PRESIDENTS MESSAGE

If you remember last months message, I talked about commitment, involvement, dedication, and professionalism. to coin a phrase "to be all you can be". this was no more evident than the participation exhibited at our recent institute and GCSAA Seminar.

It was good to see the involvement and dedication from our members. Not only did they help to make these events the most successful to date, but more importantly it show the type of commitment our members have in making our Association one of the strongest in the State.

Too often its easy for members to join an Association with the sole intention of "what can it do for me". I'm confident and proud of the fact that our Association is built on the premise of "what can I give back". I say this because we wouldn't be as successful as we are if our members didn't give something back. At times our Association may not always be looked on as favorably as we'd like, particularly on a state level. But then again you have to remember our Association is built on our beliefs and convictions tailored towards our membership. They are our survival.

At this time I would be remiss if I didn't thank everyone for the many hours of work associated with our Institute and GCSAA Seminar. From the various committees to all the Affiliate Members I offer you a hearty congratulations.

To our membership, I look forward to seeing you at our Christmas Party and bid you a Happy and Safe Holiday Season.

Mike

GOLF COURSE SUPERINTENDENT INSTITUTE A SUCCESS

Fountaingrove Country Club in Santa Rosa, Robert Tyler, superintendent, played host to the third annual Golf Course Superintendents Institute held on November 6-8, 1991. An even 100 attendees came to the educational session at the Doubletree Hotel and 58 golfers participated in a point-par golf format.

Golf Results are as follows:

Longest Drive-Mike McCraw
Closest to the Pin # 5-John Martin
Closest to the Pin # 17-Mike Higuera

Low Gross

First Place-Mike Phillips
Second Place-Scott Lewis
Third Place-Corey Eastwood

Low Net

First Place-Dave Barlow
Second Place-Walt Bray
Third Place- Jorge Bartolomeu

SYSTEM UNIFORMITY vs. SYSTEM DEFORMITY

By definition, uniformity is a condition that remains consistent and doesn't vary. Turf grass can grow in a relatively uniform manner if consistent growing conditions are present. We strive to have uniform growth of our turf grass on the fairways, tees and greens of our golf courses. Uniformity in the irrigation of turf grass is important if we are going to be successful in maintaining consistent turf surfaces.

Irrigation system uniformity is dependent on several physical properties of the sprinkler heads that we are able to control, and a few environmental factors that we can only guess about. Golf course rotary sprinkler heads, when operated properly, throw water a certain distance, or radius, with a consistent rotation speed. Proper sprinkler operation, including radius and rotation speed, is often dependent on water pressure at the head. If the water pressure is too low, the sprinkler may have difficulty "popping up" to begin operation, will often rotate too slowly to complete efficient irrigation of an area, and will probably not be able to reach its intended radius. Conversely, if the water pressure is too high for proper sprinkler operation, it will often cause some of the water to become a fine mist which is lost to evaporation and wind drift, and the rotation of the sprinkler will whip around to fast causing a reduction of radius. Therefore, it is important to maintain a properly regulated operating pressure at the sprinkler heads in order to control system uniformity. Most "valve-in-head" sprinklers are equipped with pressure regulating devices that control sprinkler operating pressure up to a certain maximum pressure.

A system that is designed to provide proper pressures at the sprinkler heads must be properly "staked-out" and installed with the sprinklers at a uniform spacing in order to be effective. A properly installed system will provide sprinklers in a "triangular spacing" pattern. The distance between any two sprinklers in the pattern should remain consistent and should not exceed the maximum radius of the sprinkler pattern at the actual operating pressure. If sprinkler spacing is "deformed" the sprinkler heads will tend to overwater areas where spacing is tight, or turf stress due to lack of water may occur where spacing is stretched too far.

Another factor contributing to system deformity is the effect of wind on the sprinkler pattern. Sprinkler radius is significantly reduced when throwing into the wind, and is elongated when the water is traveling with the wind. The resulting pattern deformity can vary from an egg-shaped sprinkler pattern if wind direction remains constant, to an irregular pattern during frequent wind directional changes. This condition will be magnified if spacing deformity already exists on your golf course.

Finally, the fact that golf courses are designed and built from irregular surfaces can create system deformity. Sprinkler heads must be set perpendicular to the turf surface to provide a uniform radius as they move around their arc. If the turf surface is on a slope, the sprinkler will have to throw uphill for part of that arc, and downhill as it rotates to the opposite direction. Depending on the steepness of the slope, the radius will shorten in the uphill direction and elongate when throwing downhill. The resulting oval pattern is similar to the effect of a constant wind.

