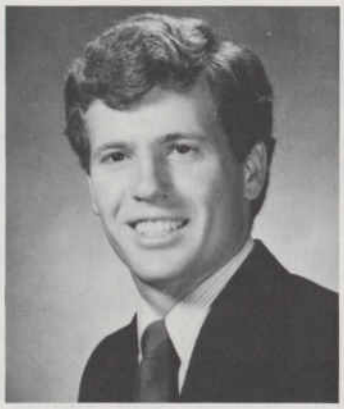

Editor's note: Michael R. Semler is currently the Assistant Golf Course Superintendent at Blackhawk Country Club in Madison. He is a 1983 graduate of the University of Wisconsin — Madison with a B.S. degree in Soil Science with a specialty in Turfgrass Management. In addition to working at Blackhawk Country Club for two years, he was a member of the golf course staff at Hartford Country Club for the previous five years. Mike, a 10 handicap golfer, was also a member of the Evans Scholars Fraternity for four years.

KEEPING OUR HEADS HIGH!

By Michael Semler

At the 1983 International Turfgrass Conference, I heard Michigan Congressman Guy Vander Yagt give his keynote address at the opening ceremonies. He really caught my attention when he said, "golf course superintendents were environmentalists and ecologists before the rest of the country even knew the words existed, let alone knew what they mean." After hearing this, I thought about what he had said and realized that we, as golf course superintendents, have nothing to lower our heads about when confronted by people who feel golf courses are a waste of good land. After more thought, I had compiled a pretty good sized list of the ways which golf courses are environmentally sound and are a benefit to both golfers and nongolfers. What follows are some of the ideas which give us a strong argument in favor of golf courses as well as some things we can do to be more environmentally efficient.

The most obvious reason for supporting golf courses is because it is an area for recreation and relaxation for millions of golf enthusiasts around the world. Whether it is with our family or our friends, the golf course is a place to take time and enjoy the surrounding beauty which we superintendents provide. As urban sprawl continues, I tend to think of a golf course as a tranquil oasis in a desert of concrete and asphalt. Everyone is struck by some awe when they pass by a golf course, amidst its' neighbors of cement buildings, and admire the carpet of green grass and the majestic trees. The exodus of urban dwellers to parks, forests and golf courses on the weekend helps support the idea of a tranquil oasis and the necessity for these areas.

At Blackhawk Country Club, my present employer, we try to provide our members with a wide variety of plant materials. Such plant genus' as Oak, Spruce, Fir and Maple are typically used on most golf courses. What we try to do is plant some of the less common species, and possibly some of the more expensive species, of each group. For example, instead of planting all Red or Pin Oak, we plant four or five different species of Oak, including White, Bur, Chestnut and English Oak. With this plant material variety, we get explosions of various colors, fruits, shapes and sizes throughout the entire golfing season. Not only does this variety give a year-round display, but it helps to attract many species of birds and animals which may otherwise avoid the area. All of this adds beauty and mystique to the course in the eyes of the golfer and helps add to the enjoyment and relaxation.

The enjoyment a golf course provides as an area of recreation will only directly benefit golfers. So what about the nongolfer who may only catch a moments glance and a moments awe? How else does this person, as well as everyone else, benefit from the presence of a golf course?

Probably one of the biggest benefits we all receive from a golf course is from the conversion of carbon dioxide to oxygen through photosynthesis. We all require oxygen, and the average 18 hole golf course, approximately 150 acres, can provide enough oxygen to sustain life for 10,350 people daily. This is a substantially larger amount than that provided by a parking lot or a building.

In additon to the liberation of oxygen, turfgrasses have a temperature regulating effect. Grass cools the air around itself by releasing water through transpiration, an energy transferring operation that cools the grass leaf surface and dissipates concentrated heat. It is essentially a natural air conditioner. Not only does the grass leaf cool itself and the air nearby, but it only absorbs 50 — 60 percent of the total incoming solar radiation, while pavement and buildings can absorb up to 90 percent. This reduces the amount of heat absorbed by the plant, and along with the release of heat through transpiration, provides an environment which is cooler than that near pavement or buildings.

