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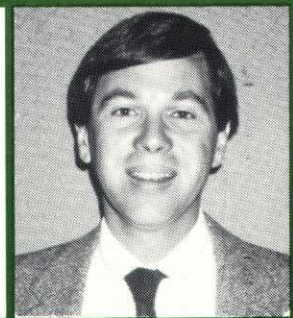
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FROM THE PRESIDENT'S DESK

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Hosting a major tournament is both an exhilarating and rewarding endeavor for oneself and his crew. During the final round OF THE LPGA's Northgate Computer Classic, when 80 of the top women players on the tour coupled with 15,000 spectators are scrutinizing the golf course, a tremendous sense of pride exists with the realization that preparation and maintenance of the course passed with flying colors and everyone expresses praise.

The goal of each individual on my crew was to perform his ultimate best, and no one faltered. With a multitude of perceptive eyes viewing every aspect, one is assured of nothing being overlooked. No detail is insignificant.

Working 12 to 15 hour days prior to and during the entirety of a tournament tends to tax one's endurance level to the utmost. My staff successfully accomplished everyone's expectations.

I thank all of the people on my crew for their dedicated efforts on a job well done.

* * * *

The Harold Stodola Research Scramble is September 16. This year two courses, Golden Valley Country Club and Oak Ridge Country Club, are hosting the event to provide tee times in the afternoon for everyone. Spots are still available at both courses.

* * * *

At the last Board meeting, the contract with Turtinen Communications was extended until January 1, 1992 when both Hole Notes and the Executive Director position will be renegotiated. At that time, a yearly contract renewed each January will be set forth.

— Tom Fischer
President, MGCSA

**IT'S NOT TOO LATE TO ENTER
THE STODOLA SCRAMBLE
AT GOLDEN VALLEY & OAK RIDGE
ON SEPTEMBER 16, 1991**

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Greensmower Maintenance

By **TIM MORAGHAN**
Agronomist for Championships, USGA Green Section

"Putting greens are to golf courses what faces are to portraits."

—C. B. Macdonald,
Golf Course Architect

Regardless how well-designed or maintained a golf course may be, the feature most remembered after the round likely will be the putting greens. It is a fact that 50 percent to 75 percent of golf is played on the putting surface, so the importance of following through with correct maintenance practices for greens cannot be over-emphasized. Before a single blade of grass is cut, however, proper care and maintenance of the mowing unit itself must receive first priority.

The Mechanic

The pressure to produce a quality putting surface at cutting heights as low as 1/8", and occasionally less, can be enormous. The long-term effects of agronomic practices and player responses to course conditions suggest that not just anyone should be assigned the responsibility of repairing and adjusting a cutting unit. Your mechanic must have a thorough understanding of what will occur if the greens aren't up to speed, so to speak. When hiring or training a mechanic, consider that he must be well rounded in his understanding of the job. This should include:

- An understanding of the principles of mowing and its effects on the turfgrass.
- A basic knowledge of putting green agronomics.
- The ability to instruct personnel to properly use and care for mowing equipment.
- Having the "golfer's eye" and realizing the premium placed on putting quality.
- Being conscientious and taking pride in the results.

The Operator

When the mowing unit goes from the mechanic to the operator, proper training will avoid mechanical failures and minimize the risk of poor mowing quality. Initial training should take place on a nursery green or a secondary practice green. Learning on the nursery green allows the new operator time to get the feel of the machine and to react when there is trouble with the cutting unit. He also learns to visually distinguish between a good and bad quality cut. An experienced operator accompanying a trainee can point out common problems and potential mistakes.

Cutting greens daily eventually wears out most working parts of any cutting unit. Prior to cutting a green, the operator should go through a routine look, listen and feel checklist involving several items:

- With the unit OFF, visually inspect the reel and bedknife for chipped, bent or damaged sections resulting from mowing or transporting the unit.
- With the unit OFF and stationary, close the fuel line and tilt back the cutting unit, exposing the underside of the bedknife. Inspect the mounting screws to be sure none are missing or loose.

