The Official Bulletin of the South Florida Golf Course Superintendents Association

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ON OUR COVER

A beautiful way to finish. Pictured is a low angle view of the 18th hole at Coral Ridge Country Club, owned by Robert Trent Jones and maintained by Golf Course Superintendent Tom Burton.

Photographed by Harry McCartha
President's Message

Since this is my last message as president of the South Florida Golf Course Superintendents Association, I first want to take this opportunity to sincerely thank all of the membership for their fine support and cooperation during my term in office. I especially want to extend extra thanks to the Board of Directors, Chairmen of all of the committees and those that served on these committees.

I think that all of us can be proud of the progress we have made. Our Golf Course Survey is under way. Our publication, "The South Florida Green" has become bigger and better and is financially sound.

We have had some of the finest meetings, highlighted by such distinguished men as Dr. Glenn Burton, Geneticist and Robert Trent Jones, Golf Course Architect.

We are proud of the fact that three of our members are active in the Florida Turf-Grass Association. Joe Yuzzi of Woodlands Country Club is a Director and Secretary Treasurer and Dan Jones is on the Conference Committee. Best of all, Dave DeBra is Vice President.

It has been an honor and a privilege to serve as your President. We have, within our Association, people who want to, and do participate in many important positions.

This positive attitude of our membership will lead to a better, fuller life for all of us. Equally as important, our efforts unquestionably are leading to better and better Golfing for South Florida. We have every right to be proud of our Association together.

Tom Burton
Control Sod Webworm with Lannate®

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So stop sod webworm this year. Spray Lannate.
Since the turf survey for South Florida has been completed let's reflect upon some of the information. The survey was sent to one hundred sixty clubs in our area. The twenty-five percent response was disappointing but normal for mail surveys. Figures listed are averages. A complete listing of every answer on every question will be given to all Class "A" Superintendents only at the meetings in the next months.

The golf course data has some surprises and a confirmation of well known facts. The acreage was smaller than expected while the green size was about 1,500 square feet larger. As expected, ninety percent of the irrigation is automatic and surprisingly thirty percent is electric controlled. The fertilization total and green amount were to be expected. A mild surprise was that roughs get two thirds the amount of fertilizer as fairways.

Winter overseeding of greens has faded in recent years. One fifth the courses still do. This past cold winter will give people cause for another look at this operation. The average cost of ten to fifteen thousand dollars to overseed maybe the reason for the low figure.

Fertigation, one of the future tools of the Superintendent, is now a successful reality. One fifth the courses answering the survey use liquid fertilizer dispersed via the irrigation system.

The mowing statistics prove the need for consistent mowing to have quality turf. Mowing greens more than six times per week is common here but not in other regions. The twelve month growing season can put a strain on our talents and resources. Once a visiting Superintendent from Michigan asked me when do we down our equipment for repairs. I told him we take a forty-five minute lunch break.

Why all these figures and their purpose? Good question. Many surveys have been done in past years using national figures which do not reflect the situation in the Southern 100 miles of east Florida. Remember these figures are averages and will vary from club to club. Averages can be put to good use but can also have poor results. Consider the man who was six feet tall and drowned in the pond that had an average depth of four feet.
**GOLF COURSE AVERAGES**

Private — member owned — 33%
Private — Profitmaking — 36%
Resort/Daily Fee — 15%
Municipal (government owned) — 16%
County Respondents — Palm Beach 46%, Broward 28%, Dade 18%, Martin 5%,
Indian River 3%, Hendry 3%, Monroe 3%

Age — 13.3 years
Holes/Par — 18/71
Total Acres — 135
Green size — 7,000 sq. ft., 3.15 acres
Number sand traps — 63.6
Number of trees maintained — 1,018
Water — 16 acres
Automatic irrigation hydraulic — 59.6%
Automatic irrigation electric — 30%
Manual Irrigation — 10.4%
Water Source — Wells only 27%
Wells, ponds, lakes, canals, rivers 70%
Effluent 3%
Capacity in GPM/PSI = 950/110
Irrigation Technician — 34%
Nitrogen on greens annually — 20.7/1000 sq. ft.
Nitrogen on fairways annually — 8.7 lb. per acre
Nitrogen on roughs annually — 5.5 lb. per acre
Total Fertilizer used annually — 110.7 tons
Fertigation (partial or complete) — 27%
Frequency of Mowing:
- greens 6.7 times per week
- tees 3.1 times per week
- fairways 2.4 times per week
- rough 1.1 times per week
- lake banks .8 times per mo.

