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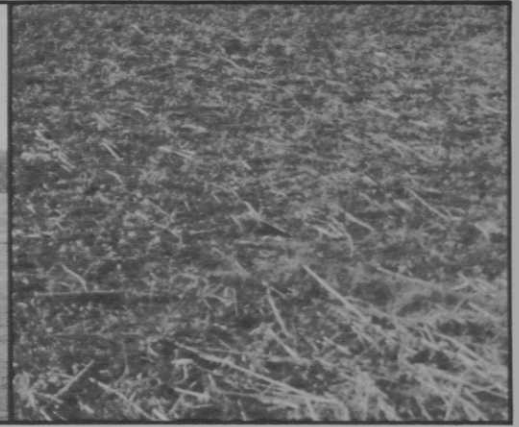
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Dogleg/p. 10



Disease/p. 18



Seed/p. 24

Golf Business / june

VOLUME 54

NUMBER 6

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FRONT COVER:

The machine pictured here, belonging to International Seeds, will soon be running night and day as seed is harvested and brought in for cleaning.



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Clippings

Brief bits of news from in and around the golf business.

As many superintendents know, a Canadian goose, being a rather large bird, leaves a rather large calling card. For those who have never experienced a lengthy visit from several of these fine game birds, the aftermath is similar to an aeration project with the cores left lying, although it is a mushier situation. You can imagine the anguish felt by the golfers at the city course in Glen Cove, Long Island after 300 found a home there. Great enough for the mayor to ask the

Operators Association goes to Doug Erb of Forest Lakes CC in Sarasota. The association now has 43 paid members.

The Golf Course Superintendents Association of Northern California has elected a new slate of officers. They are: **Robert E. Livesey**, CGCS, President; **James D. Ross**, Vice-president; **Ken Sakai**, Secretary-treasurer; and Directors: **Grady L. Simril**, **Joe Andrade**, **Thomas E. Thatcher**, **Robert Dauterman**, and **Clifford A. Wagoner**, CGCS.

The Indiana Golf Course Owners have now organized, with assistance from the National Golf Foundation. **Randy Ballinger** of Walnut Creek GC in Upland, is the

Corp., **James Long**, Spalding, **Robert MacNally**, Victor Golf, **Tony Penna**, Rawlings Golf, **Joe Phillips** Wilson Sporting Goods Co., **Allan Solheim**, Karsten Manf. Co., **Davis Taylor**, Taylor-Dunn Manf. Co., and **Don A. Rossi**, National Golf Foundation.

Brookfield CC in Clarence, New York has a new superintendent: **Thomas R. Charnock**. A graduate of Cornell University, he was most recently superintendent at Sodus Bay Heights CC in Sodus, New York. Charnock is relocating to Western New York.

B.C. Mathews, founder and chairman of the **Mathews Co.**, has announced the appointment of **Ronald Gillund** as Vice President and General Manager. Gillund joined Mathews in 1972 as Territory Salesman. He resides in Cary, Illinois.

Ron Patterson has been promoted to Vice president of Sales for **Polaris E-Z-Go Textron**. Patterson joined E-Z-Go since 1972 has held a number of sales positions. He, his wife and two sons, reside in Augusta, Georgia.

Harley-Davidson Golf Car Division is now a separate, autonomous business unit within AMF Inc. **Kenneth L. Thorpe**, new President of the unit, said, "We have some very ambitious objectives for the next decade, involving the boosting of our electric car business to the number one position enjoyed by our gas powered cars." Harley-Davidson golf cars were first produced in 1963.

Lofts Pedigreed Seed, Inc. has announced the commercial release

of **Rebel**, a new turf-type tall fescue. Rebel requires low maintenance yet performs well under heavy traffic.

O.M. Scott and Sons has released **ProTurf Fungicide VI**, designed to prevent and control dollar spot, brown patch, leaf spot and red leaf spot. You can get more information by circling number 220 on the Reader Service Card.

The **Long Island Turfgrass Research Field Day** will be Thursday, June 12 at PineLawn Memorial Park in Farmingdale, New York. It is co-sponsored by the N.Y. State Turfgrass Association, Cornell University and the Cooperative Extension Association and will be from 5 to 8 PM, rain or shine. For more information, call the N.Y. Turfgrass Ass'n at 516/541-9034.

The **49th Annual Turfgrass Field Day** at the Rhode Island Turfgrass Research Farm, in Kingston, Rhode Island, will be held August 20. For information, contact: Professor C. Richard Skogley, Plant and Soil Science Dept., University of Rhode Island, Kingston, RI 02881.

The **Ohio State University Turf Field Day** will be held August 5 at the OSU Research Facility in Columbus, Ohio. Contact: Keith Karnok, OSU Dept. of Agronomy, 1827 Neil Ave., Columbus, OH 43210, phone 614/422-2591.

