

"We absolutely have to broaden the base," Yount said. "So far, about 80 percent of the money has been coming from the superintendents. We have to get everybody involved in this—not just the turf industry but golfers as well. Five million dollars is a lot of money."

In the meantime, Yount and Pauley have primed the money pump and already more than \$60,000 has been raised, most of it from a special \$100 "charter membership" offer that will close at the end of the conference and show.

"Those \$100 checks are rolling in," Yount said. "They get a lapel pin and I guess everybody wants to be wearing one at the show." Most of the checks have been from superintendents.

"Don't hold me to the figure, but I'd guess that about 80 percent of the money is from (superintendents)," he said.

After the conference, individuals will be asked to contribute in one of six categories ranging from \$500 "partners" to members of the "president's council," with initiation fees of \$50,000 and up.

Precious minerals is the metaphor for corporate donors. The five categories start at bronze (\$500) and work their way up to diamonds (\$10,000).

Yount expects the five-year drive to start slowly and gather momentum, with more than half the money being raised in the second half of the drive. He didn't give any intermediate goals.

When the full amount is raised, the foundation will be able to bestow more than a \$500,000 annually in research grants.

"And I have a laundry list as long as your arm," he said. "Mole crickets and nematodes are the glamor projects, but we need to look a lot of things like drought stress, turf regulators, warm-season grasses . . . I could go on and on."

He also stressed that the solutions probably will be biological rather than chemical.

"I think in your lifetime and mine, we're going to see the elimination of chemical treatment of turf," Yount said.

The research grants will be decided by five members of the foundation's executive committee, who will take an active, rather than passive role in passing out the money. That is, instead of waiting for researchers to submit grant proposals, they will approach "any institution that does credible research on warm-season turf" with specific proposals.

"Instead of going to those colleges and universities with hat in hand," Yount said, "we'll go with check in hand and say, 'Here's the money. Now this is the job we want done.'" ■

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FERTILIZATION TECHNIQUES FOR YOUR TREES AND SHRUBS

By Tom Teets, Urban Horticulturist Palm Beach County

There have been a lot of questions lately about the best method to fertilize trees and shrubs in the landscapes. What do you think we should do; punch holes and pour fertilizer in (spiking), stick a pipe below the soil and inject liquid fertilizer (deep-root feeding), spray fertilizer on the leaves (foliar feeding), should we drill a hole in the tree trunk and inject into the tree (injection), or scatter fertilizer on the soil surface (broadcast)? I don't know how you feel about fertilizing, but most people prefer to get it done as quickly, most efficiently and most effectively as possible. Certain situations, conditions and deficiencies will influence the method to be used as well.

Let's look at the different methods and what they have to offer.

1) **Spiking** — Granular fertilizer is placed in holes either dug or punched in the soil. These holes are scattered beyond the dripline around the tree. The problem occurring in this situation is the fertilizer is being applied at a high concentration to a small area. Where the fertilizer is applied the high salt concentration may burn

roots, while in areas between the holes the roots receive no fertilizer. In sandy soils fertilizer moves only downward and very little laterally.

- 2) **Deep-root feeding** — This Method uses primarily soluble liquid fertilizers which are injected below the soil surface. For quick green-up deep-root injection can be effective if the fertilizer is applied very shallow. In the vast majority of cases 80-90% of tree roots are located in the top 8-16 inches of soil. Most trees do not truly have deep roots, therefore, injecting liquid fertilizer will probably miss a large portion of the root area. Liquid fertilizer is more soluble than granular, therefore, leaching below the root zone will be fairly rapid.
- 3) **Foliar feeding** — This method is frequently used to apply micronutrients such as iron, manganese and zinc. In situations where there is a high soil pH the micronutrients are unavailable and deficiency symptoms persist this method is very effective. Addition of urea to the spray mixture will help to increase the micronutrient uptake. If buildings are located nearby, it is important to avoid hitting them with these sprays since they may stain.
- 4) **Trunk injection** — Usually this method is only used as the technique of last resort. Primarily micronutrients are injected using this method. Injection has been used on slash pines in order to rectify micronutrient deficiencies caused by elevated pH and high nitrogen levels found in golf course situations. A potential problem caused by trunk injection is the introduction of fungus into the tree at the site of the injection wound.
- 5) **Broadcast fertilization** — This method is employed using granular fertilizers. The fertilizer should be scattered starting at the dripline and outward over a broad area. Where grass is present the fertilizer should be watered in thoroughly to work it below the grass. Since most tree roots are quite shallow, the fertilizer will be introduced into the area of soil where it will be the most beneficial. By using the granular formulations slow-release sources of the more soluble nutrients can be used in an efficient manner. Broadcast fertilization has been found to be the most effective as well as most cost effective way to fertilize trees and shrubs.

