cover them with a mound of soil 4-6" deep; be sure to mark the mounds for next spring. When the soil warms up in the spring, the plants will start to send up new shoots. Carefully remove the soil mulch in stages, uncovering the new shoots. These shoots can easily be transplanted in early spring. One good mound of mums will produce a dozen or more such transplants, each to provide excellent color next fall.

If you have mums that were planted in a previous year, that have survived the winters but have not flowered since the first year, you should remove them and purchase new ones next year. Mums vary in the number of weeks required to form flowers, and some need more weeks than our summers provide. These flowers may form flower buds, but the buds do not open before frost. Always purchase short-season mums (they should be labelled as 7, 8 or 9-week types).

Most perennials benefit from a protective winter mulch. Wait until all perennials have died back (after several hard frosts), then cut back the plants to a few inches above the ground. Cover the beds with a loose mulch such as evergreen boughs, straw or hay. These mulches help maintain a more than even temperature, protecting plants from the alternate freezing and thawing caused by the late winter sun. Such widely fluctuating temperatures cause plants to heave of the ground, exposing their roots to the dry winter air. Not all perennials need winter mulch, but most perform better because of it.

The exceptions to the mulch rule are German Iris, Hollyhock, Foxglove and Sweet William. German Irises are planted with their rhizomes at ground level, and should never have any mulch materials placed over them. The Hollyhock, Foxglove and Sweet William are biennials, and must drop seed in late summer or fall in order to ensure flowering in future years. Placing a mulch over such plantings reduces the chance that the seedlings will germinate and survive.

Perhaps the most important task related to perennials is planting spring-flowering bulbs. For early spring color, bulbs cannot be surpassed. By now, most of our bulbs are probably in the ground. Bulbs perform best if planted in mid-fall, when the cool ground encourages root establishment. But there is still time for a spur-of-the-moment purchase. Most spring-flowering bulbs can be planted until very late in the fall and still perform admirably the following spring. Select only healthy, unmarred bulbs and plant them according to their size. Bulbs should be planted to a depth of about 2½ times their diameter. That means that the "little bulbs" (crocus, glory-of-the-snow, grape hyacinth, etc.) should be planted 3-5" deep, while the largest daffodils may have to be planted 8-10" deep. After planting, mulch the ground with 2-3" of organic mulch (leaf mold or

other composted material) to keep the soil temperature somewhat protected from early frosts; this will help root formation this fall.

Roses

Shrub roses, such as Rugose Rose or Virginia Rose, do not require winter mulch. The garden roses, however, are entirely different. Hybrid teas, floribundas and multifloras will not reliably survive the winter if left totally exposed.

After several hard frosts, remove ALL leaves from the roses. Leaves can harbor fungi over the winter, providing inoculum next spring. Cut back the rose canes only if they are too unwieldy to manage. Rose canes almost always suffer some winter damage, and major pruning should be left until growth has resumed in the spring.

In late November or early December, mound 8-10" of soil over the crowns of the plants. Then add either a loose mulch such as pine boughs, or rose cones (styrofoam or wooden). In mid-spring, remove the loose mulch or rose cones when the sun is warm enough to heat up the air or soil around the plants. Then remove the soil mound in two or three stages over a period of a few weeks.

Woody Plants

Several woody ornamentals require some attention at this time of the year to improve their ornamental value and to reduce winter problems.

Fall is not a major pruning season, but it is a good season to evaluate tree and shrub branches and decide which should be removed. Winter is a good time to prune out any diseased branches or branches with weak, narrow crotches.

Hydrangea can be cut back to the ground if desired. Many people prefer to leave the stiff, upright branches throughout the winter, because the dead flower clusters provide some texture in the winter landscape.

Multi-stemmed shrubs that flower in summer may be renewal pruned in winter. Potentilla, the pink-flowered Spireas, some Viburnums and many Dogwoods fall into this category. To encourage vigor, renewal prune them this year by removing at ground level only a few of the largest, oldest branches. Do the same next year and the year after, and the plant will be rejuvenated. Do not, however, attempt to renewal prune shrubs that flower in early spring (Lilacs, Corneliancherry Dogwood and Forsythia, for example), because they

have already formed their flower buds, and pruning will remove those buds, thereby reducing their value in the spring landscape.

Young crabapples have quite thin bark, and are susceptible to winter feeding by rodents. These rodents seek the protection provided by fallen leaves or other organic matter at the base of the trees. During the winter, they gnaw through the thin bark, exposing the trunk's exterior. If trees are completely encircled with this feeding ("girdling"), they will die. Purchase commercial rodent-guards or some wire mesh, which can be formed into cylinders around the base of the trunks. Be sure to dig the mesh cylinders an inch or so into the soil, to prevent rodents from simply crawling underneath. These mesh cylinders can be left in place for a few years if desired, until they threaten the trees' growth. Rodents can also be deterred by pulling bark mulch away from the base of the trees.

Thin-barked young trees such as crabapples, mountainash and maples may suffer damage from sunscald or frost crack. Sunscald is caused by alternating temperatures during winter. The sun warms the bark on the south

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