- Inspect the unit for excess or dripping oil, grease, or fuel.
- Visually inspect the green and remove any debris.
- Pole or whip the surface to locate and remove small stones, sticks, ball markers, and golf spikes.
- While cutting, listen for irregularities in the sound of the motor or for poor contact between the reel and bedknife.
- An off-key sound indicates worn bushings, bad bearings, or loose bolts and belts.
- Don't allow the catch baskets to overflow with clippings. The added weight can lower the effective mowing height.

Grinding and Sharpening

Producing the correct reel-to-bed-knife relationships is the key to a successful mowing operation. Grinding and sharpening to mate the reel and the bedknife are the two most important processes in the mower maintenance program.

The bedknife is the stationary bottom blade of a reel mower against which the reel blades turn to produce a shearing cut. Bedknife maintenance includes proper grinding and filling of the front and top faces to an angle determined by the manufacturer. Grinding takes place whenever a new knife is used, after topdressing, and on a biweekly schedule throughout the mowing season. Grinding should be followed by backlapping, the fine sharpening and mating of the bedknife to the reel using a fine grit, emory-based compound. Filing the lead face produces a sharp edge that allows the turf to be sheared rather than torn. The life of a bedknife is related directly to the height of cut and the cultural practices utilized. When purchasing bedknives, consider the following:

- There are three levels of bedknife thickness; regular, thin and championship. Selection is dependent on your mowing requirements. The lower the cutting height, the thinner the knife you should purchase.
- Use bedknives made of factory-recommended hardened steel.
- Check for bends in the bedknives prior to purchase.
- Match the mower brand with the bedknife. A proper fit between the two reduces wear and produces a finer cut.
- Remove the paint on the bottom of the bedknife prior to mowing to avoid drags.
- Check that all mounting screws are flush with the bottom of the bedknife prior to mowing to avoid streaking or dragging.

Reel Grinding and Sharpening

Proper and consistent grinding and sharpening of the reel blades is the second step in developing a clean, shearing cut. During the manufacturing stage, reels are ground to be perfect cylinders. Heavy use throughout the season, as well as improper adjustment procedures, cause this cylinder to become tapered at each end, thereby shrinking the reel diameter. Sharpening the reel by grinding restores this cylinder, eliminates imperfections, and extends the life of the reel.

(Continued on Page 6)

Greensmower Maintenance—

(Continued from Page 5)

- Use one of the newer automatic spin grinders, which produce a consistent and true grinding effect. Human error is eliminated, and the reel will live a longer life.
- Avoid excessive grinding, for it shortens the life of the reel blades.
- Use a “softer” stone for grinding to extend the life of the reel.
- A light backlapping after grinding removes the burr produced along the blades, providing a better mating between the reel and the bedknife.
- Consistency is the key. One or two individuals should perform and monitor the grinding to prevent errors and keep the operation moving smoothly.

Reel-to-Bedknife Adjustment

After the mower is cleaned and brought to the mechanic, servicing and adjustments can begin. The most important adjustment is matching the reel to the bedknife. This mating determines the quality of cut, with the reel rotating across the stationary bedknife blade that is fixed to the bottom of the mower frame.

Use the *cut and crimp method* to check the reel and bedknife sharpness as well as the side-to-side adjustment. This ensures one side is not cutting more than the other. Fold a strip of newspaper in half, place it between the reel and bedknife, and check the quality of cut from side to side. The blades should *cut* the top section of the paper and *fold* (crimp) the bottom piece. If the reel does not cut the top piece, it may be adjusted too tight. If both pieces fold over, both the reel and the bedknife may need resharpening. Use the newspaper to check the quality of cut at all points between the reel and bedknife. The paper should have a clean, crisp cut and not be shredded or torn.

Cutting Height Adjustment

Cutting height adjustments should be performed daily by the mechanic, after the reel-to-bedknife mating is complete. Before setting the cutting height, inspect the roll drum and front roller for damage or end play. These components must be aligned and uniform to ensure that the height setting is correct and permanent. Check that the height is correct at each end of the bedknife, and gradually tighten the lock-down bolts. Always *recheck* the height to be sure tightening the lock-down bolts did not cause a change in the cutting height.