Often the effects of slope and wind can be offset by proper uniformity of spacing, proper controller programming, and proper control zoning. Unfortunately, there is no easy cure for system deformity due to improper sprinkler spacing.

NEXT MONTH: SYSTEM CONTROL AND ZONING

Doug Macdonald is an associate design

NAUMANN'S NORCAL NEWS

Blake Swint has accepted the supt. position as Castlewood CC in Pleasanton. Blake was the supt. at Sequoyah CC in Oakland prior to his move. He is replacing **Bob Dalton** ...**Campbell Turner** has accepted the supt. position at El Macero CC near Davis. He is replacing **Mike Azevedo** who moved from the Golf Course Industry. Campbell was the supt. at De Lavega GC in Santa Cruz...**Dean Sorenson** has accepted the interim position at De Lavega GC. Dean has been the assistant Supt. there prior to the promotion...**Jeff Hardy** is the new supt. at Laguna Seca GC in Monterey. Jeff was the supt. at Moffet Field GC. He is replacing **John Kukawski** who moved to Oregon to pursue a different career...**Tom Estrada** has accepted the supt. position at Corral de Tierra CC in Salinas. Tom was the assistant at Big Canyon CC in Newport Beach prior to his move. he is replacing **Grant Thompson** who moved to La Rinconada CC in Los Gatos.

SPEED ALONE DOES NOT MAKE FOR A GOOD GREEN

Despite what club members might say, there's more to a quality green than speed. Here are some management tips to keep your greens looking good.

The word fast has become synonymous with success. Fast cars, fast-track careers, even fast foods are associated with the good life. Speed also is important is sports. Baseball pitchers are evaluated on how fast they throw and football players on how fast they run the 40 yard dash.

In golf, successfully managed greens are often associated with speed. However, speed alone does not make for a good green. If a wide receiver cannot catch a football, his time in the 40-yard dash is meaningless.

The same is true in golf: the ultimate fast green would be as hard as a rock, smooth as glass and void from grass. No golfer would want to play on this surface. The terms "feel" and "touch" would be meaningless since making a putt would be a function of luck.

Clearly, green speed is important, but it's not the only component of a good putting surface.

Important elements of a good putting green are uniformity, smoothness, firmness and resiliency. The first three are associated with speed while resiliency governs the green's ability to hold golf shots.

Uniformity implies that each green putts the same. Nothing is more discouraging than putting on a fast green followed by a slow one. Uniformity is often difficult to achieve.

Variables such as location, construction, micro-environments and grass species make perfect uniformity unattainable. For example, greens may dry out at different rates or greens in the shade might putt faster due to the thinner less dense turf.

Smoothness is a major factor affecting speed. the smoother the surface, the less resistance to roll. If a green is not smooth, the ball will tend to bounce, thus stop quicker.

Firmness is associated with hardness. The firmer the surface, the faster the green. For example, a ball will roll a greater distance on the floor than on a mattress. Difficulty arises in attempting to maintain greens firm enough to promote speed, yet soft enough to accept a well-struck shot. Balancing these two qualities requires and understanding of your golfers' expectations.

In addition to uniformity, smoothness, firmness and resiliency, contour also must be considered in determining proper green speed. What constitutes fast greens on one course may not be the same on another.

For example, if two greens each roll nine feet as measured by the stimpmeter, and one is flat and the other severely contoured, the latter will be much more difficult to putt than the former.

Managing greens for proper speed means achieving a happy medium. Greens that are too slow are not fun to putt. Nor are greens that are too fast so that they eliminate the skill level required of golfers.

Management Strategies

Good putting greens have a number of components. To achieve fast uniform greens, proper cultural programs need to be practiced.

Reducing the mowing height will increase the speed. Lower mowing heights promote uniform and smooth surfaces.

Often the questions is asked "How low can we mow?" A more proper question would be: "How long can we stay?" In other words, the lower the mow, the shorter the interval at which the putting greens stay healthy.

The shorter you mow greens, the more likely the turf will become susceptible to temperature and moisture stress, disease pressure and damage through wear. Putting greens cannot be maintained at championship cuts indefinitely without turf loss or spending considerable money trying to prevent loss.