How are greens mowed — Riding machines 87%
walking machines 13%

Paid insurance all employees — 74%
Bonus — 41%
Number Paid holidays — 4.1
Number paid sick leave days — 3.6
Free Uniforms — 62%
Cost of parts — (Equipment repairs) $9,971
Cost of Utilities — (Electric and water) $10,578
Rounds of golf played annually — 43,000
Work on Sunday — 95%
Closed during summer — 3%
Overseed greens — 21%
Overseed tees — 15%
Height greens maintained — 3/16 inch
Acreage of par 3/Executive — 60.57
Type of Bermuda turf on greens —
- Tifgreen (328) — 54%
- Tifdwarf — 44%
Aquatic herbicide — self applied — 60%
contract — 40%
Cost of gasoline, oil and lubricants — $5769.00
Rounds annually for golf carts — 29,400

**EDITOR'S NOTE:** All information was compiled by our Association under the direction of Bill Whitaker. Under his leadership a committee submitted questions. Bill personally tabulated all the results. Thanks to all members of the committee for hard work well done.
Evaluating Golf Course Equipment for South Florida

by DAVID L. DeBRA

The uniqueness of golf course operations in South Florida is often misunderstood when evaluating turf maintenance equipment. It is a fact that no other part of the United States places the severe demands on turf equipment like the golf course operations in South Florida. The following considerations are often overlooked in evaluating the initial purchase, replacement and maintenance of turf equipment in the area South of Orlando.

First, the required time of usage of daily operated machines such as mowers, utility vehicles and tractors. These units will be used in South Florida 1,000 to 1,600 hours per year as compared to 750 to 1,200 hours in Georgia and Texas, 400 to 650 hours in Ohio and Illinois, 300 to 500 hours in Michigan, New York and Canada. The element of usage alone illustrates the drastic reduced life expectancy of equipment in South Florida as compared to other parts of the country.

The second consideration is the elements of sand, heat and corrosion. The Florida sand is a problem that does considerable damage to engines, bearings, chains, sprockets blades and other vulnerable areas of equipment. Compounding the problem is the extreme heat and humidity machines are exposed to during the summer causing special difficulty in air-cooled engines. The humid, salt air causes extensive corrosion damage on exposed metal components.

Another consideration that places demands on equipment is the Bermuda grass used almost exclusively on South Florida golf courses. The Bermuda grass, requiring constant de-thatching and aerating for best playing conditions and appearance, places a burden on specialized equipment designed for these procedures.

A final consideration that is often overlooked is the time available for preventative maintenance. In the Northern States, the winter season allows time for complete inspection and rebuilding of equipment, preventing damage to major components. The winter simply does not allow time for the South Florida courses for major rebuilding because of the continued demand for attention by the golf course.

I have observed that the courses that receive maximum life and efficiency from their equipment have a conscientious and detailed preventative maintenance program for replacing filters and oil, cleaning, lubricating and adjusting equipment. The superintendent has correctly found time to implement these daily procedures to assure maximum benefit and life from the equipment.

If all of the above are properly considered the realistic expected life of equipment in South Florida is as follows:

- Greens, tees, apron mowers, 3 to 4 years.
- Fairway mowers, 4 to 5 years.
- Tractors, 4 to 6 years.
- Utility vehicles, 4 to 5 years.
- Specialty equipment (aerators, de-thatchers, sprayers and sweepers) 5 to 6 years.

Several variables are involved in life span but the above scheduled has proven to be the proper time element before expecting major extensive repairs to equipment. (Cont'd on page 9)

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Turf Managers from all phases of the turf industry in the Southeast will come to Orlando, Florida, October 16 to 19, 1977 to attend the Twenty-fifth Management Conference and Show sponsored by the Florida Turf-Grass Association. The Sheraton Towers Hotel has been selected as the site for this gathering of an estimated 1,000 turf managers.

The past twenty-five years have seen monumental changes and improvements in turf management and the next twenty-five will be "THE CRITICAL PATH". This is the theme chosen for the 25th Annual Management Conference.

The new program format this year will include in each session basic information for the new turf manager, information for the professional turf manager and research information.

Past Presidents will be honored at the Annual Banquet on Tuesday evening. Wednesday morning sessions continue climaxd by an outdoor barbeque and demonstration of equipment.

Fifty-six national manufacturers have already reserved 101 booths to display turf equipment and/or products in the exhibit area. From all indications this will be a sell-out show and outstanding conference.

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Measuring Water Usage Through Kilowatts
By DAVID MILLER, Asst. Supt. Emerald Hills Country Club

Why should the modern golf superintendent be interested in how much water his golf course is consuming? The simple answer is water management areas throughout the United States are cracking down on water consumption from all golf courses. By stressing a maximum limit on how much water can be consumed for irrigation purposes, the water management hopes they will be able to save this precious natural resource that is more and more becoming limited in supply for not only America, but the entire world.