Another technique used is the *bar and screw method*. The mechanic sets the height, primarily by feel, by pushing and pulling the adjustment bar between the reel and bedknife. The more recent Accu-Gage is a precision measuring instrument for making highly accurate height-of-cut adjustments on greensmowers in decimal readouts. There is still room for error, though, because different people will adjust the units differently. The same person should set and change the cutting height throughout the season to ensure consistent results.

There are several items that should be checked to ensure the height consistently remains the same.

- Provide your mechanic with a large enough, well-lighted area to facilitate maintenance and adjustment.
- Check the cutting height when the reel and bedknife are cold. Heat expands metal and can cause a misreading of the cutting height.

- Inspect the lock-down bolts and adjusting nuts at each end of the unit to be sure they are working correctly.
- Periodically check the cutting height each morning while the machines travel from green to green. Bumpy terrain and off-loading from a transport trailer can cause a change in the reel-to-bedknife adjustment.

Off-Season Maintenance

During the off-season, a total breakdown of each machine and servicing of all working parts should take place. This consists of:

- A complete unit breakdown and assessment of all working parts, including the replacement of bearings, seals, and all nuts and bolts.
- Remove the engine from its mounting, dismantle, and re-ring the motor, de-carbon the heads, and rebuild the carburetor.
- Reassemble the motor, run a compression check, and bench test by letting it run.
- Prior to reassembling the entire unit, steam clean all the parts, apply a fresh coat of paint, and store in a clean, dry location until needed.

Proper maintenance throughout the year can save many breakdowns or accidents at unwanted times. Maintaining a consistent routine results in a longer and more satisfactory mower life, and can save money along the way, too.

—USGA Green Section Record

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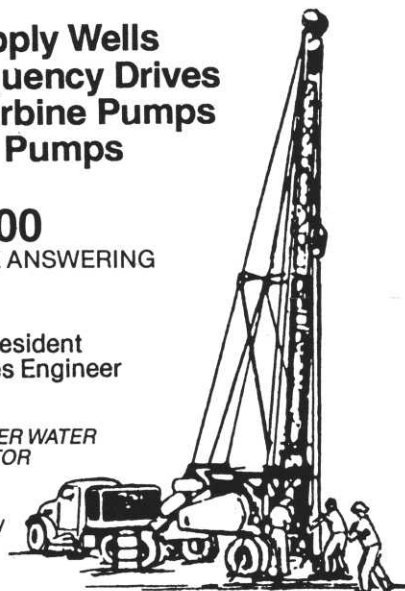
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Hall of Fame Inductee Harold Stodola Played Monumental Role in State, National Associations

(Ed. Note: The recent induction of the late Harold Stodola into the Minnesota PGA/MGA Hall of Fame and the soon-to-be announced winners of Stodola Scholarships pay tribute to one of Minnesota's all-time golf course superintendents. The following address by Gerald Murphy, Superintendent at Somerset Country Club in St. Paul, during the Hall of Fame Ceremony gives an informative insight into the man affectionately referred to as Stoddie. Mr. Stodola was on hand for the first scholarship presentation.

* * * *

I could not have been more pleased when I heard that Harold Stodola was to be inducted into the Minnesota PGA/MGA Hall of Fame, nor could I have been more honored when asked to introduce you to this man and his many accomplishments. Unfortunately I have only been allowed five minutes to introduce what took 25 minutes in 1985, when the Minnesota Golf Course Superintendents Association established the annual golf tournament and a prestigious scholarship program bearing his name.

As a young man, Harold Stodola or Stoddie as we came to know him, began his affiliation with golf as a caddie at the Minikahda Club and Oak Ridge Country Club, where he became caddymaster, then assistant superintendent. After graduating from Hopkins High School in 1921, he attended the University of Minnesota School of Forestry. While attending the university, he was distinguished as the 1926 intramural golf champion. His boundless energy coupled with full involvement in all areas of academia and his personal interest and concern for others earned him the title of the "Hopkins Hurricane."

