ting, all sizes, and colors); asters (prefer dry soil, all sizes); and mums (must for fall bloom, pinch until flower buds initiated in early July, fertilize 3-4 times during summer, divide every 2-3 years).

Annuals, of course, provide a spectacular flower show in June, July and August. Some of the easiest to grow and most popular are marigolds, zinnias, petunias, dianthus, snapdragons, dusty miller, alyssum, and lobella. Marigolds come in all shades of yellow and yellow-red. Varieties range from 6 inches to 3-1/2 feet tall. Zinnias come in all colors except blue and green. Height ranges from less than 1 foot to greater than 3 feet and flower size from 1 to 4-1/2 inches. Zinnias are a somewhat formal plant. Petunias come in a wide variety of styles includina hanging, upright. multiflora, grandiflora, doubles and singles. Snapdragons are available in a wide color range and offer nice height to a display. They are also mildew resistant. There is a nice series of dianthus out called 'Twinkle'. Dianthus is self seeding and thus can be treated similar to a perennial if you wish. Alyssum and lobella are excellent for edging and borders.

All of these plant materials are readily available in Wisconsin. The above suggested selections are by no means all that can be grown here. Instead they only scratch the surface of possible choices. Just be careful to know your plant material in order to provide it with the best possible growing conditions.

An Editorial SUPPORT OUR ADVERTISERS

The manufacturers and distributors whose advertisements appear in the GRASSROOTS deserve recognition from the WGCSA. Without their support in the form of ad space purchases, we would have difficulty with presenting a newsletter to our members. Without the revenue from the GRASSROOTS, the WGCSA would be unable to fulfill one of its most important missions - the granting of gift monies for turfgrass research and education at the level we currently do.

Obviously, we are important to them also. Without us, many would have trouble surviving in the business world. Others would most certainly experience less business success without us than they do with our purchases. The point is, we think, that it is a twoway street. We share common ground with them and have mutual interests.

The Officers and Board of Directors would like to encourage WGCSA members to give special attention to the firms that feel the WGCSA newsletter is worthy of support. It is the least any of us can do.

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A Professional Approach PARTNERS IN BUSINESS By Gerry Sweda

"EVERYBODY WANTS TO BUY, BUT NOBODY WANTS TO BE SOLD." That phrase describes many buyers' attitude towards buying, and it's one we take very seriously as the sellers in the buyer/seller relationship. We are not interested in selling but we are interested in customers buying our products. Because we recognize that there is a difference, we chose to take a professional approach to selling — a partnership approach.

What's involved in a professional approach to selling? Well, for one thing, it means recognizing that selling a product to a customer which he/she doesn't need, want, or know how to use, might get a sale, but it won't result in a satisfied customer. Neither does selling a product that doesn't work or doesn't do what it was purchased to do. Putting sales ahead of happy, satisfied customers is not the goal of professional salespeople. It may bring short-term results, but it also may result in disastrous consequences. A salesperson who aspires to success realizes that it is not possible to succeed with one-time sales. Success comes from repeat sales and these come only from satisfied customers. GETTING A SALE IS NOT A PRIMARY GOAL OF A PROFESSIONAL, CAREER-MINDED SALESPERSON, A satisfied customer, who continues to buy, is the primary goal of a true sales professional.

A professional selling approach also involves the realization that selling includes much more than order-taking or re-stocking inventories. It includes the recognition that the value of an offering is not limited to the product itself.

Certainly, there was a time when products were easily recognizable and easily distinguishable from their competition. However, that is changing. New and improved technology, refined methods and scientific breakthroughs are complicating our lives to the extent that few of us are able to keep up with all of the improvements and changes taking place everyday.

Customers can easily become victims of such change. Because they cannot be expected to remain totally knowledgeable in the face of such confusion they need a dependable source of information. That source is a competent, experienced, knowledgeable and dependable sales rep . . . a professional salesperson, who encourages questions and inquiries; who welcomes the challenge of participating in solving customer problems; who appreciates the pressures of today's demands upon the superintendent; and who responds to the opportunity to be more than an order-taker by sharing valuable knowledge, experience and expertise as part of the overall value of an offering. "More than just products" has definite meaning to professionals who take great pride in their ability to be the best — as well as sell the best.

What do professional salespeople look for in their relationships with their superintendent customers? OPPORTUNITY. Opportunity to serve and to provide satisfaction, and opportunity to demonstrate that they too are hard working, dedicated, responsible individuals, with much to contribute.