There are three ways a superintendent can approach the many gallons of water he pumps monthly:

1. It seems logical to take the gallons per minute the pump is capable of pumping and multiplying the number of minutes the pump ran in a month. This would be super theoretically; but realistically, there are not any pumps irrigating at maximum flow currently. The net water measurement realizes this, the procedure will not be accepted by them and it is highly inaccurate.

2. The second option would be the installation of a water meter in the line. Properly installed this would be accurate and accepted. To be accurate it must be installed where the water has laminar flow. To get laminar flow the meter may need to be positioned ten feet or so from the pressure regulating device, elbow, tee, or valve. This installation could be extremely costly.

3. The third method and most economical is measuring water usage through kilowatt meter readings. Sam Kruger (Director of Golf and Landscape Operations for Hollywood, Inc., Hollywood, Florida) initiated this idea since he wanted an easy and accurate way to measure the amount of water used for irrigation on a monthly basis. Ed Darlington of Liquid Ag Systems, Inc., became interested and conceived the procedure. This method also gives us a handle on calculating the efficiency of our pump and how efficiently we are using our pumps. We began doing this at Emerald Hills Country Club. The method has now been approved by the South and Southern Florida Flood Control District as an effective way to measure water usage.

Presented in this article is a detailed step-by-step analysis of how you approach the total number of gallons you are pumping in relationship to the number of kilowatt hours used.

So you will not be like the man that jumped into the forest and got lost because all he saw were trees, we will start our with some basic information about electricity. An electromotive force causes electrons to flow in a closed circuit in the same manner that a pump causes molecules of water to flow in the irrigation system. If irrigation heads are turned on in the field, there will be a greater demand for the pump to put out more water than when it will require more electrons. The increase in electricity will result in an increase in amperes and volts. The volts and amps together will equal watts. When 1,000 watts are used, the result will equal kilowatts, which is what will concern us in relationship to water usage.

Every pump has a kilowatt hour meter to measure the electrical energy consumed. This meter is essentially a little motor that runs slowly when a small amount of power is passing through it, and faster as the power increases. There are four or five dials located on the face of the meter, depending on the type at your facility. These dials are read from left to right as follows: clockwise, counter clockwise, clockwise, counter clockwise, and clockwise. It is hard to determine which number the hand is on, then resort to the next dial and see if it has passed 0.

After a little practice, obtaining an accurate reading will be routine. Since the pump uses kilowatts even if water is not being consumed, we must compensate by calibrating the irrigation system in relationship to kilowatt hours. This calibration will be referred to as the pump threshold. The pump threshold is the amount of electrical energy the pump motor uses just to get the pump in an operating configuration without moving any water. The pump threshold calibration is as follows:

Step 1: Turn one pump on and let it build up to operating pressure with no water flow.
Step 2: Take the beginning kilowatt hour meter reading, and simultaneously record the time.
Step 3: Let the pump run for 15 to 30 minutes. Pay particular attention that the downstream pressure stays within operating limits and the pump does not build excess heat.
Step 4: Take the ending kilowatt hour meter reading and divide it by the number of hours (or partial hours) it ran.

\[
\frac{15 \text{ kw hr}}{22.1 \text{ minutes}} \times \frac{60 \text{ minutes}}{1 \text{ hour}} = 40.7 \text{ kw hr/hr}
\]

FIELD CAPACITY CALIBRATION

Step 1: Turn on one pump and a full load of sprinklers that it would normally operate without a pressure loss. Insure that the same sprinklers run throughout the calibration process.
Step 2: After the system is up to operating pressure and stabilized, record the beginning kilowatt hour meter reading and the time.
Step 3: With a pitot tube and gage, record the nozzle pressure at each sprinkler that is operating. Also flag each head so that after the run you can come back to determine the nozzle size and type of sprinkler.
Step 4: Record the ending kilowatt hour meter reading and the time.
Step 5: Determine the total flow in gpm from the appropriate sprinkler manual, and convert to gph by multiplying by 60 minutes/hour.
Step 6: Determine the kilowatt hours/hr.
Step 7: Subtract threshold kilowatt hours/hr from the answer you obtain in Step 6. This difference is the useful energy that actually moved water.
Step 8: Determine the gallons/kwhr by dividing the flow in gallons/hr (from Step 5) by the useful energy in kilowatt hours/hr.
Step 9: Record this number as it will be used in future calculations concerning this pump.
Step 10: Repeat this procedure for each pump in the system.