Stodola left the University in 1929 to supervise the construction of the new Keller Golf Course in St. Paul, then stayed on as greenskeeper. In 1932 Stoddie moved on to Interlachen Country Club in Minneapolis.

Stodola represented Minnesota as its delegate to the National Association of Greenskeepers Convention in 1933 and again in 1937. Also, during this time he chaired every major committee and held

every office, including that of president in the Minnesota Greenskeepers Association.

In 1938 Stoddie was elected to the Board of Directors of the National Greenskeepers Association, now the Golf Course Superintendents Association of America. He became chairman of the important Editorial Committee of the

Greenskeepers Reporter, which was the official publication of the Association.

During the trying war years, 1941-1946, Stodola served as the president of the NGAA (this was the second longest term ever served by any president). During this time of WWII, the cry went out to

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Harold Stodola—

(Continued from Page 8)

disband the national association. But the Hopkins Hurricane would have none of it.

Despite the fact that no association meetings were held during the war and that the treasurer absconded with the association's funds, Stodola's hard work and perseverance kept the NGAA intact by corresponding with all the local chapters throughout the nation. In these same years, he was greenkeeper at the Firestone Country Club, the Firestone Public Golf Course and, in addition, was in charge of the Victory Gardens in Akron, Ohio.

In 1945 Stodola returned to Minnesota in order to further his personal interest in scientific farming. This farm later became Wayzata Country Club.

But he couldn't stay away from golf for long. So, in 1957, Stoddie traveled to Phoenix, Ariz. to accept the position of assistant superintendent of Paradise Valley Country Club. Following his association with Paradise, Stoddie became Superintendent at the at the Tucson Country Club in Tucson, Arizona.

In 1967, Stoddie, at the age of 65, when most people think of retiring, returned to St. Paul to accept the position of Superintendent at Mendakota Country



Gerald Murphy of Somerset



Accepting the award for Harold were his son, Bruce Stodola, and his daughter Sally Schoettgen.

Club, from which he retired in 1977, but only to move down the street to Somerset Country Club where he worked part-time for the rest of his years.

In his lifetime Stoddie received many justly-deserved honors and awards. In 1944 he was voted an honorary member of the MGCSA. In 1974 Mendakota Country Club honored him with the Mr. Green Thumb Award and, in 1977, also held a tournament and awards banquet in his honor. That year our state association also held an honorary banquet for him.

For his outstanding leadership of the Greenkeepers Association at both the state and national level, and his valuable contributions to the association during World War II, Harold Stodola was presented the Golf Course Superintendents Association of America's most coveted award, the Distinguished Service Award, in 1977, at the Portland Oregon conference.

In 1985 Harold was again honored at the first annual Harold Stodola Golf Tournament, and the Harold Stodola Scholarship and Research Program was established in his honor.

Although Harold is no longer with us, his legacy remains. He loved the young people, and he instilled in them hope, concern for others, positive attitudes and a joy of living. He was a generous man with his time and talents, and he always

was giving of himself for others. One of his favorite saying was "Every day is a blessing. Be sure to make the most of it."

The young people loved him as we all did. And many of them are today involved in golf because of him and the example he set for them.

Sally and Bruce, though your father is no longer with us physically, his beliefs, his love and concern for others and his spirit of joy and well-being are always present.

The honor bestowed on him today is a wonderful tribute to a man who touched so many and did so much for the world of golf.

EPA Proposes Restricted-Use Criteria

The Environmental Protection Agency has proposed new criteria for determining which additional chemicals should be classified as "restricted-use" pesticides.

The additional criteria, which are designed to protect groundwater supplies, use data from persistence and mobility research and actual detection in groundwater. These additional criteria are expected to move several turf pesticides now classified for general use to the restricted-use list within three to five years.

Endangered Species Program Discussed

Golf courses in urban and suburban areas provide much-needed sanctuaries for wildlife, including several endangered species.

To enhance this special role in providing wildlife habitats, senior golf industry officials and government representatives met recently to discuss how golf can support efforts to implement an endangered species program.