Care should be taken when mowing heights are reduced from normal cutting heights. An abrupt change can result in scalping and kill the turfgrass.

If mowing heights are lowered for a tournament under non-stress conditions, return to normal height when the event is over.

Care should be taken if height is to be increased under stress conditions. Research from the West and the Southwest has shown that increasing the height increases the water use rate.

Low mowing heights can cause restricted root systems. By raising the height under stress conditions, the root system may not be able to supply enough water to the additional

[...]ue. It may be best to leave the cut low until [...] stress period has ended.

Frequent mowing promotes high shoot density and vertical leaf growth, which results in smooth, consistent greens. Varying the mowing direction daily also helps promote a more upright plant. Research has shown that a break in regular mowing can result in a brief, yet significant reduction in green speed.

Research at Ohio State has fOUnd that double cutting greens-mowing them twice a day-can significantly increase green speed. If pressure exists to increase the speed of the greens, double-cutting is an option to dropping the height of cut.

Grain appears when grass plants lie in different directions. In severe cases, shoots, stolons and rhizomes orient in various directions on the surface and interfere with the golf ball's proper roll.

Our work has shown that the difference of putting "with" moderate grain versus putting [...]inst" the grain can vary as much as three feet. Effective grain control is a prerequisite for achieving uniform greens.

Verticutting helps reduce grain by promoting more upright growth and removing undesirable tissue. Verticutting is often done weekly during periods of active growth.

The challenge to improving green speed is knowing what practices will work for you and the same time providing a visually appealing and healthy turf.

Brushing is a common practice for reducing grain. Brushing is the process whereby a stiff, bristle-type brush is placed in front of the mower. As the mower moves across the green, the brush lifts the turfgrass plant up before it is cut. Brushing is effective but can cause damage to the plant.

The best time to brush is under conditions that promote turfgrass growth. Time interval between brushing depends on the severity of the brushing and how quickly the turf recovers. Avoid brushing if the turfgrass is under stress.

Thatch plays an important role in green speed and quality. A small amount of thatch provides a certain amount of resiliency. However, excessive thatch disrupts the firmness and smoothness of the turf.

Priority should be set to control or manage thatch at an acceptable level. Vertical mowing, topdressing and coring are effective means of minimizing thatch. They should be done as a regular maintenance program.

Topdressing smooths the surface and provides a firmer base. Frequent top dressing is a positive step in providing a uniform turf.

Although topdressing and brushing may initially slow down a green, eventually they will increase its speed.

The challenge to improving green speed is knowing what practices will work for you and the same time providing a visually appealing and healthy turf.

And finally, for all practices that are available for increasing speed, the environment plays the critical role in what you can and cannot expect and do.

Article by Karl Danneberger as seen in July/August Issue of The Florida Green

A LOOK AHEAD

Tuesday

January 7	Canyon Lakes CC
February 25	Ridgemark G&CC TUESDAY
March 26	USGA/NCGA Pebble Beach
April	Palo Alto Hill CC
May 4,5	CGCSA Annual Meeting Ojai Valley Inn
June 19	U.S. Open-Pebble Beach

28TH ANNUAL NCTC LANDSCAPE EXPOSITION

The 28th annual Northern California Turf and Landscape Exposition, staged by the Northern California Turfgrass Council, will be held at the Santa Clara Convention Center, 5001 Great America Parkway, Santa Clara. Dates for this event, which combines the largest trade show for the turf and landscape industry in Northern California with a program of free educational seminars for a wide variety of industry members, will be Wednesday, January 29 and Thursday January 30, 1992.

The trade show is being expanded for the coming event to encompass the full 100,000 square feet of exhibit space. The schedule of free educational seminars is being tripled from that of previous Expositions. In addition to the traditional turf-related program organized and presented by the UC Cooperative Extension, there will be two additional concurrent sessions geared to the interests of landscape contractors, arborists, gardeners, golf course superintendents, landscape consultants, irrigation consultants and others.

For further information, contact : NCTC, 425 Oak St., Brentwood, CA 94513, phone 415-516-0146.

OUR HOST FOR DECEMBER

Our host for the Larry Lloyd Memorial Tournament this year is Jeff Hardy. Jeff has been the superintendent at Moffet Field GC for five years prior to his move to Laguna Seca GC in November.