And what do they ask for of their superintendent customers? COOP-ERATION. Cooperation by being honest and open with their reactions to the sales reps' recommendations. Cooperation by being open-minded to change, progress and new ways of doing things. Cooperation by remembering that most of all, salespeople seek respect. RESPECT for their efforts to be as professional in the work they do, as the superintendents are, that they are trying so hard to serve.

Success in life usually involves the efforts of others in one way or another. When it comes to success in selling, or in maintaining a golf course, it is certainly possible to do it without any contributions from others, but there are a lot of advantages to working together. It's one of the best ways of making tomorrow a better day for both of us.

Editor's note: Gerry Sweda is the Manager of Corporate Sales Training, O. M. Scott & Sons Company, Marysville, Ohio. As a former Golf Course Superintendent and a former sales rep, Gerry has a good understanding of both roles in the buyer/seller relationship. His 12 year career in the golf course industry came to an end in 1973 when he first went to work for O. M. Scott as a ProTurf Tech Rep. Following four years of field sales, Gerry was promoted to the position of Regional Sales Manager which he filled until his most recent move to Manager of the Sales Training function. His background in the golf business as well as the business of selling, gives him a unique perspective on the needs and desires of both the person doing the purchasing, and the person doing the selling.





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RYEGRASS + POA RETARDATION = POSSIBILITY OF SUCCESS A Poa Annua Fairway Conversion Program

> By Mark Kienert Assistant Golf Course Superintendent North Hills Country Club

Anyone struggling to maintain annual bluegrass fairways knows the most basic problem — the incompatibility of water requirements for annual bluegrass and the drier fairway conditions favored by today's better golfers.

At the North Hills Country Club, a suburban Milwaukee club founded in 1929, innovative solutions to problems are a part of its rich heritage. Most credit for much of the progressive thinking goes to Robert Musbach, golf course superintendent for the past twelve years, and a willing greens committee that realizes that the golf course is always in a state of evolution.

Past Poa Management Practices

The uniqueness of many of North Hills attributes precipitated the development of intensive Poa management practices. Located in what could be termed the "bottom of the saucer", steep southern facing slopes greet the hot sun. Limited or no topsoil overlying heavy clay soils provide marginal infiltration of any water. Drainage patterns that flow across adjacent fairways and natural springs that come to the surface a few days after a rainfall required the development of a Poa management program almost entirely on a fairway by fairway basis.

To nurse 70 to 85% Poa annua fairways through the summer stress period meant a management practice of syringing. Syringing fairways up to five times a day during the hottest parts of summer to keep them lush, green and playable is an easy way to lose popularity around the clubhouse.

In an effort to combat Poa and to make our fairway management program more livable, a bentgrass overseeding program was started in the mid-60's continuing into the 70's. This program was doomed to failure as there was nothing to keep the aggressive Poa from smothering the new seedlings. Chemicals to inhibit Poa's competitiveness were implemented into the program in an effort to increase the bentgrass overseeding success. Bensulide compounds, Maleic Hydrazide and Chlorocompounds flurenol and arsenicles were used extensively during that period with no significant reductions in the Poa populations. There was no corresponding increase in overseeding success.

Experts from industry and educators from universities were called in for advice and their impressions as to why the products were ineffective. Conclusions reached after those visits all suggested our clay hills provided unequal water distribution, soils slow to warm up due to our northern slopes, and heavy forest property boundries created a micro-environment ill suited for success. Viable bentgrass seedlings could not compete with the Poa.

North Hills Special Blend

As membership attitudes began to change about wet lies and syringe cycles interfering with play, Superintendent Musbach and the greens committee met in the fall of 1981 to develop a management program that would in the end mean a reduction in water and chemical costs. The best way to accomplish that goal would be the reduction of Poa annua populations in our fairways. The save the Poa mentality was no longer alive.

Solution to this problem seemed simple at first. Use glyphosate herbicides to burn off the fairways and overseed with desired turfgrass species. The only problem to this approach was that it was not acceptable to the membership. Alternative solutions had to be researched and that is how a ryebluegrass blend played an important part into the development of what we call the North Hills special blend. Key to the development of this program was a personal decision on the part of Superintendent Musbach of just not wanting to babysit wet turf for the rest of his career. Fostered by the knowledge of being backed by a greens committee that agreed with the turf philosophy of less maintenance and that over-grooming was not always the best, research into the types of turfgrass species that could be adapted to our own golf course was initiated.

A great deal of time and money has been spent in the development of improved turfgrass cultivars. Selection of those used were evaluated for color, drought-heat resistance and crowning depth as it relates to cold and wear tolerance. The texture had to be fine. The plants had to be low thatch producers. They had to be non-aggressive in their vigor and spread to keep any one particular species from dominating the stand. Natural dwarfing was a must for close mowing in a high maintenance environment. Disease and insect resistance was an important consideration.

