ably warm weather in the fall can stress and kill the new seedlings.

Preparation. Preparing the bermudagrass greens, tees, fairways, and roughs is the key step in a successful overseeding season. The main purpose is to provide a surface which will allow the seed to make good contact with the soil for germination and penetration by the embryonic root when it emerges from the seed hull.

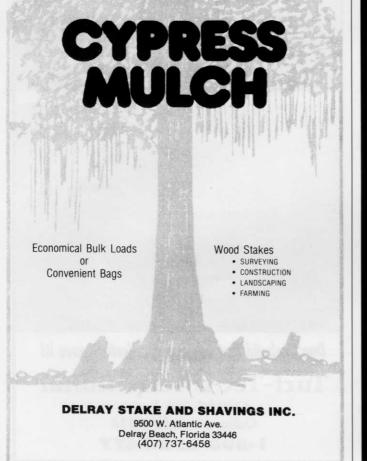
On fairways and roughs, brushing up the turf with tractor-mounted brooms followed by close mowing has proved successful. On greens and tees, combinations of brushing or light verticutting help stand up the turf to receive the seed. If a course has been maintaining close heights of cut, the superintendent may raise the height or even stop mowing just prior to seeding so the seeds can be caught and held by the grass blades. After seeding, some prefer to apply a light top dressing to help the seed-tosoil contact. Dragging in the seed with the backside of a carpet is standard procedure. Rolling the seed is gaining in popularity to help press the seed into contact with the soil.

Another part of preparation is protecting unseeded areas from contamination with stray seeds tracked about by foot traffic and equipment. This usually requires the application of pre-emergent herbicides (Kerb and Surflan are popular) in advance of the overseeding process.

Walking booms or Spray Hawks are used immediately around the greens and tee surfaces, then Cushman-mounted 100-gallon tanks and booms tie in the rest of the slopes. Large 300-gallon tanks with flood jets pulled by tractors can be used in the fairways and roughs. Preemergent controls are also used on greens to prevent the germination of the dreaded annual bluegrass, *poa annua*, with its white seed heads disrupting the putting surfaces. In recent years the fungicide Rubigan has been a popular choice to combat *poa annua*. These pre-emergent applications are also a function of timing and are very dependent on weather conditions.

Sowing the seed. A combination of walking rotary and drop-type spreaders is used on the greens and tees, while large tractor-mounted or pulled versions of the same can be used in the fairways and roughs. Calm days are a requirement so that an even distribution of seed can be achieved. The decision to seed should take into account the probability of rainfall and that no imminent storms are on the way to wash away all the hard work.

The amount of seed to be sown is a matter of choice and experience. Amounts of ryegrass seed to be used this year in the Ridge Chapter area range from 25-36 pounds per 1,000 square feet on the greens and 12-18 pounds per 1,000 square feet on the tees. Most of the super-intendents will withhold a portion of the seed from the initial application to use as backup for thin areas that may develop.



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HANDS ON Overseedin Overseeding 1991eeding 1991

Fairway and rough rates were not discussed.

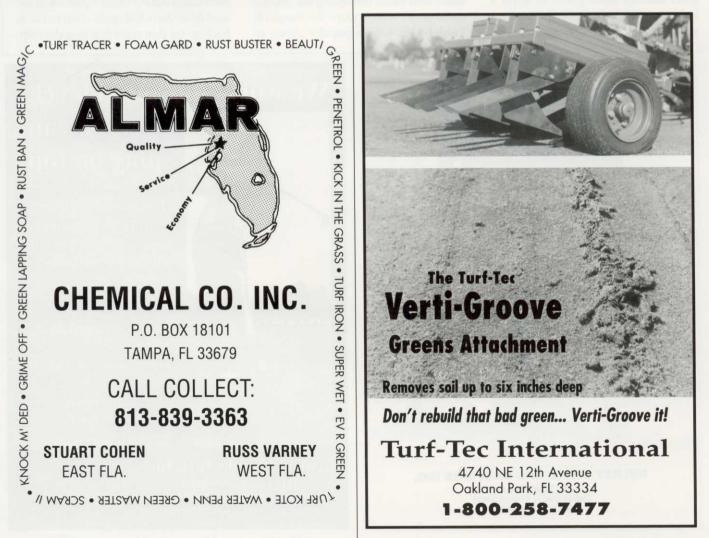
Fertility. Starter fertilizers with high percentages of phosphorus and potassium are applied to the prepared greens and tees just prior to or just after seeding. Some stay with this starter blend for several applications, but all tended to shift eventually to blends containing slow-release nitrogen in a 1:1 ratio with potassium. Everyone in the group supplements their fertilizer with some form of micronutrients (iron, sulfur, etc.) either in direct applications of Tracite or potassium nitrate or other micronutrient blends in his tanks with their fungicide spray programs.