The **Ohio Turf and Landscape Day** at the Ohio Agricultural Research and Development Center in Wooster Ohio, will be held September 9. For information, contact: Dr. Dave Nielsen, OARDC, Wooster, OH 44691, phone 216/264-1021.



Hugh Lomas, international service specialist in the Kohler Co. Engine Division, explains uses for Kohler four-cycle engines to representatives of the Shenyang Blower Works of the People's Republic of China. The Chinese delegation visited Kohler in March as part of a tour of industrial installations in the US which was sponsored by the IBM Corp.

local rod and gun club to provide a lasting cure. It was an ill-fated venture, according to an article in "Tee to Green" published by the Metropolitan Golf Course Superintendents Association. Local bird-lovers raised a rucus. Several alternative suggestions were offered and we will be in contact with the MGCSA to find out if they worked.

The **Stagg Hill Golf Course** near Manhattan, Kansas, now has what may be the largest sundial in the world. The crescent-shaped garden dial measures 43 feet by 26 feet. Designed and constructed by Cliff Meloan and Bill Fately, both chemistry professors at Kansas State University, the sundial is truly for golfers in that to tell time by it, one must hold a golf club vertically over one's head.

The honor of first President of the Florida Golf Course Owners and

new President. Among the reasons for organizing were a unified front to fight the inequitable tax assessment picture, which, according to Ballinger, fails to take into account the many variables that influence the profitability of daily fee course operations. Others reasons are: insurance and co-op buying of equipment and supplies.

Following is the new slate of officers for the National Golf Foundation: **Jim Long**, Spalding, President; **Tim Guzzle**, True Temper, 1st Vice-president; **Jerry Martin**, Hillerich & Bradsby, Secretary; **John Ludes**, Acushnet, Secretary; and **Robert MacNally**, PGA Golf, Treasurer. Board members are: **L. Dean Cassell**, Dunlop Sports Co., **Roger Corbett**, Ben Hogan Co., **Jack Curran**, MacGregor Golf Co., **Joe Donatiello**, Union/USA, **Douglas Billian**, Golf World Publishing Co., **James Hansberger**, Ram Golf



Dr. Tim Gaskin (left) accepts a \$1500 check from Northern California Turfgrass Council Vice-president Emery Hunter. The grant was presented to construct a Turfgrass Demonstration Unit to serve as a "complete outdoor classroom with facilities for each phase of turf management and culture".

News

Acid rain becoming conservation issue

Speaking before the Symposium on Acid Rain in Wisconsin, M. Rupert Cutler, Assistant Secretary for Natural Resources and Environment, told the group, "We know enough about acid rain and other forms of atmospheric deposition to be seriously concerned about the long-term effects on these resources. This is quickly becoming one of the great conservation issues of our time."

Speaking about federal acid rain programs, Cutler outlined the two principles shaping the federal outlook. "First", he said, "Acid deposition is a symptom, rather than a cause. Acid rain is one of many symptoms of air pollution, specifically of the sulfur and nitrogen oxide components of polluted air."

"To alleviate those symptoms, we must address the cause of air pollution. To stop acid rain, for example, we need to control sulfur and nitrogen oxide emissions, instead of liming lakes and streams."

"Second, acid rain illustrates an adaptation of the old adage that 'What goes up, will come down—somewhere else'. Sulfur emissions from the coal burning power plants and smelters of the Midwest and the Ohio River Valley come down as acid rain elsewhere, perhaps over northern New York State, New England and Ontario."

Acid deposition probably is most severe in the Northeast. The natural pH of rainfall is around 5.6, but precipitation in many eastern states now registers an annual mean pH between 4 and 4.5. Many areas experience rainfall with a pH less than 4.0, some as low as 3.0.

Cutler cited several federal research projects underway to analyze acid rain's effect upon forest ecosystems. The Science and Education Administration is examining the mechanisms of plant resistance and susceptibility to acid rain and developing acid rain-resistant plants. A study is underway in St. Paul to determine the correlation between acid rain and the occurrence of plant diseases. Acid rain could make vegetation more susceptible to disease, insects and drought.

The National Atmospheric Deposition Program, established in 1977, monitors acid rain through a network of over 50 sampling sites throughout the United States.

2,4-D makers given 90 days for data

If manufacturers of 2,4-D fail to notify EPA within 90 days that they will provide information that EPA has requested, the agency will use a stringent new provision of the pesticides law, Section 3(c)(2)(B), which allows the agency to stop all uses of the pesticide, according to Barbara Blum, Deputy Administrator of EPA. Blum said, "We have made this decision (to request additional data) following a review of health effects studies of 2,4-D. The review showed that significant information gaps exist on the effects of 2,4-D, preventing a definite conclusion on the safety of the herbicide."

If however, the manufacturers comply with the data request, Blum said that EPA will allow 2,4-D to continue to be used while studies are underway. If, however, any of the new studies demonstrate a major health or environmental problem, EPA would take appropriate regulatory action without waiting for completion of all the studies.

