Field Notes

Tree Care at Maple Bluff Country Club

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Maple Bluff Country Club in Madison was founded in 1899 on gently rolling semi-wooded terrain. Some golf holes were cut out of native woods while other holes were lined with trees as the years passed. For the last twenty years tree care has been an integral part of our maintenance program at Maple Bluff. The program includes pruning of young stock, major tree trimming on all large mature trees, spraying of several varieties for certain insect pests, some fertilizing of trees, and watering of trees during drought years. The limitations on tree care at Maple Bluff are dollar, budget and time limitations. Trees are an extremely valuable resource and extremely important to any golf course. The program at Maple Bluff is not complete and totally what the trees need for proper care, but in reality it is what the membership can bear in terms of cost and must fall in line with other programs. We will try to outline briefly the tree work we do at Maple Bluff stating what we do, why we do it, when, and roughly the cost. This brief outline is presented not as a guide to what proper tree care is, because as was stated earlier the program is not complete, but rather as information as to what one country club in Wisconsin does with its trees.

Pruning — All new stock is periodically pruned for shape and proper growth. Work begins from the time they are planted until they are about 6" to 8" trunk diameter. The work is not high priority but is done as a filler job from mid-August to Dec. 15 and Feb. 15 thru April 1. The work is performed by the grounds crew.

All tree work on trees 6" to 8" and larger where climbing or aerial buckets are required is contracted out to a local tree trimmer. Approximately $1,000 is spent yearly removing dead material, storm damage, etc. and approximately every third or fourth year an additional $4,000 is spent on major trimming in heavily wooded areas. This major trimming takes place in the late fall and takes approximately 5 to 7 weeks. All the pruned brush is left on the ground for the golf course crew to remove. This type of program has went on for twenty years, so we are always fairly caught up with keeping our trees healthy from deadwood, bad crotches, storm damage, etc. All work is supervised by the grounds manager. I decide what gets pruned and when. When a skyworker is working on our trees I am there personally supervising every step. I do not possess any special knowledge of trees, but let common sense and advice from a good tree trimming firm prevail.

Dutch Elm Disease — Maple Bluff at one time had over 200 stately elms. When dutch elm disease took hold in late 60's and early 70's approximately 120 trees were lost before various treatment methods stopped the diseases spread. The following is a brief list of what we have done to stop dutch elm disease.

1970 — Started vapan barrier treatments. Not very effective.

1972 — Benlate solution applied through mauget cups spaced every 2" around the trunk. Slightly better results than vapan.

1974 — Started using gravity feed bucket and hose system from Hopkins Chemical to apply Lignasan and Correx. By 1976 the disease activity had slowed considerably.

1976 — Started using Arbotect 20-S on an experimental basis. We had to be careful as too much active ingredient per tree would cause the leaves to brown and drop to the ground. Results have been excellent. By 1981 our tree losses were zero. We still had 55 old mature elms left on the grounds. We use a therapeutic rate (2 oz. Arbotect/5 in. trunk dia./80 oz. H20). We now treat elms two years running and skip the third. Eventually we will treat one in three years and hopefully stop treating within 7 or 8 years. The small injection holes in the trunk are now getting to be a concern of ours. We do not know how much scar tissue is left under the bark layer in the first layer of live tissue from our injection sites and whether this will cause some other long term damage. But since we have gotten the disease into remission we now must think about scaling back our treatment intervals. The water to dilute the Arbotect 20-S in our area is very hard water so we have had to go to a de-ionized water so the Arbotect does not precipitate out and plug the feeder tubes on our injection equipment. You can also get plugging of the trees vascular system from the precipitated material. On a humid warm day we will get 6 or 7 gallons of pre-mixed material into a 30" diameter tree in less than 3 hours. Trees that do not take up material on their own, we use a pressure tank charged to 10 psi to force material into the tree. We have found that any more pressure than 10 psi causes the material to be forced into the bark rather than into the live tissue of the tree. Costs to treat 55 trees per year are $1000 for 6 gallons of Arbotect 20-S and $60 for a de-ionized water set-up. Labor is from our own crew. One man spends 20 hours per week for three weeks treating the trees. The cost/benefit ratio is dependent on the value placed on elms. We felt that the stately shape of an old American elm was worth saving. If we would have 200 trees to treat we might think differently but the remaining 55 add a dimension to our landscape that we are striving to keep.