Mowing. Of all the topics this is the one that causes the most problems and the most discussion. Deciding when to cut and how high to cut places the superintendent between the rock and the hard place. He walks the line every day between aggravating players who want ideal playing conditions, and giving the seedlings a chance to survive. Individual course conditions, assessed by the superintendent, and playing conditions required by the players will dictate what heights of cut will be used.

This area has been one where the most experimentation and gambling takes place. Some courses have acceded to the wishes of their members or management and heights of cut are kept low throughout the establishment period. This can be risky and re-seeding may be necessary.

The mowing methods favored by the group included raising the height of cut above normal, mowing when the grass was dry to avoid seed pickup on the rollers and tires, and then dropping the height of cut progressively as the grass matures and can tolerate the lower cut. It seems every year that superintendents are forced to bring the greens closer and closer to the edge of disaster during the establishment period by the demand for perfect greens every day. This is one of those areas where a little patience by the players pays off with successful greens during the winter.

Disease Control. No preventive programs were discussed. One superintendent said he had not had to spray in the three years he had been at his course. Everyone uses treated seed on the greens and tees to protect the seedlings during germination. Products kept on hand for curative treatments if needed were Koban and Subdue for pythium, and Bayleton, Chipco 26019, Daconil, Dyrene, and Manzate for the spot and patch diseases.



THE FLORIDA GREEN

OverseedinOverseeding 1991

Transition. Five to six months after we have agonized over establishing the overseeding, it is time to monitor the transition back to a bermudagrass playing surface. The old method of spraying out the winter grass has lost favor because it also weakens the reviving bermudagrass. Most everyone favors a combination of frequent but light verticutting, gradual lowering of cutting heights, slight increases in nitrogen rates in the scheduled fertilizer applications, and slight cutbacks in moisture amounts where possible. These procedures in combination with the natural increases in air and soil temperature and competition from the bermudagrass should enhance a smooth transition. Spring renovation, usually in April or May for most courses in this area, should complete the transition process.

The following members of the Ridge Chapter contributed to this article: Kent Boggs, C.C. of Sebring; Jim Higgins, City of Sebring; Mark Hopkins, Sun & Lake G.C.; Alan Puckett, Lake Region Yacht & Country Club and Al Simms, Spring Lake C.C.

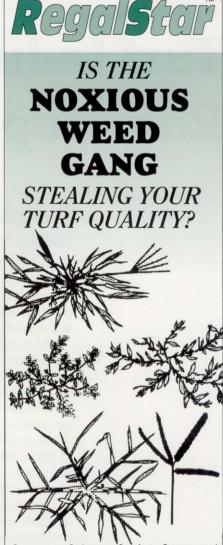
TURFGRASS QUIZ

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Turf Industry Roundup

McLaughlin named general manager of Nucrane Machinery

After a two-year foray into the plant nutrition field, former FTGA President **M.J. McLaughlin** has returned to the turf machinery industry as general manager for **Nucrane Machinery**, based in Coral Gables.