In the absence of chemical control, quick germination to compete with the Poa would be a great insurance policy toward the survival of the stand.

In pouring over many turfgrass evaluation reports, it was learned that ryegrasses root well in clay and they would compete well with Poa. They were allelopathic in nature. (Roots producing a chemical that makes the plant more competitive for the same space with other plants.) New developments in bluegrass cultivars to withstand a lower height of cut in a drier fairway environment also looked attractive.

A blend of 70% ryegrasses and 30% bluegrass was designed to give us the best results for our golf course.

The ryegrasses chosen were Delray, Fiesta and Palmer. Bluegrasses selections were Banff, Parade and Rugby. These varieties were selected to fill a specific need and should not be considered a recommendation for other cultural situations.

Common fears of using ryegrasses and bluegrasses on country club fairways are disease, specifically Pythium spp. and height of cut. Pythium can be a big problem on southern overseeded greens. Historically in Wisconsin, the Pythium season has ended by the time fall seeding starts and drier summer fairway conditions should reduce disease threshold levels. The bluegrass banff was discovered on a putting green and should tolerate the close fairway mowing height of one half inch. Ryegrasses have been used on southern greens for years.

Rubigan

Rubigan was introduced to us in the spring of 1982 as an experimental fungicide being manufactured by the Elanco Products Company. If not for the enthusiasm of a local distributor and the knowledgeable products rep, this fungicide might have largely gone unnoticed. What separated this fungicide from others and interested us the most was a precautionary statement Rubigan carried on its label - that the continued use of the product could cause the gradual reduction of Poa annua. Having that knowledge, coupled with the fact that the use of glyphosate herbicides were unacceptable to our membership play, Rubigan used as a Poa growth regulator might prove to be the difference between a successful or unsuccessful overseeding program. Overseeding with bentgrasses proved to be a disaster when slit seeded. We used chemicals that were popular then, but they failed to depress the vigorous growth of Poa.

Rubigans safety to existing desirable turfgrass was investigated by talking to the University professor who had spent a great deal of time researching the new product. Armed with that information, the decision to use the produce was an easy one to make. Now we had a tool that complimented our overseeding program as well as providing the disease protection we demand.

A total of 104 pounds of Rubigan was used in 1982 on 20 acres of fairway turf. Rubigan was sold to us under an experimental label and only one thousand pounds of chemical was manufactured for research. This represented 10% of the entire production of Rubigan marketed for experimental use was used at North Hills that year.

The product was applied using an FMC Bean mist blower outfitted with a one way volute calibrated to deliver twenty gallons of water to the acre. Disease control was above average. At the cumulative dosage rate of 1.2 oz. of Rubigan, we began to detect the growth regulation effects. Symptoms were first observed on our shorter mowed green front approaches where higher concentrations of chemical per leaf surface area were applied. (Where the droplet size remains the same, the lower the height of cut means a greater concentration of chemical resides within the shorter leaf blade. The larger the grass blade, the more dilute the chemical becomes reducing the growth regulator effect.)

The growth regulator effect on Poa was detected by these symptoms of general chlorosis of leaf tissue and an overall stunting of the plant. Rubigan acts in susceptible turf by reducing the plant's ability to make gibberellic acid. This results in a reduction in normal cellular elongation. Expansion of bentgrass into these weak pockets was observed by detecting stolon growth. Rubigan had no effect on our overseeded rye-bluegrass blend. (A product bulletin states that bentgrass seed could be harmed by Rubigans growth regulator effect for overseeding purposes.)

We reached a total of 2 ounces per one-thousand square feet or five pounds per acre in 1982. In 1983, a cumulative total of 2.4 ounces of Rubigan was applied.

One precaution with the use of Rubigan quickly comes to mind and this is competition from weeds. Where the once vigorous Poa kept week expansion in check, clover and chickweed found a new place to roam. Fairway herbicides should be budgeted for to check any weed resurgence.

Overseeding

About the first of August 1982, only natural rainfall irrigated our fairway turf in an effort to dry out the seedbed and to further stress the Poa. The overseeding started on August 15th. Seeding was accomplished by using a Jacobsen-Rogers slit type seeder calibrated to deliver sixty pounds of seed to the acre. As soon as the fairway was planted, it was irrigated heavily to re-wet the soil profile to a depth of six inches. Screwdriver probes were used to check the depth of moisture penetration. The ryegrasses were seen to germinate within four days of the seeding. Watering was as needed and was cut back upon seeing the majority of seedlings reach the three-leaf stage. To date we have three seedings in the ground and the plan is to continue this overseeding program for another five years.