Jeff started his career as a superintendent as a trainee/ assistant superintendent for American Golf at Mountain Shadows and Riverside Golf Courses. Jeff has a Bachelor of Science Degree in Agricultural Science from California State University in Fresno. He has a Pest Control Advisors License and is a Class A Superintendent in GCSANC and GCSAA. He has been a golfer for 23 years and at one time competed in the Northern California Golf Association's sanctioned 5 and under handicapped tournaments.

Laguna Seca GC designed by Robert Trent Jones, Sr. and Robert Trent Jones, Jr. opened in 1969. The course has 69 bunkers and a course rating of 70.4/123 from the championship tees and 68.5/1119 from the white tees.

SPRAYER CALIBRATION SIMPLIFIED

In the name of safety, in the name of profits and in the name of professionalism, keeping pesticide sprayers properly calibrated is a necessity.

To calculate the level that your sprayer is applying liquid to an area, consider these three methods offered by Brady Surrena of ISK Biotech in Mentor, Ohio. He believes the methods-once individual nozzles have been checked for proper operation- is simple. Calculations are based on the amount of liquid delivered to a smaller area and projected to one acre. From these calculations, gallons per acre (gpa) are determined.

If your test calibration determines the g[illegible] not what you need, the easiest method is to change the sprayer pressure. An increased pressure will increase the gpa; a decrease in pressure will decrease the gpa.

METHOD ONE

1. Measure an area 660 feet (40 rods) long.

2. Fill the spray tank up to the neck with water and mark the water level.

3. Spray over the 660 feet at the sprayer pressure and speed to be used in the field.

4. Record the volume necessary to refill the spray tank to the level marked in Step 2.

5. Calculate the amount of water applied per acre by using this formula:

$$\text{gpa} = \frac{\text{gals. applied over the 660 ft.}}{\text{width actually treated by sprayer (ft.)}} \times 66$$

example:

$$\text{gpa} = \frac{12.12}{40} \times 66 = 19.99$$

6. The width treated by the sprayer would be the swath width for broadcast application.

Example:

Swath width = 40 ft.
Test length= 660 ft.
Area of test = 660 ft. x 40 ft. = 26,400 sq. ft.

$$\text{Acres of test} = \frac{26,400 \text{ sq. ft.}}{43,560 \text{ (sq. ft./acre)}} = .606 \text{ acres}$$

Water to fill = 12.12 gals.

$$\text{Vol./ acre} = \frac{\text{gals. to fill}}{\text{acres of test}} = \frac{12.12}{.606} = 20 \text{ gpa}$$

METHOD TWO

1. In a band application, accurately determine the width, in inches, of the band sprayed. In a broadcast application, measure the distance, in inches, between the two adjacent nozzles.

2. Locate this width in the table below and read off the corresponding course distance. Mark it off in the course to be sprayed.

Width	Course distance	Width	Course distance
8"	510'	18"	227'
10"	408'	20"	204'
12"	340'	22'	185'
14"	291'	24'	170'
16"	255'	26"	157'

3. For more than one nozzle spraying the same area, as with fungicide, measure the band width of one of the nozzles and see Step 8 below.

4. Tie quart container to one nozzle to catch all that nozzle's spray.

5. Start a distance back from the beginning of the course to get operating speed, and turn sprayer ON at the beginning of the course and OFF at the end.

6. Remove quart container and read volume collected, in ounces.

7. For more than one nozzle spraying same are, multiply ounces collected by number of nozzles spraying the same area.

8. Ounces collected will equal your gpa rate.

METHOD THREE

1. Measure out 660 feet or 40 rods in the field to be sprayed.

2. Drive over the 660 feet with the sprayer and equipment that will be used during the time of spraying. This will most nearly simulate the conditions during the time that the chemical is actually being applied. Record the time required to travel over the 660 feet tat the speed which will be used for the field.

3. With a stationary sprayer operating at the pressure to be used in the field, catch the volume of water delivered from 2 to 4 nozzles in the length of time it took to travel the 660 feet (time found in step 2).

4. Record the volume caught from the nozzles and calculate how much would have been delivered from all nozzles:

$$\text{gals. over } 660' = \frac{\text{gals. caught x \# nozzles on sprayer}}{\text{\# nozzles from which spray was caught}}$$

5. Calculate the amount of water applied per acre:

$$\text{gpa} = \frac{\text{gals. applied over the } 660'}{\text{width actually treated in feet}} \times 66$$