McLaughlin, who brings 18 years of turf machinery experience to Nucrane, hopes to develop long-term relationships with his clients, "valuing customer input in the areas of management practices and development decisions," according to a company news release.

McLaughlin's team of sales and service professionals includes Kent Busser, controller of product support; Gerry Millholen, Dick Bessire, Jon Gowen and Drew Hager.

"The primary focus for Nucrane will be to change the perception clients have of dealing with machinery companies," McLaughlin said. "Working with a company, no matter what field they represent, should be a pleasant experience — even a fun experience — not a dreaded one.

"Our philosophy is to make sure that clients feel comfortable with our service and find dealing with Nucrane a positive experience."

Nucrane recently was named exclusive John Deere Golf and Turf distributor for South Florida and Palm Springs, Calif. In addition to its Coral Gables headquarters, Nucrane has three Florida locations: Riviera Beach, Sanford and Fort Myers.



McLaughlin



Shook

Vigoro Industries has named two territory managers for its Winter Haven-based Specialty Products Division. Matthew D. Shook will manage Central Florida and Gary McElvaney will expand the company's customer base in the Southwest and Southeast. Shook joins Vigoro from Chain of Lakes Groves, where he was production manager. He will work out of the Division office. McElvaney, previously sales manager for Chemical & Turf Specialty Co. and a past president of the Texas Turfgrass Association, will serve his territory from Austin, Tex.

Jacklin Seed Co. has tapped Gustavao Picasso to help the firm expand its international market. A native of Argentina and a graduate of the University of Buenos Aires as an agronomy engineer, Picasso will specialize in export sales of turf and forage grass to Central and South American countries, southern Europe, the Mediterranean and the Middle East.

Excel Industries has has named **Pifer**, **Inc**. in Jupiter as an authorized factory-direct dealer for southeast Florida. The Kansas manufacturer of commercial mowers also announced a new corporate logo.

The Golf Course Superintendents Association of America has named former HBO account executive Patricia McCarthy as director of administration for the 10,800-member organization.

The GCSAA also has named **Pat Jones**, formerly director of communications, to head a new department to support development efforts for its scholarship and research fund. "GCSAA has been providing funds for turfgrass research grants and student scholarships for more than 35 years, but the demands are growing and our board has made development one of its top priorities," said John M. Schilling, GCSAA executive director. "Dedicating full-time staff to this effort is evidence of GCSAA's commitment to providing the scientific knowledge and educational resources the professional superintendents of the future will need." Among the projects under consideration is the



Picasso



Harvey THE FLORIDA GREEN

Turf Industry Roundup

Companies doing business with golf course superintendents in Florida are invited to submit their news releases to The Florida Green, c/o Janlark Communications, P.O. Box 3,36, Auburndale, FL 33823. establishment of research centers on new or existing golf courses.

Monsanto has appointed Jim R. Neal as brands director to oversee marketing and brand development activities for the residential Roundup product line.

Rain Bird Sales has named three national managers and two in Florida. Mike Catalano returns as product manager for the Golf Division and Tony Matlock is the new quality manager in that division; Rick Davis is national specifications sales manager. Clayton Harvey is Golf Division product applications engineer in Tampa and Sharon L. Carothers is the new Contractor Division district manager for Florida Lawn Line accounts, based in Orlando.

James Beard of Texas A&M University will keynote the annual FTGA Conference and Show Oct. 13-16 at the Prime F. Osborn Convention Center in Jacksonville.

More than 200 exhibitors from the U.S., Canada and England will take part in the trade show Oct. 14-15. Admission will be free the second day.

On Monday, the association's annual meeting and election of officers will be combined with the traditional awards luncheon, always highlighted with the presentation of the association's highest award, the Wreath of Grass.

Presentation of research reports and hands-on workshops will fill the education schedule on Monday and Wednesday while concurrent education sessions will run all day Tuesday.

Pre-conference social events on Sunday include the annual Research Golf Tournament, this time conducted over two courses, and the barbecue.

Contact the FTGA at 800-882-6721 for more information.

