

Golf Courses –

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Science and The Detroit Free Press recently reported that 20 Nobel prize winners and scores of other top U.S. scientists are accusing the Bush administration of “suppressing, distorting or manipulating the work done by scientists at federal agencies.”

According to the reports, a Minnesota example of this suppression involved research findings by former USDA microbiologist, Michael Zahn. Zahn was studying antibiotic use on pig farms in Southwestern Minnesota, Northern Missouri and Iowa.

Quite by accident he found airborne bacteria were expelled from these farms and he speculated that heavy antibiotic use could produce resistant bacteria that could be inhaled by humans. Zahn thought his findings could have a potential impact on human health, but he claims the Bush administration stopped him from publishing the data 11 times.

Science reports that the Union of

Concerned Scientists has lambasted the White House for “ignoring or suppressing findings that don’t support the Administration’s views on everything from Iraqi weapons to climate change.” The Bush administration has fiercely denied the charges.

(Editor’s Note: Don Gordon is professor emeritus of botany at Minnesota State University. Send questions concerning horticulture or the environment with a stamped self-addressed envelope to him at 52974 Deerwood Trail, North Mankato, MN 56003 or e-mail to osokato@aol.com.)

Rebuttal By Fred Taylor, CGCS, Mankato Golf Club

After spending a lifetime on local golf courses, I am compelled to respond to Dr. Don Gordon's column of March 6. Although I have a deep respect for his knowledge of our environment and horticulture, the sensational headline denouncing golf as a major contributor to the

decline of our environment falls short of his genius. There is no doubt that golf courses use fertilizers, water and pesticides; however, the implication that golf courses are indiscriminately applying these products and squandering resources is an undeserving charge against the sport and the professionals who manage the world's golf courses.

Referring to Worldwatch, Gordon says the average course uses 18 pounds of pesticides per acre annually. This may or may not be factual, but the average golf course is using fewer pesticides than in the past. Newer chemistries have reduced use rates while improving efficacy. Where an older product may have needed one half of a pound per thousand square feet, some of the newer rates are typically from one-half to one-quarter ounces. In addition, university testing has shown synergism with some older fungicides that have reduced their rates by as much as 50%. Biological control products are also being used by superintendents to complement their chemical and cultural programs, further

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Taylor's Rebuttal—

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reducing the need for chemical pesticides.

Due to the nature of the wear and divot-taking on golf turf, increased fertility is needed for recovery. Strides have been made in slow release nitrogen technology, which can reduce leaching and volatilization of these products. Additionally, an increasing number of superintendents are turning to foliar feeding of turf stands. This procedure involves ultra-low application rates of nutrients that are taken up by the plant leaves. This practice also reduces the risk of nutrient run-off, in addition to reducing the overall amount of fertilizer applied. Turf breeders are constantly trying to create cultivars that resist pests, and use nutrients efficiently, while also providing an acceptable playing surface.

Irrigation of golf turf is one of the most expensive and technological demanding practices on the golf course. A state-of-the-art sprinkler system installed on an 18-hole course can cost upwards of \$1 million. Interestingly, the reason that these systems are so complex and costly is for the efficiency of water application, not for increased output. It is true that most courses use potable water for irrigation. The use of effluent water is an alternative, but the poor quality of the water can lead to many plant-health and soil problems. Superintendents have learned that the judicious use of water leads to fewer fungal problems, and a firmer, faster playing surface.

Dr. Gordon does point out some of the challenges of today's golf course superintendent. He adds that many homeowners try to have their lawns look like a golf course. In the golf industry, there is a parallel analogy colloquially known as The Augusta Syndrome. That is to say that all golf courses are compared to the pristine conditions of Augusta National, where nary a weed is to be seen, not a blade of grass is out of place. It is the perfect picture of golf. As golfers look for these immaculate conditions on their own courses, superintendents are caught between budgetary and environmental considerations, and providing what is perceived as necessary for the enjoyment of the game.

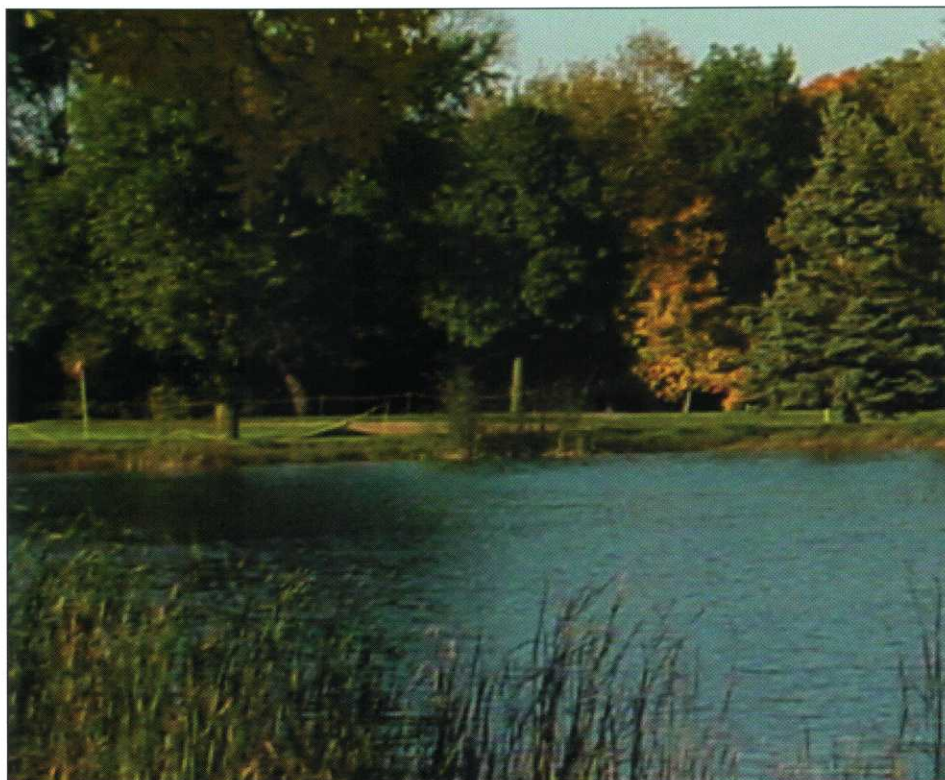
There is a place for golf courses in the modern environment. Courses that are properly designed, constructed and maintained can add beauty, create oxygen, stabilize soil, provide wildlife habitat, and add to the quality of life for the patrons



Mankato Golf Club embraces the beauty of nature.

who enjoy the game. With the proper education and experience, golf course superintendents can effectively manage this delicate balance between environmental

stewardship and the demands of championship course conditioning, but only if the expectations of both golfer and environmentalist are reasonable and attainable.



Another view of an environmentally secure area at Mankato Golf Club.