DETERMINING WATER USAGE THROUGH MONTHLY KILOWATT HOUR READINGS

Step 1: Insure the kilowatt hour meter serves only the pump station.
Step 2: Elapsed time meters must be installed on each pump motor, including the jockey.
Step 3: Record the beginning kilowatt hour meter reading, also the elapsed time meter readings on each pump motor at the time the reading were obtained.
Step 4: Record the ending kilowatt hour meter reading, also the elapsed time meter readings on each pump motor at the end of the month.
Step 5: Determine the kilowatt hours of energy consumed and the number of hours each pump motor ran this month by subtracting the beginning readings from the ending readings.
Step 6: Multiply the number of hours each pump ran each month by its appropriate threshold. Total the threshold of all pump motors.
Step 7: Subtract this total threshold from the total kilowatt hours consumed in a month to get the useful kilowatt hours.
Step 8: Multiply useful kilowatts times gallons per kilowatt. This will be your final answer and should accurately be the total number of gallons used in a one month water interval.

Measuring your water usage through kilowatt meter readings will enable the superintendent to accurately report his total consumption whenever the need arises. The owners of golf courses will be pleased by the fact that the superintendent can save the operation a considerable amount of money by not having to purchase a water meter. By using kilowatt readings other costs may also be reduced. In a future article we will see how we can measure the efficiency of an irrigation pump each month and start taking measures to drastically reduce the electrical energy by having the irrigation system operate more efficiently, thereby demand fewer kilowatts.
April Meeting

The South Florida Golf Course Superintendents were hosted to a most enjoyable meeting and a fabulous meal by Mr. Lou Oxnevac C.G.C.S. Riviera Country Club. The picturesque country club located in the heart of Coral Gables was built in 1926 and today claims a thousand members. Lou who joined the profession in the Carolinas during the sand green days, has been at Riviera for the past five years.

The educational program presented a panel discussion on “The Use of Effluent Water to Irrigate Golf Courses.” Efficient utilization and consumption of resources has brought more attention to the question of using waste water for irrigation. Discussing the possibilities were James Adams, Toro Company; James Latham, Milwaukee Sewage Commission; Harold Schmidt, General Development Company and Bob Freeman, Environmental Protection Agency.

May Meeting

Host, Doug Palmer welcomes SFGCSA to Broward Community College for the Eighth Annual Suppliers Field Day. Mr. Palmer is head of the Horticultural Department at B.C.C.

Doug Palmer head of the Landscape and Pest Control Technology Departments at Broward Community College, hosted the South Florida Golf Course Superintendents for the well attended suppliers day meeting.

Doug graduated from the University of Florida with a degree in Entomology. He has held successful positions as a golf course superintendent and with the Division of Plant Industries in North Dade and South Broward. He took over a floundering program at B.C.C. in 1968 and with the help of industry has transformed it into the successful program it is today.

The commercial suppliers of South Florida should receive many thanks for the fine product presentations. After a question and answer period which gave some insight into the immediate future, the meeting moved outside to watch and try out machinery on exhibit and see presentations set up by our many suppliers. Door prizes were awarded to many lucky members. Harry C. Lincoln III was the winner of the C.B. Radio.
Golf Course Landscaping
By GUY WILLIAMSON
Woodmont Country Club

Does the presence of magnificent trees, flowering shrubs, groundcovers and bulbs have a place on a golf course? Absolutely, together with turfgrass, they can present an effect of light and shade, color and shape, that is so striking that even the most absorbed player becomes aware of it. But don't they require a tremendous amount of hand labor? No, these areas can exist with minimal maintenance if these principles are followed:

1) Lay out shrub beds so corners are round rather than square. This will cut mowing time by eliminating unnecessary maneuvering of mowers.

2) Paved roads should be level with the lawn to eliminate hand trimming or scalped areas.

3) Construct mowing strips next to all structures and around all shrub and flower beds. These can be composed of stone, bark or bare earth and maintained with non-selective herbicide.

4) Use ground covers or shrubs in high maintenance areas such as steep slopes; areas where grass is difficult to grow or excessive hand mowing is required.

5) Mulch all beds with bark, hay, pine needles, etc. to preserve moisture and control weeds. The use of non-selective herbicides can almost eliminate hand weeding in conjunction with mulch.

6) Try to plant large masses of the same varieties for easier care. A small bed with too many varieties looks busy or hodge podge. Also try to personalize your design and avoid using straight lines unless necessary. Trees or shrubs in stiff rows serve a purpose only when they are planted for privacy.

7) It is best to select plants that require very little pruning. If a variety is desired because of a flower but the shrub is a rampant grower leave it in the container and plant the container in the ground. The restricted root system will keep the shoot growth in check.

8) Do not try to grow plants where they are not adapted such as acid vs. alkaline soils, sun vs. shade, or wet vs. dry. Check requirements in plant manuals or with the County Agent before planting.

9) Plant only in good soil, or amend poor soils to improve fertility or structure. Otherwise, plants will look sickly, grow erratically, or fail to flower.

10) Always try to rely on power to cut labor costs, so construct beds so that power equipment can be used in and around the beds.

