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OUR OBJECTIVE: The collection, preservation, and dissemination of scientific and practical knowledge and to promote the efficient and economical maintenance of golf courses.

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PRESIDENTS MESSAGE

GCSANC SUPPORTS FIELD STATION RESEARCH

The Golf Course Superintendents Association of Northern California (GCSANC) at a recent Board of Directors meeting, voted to enhance our contributions to fellow industry professionals by contributing \$4,500 to the University of California for use by Dr. Ali Harivandi at the Santa Clara Field Station. This program has been expanding steadily over the past few years with test plots of Tall Fescue, Zoysia, Buffalo Grass and the only National ranked complete set of Bentgrass Trials, just to name a few. In the past Dr. Harivandi has enjoyed the moral support of individual Golf Course Superintendents and it is befitting that we as an organization contribute to his ongoing efforts to provide research and educational opportunities to our group.



Rod Kilcoyne (L)

Ali Harivandi



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Dale L. Siemens President

A LOOK AHEAD

(con't from page 1)

With mental toughness comes a willingness and stubbornness to keep on trying, plus an enormous pride in individual performance on each and every down.

A good offensive lineman hangs in there and takes the shot, then lines up and does it again. His durability is impressive. They never miss a game or practice during the season. They can't. There cannot be any surprises.

Sounds very familiar, doesn't it?

Article from Wisconsin GCSA "The Grass Roots" by Monroe Miller

January 18 Crow Canyon Country Club

February 19 Green Valley Country Club

March USGA/NCGA Meeting

April Diablo Creek Golf Course

May 10 Rossmoor Golf Course

June Open

June 13,14 CGCSA Meeting

July Supt./Pro

August Open

September Windsor Golf Club

October Brookside Country Club

Joint meeting with Sierra-Nevada

November Institute

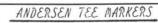
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THOUGHTFUL TREE PLANTING

To the novice golfer or average club official, planting a tree on a golf course seems fairly straight forward. After all, it only takes a short trip to the nursery and 10 minutes to dig a hole.

Well, not exactly. An improperly placed tree of the wrong species can seriously interfere with the original intent of the course architect, or even worse, completely destroy a putting green.

The following are 10 guidelines that one should ponder before attempting to plant a tree. Hopeful, these guidelines will help ensure that a new tree becomes an asset to the entire club, rather than a thorn in the superintendents side.

Before reviewing these guidelines, please realize that each may not always apply strictly in all situations. For example, a large tree planted 25 yards away from a putting green on the south side will cause greater problems than a tree planted the same distance on the north side, due to heavy shading.

Guideline No. 1: Make sure to select a planting location so that the mature canopy of the tree will not protrude on the line-of-flight between a tree and a fairway. Trees with protruding limbs dramatically reduce the usable size of a tee.

For example, a tree planted too close to the front right-hand side of a tree will promote concentrated use on the left-hand side of the tee. The result of such concentrated divoting on one side of the tee usually promotes discussion about the superintendents abilities. The solution to large, overhanging limbs is usually sympathetic pruning that leaves the

tree permanently disfigured. Actually, complete removal of a tree could be the best solution.

Guideline No. 2: To allow for vital air movement and exposure to sunlight, resist the temptation to plant dense groves of trees around greens, tees and fairways. Poor air circulation, especially in areas where greens are located, produces soaring temperature and humidity during the summer that, in turn, promotes harmful disease development. Furthermore, poor air circulation and dense shade during the winter, produces cooler soil temperatures and humidity during the summer that, in turn, promotes harmful disease development. Furthermore, poor air circulation and dense shade during the winter, produces cooler soil temperatures that severely retards the growth rate, leaving greens helpless against foot traffic. In situations where poor air circulation and restricted sunlight penetration cause an unacceptable turf loss, tree removal is absolutely necessary.

Guideline No. 3: Never try to completely fill in rough areas between adjacent fairways with trees for the sake of safety. No matter how many trees you plant to protect neighboring players, the odds are the first handicapper will find a way through. Once they do, look out!