As you can see there are many fertilization techniques available. It is important to use the technique which will be most beneficial to the trees and shrubs you are trying to grow. ■

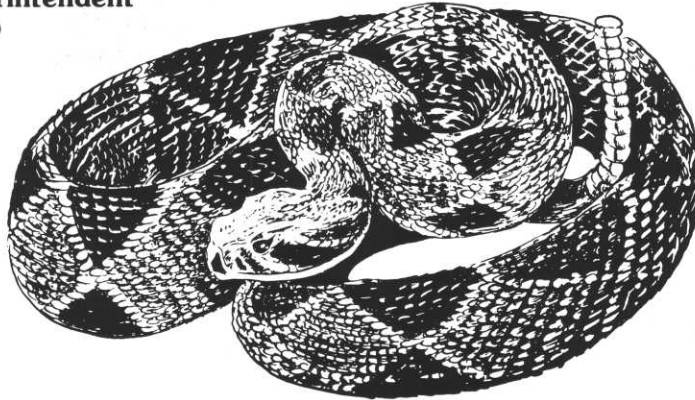
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ONCE BITTEN

By Chuck Calhoun
Assistant Golf Course Superintendent
John's Island Club



Eastern Diamondback

"Snakes"! For many not a pleasant topic but one which we all must face at one time or another. In our business of course and grounds maintenance, happening across one of these ancient reptiles is an almost inevitable occurrence. As increased development continues in our state, club grounds and golf courses offer a haven and possibly a chance of survival for these "usually" most beneficial creatures.

Here in Florida with our sub-tropical climate we are host to many different species, most of which are totally harmless. These can range from the small ring-necked snake 10' -12' to some members of the racer

family reaching lengths in excess of 7'. Many of these snakes will live an entire life time in a flower bed or mulch garden the size of a small putting green. To go into detail about habits and environments of our numerous species could consume volumes.

The real reason for this article is to possibly help you and your staff avoid some of the serious problems that may be encountered on your course. We in Florida happen to have the dubious honor of having 3 of the 4 venomous snakes native to North American, these being the rattlesnake, cottonmouth moccasin

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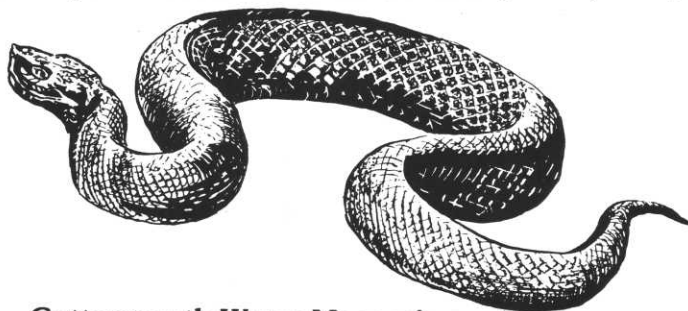
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and the coral snake. (Yes, the copperhead is found in Florida but generally only in the Northern Panhandle areas).

Having been the victim of a large rattlesnake bite, I feel it necessary to shed some light on conditions and Rx that may help someone else avoid this most unpleasant and painful experience. As noted earlier with new construction and building taking place in our state these reptiles are being forced into many areas where they might not be expected. I know many of you with courses in city areas might not think of snakes as a problem, but save man and his shovel, they are there.

On the golf course there are many instances where yourself or a member of your crew may come into contact with one of these unique creatures. For example, using your hand rather than a cup puller (when doing cups) in the morning a common practice, should always be avoided, cleaning beds and such without gloves (a favorite habitat of the very dangerous coral snake), dumping clippings in a nearby bush areas, etc. A little time watching your step and where a person sticks his or her hand could save a life or a limb. Sounds drastic but it is a possibility.

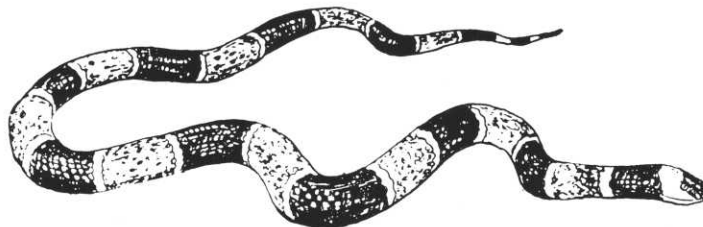
Our poisonous snakes possess two different types of toxins, the Hemotoxins (rattler, moccasin) and Neurotoxins (coral snake). The Hemotoxins affect the blood and tissue systems, the Neurotoxins affect the nervous system. A bite from either of these types of snakes is a matter not to be taken lightly. NOTE: an inexpensive pamphlet should be kept on hand for positive I.D. as most harmless snakes will snap and bite if provoked. These bites are usually small, barely



Cottonmouth Water Moccasin

skin breaking and cause no problems unless uninformed.