Summary/Conclusions

As the trend toward drier fairway playing conditions continues to grow into the next decade, Poa annua management will become more of a headache. The use of the newer rye and bluegrass cultivars might provide the type of playing conditions demanded by today's golfers without sacrificing any quality. Rubigans growth regulation side effect on annual bluegrass should leave the door open for the establishment of other desired turfgrass species as well as providing fungicidal control.

What we are attempting to accomplish is to put the right plant where it is best suited within the scope of the fairway environment. The bentgrasses will remain where its stolens can stay cool. Ryegrasses will compete and displace the Poa and bluegrasses will survive along the fairway edge where limited irrigation water reaches due to sprinkler radius. To date we have not had any complaints about the newer turfgrasses going off color or turning dormant after receiving some summer stress. We feel we will see a definite savings in our overall fairway maintenance program through the reduction of fungicides, fertilizers and water use.

This program is an inventive attempt to solve the Poa annua management problem we faced here at North Hills. Similar solutions may not be acceptable to the membership at your club. But, if you find the idea of reducing your fairway maintenance headaches attractive, there might be a place for a similar approach to a Poa annua management reduction program on your golf course.



From The Director's Desk QUALITY SAND BUNKERS

By Stanley J. Zontek Director, NCR Region USGA Green Section

The Rules of Golf define a bunker as "an area of bare ground. often a depression, which is usually covered with sand." This definition projects the image of the old Scottish bunkers, or even those at the Pine Valley Golf Club, in Clementon, New Jersey. Sand bunkers are an important asset of any golf course because they affect its appearance, strategy, playability and character. For a quality course you must have sand bunkers which reflect care in original placement, construction, and maintenance.

What makes a good quality sand bunker? First and foremost, good sand. Research at Texas A & M University and at Mississippi State University resulted in the USGA Green Section recommendation for sand suitable for bunker use. The following table summarizes those recommendations:

Briefly, the recommended size range for the majority of the particles is from 0.25 mm to 1.0 mm. Some finer sand is allowable, but the percentages of these particles should be kept to a minimum. Silt and clay content should be negligible, because bunker sand is normally washed sand. The coarse particles present a special problem because they tend to remain on the turf surface when they are sprayed onto the green surface by an explosion shot. They affect the sharpness of the reels and bedknives on mowing equipment. and they cause players to continually pick, brush, or otherwise remove these particles from their line of putt. This slows play and increases equipment repair costs. Therefore, the finer sands, which coincidentally conform to our specifications for top-dressing sands, are generally preferred because they can be worked into the surface.

Of secondary importance is the color of the sand. Most golfers seem to prefer the white sands, but they are not universally available at reasonable costs. Good-quality playing conditions require sands of the correct particle size range. Color is of secondary importance.

Sand consistency is also important. Too often several different types of sands are used in golf course bunkers. The goal should

-	SAI	VD PARTICL	E SIZE CLASS	SIFICATION TAB	LE.	al martine
	*ASTM			Sieve Opening		
	Mesh		Millimeter	Inches		
	4		4.76	0.187		
	5		4.00	0.157		
	6		3.36	0.132		
	7		2.83	0.111		
	8		2.38	0.0937		
	9		2.00	0.0787		
	10		1.68	0.0661		
	12		1.41	0.0555		
	14		1.19	0.0469		
			1.00	0.0394	4	
	20	1	.84	0.0331		
RANGE	24		.71	0.0278	COARSE	
FOR	28		.59	0.0234		
BUNKER	32		.50	0.0197	-	
USE	35	RANGE	.42	0.0165	4	IDEALLY -
	42	FOR !	.35	0.0139	MEDIUM	MINIMUM
	48	SOIL !	.30	0.0117	1	OF 75%
	60	MIXES	.25	0.0098	+	MEDIUM
	65		.21	0.0083		SAND
	80		.18	0.0070	T	
	100		.15	0.0059	FINE	
	115		.13	0.0049		
	150		.11	0.0041	+	
	170		.09	0.0035		
	200		.07	0.0029		
	250		.06	0.0025		
	270		0.5	0.0021		
	325		.04	0.0017		

be to have all sand bunkers, especially those around the greens, contain a sand composed of the same general range of particle sizes. This will help ensure that playing conditions will be consistent.

Extreme softness or fluffiness is a frequent complaint about bunker sands. This is a difficult characteristic to determine because so many factors are involved - how long the sand has been in the bunker, its particle size distribution, its depth, its moisture content, how often and how deeply it is raked, and the shape of the sand particles. These are just some of the factors that determine the softness of sand in bunkers. It is sufficient to say that reasonably firm sands are preferred. Hard, packed, wet sands contaminated by soil do not play well. Conversely, soft and fluffy sands in which a ball imbeds represent the other extreme.