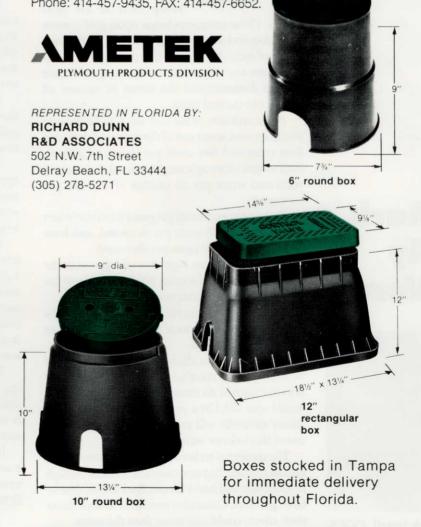
The FGCSA will sponsor a GCSAA Seminar on negotiating at the Bay Hill Club in Orlando Nov. 8. The GCSAA will award 0.7 CEUs for successful completion of the session, the only official GCSAA seminar in Florida this year.

"How to get what you want from the people who have it," is the operating theme of the one-day seminar conducted by Charles F. "Chuck" Palmer.

Control boxes for turf irrigation systems

Plymouth irrigation boxes are made of a strong, tough thermoplastic material especially suitable for underground use. They're lighter in weight, easier to handle and less brittle than cast iron or concrete boxes. And, the covers feature molded-in green color to blend-in-with rather than stick-out-of your turf. Rectangular boxes have snap locking covers; 10" round boxes have twist lock covers; and 6" round boxes have snap fitting covers. All boxes nest for simplified storage. AMETEK,

Plymouth Products Division, 502 Indiana Avenue, Sheboygan, WI 53081, Phone: 414-457-9435, FAX: 414-457-6652.



Are you ready?

n a column in March I warned of pending legislation that would require all golf courses (now 460) within the South Florida Water Management District to reduce their use of potable water by 80 percent and contract with local utilities to purchase reclaimed water for their irrigation needs.

Crunch time time the sex posal will b print for Fl ter distric other stat supply pro After at public wo matter on report the

It is expected this proposal will become the blueprint for Florida's other water districts and possibly other states facing water supply problems.

After attending the final public workshop on this matter on July 3, I regret to report the proposal will probably take effect in November.

Utility companies will then have two years to develop their re-use pro-

grams. These programs hinge upon golf courses and other end users signing contracts for the purchase of reclaimed water. If recent contract proposals are any indication, utility companies have already demonstrated the intent to recover all costs from the end users.

A fair estimate of the cost for a golf course to pump its own water out of the ground is between four cents and five cents per thousand gallons. Golf courses throughout the state that are using reclaimed water pay an average of 17 cents per thousand.

I have seen a contract proposal from the Stuart area calling for 40 cents per thousand, and have heard of one for 50 cents per thousand.

Who knows how high it could go once the bureaucratic tentacles catch hold and golf courses have no choice of water sources?

Using my own course as an example of the potential additional cost of using this water, let me illustrate my concern.

My water permit allows me to withdraw up to 77.8 million gallons of water a year. If I were to use my allocation at 40 cents per thousand gallons, it would cost \$31,120 a year on top of other costs, which assuredly will go up to accommodate the use of this inferior water.

The quality of reclaimed water varies from one area to another, but one constant seems to be high levels of salts and heavy metals. Both are detrimental to golf turf. Corrective measures to counteract their effects could cost more than the water. Knowing a little about the mentality of golf course neighborhoods, I also predict a problem with those walking or jogging the course at night. Add the expense of a fence or other means of security to keep all the people off the course at night during irrigation and the cost mounts up.

For all this effort and expense, there is only one tangible benefit that I can see for golf courses: an inferior source of water will be available during times when no other source can be obtained.

Sadly, our \$5.5 billion statewide golf industry has less influence on policy-makers than a vocal group of condo commandos.