11) Do not buy plants unless they are hardy in your climate and only buy quality stock. If bargain stock is purchased, make sure it is guaranteed quality stock. Always know precisely what species you are getting and what the height and spread will be at maturity so as not to end up with a maintenance “headache” or small jungle.

12) Most important is to draw up a plan. Poor planning or failure to draw a plan usually results in poor utilization of plants and property.

EVALUATING EQUIPMENT (Continued from page 5)

It is recommended that a realistic depreciation schedule of equipment would incorporate the lower yearly figure of the above schedule. The unique and demanding elements of a South Florida golf course operation requires a thorough evaluation of turf equipment and a proper comparison to operations in other parts of the United States. Budgets, depreciation schedules, and time of equipment replacement should reflect these considerations.
TWO MEMBERS CERTIFIED — Bill Whitaker, Superintendent at Seminole Golf Club and Mike Barger, Superintendent for the City of Coral Gables are now Certified Golf Course Superintendents. This was announced by the G.C.S.A.A. after Bill and Mike took the grueling six hour exam.

We are very proud of our Certified Members and urge all Superintendents to work toward their Certification.

FROM THE NATIONAL...

Who's Who at GCSAA Headquarters

General Administrative Service
Conrad L. Scheetz .................. Executive Director
Bonnie Stephenson .............. Executive Secretary
Janie Storm ......................... Administrative Assistant
Ellie Wooderson ..................... Bookkeeper

Educational Services
Palmer Maples, Jr. ................. Director of Education
Lorna Browning ................. Secy. to the Director of Edu.
Susan Easley ....................... Education Clerk

This department handles matters dealing with the overall operation and management of your Association and its inter-relationship with other allied associations. Questions pertaining to GCSAA policy, administration finance, committee structure and assignments, the golf industry and special events can be directed to the Executive Directors staff.

Address all correspondence to: GCSAA, 1617 St. Andrews Drive, Lawrence, Kansas, 66044.

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CHEMICALLY SPEAKING
by PAUL DEETS
Woodbury Chemical Company

This edition deals with a topic of much interest and recent discussion among superintendents in Florida. It concerns a new selective herbicide which shows promise in controlling many grassy weeds and some broadleaf weeds.

Asulox® has just been registered by Rhodia, Inc., in the State of Florida for postemergent crabgrass control in St. Augustine and Tifway 419 bermudagrasses. A familiar name in Florida weed management, Asulox is widely used for effective postemergent control of grassy weeds in Florida sugarcane, roadsides, rights-of-way and other problem areas.

Golf course superintendents can now benefit from the same effective grassy weed control in Bermuda turf. A single application of Asulox will take out your crabgrass problem for an entire season. Multiple applications of your present crabgrass herbicide are no longer needed. You save time, you save labor, you save money.

The following “Questions and Answers” will hopefully answer many of your questions about Asulox. As with any new chemical “tool” it is recommended you make your own evaluations on a small scale basis prior to wide scale useage.

Q. WHAT TYPES OF CRABGRASS ARE SUSCEPTIBLE TO ASULOX?
A. All varieties of crabgrass commonly found in Florida are susceptible to a single 4 to 5 pints per acre application of Asulox.

Q. WHAT ABOUT USING ASULOX ON OTHER BERMUDA VARIETIES?
A. Extensive testing has shown that common Bermuda, Tifgreen 328, and Tifdwarf varieties are susceptible to injury by Asulox at the recommended rates for good weed control. Ormond Bermuda is susceptible to Asulox discoloration, particularly where accidental overlapping of spray occurs, and is therefore not recommended.

Q. WHAT RATE OF ASULOX SHOULD I USE?
A. Use 4 to 5 pints of Asulox per acre. Dilute Asulox in 40-45 gallons of water per acre. Don’t cut the rate. You risk poor weed control.

Q. WHEN SHOULD I APPLY ASULOX?
A. Asulox is a translocated herbicide which performs best when weeds are young and actively growing. Treatment of mature weeds (when seed heads have begun forming) will result in less than satisfactory control.

Q. WHAT ABOUT APPLICATION EQUIPMENT?
A. It is essential that spray equipment be properly calibrated, and all spray nozzles on a boom be of uniform size and spray pattern.

Q. WHAT ABOUT APPLICATION EQUIPMENT?
A. Spraying in the early morning while dew is present will aid the operator in seeing where he has and has not sprayed. Avoid overlapping. It is wasteful, and may cause undue turf injury.

Always turn off your sprayer when slowing, stopping or turning.

Q. WHAT ABOUT MOWING?
A. It is best not to mow turf for several days before treatment to insure good foliage on weeds for uptake of Asulox. Turf should not be mowed for at least 48 hours after Asulox treatment to allow herbicide translocation into the plants. Do not apply Asulox to turf mowed less than 1” height as this turf is under stress, and can induce herbicide injury (Do not treat tees or greens with Asulox.)