There have been many medical recommendations over the years as to proper Rx. The movie and TV method of making a cut and sucking out the poison is probably the most widely known and most dangerous, a small cut in your mouth, your worse off than the victim. Ice packs recently considered a plus are now not recommended.



Eastern Coral Snake

A tourniquet should only be used unless immediate medical attention is not available, then only to slow not stop the bleeding as this can concentrate the venom and cause increased tissue damage. The best method is to simply call for an ambulance and watch for sign of shock.

These paragraphs may seem old hat for some of you, but these things do happen. As for myself (I hope you didn't skip to the end for the gory details) as I mentioned earlier approx. 1½ years ago, I was bitten on my right hand by a 6½ foot Florida diamond back rattler (not on the course). The initial bite probably ranks with a bee sting but the after effects were a different story. My partner and I were 45 minutes from a telephone and by the time we reached an ambulance, I was already losing consciousness. After reaching a hospital 1½ hours after the bite, I had almost no blood pressure (this due mainly because of the location of the bite, a main vein in my right hand). I had to be airlifted to an Orlando hospital where they were better equipped to handle my condition. After 30 units of anti-venom and 6 days in the hospital, I was able to go home. I am just recovering 100% use of my hand but thanks to having some knowledge of what to do. I still have it.

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"Keeping Golf Courses Green"

THE WORKPLACE

By Don Kooyer, C.G.C.S. Willow Lakes Golf Club Jacksonville, FL

Please let me start this article by thanking my wife Maureen for her help in writing my articles. Without her editing help these articles would not be.

When a job ceases to be a challenge it ceases to be work. A worker in his workplace has to have the challenge which he can meet and conquer. Once he has met that challenge you, as his supervisor, have to let the worker know that the job was well done. As the personnel manager the superintendent should hold a staff meeting with all the grounds personnel at least once a month to let his crew know what their job performance means to the operation of the course, grounds and over-all golf course project. He also needs to let each individual know that their job performance reflects on everyone connected with the golf course. In a full staff meeting you have to bring out the efforts put forth not only by the entire crew but make sure to point out the individual efforts that each crew member has contributed to the team. There is no better way to be fulfilled in your workplace than to be recognized by all your fellow workers. By letting the crew know that the course is in good condition because of everyone's effort, the individual will know that he is meeting his challenge.

Don't forget that each worker is an important part

of the work team. When you are out on the course checking the greens or fairways just flag your operator down and stop and talk for a few minutes. Let the operator know that he is doing a good job. Tell him that his operation of the equipment has been done properly and that you observed him looking back at the area that he just mowed to make sure it was done right before moving on to the next area. Don't forget to tell the operators that the job performance they give to the course is appreciated and needed. There is no place a person would want to be at less than a place where you are not appreciated or needed.

To keep an employee interested and involved in his work place you, as his immediate supervisor, must provide a work place that is challenging and rewarding toward his work advancement. Make sure that all employees have the chance to advance themselves in their work area. If you have an employee that does a good job that he was hired to do and shows an interest in other areas, let him take on the challenge. By letting the employee have this chance to show what he can do will give him another challenge at his work place. The worker will respect you for believing that he can perform above the area which he was first hired for. Not only will you have a happy employee but a good person that can move into a job opening when it becomes available.



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A continuous training program is invaluable toward employee development and job security for your personnel. When personnel are continuously trained on new equipment operations, they will not only feel comfortable with the operation and safety, but this training will make their job easier. Don't forget to keep your staff informed of changes in safety rules and regulations concerning equipment, chemicals, clothing, wages, taxes, etc. During a staff meeting, bringing these things up will show your staff that you are genuinely interested in their well being.

Offering training and education other than at the work place will show your employee that you are concerned with their development. When providing education and training for employees they will know that you are interested in their development as a well-trained long term employee.

Staff meetings are an excellent way of keeping the communication line open between management and the staff. Remember that some people are shy and don't like to talk in groups of people. At the end of our staff meetings I always let my personnel know that my door is always open. If there is anyone on my staff that has any problems I let them know that they can come and talk to me any time.

As the grounds manager and supervisor you have the

well being of your crew to think about. You not only provide these people with a wage that will meet their needs of living but also a challenge to succeed at their vocation. When talking to an individual employee in your office you have a much more relaxed atmosphere. You can and must let the employee know at this time how much he is needed as an individual and what his participation in the entire golf operation means. You have to let the employee know that you depend on and need his individual efforts. While talking one to one let the employee know that you as a person are interested in him or her as a person and not just an employee or a number. This is the best time to let the person know how much you appreciate the job that they are doing. Now point out the good points of their work performance and bring out their weak points also.