Golf courses did not create the water crisis, but they are being called upon to solve it. Because a golf course is such an effective mechanism for the recharge of ground-water supplies, and because it already has the infrastructure for the disposal of reclaimed water, officials naturally look at golf courses as the very best means available to recycle water and replenish ground-water supplies.

In some densely populated urban areas, golf courses are the only available recharge areas for local shallow aquifers. Add to this the cleansing effect of golf turf and you see why water officials are drooling over the prospect of having golf courses use wastewater.

Having these wonderful advantages to offer for the solution of a water problem that we all create, golf courses — and this really means golfers — are rewarded by being asked to foot the entire bill.

The perception is that we use a lot of water. We apply a lot, but most returns to the groundwater supplies. We estimate as much as 10 times as much water returns to the aquifer as we draw out for irrigation.

The water management district estimates that any given golf course in South Florida will apply 1.25 inches of water in a typical week while a home owner will apply 5.5 to 6 inches. It is this kind of waste and inefficiency and the runoff from our concrete and asphalt jungles that have created the water problem, not the golf course that recycles water by filtering it and returning it to the aquifer.

The utility companies will assuredly attempt the "divide and conquer" tactic, but don't buckle under to the pressure. My only suggestion for now is to refuse to sign any contracts for reclaimed water.

If we in the golf industry just roll over and accept this, we deserve the economic burden foisted upon us. But, we all have a stake in this and should fight it together. There is still time.

Mark My Words

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Mark Jarrell, CGCS



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Greenward

A compendium of news and opinions about government, golf and the environment

Forum brings feds, golf industry heads together for confab

Senior golf industry officials heard the latest information concerning government relations at a GCSAA-sponsored environmental forum June 24. "Golf Course Management, Government Relations and the Future," was developed and organized by GCSAA's government relations staff and board liaisons.

"By bringing the regulated and the regulators together, our industry stands a better chance of being involved when these agencies are making the rules we must live by," said Charles T. Passios, CGCS, GCSAA director in charge of government relations.

"More communication exchange means more opportunities to be represented in the rule-making process now and in the future."

Eight regulatory officials and a U.S. congressman briefed those attending on the current and proposed regulations and legislation that affect golf. Lewis Crampton, associate administrator of the Environmental Protection Agency, urged the golf industry to continue its environmental efforts.

"Golf courses have to be environmentally friendly places if the industry wants to continue to grow," Crampton said. "Golf is doing a number of positive things in the environmental area. Those include pesticide reduction, better environmentally designed courses, and underground storage tank replacement."

Cathy Kronopolus, of EPA's Environmental Fate and Effects Branch, said that EPA is getting agency-wide input in developing the new pesticides and groundwater strategy. The strategy will focus on giving the states a substantial role in protecting groundwater supplies.

"The prevention strategy includes promoting the use of 'safer' chemicals, nonchemical pest control alternatives, and environmentally sound agricultural practices," Kronopolus said. She said the end user will continue to be responsible for the implications of pesticide use in the field.

Dr. Larry Turner, project manager for the Endangered Species Program, told the forum audience the program is "pretty much in concrete."

The program will rely on county bulletins that feature maps showing areas where an endangered species is present and outline the restrictions on chemical use in and around those areas. Chemical labels will remind applicators that they must consult the bulletins and abide by their restrictions.

Turner, a zoologist, noted that only three of the 600 listed endangered species have been sighted on golf courses. They are: 1) the dwarf wedge mussel (Northeast), 2) Mojave tuichub fish (California) and 3) the red cockaded woodpecker (Southeast, in older pine-wooded areas). Turner cautioned that there are probably "dozens and dozens more" on golf courses that have not yet been documented.

Melody Sands, an enforcement official for the Occupational Safety and Health Administration, clarified some rules of the Hazard Communication Standard.

She explained that material safety data sheets (MSDSs), for instance, are not required to be kept in any certain form. They may be kept in a notebook or on a computer as long as all employees have ready access to them.