An important consideration with respect to providing good sand bunkers is how well they are maintained. Unfortunately, maintaining sand bunkers in peak condition is not easy, nor is it economical. It takes work.

A revolution in sand bunker maintenance occurred with the introduction of the mechanical sand rake. This machine allows the operator to rake large areas of sand much more rapidly than he could by hand. This labor-saving feature is welcome unless the operator is more interested in speed than in quality performance. The best-maintained bunkers receive a combination of mechanical raking, which smooths the largest area of sand, followed by hand raking, particularly around the edges and on the steep slopes. On many courses, this procedure is a compromise between the speed of the mechanical rake and the quality of hand raking. The result is a good-quality job accomplished within a reasonable period of time.

Other features of a good sand bunker maintenance program include periodic edging and weeding to remove undesirable vegetation and to define a clear edge for the hazard. This is important. There must be a well-defined edge so that the player will know when his



ball rests in the hazard.

Maintaining a 3- to 4-inch lip on the bunker in the direction of play is recommended for bunkers near the putting surface. The goal is to deter the player from putting out of the hazard. Sand should be raked flush with the back and side edges of a bunker. Lips are not required on fairway bunkers.

Good drainage is essential for all areas of the golf course, and sand bunkers are no exception. Sometimes rainfall and irrigation water accumulate in sand bunkers because of their shape, depth, and location; therefore adequate subsurface drainage is especially important. Nothing is more aggravating to a player than to find his ball lying in water or very wet sand days after a rain. Quality playing conditions for bunkers require an effective draining system.

In conclusion, there are two basic considerations in providing good-quality playing conditions for sand bunkers. First, the sand should conform to a recognized set of guidelines, and, secondly, meticulous maintenance of sand and the area surrounding the bunker is essential. Sand bunkers should add to the beauty. character, and playability of a golf course, not detract from it! Maintenance personnel at the best golf courses are constantly reminded of the special attention required to insure quality playing conditions from the sand bunkers.

ZONTEK, SNOW HIGHLIGHT APRIL MEETING

Wet, sloppy snow gave Easter in southern Wisconsin a Christmaslike appearance, shocking Golf Course Superintendents as much as National Weather Service

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forecasters. Bruce Worzella's golf course was covered with 2 inches of snow as late as 10:00 Tuesday, the day of the WGCSA's April 24th meeting. By 1:30, warm sunshine had melted away almost all of the snow, and Bruce opened the course to play. Eight hardy and hearty WGCSA members "played away".

Despite the possibility of cancellation of the day's golf activities, we counted about 75 members in attendance at the meeting. Good, old-fashioned comradery and Gemutlichkeit among the gathered members seemed a fair substitute for golf that day.

The West Bend Country Club is a favorite meeting place of the WGCSA, and the West Bend staff — Pro Don Hill, Club Manager Bob Monaghan, Bruce and Assistant GCS Roger Baumann — were the gracious hosts they always have been. We were served an excellent evening meal and treated to a dessert selection few could refuse!

Stan Zontek returned from his United Kingdom trip just in time to address the meeting. Speaking without slides (that had to be a first for Mr. Zontek!), Stan shared many of the experiences and observations about his trip to the land where the "ancient and honorable" game of golf began. His remarks had a theme of "Similarities and Differences" of British and American golf courses and golf course superintendents (greenkeeper, in England). It was interesting to learn that the Europeans struggle with many of the same problems we do - Poa annua, poor drainage, soil compaction, thatch, soil layering and low budgets, to name a few. Some of the differences in golf course management between the two countries are dramatic and shocking — few pesticides are used, practically no fertilizer applications are made, and soil aerification is accomplished by "slitting" rather than coring as we do. A depressing difference, we learned, was the incredibly low salary levels of English Greenkeepers and the minimal contact and input they have with members in the decision-making process.

Stan felt they had a strong advantage over us in one area, however. In Britain, the attitude of the players is that you "play the course as you find it". They seemingly are untroubled by many of the things that tend to aggravate and upset the American golfer. Also, Stan noticed a real sense of pride and a near reverence for history and tradition among the British golfers, an attitude he found himself caught up in. He also spoke of a moment of silence at the grave of OLD TOM MORRIS of St. Andrews, the first "keeper of the green" in golf.