The forum, held in Arlington, Va., brought leaders from golf's professional associations into a discussion with regulatory and congressional officials on subjects ranging from pesticide use to wetlands management. The forum was sponsored by the Golf Course Superintendents Association of America (GCSAA).

Larry Turner, Ph.D., project manager for the Environmental Protection Agency's (EPA) Endangered Species Program, outlined the final draft of the agency's long-delayed program. The new program will rely on county bulletins that feature maps showing areas where an endangered species is present and outline restrictions on chemical use in and around those areas.

Chemical labels will instruct applicators to consult the county bulletins and to abide by their restrictions. The bulletins, which will be available through county extension services, regional EPA offices and associations like GCSAA, were developed by the U.S. Fish and Wildlife Service.

In 1988, the United States began to develop and implement an endangered species protection program with a goal of managing federally registered pesticides in a way that would avoid harming these species. In 1989, the EPA submitted a proposal to carry out the Endangered Species Act. The program has been implemented on an interim, voluntary basis since 1988.

GCSAA Director Charles T. Passios, CGCS, said, "We've heard about this regulation for some time and are very interested in its goals. We (superintendents) need to stay alert and look for information about the new listings of species that may occur in a local area

while continuing our current participation in preservation and protection."

A number of states already have begun "state-initiated plans" to localize the endangered species regulatory process. According to Turner, these states include Florida, Hawaii, Iowa, Kansas, Louisiana, **Minnesota**, New Mexico, North Dakota, and South Carolina.

He said that although EPA cannot turn over complete authority to the states, the agency has given them the leeway to enter into "landowner agreements" with sites like golf courses. These negotiated agreements allow the landowner to work

Pesticide Application, Storage Are Key Elements Aired at Environmental Forum

The requirements for the application and storage of pesticides will be more stringent in the near future.

That's the message that came back from a recent environmental forum hosted by the Golf Course Superintendents Association of America (GCSAA).

Arty Williams, chief of the Environmental Protection Agency's (EPA) Field Operations Division, said the requirements for people who apply restricted-use pesticides (RUPS)—especially certified applicators—will be getting tougher.

The proposed recommendations are based on a 1985 task report on the certification and training of RUP applicators. These recommendations reflect the need to address several areas of concern including groundwater protection, worker protection, endangered species protection, chronic toxicity of RUPs and waste and container disposal.

The federal law that covers pesticide application is the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). FIFRA's Section 3 requires that any pesticide classified by the EPA for restricted use "shall be applied only by or under the direct supervision of a certified applicator."

Section 4 gives each state an opportunity to implement its own pesticide applicator program. Virtually every state has its own version of this program.

The new rules will require certified ap-

out an ongoing management plan that would not require contacting the extension service before each chemical application. The agreements might also allow special exceptions to the restrictions in some situations.

Turner also noted that in states without initiated plans, the EPA may help landowners to work with the Fish and Wildlife Service to reach similar types of agreements.

He said that although implementation of the act has been slow and that the EPA still has "a lot of ground to make up," the act should be fully in force by 1993.

applicators to keep records of site-specific training, as well as to show competency of non-certified applicators who are applying RUPs. In addition, recertification will be required at least every five years for all certified applicators. Some states already have regulations similar to these. Williams said the final rule should be "on the streets" in 1992.

GCSAA Director Randall P. Zidik, CGCS, said, "A recent survey has shown that over 95 percent of all golf course superintendents have at least one certified applicator on staff. Many courses have more than one. Although these new requirements will be tougher, they shouldn't place more of a demand on the superintendent because many of them already have these record-keeping elements in place."

Dennis Howard of EPA's Environmental Effects and Fate Division next addressed the forum on pesticide storage. Regulations concerning pesticide storage and mixing/loading are still under development, Howard said, and are not expected to be effective until 1993 and 1994, respectively.

The storage requirements are not expected to affect the majority of golf course superintendents because they would apply only to facilities that store 11,000 pounds or more of pesticide product.

(Continued on Page 21)