The player automatically feels qualified to join the PGA tour and aims directly in to the oncoming players, hoping to hit a high fade back over the trees. If your intent is to protect golfers in adjacent fairways near the landing area so that if someone does stray, they have the opportunity to return to their fairway uninhibited.

Guideline No. 4: Never plant large trees closer than 75 feet from a green or tee because they will become serious competitors for available water and nutrients. Most individuals are underneath mistaken impression that tree roots cannot extend outward from the trunk further than the drip line of the tree. In reality, tree roots can extend outward from the trunk approximately one to one and a half times the total height of the tree.

For example, if a tree in 100 feet tall, its roots can extend as far as 100-150 feet. Once tree roots have invaded underneath a green or tee, they sap water and nutrients away due to their overwhelming size. In situations where tree roots are a problem, sever them with a trencher and install a permanent barrier.

Guideline No. 5: Without question, flowering trees and unmistakable beaut any course. However, due to their tender bark and dwarf stature, they are extremely sensitive to mower damage. This extreme sensitivity makes most flowering trees a poor candidate for use on golf courses, unless they can be carefully protected. August National is a good example. The beautiful flowering dogwoods and azaleas have been planted underneath large pine trees where there is never an occasion to operate heavy mowing equipment.

Guideline No. 6: Try to avoid screening out scenic vistas. Scenic vistas include the clubhouse, ocean or mountain views, lakes or other open areas of the course. Once a scenic visa has been lost, it is usually forgotten and consequently, may be lost forever.



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ANNUAL CHRISTMAS PARTY

Guideline No. 7: It is often best to avoid using a standardized tree planting as yardage indicators. Problems arise in the future when one of the planting is lost or damaged.

For example, if palm trees are used on each hole to indicate a distance of 150 yards, it will be impossible to replace a dying palm with one of matching size. In addition, a tree planted to the edge of the fairway can severely penalize a golfer.

Guideline NO. 8: When selecting a tree, choose species that match the existing vegetation and have favorable characteristics. Cottonwoods and large fruit trees are not good candidates for golf courses because they are either strong surface rooter or require continuous maintenance.

maddition, try to limit the number of different species as much as possible. A continuous vegetation scheme is often the trademark of many of America's highest-ranked courses. For example, the site of this year's US Open is Oak Hill CC in Rochester, NY. This particular course has a continuous theme of oak trees from the first tee through the 18th green. Courses that tend to plant a potpourri of tree species are usually unflatteringly refereed to as tree zoos or specimen parks.

Guideline No. 9: Try to naturalize the appearance of large tree planting by randomizing the distance between each tree. A good way to develop a randomized tree planting would be to hit several dozen golf b balls into a rough area from a distance of 200 yards. Then place a small flag where each ball

has landed and selectively remove one flag at a time until there are an appropriate number left.

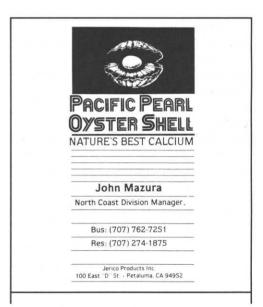
Guideline No. 10: To prevent unnecessary neglect of newly planted trees, never plant more than the maintenance staff can adequately maintain. During the first year of establishment, small trees require extra attention and frequent hand-watering during the summer. If you must purchase trees in large numbers due to cost, it might be best to establish a tree nursery near the maintenance facility where they can be easily cared for. Then over the next several years, slowly spread them over the course.

Summary: Remember that a good treeplanting program on any course starts with a long-range plan. What makes a golf course different from a park or from your front yard is the presence of sensitive putting greens and the integrity of the fame.

The agronomic impact of misplaced trees is commonly seen in the form of shade, root competition and poor air circulation., Thoughtful tree planting should not only improve the appearance and play ability of your course, but more importantly, remove the thorn from your superintendents side.