Q. WHAT ABOUT IRRIGATION?
A. Do not irrigate turf for at least 8 hours after Asulox treatment to allow for plant uptake. Turf should be irrigated normally on subsequent days, and should not be subjected to moisture stress.

Q. IS TURF DISCOLORATION DANGEROUS OR UNUSUAL?
A. Under certain conditions, a slight and temporary discoloration of the turfgrass may occur at 10-14 days after application. This is temporary, and does not adversely affect the turf. Healthy turf is always less susceptible to herbicide injury. Turf under stress from lack of moisture, nutrients, disease, or insects should not be treated with herbicides.

Q. CAN I MIX ASULOX WITH OTHER CHEMICALS?
A. Do not mix Asulox with other pesticides or fertilizers as these may inhibit its uptake or cause turf injury. Do not use a surfactant with Asulox as this reduces its selectivity and causes injury to the turfgrass.

Q. HOW DOES ASULOX WORK?
A. Don’t expect overnight results since Asulox is thoroughly translocated within the plant before it begins killing the entire plant. Schedule of Asulox action:

- Weeds cease growing and are no longer competing with turf
- Browning of weeds will become noticeable
- Susceptible weeds are nearly all brown
- Susceptible weeds are controlled

Q. WHAT IF I MAKE A MISTAKE WITH ASULOX?
A. Mistakes are, of course, to be avoided since they are rarely reversible and costly.

If Asulox is misapplied at the wrong rate or to a susceptible variety of turf, injury can be greatly reduced or possibly eliminated by immediately and thoroughly washing the Asulox from the leaves and down into the soil where very little absorption can occur.

Asulox is available from your turf chemical supplier in 1-gallon jugs and 5-gallon pails. It is recommended you discuss any additional questions you may have with your supplier prior to initially using any new pesticide product.

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STRAIGHT SHOTS

Death and taxes may always be with us but death doesn’t get any worse.

- No matter what happens there’s always somebody who knew it would.
- If you think nobody cares if you are alive, try missing a couple of car payments.
- Speak when you are angry and you will make the best speech you will ever regret.
- Few things help an individual more than to place responsibility upon him and to let him know that you trust him.

President Tom Burton appoints Fred Klauk Secretary-Treasurer of the S.F.G.C.S.A. Fred will serve the remainder of Dick Sliwinski’s term. Dick moved to Arizona.
Fred is Golf Course Superintendent at Pine Tree Country Club in West Palm Beach.

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Water quality depends on water sources including rain water, private wells and commercial water systems. The soluble salt content can vary from little in rain water to high concentrations in the coastal and South Florida areas. Salt levels for irrigation should be below 700 PPM and not higher than 1,500 PPM.

The following elements can create problems if they are abundant in the water supply. Chlorine increases corrosiveness and is toxic to some plants. Sulfate forms scale in steam boilers and on cut flowers foliage marginal chlorosis can result. Fluoride causes the vase life of cut flowers to be reduced when levels exceed 1.5 PPM. Iron, on exposure to air, develops iron rust on plant foliage. Calcium and magnesium cause hardness and scale-forming properties of water and can cause white deposit of plant foliage. Sodium may accumulate in soils to cause toxic reaction to plants. Water softeners that use sodium should never be used to water plants either indoors or outdoors. Sodium can enter plants in large quantities excluding the intake of potassium. This causes potassium deficiency.

The concentration of various salts in the soil solution also affects water absorption. If the concentration of salts is too high, then water absorption will be reduced. In some instances of excessively high salt concentration, a reversal of water absorption takes place with water actually moving out of the root system into the soil. If the situation is not alleviated then wilting and desication of the plant tissues occur and death will result.
CAN YOU TOP THIS? . . .

A GREEN IN FLORIDA

(Answer on page 16)

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ASK THE EXPERT — This is the first column in a series which will be done in direct response to any questions that superintendents may have about any of the 4 areas above. The questions do not have to be signed and can be submitted to either Dan Jones or Dr. H. L. Cromroy, Dept. of Entomology & Nematology, University of Florida, Gainesville, Fla. 32611.

Question: What is meant by the EPA term RPAR? What effect will placing pronamide most commonly sold under brand name KERB on RPAR notice?

Answer: RPAR stands for Rebuttable Presumption Against Registration.

Rebuttable presumption against registration means that if a pesticide shows potentially dangerous characteristics, it is subjected to intensive scientific review and public comment before a decision is made on whether to allow continued use or begin the process of removing it from the market.