Locust Trees — For the last 6 years we have had a problem with a small green aphid that likes to attack honey locust trees. I cannot say whether the aphid feeds on the leaves or injects the leaves with something that causes them to curl up and thin out. The tree takes on the appearance of being very thin and in poor health. Phil Peleteri from the U.W. Extension diagnosed the problem and recommended using Ortho's Orthene spray. We put 1 oz. of orthene per 1 gallon of water. We needed to use 550 gallons of mix in a Bean sprayer with a Bean high pressure gun to cover all our locusts. Several mature locust trees were left untreated and they eventually died. They thinned out to the point that they had very little foliage left. The spaying process merely controls the aphid population and never completely eradicates it. Every third year when we notice the locusts looking a little thin we examine the tree for aphids (by shaking the leaf vigorously) and merely treat when necessary. Cost of material is under $50 and labor is two men and a sprayer approximately 6 hours.

Spruce Gall Aphid — For the last 15 years we have had a problem on and off with spruce gall aphids on several varieties of spruce. Black Hills seemed to be the hardest hit while Colorado Blues never seem to have the problem. The first few years between 1969 and 1971 the damage to spruce trees was severe, with several old mature trees lost. Yearly spraying of Liquid-Lime Sulphur (10 gallons A.I. per 200 gallons of H2O) from 1969 to 1976 slowed the problem to where we now treat every second or third year depending on what we see for old spruce galls from the previous year. In early April we examine spruce trees for old galls. If there are none we don't spray. If there are enough where we think the population might cause some tree damage in the upcoming growing season we then spray. Timing seems to be important on the use of lime-sulphur on spruces. We have found that the spraying must take place in the spring as late as possible but before the bud breaks on the spruce. Once the bud breaks the new growth is so tender that lime-sulphur will burn and stunt it. It is also important to have a calm day as we are using a high pressure bean sprayer and gun at 300 PSI to cover 10 to 50 foot trees. One application in the spring properly timed seems to hold the insect in check for one season or more. The cost is approximately $300 to $400 for 140 gallons of liquid lime-sulphur. It takes 2 men roughly one and one half days to do the job.

Apple Scab — Probably the least successful tree care area we have is the care of fruit trees infected with apple scab. The trees become unsightly in the late summer and early fall. Several materials used have met with limited results. Our first material did little or nothing and required weekly spray intervals. We then have tried Quintar 5F (Dichlone 2,4 Dichloro-1,4 Napthaquinone) by Hopkins. The material is potent and can damage tree foilage if over applied. But here again the intervals for control are 5 to 7 days. We have not successfully controlled the disease as we have never been able to religiously stay on a rigid spray schedule. Where we have sprayed 3 weeks running the disease is indeed stopped. But the spray schedule works its way into the busy summer season and spraying has to make way for more essential work. Part of the problem is that we have never killed or damaged any trees from letting the disease continue. Every spring the crabs and other fruit trees bloom as if their were no summer disease problems. Until we see some long term damage to the trees or a better product for scab control comes onto the market we will probably not solve this problem.

We have experienced some signs of Maple decline at Maple Bluff and we have lost two 18" trees in the last 5 years. The trees in question began to decline in vigor over a period of 4 years. Both trees had excessive girdling root problems which we believe to be a major cause of their decline. Oak trees have not been a problem here and as such do not require a great deal of care outside of removal of dead wood.

Tree care at Maple Bluff has to take its place in line with other priority items in running the golf course. We appreciate the value and beauty of the trees and we don't feel we ignore them but on the other hand we certainly realize we are no way close to giving the best care possible.