Article by Paul Vermuelen USGA, as seen in Divots August 1992.

and Larry Lloyd Memorial Tournament will be held December 4 in the Monterey area. Tee off at Del Monte Golf Course and join your fellow superintendents at the Doubletree Hotel for dinner and dancing to "The Touch". Rooms are available at the Doubletree Hotel for \$59.00. Make reservations for dinner and golf with the GCSANC office and for room reservations call the Hotel directly at (408) 649-4511 and tell them you are with GCSANC.





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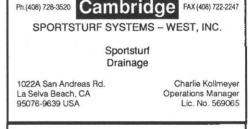
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"BIOFUNGICIDES" ECONOMICAL ALTERNATIVES

Biological controls ranging from special concoctions of microorganisms to tailor-made disease-fighting composts could replace millions of dollars worth of chemical fungicides applied to golf courses and home lawns, according to Cornell University turfgrass pathologist Eric Nelson.

The result would not only save money but reduce environmental damage and dangers to humans, animals and beneficial microorganisms, he said.

Nelson reports significant progress in replacing chemical fungicides with biological alternatives in a new Cornell Cooperative Extension publication, Biological Control of Turfgrass Diseases (Information Bulletin 220).

Nelson reports that he is now able to suppress major fungal diseases of turfgrass to levels comparable to those achieved by chemical fungicides through such biological methods as top-dressing golf courses and lawns with composts or with higher-than-normal populations of microorganisms that inhibit plant pathogens. His studies on the non-composting aspects of biocontrol are published in a recent issues of Phytopathology, and his work on the effects of compostapplications on turfgrass diseases will be in a forthcoming issue of Plant Disease.

By using Nelson's methods for four years, the golf course at The Country Club of Rochester, N.Y., has reduced its use of synthetic fungicides by 89 percent.

"Although the biological control of turfgrass diseases is still very much in the developmental stage, research is showing that the future of biofungicides is extremely bright, "said Nelson. "We may someday be able to offer a whole cocktail of natural antagonists that will replace the use of chemicals for turfgrass altogether."

Working with experimental plots and golf courses at Rochester, Cornell and the Sagamore Resort at Lake George, N.Y., he has successfully used microbial-based fungicides to control turfgrass diseases, including pythium blight and root rot, dollar spot, red thread, grey snow mold, and brown patch.

Currently, more than \$55 million is spent annually on turfgrass fungicides to control diseases on golf courses, home lawns, parks, athletic fields, corporate and school grounds and elsewhere. Almost 75 percent of that amount is spent on golf courses. Golf course turf experts spend about 60 percent of their chemical pesticide budget on fungicides. Golf course turfgrasses are particularly vulnerable to fungi because they are monocultures, as opposed to mixed grasses which are used for home lawns.

Also, the fact that such turf is cut so short down to one-eighth of an inch compared to two inches for the average home lawn - contributes to vulnerability to infection. With such close croppings, parts of the root system shut down so the roots will remain proportioned to the growth; yet, the smaller root system makes the plant more vulnerable to infection. A very short cut also places the wounded part of the grass blade much closer to the pathogens in the grounds.

Finally, golf course putting green turf is unusually vulnerable to infection because greens are composed of sand, which is largely devoid of microorganisms, many of which are important for plant health.

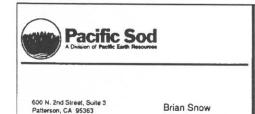
Chemical fungicides are not ideal treatments, said Nelson, because they are expensive and tend to become less effective over time as pathogens become increasingly resistant to them. A.so, changing regulations may cause particular fungicides to be taken off the market unexpectedly.