The advantage to rebuttable presumption is that it allows EPA to gather extensive scientific information about the effects of a chemical before determining whether prolonged, courtroom-type hearings on safety are necessary. It ensures that benefits and risks are given full consideration.

RPAR is not the same as banning a pesticide. Whether this occurs will depend upon the type of information received by EPA and a judgment as to whether benefits appear to out-weigh risks or vice versa.

The RPAR process may last up to 180 days. During this time, the pesticide in question may continue to be sold. At the end of this period, EPA will announce that the pesticide appears safe for continued use or that it may cause unreasonable adverse effects on the environment. If the latter occurs, additional investigation into benefits and risks begins. This includes consultation with scientific and economic experts and the opportunity for further comment from the general public.

An RPAR inquiry on Pronamide was initiated by EPA because a 1974 study showed that pronamide caused liver tumors in mice. Official notice was given in the Federal Register on May 17, 1977 and people will have until June 27, 1977 to submit their views to EPA. Pronamide can be purchased until such time as a decision is reached. If a “notice of intent to cancel” is made, then an opportunity for a public hearing exists. “Suspension” may interrupt either the RPAR or cancellation process at any point. It is based upon a finding of imminent hazard posed by the pesticide.

Dr. H. L. CROMROY
Professor, Dept. of Entomology & Nematology
University of Florida
Gainesville, Fla. 32611

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HOOKS & SLICES

It is said "Reading maketh a well-rounded person." So doth watching T.V. with potato chips and a six pack of beer.

In doctor's waiting room, "I'm at the stage of life where I'm not quite sure what kind of insurance to take out — major medical or minor miracle."

Boss, handing envelope to employee, "It finally happened, Hosgood, your withholdings exceed your salary. Here's your bill."

One cleaning woman to another in deserted office suite, "We'd better check the phones. There's usually somebody on hold."

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ANSWER... Can You Top This?
Vandalism in one of its worst forms. Hot Rodders spinning and sliding on a fairway. It takes a lot of work and a long time to heal.
1. How can I best compare Nitrogen fertilizer materials from a cost standpoint when they all contain different percentages of nitrogen and different costs per ton? West Palm Beach

The best way is to compare them on a cost per unit of Nitrogen basis. A unit of Nitrogen is one percent (1%) of Nitrogen per ton of fertilizer material. One percent of 2000 pounds is 20 pounds of Nitrogen in one unit.

For purposes of our discussion here, we will discount any agronomic and practical application differences among Nitrogen materials and look at price only.

For example, let us assume we can buy Ammonium Sulfate containing 21% Nitrogen for $105.00 per ton. Cost per unit of Nitrogen is $105. per ton divided by 21% N or $5.00 per unit of Nitrogen.

Ammonium Nitrate contains 33.5% Nitrogen. Five dollars per unit times 33.5 units of Nitrogen in Ammonium Nitrate results in a comparable cost of $167.50 per ton for Ammonium Nitrate. If Ammonium Nitrate can be bought for $180.00 per ton, its cost per unit of Nitrogen is $5.37 per unit and is more expensive than Ammonium Sulfate.

Urea contains 45% Nitrogen. At $5.00 per unit it would cost you $225.00 per ton and would be comparable to Ammonium Sulfate at $105.00 per ton from a cost standpoint.

At the time of this writing, Ammonium Nitrogen is typically costing $4.50 to $6.00 per unit; Nitrate Nitrogen from $5.00 to $6.50 per unit; and Urea Nitrogen from $4.50 to $5.50 per unit. Slow release Nitrogen sources are usually considerably more expensive than the above discussed soluble materials. Synthetic organic sources such as IBDU, Ureaformaldehyde and Sulfur Coated Urea cost from $9.00 to $15.00 per unit. Natural organic sources may cost anywhere from $12.00 to $18.00 per unit of Nitrogen.

2. I have a severe infestation of white grubs under the turf on my golf course which has caused turf to become thin and weedy. What can I do? Miami

Grubs are the fat 'C' shaped larvae of several species of insects. The adults are beetles. The grubs or larval stage feed on turf roots and may reach populations of 60 or more per square foot of turf.

These insects have become a very serious problem in the last 2 or 3 years since our standard control chemicals can no longer be used.

Presently recommended chemicals are Diazinon at 5 lbs. and Trichorfron (Dylox, Proxol) at 8 lbs. active ingredient per acre. The material must be watered well into the soil to reach the grubs which may be 2 to 3 inches under the soil.

Control has been somewhat spotty and unpredictable with these chemicals. Several very promising new chemicals hopefully will be released for grub control at certain stages in their life cycle. Treatment during late June or July appears to be most effective.
RECENTLY...

Doug Palmer discussed horticultural programs offered by B.C.C. A Golf Course Mechanics Course will be offered in the near future. Mr. Palmer said a 2 year Golf Course Management Program will not be offered until industry demands it. Let's start demanding!!!