Sands referred to recent appellate court decisions on the subject of MSDS accessibility. In some emergency situations, "15 minutes may be too long for an employee not to have access to a material safety data sheet," Sands said.

Although it is not a requirement, she said, translating MSDSs into different languages is recommended because employers should communicate the hazards of the workplace in the employee's language.

She said the most frequently found violation of the HazCom Standard is an inadequate written program while a training program deficiency was the second most commonly found violation.

A more complete report on the environmental forum is printed in the August issue of Golf Course Management. — Don Bretthauer, GCSAA

Government Relations Manager

Supreme Court decision approves chemical ban laws by local ordinances

The Supreme Court decision involving the Town of Casey, Wis. vs. Mortier has sent lawn-care and turf associations scrambling for answers and ways to deal with the repercussions.

The key to the decision was that FIFRA legislative amendments inadequately spell out federal pre-emption of local ordinances.

The court asserted that FIFRA plainly authorizes states to regulate pesticides, but is silent in reference to local governments.

This ruling apparently upholds the authority of cities and towns to control and even ban the use of pesticides through permitting schemes, licensing, notification and other usage requirements.

Several interest groups that serve turf and lawn-care professionals are expected to initiate federal and/or state legislative amendments that spell out pre-emptive measures.

Cities can be expected to fight these legislative efforts to maintain regulatory authority.

Public education on the use of pesticides and the environmental and societal value of well-maintained turf, coupled with a willingness to initiate public protection measures, are the best ways to improve the position of golf courses with community decisions makers.

Communication with city and county government authorities is more important now than ever before.

Federal bill would ban minors from handling pesticides

A newly-proposed U.S. House of Representatives bill would amend the Fair Labor Standards Act of 1938 regarding the employment of minors.

Reps. Pease (D-Ohio), Schumer (D-N.Y.) and Lantos (D-Calif.) are cosponsors of the legislation which, if passed, would prohibit minors from handling pesticide products.

The bill would also require employers to report any lost-time accident or illness that occurs to a working minor.

The bill's language would require minor employees to obtain a work certificate that would include permission guarantees by the child's parents and school officials (school permission is required if the child is working during the school year).

When school is in session, minors age 14 and 15 could work a maximum of 15 hours per week and those between 16 and 18 could work a maximum of 25 hours per week. Some states already have provisions similar to these.

GCSAA plans to submit formal comments on the bill to the Subcommittee on Labor Standards.

Senate bill would tighten pesticide regulations

A new Senate bill entitled "The Pesticide Health and Safety Act of 1991" would amend several sections of the Federal Insecticide, Fungicide and Rodenticide Act. If enacted the bill would require some pesticide labels to include the statement, "EPA registration is not a guarantee of safety. It is a product registration process and not a safety determination."

The bill would also require professional pesticide applicators to be trained in alternative pest management methods and both professional and private applicators to keep records of the date and time of all pesticide applications.

All of the preceding material was reprinted with permission from the GCSAA Government Relations Briefing, August, 1991.

Jax golf course provides green space in heart of industrial park

Windsor Parke GC in Jacksonville has been cited by Tom Clark, president of the American Society of Golf Course Architects, as a prime example of a new breed of golf course — those built in conjunction with industrial and commercial development.

The public course, which opened in May 1990, is built in an area featuring several commercial plots currently being marketed.

"Windsor Parke is an exceptional 18-hole course that will offer commercial occupants an outstanding environment for business and golf," said ASGCA member Art Hills, who designed the course. "We developed the master plan to blend the golf course and commercial space into a single cohesive project."

"Golfers can practice their

driving and putting at lunchtime and play a quick nine holes after work," added Clark. "Many commercial courses operate golf schools which are available to tenants and the public."

Clark recently developed a master plan for a course in Norfolk, Va., that will house offices for the city. "Any mayor or city administrator would appreciate the benefits of an office overlooking a public course, especially one that brings revenue to the city," Clark said.

A brochure on master planning is available from the ASGCA at 221 N. LaSalle St., Chicago, IL 60601.