There are people who work for money and there are those that work for satisfaction in the job place. Remember that money is a great motivator and satisfaction is achieved through motivation. As an employer when you have a satisfied crew you will be able to supply the motivation on the upswing. A well informed trained employee paid a fair wage will give you all the support you need to keep a strong working crew.

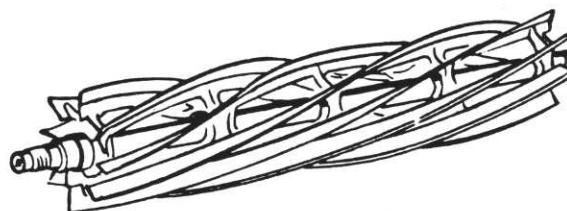
I now thank my crew at Willow Lakes for their efforts and an excellent job well done. ■

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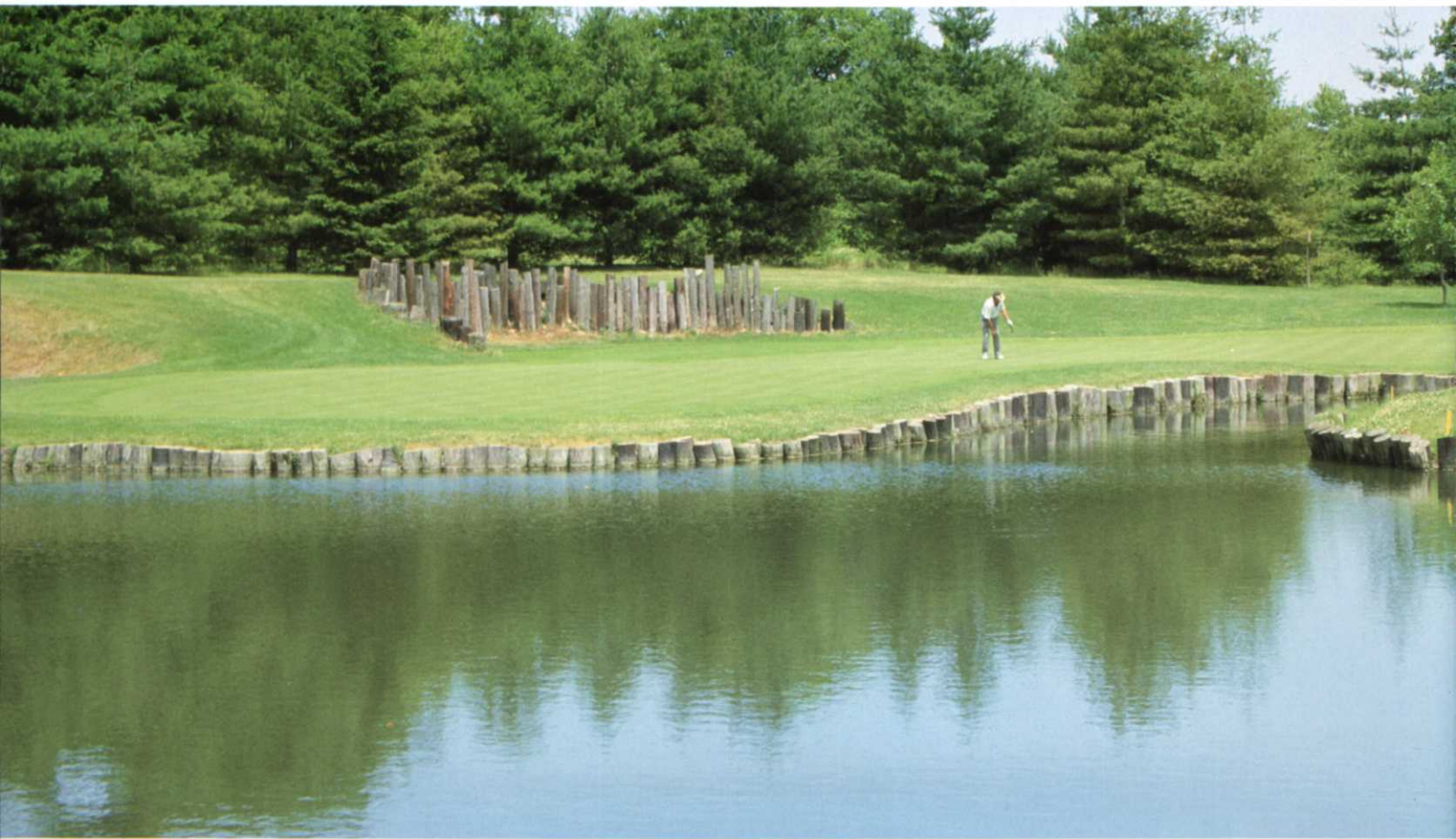
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