Record turnout of 155 look at displays from 35 Commercial Turf Companies. The enthusiasm was so great that we are predicting a turnout next year of 250 and participation by 50 Commercial Companies.

S.F.C.S.A. Members (L to R): Carl McKinney, Dave Bailey and Al Bryant discussed the many and varied displays. Storm clouds approaching in the background forced a quick break-up of the displays at 2:30 p.m. This will be avoided next year with indoor displays!

ANNOUNCING...
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LITTLE KNOWN FACTS...

About Florida Golf and Golf Courses

A ten year Comparison of Golf Courses prepared by the National Golf Foundation shows Florida's increase is number 1. Beating even the closest contender by 27+%. 

There were an estimated 12 million Golfers in 1975 compared to 2.5 million in 1947 — just in the United States.

Figures for Florida show that acreage irrigated list Turf at 965,000 acres compared to 500,000 for citrus.

Golf course Superintendents must contend with a lot of numbers every day, for example:

Active chemical ingredients and other items are often times measured in something called parts per million. In more common terms one part per million would be: one inch in sixteen miles, one minute in two years, one penny in $10,000.00, one large mouthful of food when compared with the food a person will eat in a lifetime, or one drop of Scotch in 16 gallons of water.

How about those spike marks that supposedly ruin so many great possible scores? Consider this — The average golf shoe has 12 spikes and the USGA has computed that a player averages 28 paces per green. 28 paces times 24 spikes means 672 spike marks per player, per green. 672 spike marks times 18 greens equals 12,096 spike marks per round. If there were 200 rounds played each day, that’s 2,419,200 spike marks daily or more than 72 million holes each month. What’s a superintendent to do?

Have you noticed the golf courses becoming more and more crowded? How about this food for thought, and the need for more golf courses — Population experts report it took one million years for the earth’s population to reach the billion mark, but only 130 years for the second billion, 30 years for the third billion and as of March 1976, we welcomed our fourth billion human to this plant. (If all of them wear golf spikes at one time we may be in real trouble, even without a putter!)

— Information provided in part by the Golf Course Superintendents Association of America.

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PHIL GARDNER
BOCA RATON, FLORIDA
305 994-0122
As President of the Golf Course Superintendents Association of America I felt that I should respond to your Editorial in the April issue of The South Florida Green, entitled, “The Forgotten South.”

We of the GSCAA agree that our Conference and Show in Portland, Oregon, last February was a huge success from many viewpoints. We are concerned however, that you were unhappy with our pre-conference seminars because of the instructors failure to include Southern turfgrass operations in their presentations. Steps have been taken to prevent this from happening in the future. Please accept our apologies.

Your comments about not having representation on the Executive Committee, Educational Committee or the very important Organizational Study Committee are only partially correct. Quinton Johnson, of Texas, has recently been appointed to the Organizational Study Committee in an attempt to have representation from the Southern States.

The South has always been well represented on the Executive Committee. This is one of the few years in recent memory that the South has not been represented. Most of the representation has been from Texas but several have been from Florida and Georgia. Just recently Palmer Maples of Atlanta served as President of GCSAA and is now employed by the Association as our Director of Education. He is making us very aware of our shortcomings in the area of Southern Turfgrass Operations. You will be seeing articles in the Golf Superintendent and presentations at the annual Turfgrass Conference and Show dealing with your Southern problems.

It is true that the Southern Superintendent has not always been active in Association affairs but I wonder if this is the result of not being able to attend as often as the Northern Superintendents or whether it is a lack of interest? You have so many talented and energetic leaders in the South that I find it hard to believe that it might be a lack of interest.

As you know, the membership has voted to hold the majority of its future Conferences in the warmer climates of the South. Next February we will be meeting in San Antonio, Texas, and in 1979 we will be holding our Conference in Atlanta. This should be a perfect opportunity for the Southern Superintendents to attend. We would like to see all of our members become active in the affairs of the Association and attend the Annual Conference.

Members are invited annually to participate in Committee activities by requesting the committee assignment of their choice. There always seems to be a light response from the South. This has always disappointed me personally.

The growth in golf is undeniably in the Southern States and it won’t be long before the number of golfing facilities in the South will equal those in the North. We must work together to stimulate interest in the Association and do everything in our power to increase the number of members from the South. We invite all of your readers to consider joining GCSAA in its endeavors of making this profession one that is meaningful to all golf course superintendents no matter where they are from, North or South.

We are here to help all Superintendents and if you feel that there is something we can do to help you and your fellow Superintendents in the South please feel free to call on us. Keep up the good work with your newsletter.

TED WOEHRLE, President
Golf Course Superintendents Assn. of America
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