In addition to making a property more attractive, industry studies show a golf course's open space absorbs noise, while trees produce oxygen, which can be expecially beneficial to industrial and commercial developments.

"Some courses have even been built over landfills, thereby eliminating an eyesore to the community and possibly reducing further environmental risks," said Clark. "Our research shows that golf courses will benefit commercial and industrial developments in the next decade in the same way they have generated sales in residential developments the past 10 years."

The ASGCA has formed task forces to work with governmental agencies to expedite the permitting process and identify unique financing sources and programs, Clark said.

"Developing sound environmental and financing programs continues to be critical to not only ASGCA members, but to the entire golf industry," he said.

The organization will distribute a document providing information on all facets of golf course development and maintenance from groundwater to wildlife. The information will be made available to federal, state and local agencies involved in the permitting procedure.

"Providing this information up front reduces the need for governmental agencies to query architects on a case-bycase basis," said Clark. "We are hoping to ease some of the concerns of these agencies, thereby speeding the application process.

"For example, if the agency knows we follow strict guidelines with nitrates, pesticides and herbicides, they can work with us on other areas, such as wildlife. We have been working with the GCSAA, NGF and USGA to collect and distribute this information.

The ASGCA also has developed an environmental database to provide architects with critical information.

"For example, if one of our members has dealt with woodpeckers or desert tortoises, he can provide that information to another members facing a similar situation," Clark said.

"More architects are getting back to the basics of good architecture and design, specifically concerning how courses are groomed. The water crisis may mean that there will be more brown courses, which is perfectly accceptable. We can't continue to groom every course like it's Augusta National."

AFTERWORDS

"There is no season such delight can bring, as summer, autumn, winter, and the spring." - William Browne

The hot, rainy summer of '91 with its warm humid mornings giving way to scorching mid-day heat followed by purple-gray thunderstorms rolling across the late afternoon

Reflections on the Autumn equinox skies has been a reminder of what summers are traditionally like in Florida. June's summer solstice was but an exclamation point in a wet spring and summer.

The tropical bermudagrass covering our southern golf courses loved every minute of it. Unchecked by mowers unable

to negotiate the rain-soaked fairways and roughs, the turf challenged the perseverance of those who try to maintain it and those who try to play golf on it.

Green Side Up



Joel D. Jackson, CGCS

Maintenance schedules became erratic. Renovation projects were delayed. Golf courses under construction faced setbacks as finely shaped contours were washed out of proportion. Golf carts were banned from courses without tee-to-green cart paths. Playing conditions got a little ragged. Revenues decreased. We got those mean old summertime blues.

Relief is in sight! It started sometime in September. Imperceptibly at first, just the slightest decrease in night time temperatures. The autumnal equinox marked the sun's passage into the Southern Hemisphere. Fall is on its way!

Soon you'll be donning that light sweater or windbreaker for those first few chilly hours before the day warms up. You'll be savoring that hot cup of coffee as you watch daybreak light up the clear, crisp autumn sky and plan the day's routine with your staff. *It must be time to overseed!*

Overseeding is that process which was invented to turn autumn's slower paced days of southern turf management into the stressful hectic days of summer. Just as the vigorous bermudagrass growth is slowing down and the turf is being manicured to optimum playing conditions, we spread cool-season grass seed over our courses so we will have something grow in the winter.

While the weather is more agreeable in the fall for both work and play on our courses, we still have our concerns. Storms accompanying cold fronts can wash the new seed off the greens and tees. Warm weather in November and December can dehydrate the tender cool-season grasses we are trying to cultivate. Increased golf rounds can wear out the new winter grass before it can get established. Lingering overcast skies give rise to disease conditions. Complaints of slow green speeds echo from the pro shop as cutting heights are eased up to give the new grass a chance to root.

Take heart! Don't despair! Once your overseeding is established you can sit back and relax and wait for winter with its ten zillion golfers and frost and freeze warnings.