The only business conducted by the membership was action on a recommendation of the Board of Directors to grant a \$1500 gift to the Wisconsin Turfgrass Association for turfgrass research at the University of Wisconsin — Madison. Tom Harrison spoke to the need for support from the golf course industry in Wisconsin and of the necessity for a strong commitment on the part of the WGCSA to research at Wisconsin's land grant college. The motion carried by a unanimous vote.

All in all, it was a delightful and educational day for everyone.



Tournament Preparations: SETTING UP THE COURSE

By Eugene R. Haas Executive Director Wisconsin State Golf Association

One of the most cherished comments to be heard regarding a golf championship is when a contestant approaches a tournament director and says... "nice tournament." The words are short, but the meaning is lengthy and rewarding. After all, very few realize the amount of work and effort that goes into making a golf tournament a success.

The Wisconsin State Golf Association conducts 20 National and State golf competitions each year in addition to a myriad of other golf services rendered to clubs and individual members throughout the State of Wisconsin. Each event requires hours of administrative and on-site preparation in order to ensure a tournament's success. I would like to focus briefly upon some of the preparations necessary to make a golf course ready for a golf championship.

Once a tournament site has been selected, which usually is one year in advance, a contact is made with the Golf Chairman, Golf Course Superintendent and Golf Course Professional to establish some "ground rules" for setting tournament specifications. Some of the topics covered are as follows:

(1) COURSE MARKINGS:

An inspection of the golf course is made to determine the proper course markings referring to the boundaries, water hazards, obstructions and ground under repair areas and local rules necessary. A decision is made as to who will be responsible for assuring that Out-of-Bound stakes (white), Water Hazard stakes (yellow), Lateral Water Hazard stakes (red) and any painted lines referring to the above or any obstructions or ground under repair areas will be provided and placed.

(2) GROUND AND LOCAL RULES: Consultation with representatives of the club to determine the need for any local rules that might be necessary to assist in the conduction of the tournament should take place prior to the tournament, especially in areas of temporary obstructions, such as scoreboards, electronic equipment and refreshments areas.

(3) COURSE SET-UP:

It should be pre-determined what the location of the tee markers will be for the tournament. This will assist the Superintendent in setting up member play prior to the tournament to avoid excessive wear in tee areas, especially on par 3 holes. Hole locations should also be pre-determined to afford the same assistance. Hole locations should generally, for an area at least 2 to 3 feet in radius around the hole, have good surface putting conditions, without any steep slopes, or, if possible, any changes in the degree of slope. In other words, the green in the holing-out area should be as nearly level as possible and of uniform grade. but it does not have to be exactly level. Holes should be located at least 5 paces from the edge of the putting green. The distance should be greater if a bunker intercedes between the approach shot and the hole, especially if the approach is more than a pitch shot. Consideration should also be given for greens that have poor holding quality as to hole location. Bunkers should be raked and rakes should be placed outside of bunkers, at spots where they will be least likely to deflect balls.

(4) GREENS AND GREEN SPEEDS:

Greens should be cut at approximately 3/16 inches, if possible. Collars at 3/8 to 1/2 inches about 30 - 36 inches from edge of green surface with a light rough collar of about 2 inches in height from 2 to 6 feet followed by heavy rough of 3 - 5 inches in height. Hole locations should

never be changed during a round and normally should not be changed during a one-day 36 hole competition.

Green speeds should be regularly checked for uniformity and excessive speed in certain areas via the use of a STIMPMETER. Normal green speed for regular membership play is in the 7 feet to 8 feet range. Tournament green speed ranges from 8-1/2 to 10-1/2 feet. When green speeds reach an excess of 10 feet great care should be taken to ensure that putting remains "manageable" by the competitors. Certain greens, because of architectural design possess steep slopes and/or sparse grass, therefore adding to the speed under tournament conditions. It is recommended that the greens be graded for their design and speed, ie. (A) SLOPING-FAST. (B) NORMAL, (C) SLOW, etc. Perhaps different mowing procedures would be in order for the different type of green to ensure a greater degree of uniform performance by the competitors.

(5) FAIRWAYS AND ROUGHS:

Fairways should be cut every day of the competition to ensure consistency in ball position and striking gualities. A standard, desirable height would be 1/2 to 3/4 inches. Obviously, climatic conditions play an important role in the fairway heights to be used. Fairway widths should be 25 to 35 yards. Shorter holes and Par 5 landing areas should be narrower to afford a test of shot making proficiency. A collar off the fairway should be approximately 1-1/2 to 2 inches in height for 4 to 6 feet followed by heavy rough of 3 - 5 inches. Obviously, the height of cut should be related to density and toughness of the grass. Therefore, the above recommendations are for a major state championship and can be altered downward for events of less importance.