The plant materials superintendents maintain, namely grass and trees, also act as air purifiers. Their vast leaf surfaces adsorb and filter out large amounts of soot, dust and other annoying particles. Turf and trees help slow down air movement and help these particles settle out. These particles are then attracted and held on the leaf surfaces by static electricity, and washed harmlessly into the soil by rainfall.

Green leaves also trap many of our gaseous air pollutants such as sulfer dioxide, ozone and peroxyacetyl nitrate. Plants are injured when they take in too much of these pollutants, but they continue to absorb these toxic gases as long as functioning tissue remains. The ability of plants to remove air pollutants is one of the important reasons for preserving greenbelts in our cities and towns. Another air pollutant, hydrogen fluoride, can cause injury to crops in minute concentrations of 0.1 part in one billion, but grasses can accumulate several thousand times that amount without injury.

Urbanization creates large areas which are impervious to the infiltration of water. The extensive root system of healthy turfgrass opens channels in the soil to help the percolation of water into deeper soils. This deep percolation helps to replenish valuable underground water supplies. During a 3-inch rainfall, the average 150 acre course can absorb 12 million gallons of water. Only a virgin forest is more absorbent than healthy turf.

One of the major problems of our nations waters today is sediment pollution. In some areas, erosion of topsoil is occurring at a

faster rate than it can be produced. But the amount of soil eroding from turf is so small as to be nonexistent. This is also important because phosphorus — the element which nourishes algae growth and speeds up the process of lake eutrophication — enters water attached to soil particles. Thus turf does an amazing job of reducing the amount of phosphorus entering water through erosion and helps prevent the accelerated eutrophication of lakes.

Obviously, the most natural or environmentally sound action would have been to leave the land designated for a golf course in its "natural" state. However, we know the possibility of this occurring is very slim. As a golf lover, and hopefully a future superintendent, I consider a golf course the next best thing to the natural state.

As superintendents, we have the possibilities to manage our courses in a very resourceful and environmentally safe way. We are constantly reminded of the harmonious relationship we tend to between the golf course and the environment it is in. The environment affects the game as much as the superintendents' management practices do, and may be more. But also, the environment is the key factor in determining our management of the course.

There are thousands of ways in which superintendents can, and do, act resourcefully and environmentally safe. In my mind, one of the most important actions we can take is using the research and extension programs related to turf which are available from our colleges and universities across the nation and throughout the world. For example, through research we have found out that we can reduce the amount of fertilizer applied to annual bluegrass fairways, and still keep the turf healthy, beautiful and under good playing conditions. We have reduced expensive fertilizer costs and more likely, reduced maintenance, irrigation and pesticide needs. Isn't this an environmentally sound practice?

Reducing fertilizer amounts is only one of thousands of ideas obtainble from research. What about research in developing turf cultivars for disease resistance, wearability and drought tolerance. Or the most effective pesticides or pesticide programs available. The list is endless and only a fool would ignore this information since the research can save money and can help produce a more environmentally sound golf course while maintaining or increasing playing quality.

We can all relate to the problem fall poses on the golf course — fallen leaves everywhere and what to do with them. At Blackhawk Country Club, we do as many golf courses do to handle the situation, and this is to mulch them in the rough areas. Since it is necessary to remove the leaves from fairways, greens and tees for playability reasons, a 3-bladed rotary mower is used to chop the leaf material into small particles, once it is blown off of these playing surfaces. By grinding up the leaves, they are more easily decomposed and the nutrients present are returned to the soil. By returning the nutrients which were taken up and used to produce leaves, we may help produce stronger and healthier trees and turf. If the leaves are left to lay, they cause problems for the players. If they are picked up and hauled away, machinery, fuel and labor costs are increased. Not to mention the fact that once hauled off the course, how do you dispose of them. Landfill sites are precious and costly. Composting is possible, save for the odor, the large pile and the space necessary to store them. However, an environmentally sound action that we can take is to return to the soil what has been taken out.