Developing a new chemical fungicide takes 10 to 15 years at a cost exceeding \$80 million, Nelson added, citing data from companies that produce the chemicals. A microbial fungicide, on the other had, takes less than three years to develop and costs less than \$500,000, he n

Money, however, is not the only cost involved in chemical use. Chemical fungicides could pose a health risk every time a golfer picks up a ball or a child rolls in the grass, said Nelson. "One 1987 study showed for example, that in a typical suburban neighborhood, there were potentially more than 8,000 cases where homeowners were exposed to lawn pesticides at levels that could endanger health. As pesticide use increases, this figure will likely rise," Nelson said.

Synthetic fungicides also endanger wildlife and non-target organisms, promote non-target diseases in some cases and threaten soil and water, said Nelson.

Credit: Turf North - April 1992



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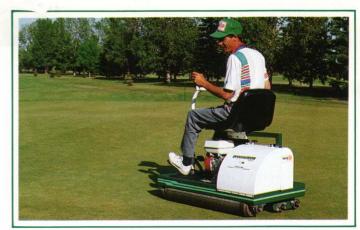
- Consistent green speed green to green and day to day
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WATER FACTS

There's as much water in the world today as there was thousands of years ago. Actually, it's the sam ewater. The water from your faucet could contain molecules that dinosaurs drank. Perhaps Columus sailed across it.

Nearly 97 % of the world's water is salty or otherwise undrinkable. Another 2% is locked in ice caps and glaciers. That leaves just 1% for all of humanity's needs—all uts agricultural, manufacturing, community, and persoanl houselhold needs.

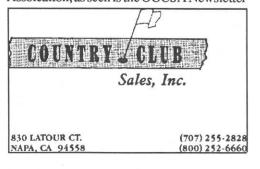
We drink very little of our drinking water. Generally speaking, less than 1% of the treated water produced by water utilities is actually consumed. The rest goes on lawns, in washing machines, and down toilets and drains.

Indoor water use statistics vary from family and in various part of the country, but average out pretty reliably. Nearly 40% gets flushed down toilets, more than 30% is used in showers and baths, the laundry and dishwashing take about 15%, leaks claim 5% or more, which leaves about 10% for everything else.

Little leaks add up in a hurry. A faucet drip or invisible toilet leak that totals only two tablespoons a minute comes to 15 gallons a day. That's 105 gallons a week and 5,460 wasted gallons of water a year.

Water is a precious commodity and there is a limited supply in most communities. Remember to use only the amount you actually need. Encourage your family to keep looking for new ways to conserve wate in and around you home.

Article from American Water Works Assoicaiton, as seen is the OGCSA Newsletter



GOLF COURSE WASTEWATER SYMPOSIUM

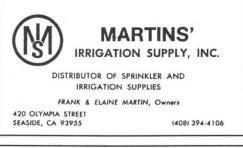
The United Sates Golf Association, in cooperation with the American Society of Golf Course Architects, Golf Course Builders Association of America, Golf Course Superintendents Association of America, and National Golf Foundation, announces a Golf Course Wastewater Symposium on March 4 and 5, 1993. The Symposium will be held at the Newport Beach Marriott Hotel in Newport Beach, California.

Effluent water from sewage treatment plants and wastewater from other sources has been playing an increasingly important role in golf course irrigation as the use of potable water for irrigation has come under public scrutiny. The Wastewater Symposium will bring together

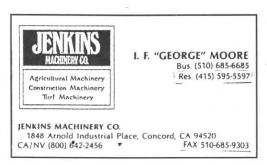
turfgrass managers, engineers, agronomists, golf course architects, equipment manufacturers, and professionals from other disciplines who have a role in planning, designing, and operating wastewater irrigation systems.

The symposium will provide practical answers to questions concerning the use of effluent water for turfgrass irrigation and will encourage greater acceptance of wastewater irrigation as a significant means of conserving our most important natural resource. An indexed, peer-reviewed proceedings with valuable summaries, references, and appendices will be published from the symposium.

For more information on the event, contact Dr. Michael Kenna (405-743-3900) or Dr. Kimberly Erusha (908-234-2300) at the USGA.









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