(6) TEE-MARKERS:

It is preferable that only one set of tee-markers be on the teeing grounds during play to assist the competitors to play the proper course. Each hole should be designated at the teeing area to help assure a hasty pace of play.

Tee-markers should never be changed during a round and normally, they are not changed between rounds of an one-day 36 hole competition.

There are many other reguirements in making a golf championship successful which involve many of the club's personnel. The Club Professional for Pro Shop needs, scoring, golf cart requests, and practice facility use. The Club Manager for tee and scoring items, restaurant and bar service, press facilities and locker room necessities. All of these tournament requirements revolve around the host club's Board of Directors and Committee personnel. A cordial relationship with all these people definitely helps to make a golf tournament successful. It takes a lot of concern and hard work by everyone connected with a golf course to set it up and make this year's championship the best.

Wisconsin Plant Pathology Report

Snow mold: Gray, pink and ??? By Dr. Gayle Worf

Some interesting observations have come about in recent weeks concerning snow mold that are worth noting at this time. We've considered this complex to be among the most serious of golf course disease problems over the past years, and I don't believe that situation has changed much. But most of the superintendents I've visited with were pretty pleased with the way their greens came through this past winter, especially from the standpoint of snow mold. This is certainly not because we didn't have the conditions for snow mold! Areas that were left untreated, or greens that were treated lightly demonstrated well the importance of timely and adequate fungicide treatments this past fall. If your greens came through well this year, it's probably a good indication that you've done things right!!

Pink snow mold is much more of a threat than it was some years ago when we began our snow mold control studies. Time was that it was virtually impossible to get good readings on pink snow mold. This year, our primary data will have to do with that disease. Of course, we picked the Westmoor location because of a recent history with that problem, but we hadn't expected that to be the case with Walt Stepanik at the Wausau course, where we've gone on previous occasions for a good readout on Gray. We still got some of that data, but pink dominated. Why is this? These trials were conducted on fairways that have been receiving some summer treatments, and one might wonder whether this was influencing winter disease development. Perhaps so, but the interesting fact is that the materials used during the summer are generally very poor actors against Gray. So I'm looking for another explanation. In the meantime, this shift augurs well for the idea of using a mixture of two or more good fungicides each fall to provide some diversity of protection. We'll give you a more complete report later, but in summary, the old "tried and true" fungicides-mercury, PCNB and chloroneb-still are the products to beat! Some other combinations offer something to look at, but none of the new products tested were outstanding this year.

By the way, most of you are no doubt aware that the basic manufacturers of both PCNB and chloroneb have changed hands during the past year. In contacts with the new manufacturers, we've been given assurances that they will continue to produce the products for turf needs.

One of the questions we looked at was the importance of late applications versus, say, an application a bit earlier when its more comfortable and with less concern about sudden permanent snowfall. In preliminary examination of the results, we were pleased to see that we may have considerably more latitude than we once thought. More on that later, too.

Our greatest personal interest this spring has come from the observation of symptoms resembling "winter dollar spot" on some greens. The symptoms appear to affect primarily Poa, and they have a color and size characteristic strongly resembling a dollar spot, except possibly for more mixing of healthy and affected plants. We recall seeing symptoms virtually identical to this in the Milwaukee area in 1974, and have seen an occasional spot here and there since. The tissue looks pretty clean under the microscope-isolations are underway to see if anything will surface. One organism we're keeping in mind is Pythium, because of reports elsewhere regarding "cool weather Pythium, and also the fact that in this year's situation, summer Pythium was a problem on the same greens.

We'd appreciate hearing from anyone who has encountered similar symptoms. If you've had unexpected or unusual problems with snow mold, we'd also like to know about those.





PGA Annual Now Available

The 1984 Wisconsin PGA Annual is off the press and available to the Wisconsin golf industry. It is an excellent publication and Bob Brandenburg, Executive Director, has done his usual outstanding job in assembling this year's publication.

The cover of the Annual features the par 3 twelfth hole at WGCSA member Steve Schmidt's Butte des Morts Golf Club in Appleton. Check with your PGA Pro for a copy.

Hasselkus Releases Ornamentals

Dr. Edward Hasselkus, Professor of Horticulture and Landscape Architecture at the University of Wisconsin — Madison, recently released two new ornamental plants:

- Betula platyphylla japonica 'Whitespire' was formally released in 1983. Its merits include resistance to bronze birch borer, white bark, a narrow pyramidal form and tolerance of high temperatures.
- Juniperus horizontalis 'Wisconsin' was also formally released in 1983. Its merits include a low (8") height, dense center, and a superior foliage coloration in both summer and winter. A comparative study of the low-growing junipers was culminated in the publication: Schneider and Hasselkus — The best and worst ground cover junipers in the Midwest. Amer. Nurs. 158(2); 38-59.