Pruning trees is usually done on a routine basis. It is beneficial because it produces a desirable form of a particular tree or shrub. But what do we do with the twigs and branches which are removed. Again, landfill storage can be questionable, yet we must do something with it or else we would become buried in decaying brush. A solution is to chip the smaller branches into a groundcover material and use the larger pieces as firewood. Since we can use this mulch as a groundcover in plant beds and selected areas on the course, we can return to the soil what has been taken out by the plant. By doing this, we are acting in an environmentally and economically safe means.

Golf courses require large amounts of fertilizer products to keep the turf healthy. There are many fertilizer types on the market, put out by a multitude of companies, with just about any type of formulation desired. However, one fertilizer type, namely, Milorganite, is especially useful for our purpose of being environmentalists.

Milorganite is produced by the Milwaukee Metropolitan Sewerage District, MMSD, and rightly so since it is produced from sewage sludge. MMSD produces and sell about 60,000 — 65,000 tons of Milorganite annually. Golf course superintendents readily use this quantity because of its desirable characteristics. But many of us do not realize the significance of this. We apply Milorganite to benefit our turf, and in the process we are benefiting our society by saving tax money and preserving environmental quality. Because if it were not through our harmless spreading of Milorganite, sewage sludge, on our turf areas, MMSD would have to first find a landfill site suitable for sludge disposal which is close to Milwaukee and secondly haul the sludge to this sight, all the while trying to be as cost effective as it is to produce Milorganite. It is cheaper to produce Milorganite and spread it safely on our golf courses than it is to haul to landfill areas. Once again, we are environmentalists.

Every winter, almost all golf courses do some type of maintenance work on their equipment. The extent and type of procedures done are not of critical importance at this time. It is important to realize that the maintenance performed is done to help the machine operate properly and efficiently, and hopefully extend its life. This is a good practice since it can save resources by reducing new equipment needs and save the need for new materials to make them, reduce fuel consumption and hopefully save headaches in the summer from broken down equipment. But we can go one step further. Instead of discarding old, worn-out bedknives and other metal products in the garbage, why not turn them into a scrap metal dealer where they can be recycled and reused. Dirty engine oil, old tires and many other petroleum

products can usually be returned to collection centers where they will be sent to be recycled or reused in another form. We are environmentalists by keeping our equipment in proper working order and recycling as many materials as possible.

Obviously, a golf course should, and does mean more than a well manicured green or a dog leg to the left. It is true that the essence of our existence is to provide an area for recreation for golfers, however, it is also true that we enhance environmental quality through our care of turf, trees and soil. We can hold our heads up high and be proud of the environmental enhancement, the inspiring greenery and all the benefits that go with a golf course which we provide to the entire community. So next time you are confronted by someone who feels that golf courses are a waste of valuable land, remember, we were environmentalists and ecologists before the rest of the country even knew the words existed.

FORESTRY—RIGHT-OF-WAY—TURF COALITION FORMED

A new coalition has been formed to stand against local governmental bans of pesticides. This coalition will provide accurate, scientific data on the safety of modern chemicals used for industrial, recreation and commercial vegetation management. The group will also serve as a clearing house for information on the recent epidemic of local pesticide rules and regulation which are cropping up all too frequently around Wisconsin. It will operate as a division of the Wisconsin Agri-Business Council, an organization that the Wisconsin Golf Course Superintendents belongs to. Tom Harrison, Golf Course Superintendent at Maple Bluff Country Club and President of the Wisconsin Turfgrass Association, has agreed to serve on the coalition as a representative of the turf industry in Wisconsin.

The coalition will have members from cooperative and investor owned power companies, county forest associations, tree service contractors, paper companies, highway officials, parks and nursery professionals, as well as the turf industry. Wisconsin Agri-Business Council Executive Director Russ Weisensel reports that a steering committee and technical advisory committee will be named shortly. Funding for the coalition will come from vegetation management user groups. The Agri-Business Council, under Weisensel's leadership, has the expertise to make the coaliton work. They are in contact with similar coalitions all across the U.S., a situation that leads to a sharing of ideas and programs and a creation of an awareness of what is going on elsewhere. The goal of the coalition is the supply of accurate and factual data so that intelligent decisions can be mae in this critical area of pesticide regulation.