These new plants are currently available commercially. Check with your nursery on their availability.

Dr. Hasselkus was the speaker at the WGCSA meeting held at Maple Crest Country Club last year.

Johnson promoted

LESCO, Inc., Rocky River, Ohio, has named Jim Johnson to a management position. Jim will manage LESCO Truck Sales in Wisconsin, Illinois, Indiana and Michigan. A LESCO Truck Salesman since March 1981, Jim has served customers in western Michigan, Chicago and southern Wisconsin.

Before joining LESCO, Johnson was assistant superintendent at the Country Club of Lansing (MI). He received his B.S. in Crop and Soil Science with a specialty in turfgrass from the Michigan State University. Jim, his wife Barbara and their daughter live in Mundelein, IL. He is a member of the Wisconsin Golf Course Superintendents Association.

Looking for a bargain?

Most people have their eyes open for a bargain and, for a professional urban plantsman, there isn't a better buy available than a copy of the UR-BAN PHYTONARIAN HANDBOOK. More than a dozen University of Wisconsin - Extension specialists from various disciplines have assembled the material in the handbook. As the name indicates, the book is intended to help in the evaluation, diagnosis and treatment of unhealthy plants found in the urban setting. It deals with problems of shade trees, turf, flowers and shrubs - all of which are part of any golf course environment. For those of us who are also gardeners at home, there is a section on home gardening, as well. The book also deals with weed problems and covers general pesticide information. The fact sheets contained within the handbook almost all feature colored photographs to assist in the diagnosis of plant problems.

Update packets are mailed to handbook owners as new or revised sections become available. The handbook can be purchased for \$28.00 plus tax from your Wisconsin County Extension office, or from:

Agricultural Bulletin Building 1535 Observatory Drive

Madison, Wisconsin 53706 The URBAN PHYTONARIAN HANDBOOK is prepared in limited numbers. If it is not available from your county agent's office, call 608-262-3346 to confirm its availability from the Agricultural Bulletin Office.

Distributor's role expanding

Red Roscopf, Sales Manager of Wisconsin Turf Equipment, sees a real change in the role of distributors of turf equipment and materials. He feels there is a need for distributor personnel to work more closely with Golf Course Superintendents in keeping abreast of the rapidly changing products available for use on golf courses. This includes more sophisticated machines, new applications for equipment already in the marketplace, and the introduction of pesticide materials with very specific targets. Red, speaking from his point of view, is very excited about this new sophistication in management and finds the need for closer ties with Superintendents interesting and challenging. He notes, for example, the new generations of fungicides have specific modes of actions that require more accurate application and timing of application.

that logic is essential to the use sequence of fungicides, and that a more thorough understand of the materials available is necessary. Further, he says that frequency of cut and height of cut of some of the new mowing equipment need to be considered together. The role of the distributor will be one of providing Superintendents with the necessary technical information from manufacturers.

Roscopf noted that the business climate for Wisconsin Turf is improved over recent years, and they are experiencing some equipment shortages. They are having trouble, believe it or not, in getting delivery of walking greens mowers! He reports that the Terra large area aerifier is selling very well for them. He has been in close contact with Superintendents in the Milwaukee area that are working on Poa annua suppression/overseeding programs, and feels that there is good potential for long term success.

Help!

We are always in the need of contributing authors for the GRASSROOTS. Each and every member of the WGCSA has an interesting story to tell, an experience to share, a new idea that has worked well, or an opinion to express. The bottom line purpose of our newsletter is communication among our membership; why not participate by recording your thoughts and sending them to Monroe Miller, C/O Blackhawk Country Club?

We have very few "rules"; length of articles can vary between five paragraphs and five pages. Don't let the old "I cannot write very well" stand in your way. We aren't expecting anyone to win a Pulitzer Prize in journalism; we want only to share thoughts with one another. The subject matter is as broad as our job is. We do like photographs - black and white prints are preferred. We also like a brief biography of each author. Deadlines are critical - the printing dates for the remaining days of 1984 are July 1, September 1, and November 1. No exceptions! Material must be in my hands by those dates.

As you, hopefully, have noticed, each 1984 issue has a theme or a focus. We choose a topic we think is pertinent and emphasize that subject material with several articles. The first issue dealt with turfgrass research; the second newsletter spoke to the value of the USGA Green Section to Wisconsin Golf Course Superintendents. This issue has several articles dealing with the relationship between our advertisers and WGCSA members. Remaining issues have the following themes: July/August —

The weather and the environment will be the common thread woven through this newsletter.