Much of the concern that 2,4-D has adverse qualities comes from its association with 2,4,5-T, especially the mixture known as Agent Orange used in Viet Nam. However, Blum said, "There is no evidence at this time that 2,4-D contains any form of dioxin, the contaminant in 2,4,5-T associated with cancerous tumors and birth defects."

The EPA is requesting additional data in the areas of oncogenicity (tumor inducing), reproductive effects (particularly effects to the fetus), and metabolism in animals. EPA also plans to conduct certain reproductive studies on 2,4-D in its own laboratories while awaiting the industry results.

EPA does say that toxicity studies which were found to be scientifically valid indicates that continued use of the pesticide does not pose an imminent hazard or unreasonable adverse effect. The acute toxicity is regarded as low to moderate and the majority of mutagenicity tests have been negative.

Buckner bought by Royal Coach Sprinklers

Royal Coach Sprinklers, Inc., a Fresno, California irrigation equipment manufacturer, has purchased the Buckner Irrigation System Division from Johns-Manville. James Coson had purchased the Buckner firm in 1961 and was president until he sold it to Johns-Manville in 1972. In 1975, Coson opened Royal Coach Sprinklers, Inc., and introduced the first video computer system to the turf irrigation field in 1978. Now, Buckner is back in the fold.

Speaking of the purchase, Coson said, "The two product lines will be combined into one brand, Royal Coach-Buckner, making the total package one of the most complete in the industry. We plan to

keep all of the Buckner distributors who wish to join our firms. The addition of these firms to the Royal Coach distributors gives us excellent distribution and service throughout the United States and the world. This should strengthen the irrigation industry."

Plans are underway to move the inventory and manufacturing equipment to the Royal Coach facilities as soon as possible. Plans are also being made to expand the manufacturing facility. Royal Coach completed a new automated brass foundry two years ago and also a complete screw machine facility which gives them total autonomy in the manufacturing of sprinkler irrigation equipment.



Beavers joins staff of GOLF BUSINESS

Bob Beavers, pictured above, has joined the staff of *Golf Business* magazine as Northeastern regional sales manager. Bob has a long history of involvement with the golf industry. He was with the Sports Division of Dunlop Tire and Rubber Corporation for 11 years. His area of responsibility included 10 Southeastern states and ranked number one in profit and sales goal achievement three out of six years.

Bob received his education at West Virginia University in Morgantown and was a self-employed golf professional for nine years. He has been involved in golf course construction and has a good an excellent working knowledge of golf course maintenance, management and retail sales.

Desert Horizons is two-for-one course

While there is just one physical presence, a 6,600 yard, par-72 layout, it can be played in two distinctly different ways. One is as a membership course for the enjoyment of the average country club golfer; the other is as a championship course challenging the top pros on the PGA Tour.

Architect Ted Robinson explains by taking a green as an example. The right side of it is fairly wide and there are no obstacles to the front or rear. Put the pin out in the middle and you've got a fairly easy approach shot. The upper left side of the green is narrow with traps front and rear. Put the pin in a corner and you've got Lee Trevino sweating.

"We can make a similar change at every hole, creating a facility for all caliber of golfers," says Robinson. Robinson, one of the few golf course architects who is also a land planner, took nine months to plan and design the Desert Horizons course, located in Indian Wells, California. In order to get away from the typical flat course, one million cubic yards of dirt were moved. Five lakes were dug out and shaped to form part of the design and to create, along with streams and waterfalls, a pleasant oasis atmosphere.

\$1.6 billion loss forecast for fed contractor payment ban

The National Club Association (NCA) has demanded that the Department of Labor retract proposed regulations banning federal contractor payments to selective admissions organizations. The NCA estimates that the rules would result in an average of 21 to 32 percent revenue loss, totaling

\$1.6 billion for the industry.

NCA also cited survey figures warning of the elimination of 87,250 club jobs and a contractor compliance cost of over \$150 million. NCA presented statistics from one of their surveys showing the proposed labor regulations would cost an average \$307,580

for country clubs and \$447,144 for city clubs.

NCA maintains that the proposed rules are invalid, since the Labor Department failed to conduct a regulatory analysis of the proposal's impact on the private sector of the economy, as required by law.

Superintendent skills

By Jim Converse



Jim Converse is one of America's leading botanical artists. His paintings and drawings have appeared in numerous national publications, and his weed and grass identification books have become standard tools of the trade. Jim is far more than a botanical artist, however, with years of

practical turf experience. Before assuming turf management responsibilities at OM Scott & Sons Company, more than 20 years ago, he worked as a golf course superintendent. After tours in Scotts Research and Retail Training areas, Jim was transferred to the ProTurf Division where he headed their training and educational programs. He is currently concentrating his talents in the area of visual communications.

Apple green patches

I once heard a superintendent say, "If I ever attend another seminar and hear a speaker start to talk about *Poa annua*, I'll get up and walk out!" As a professional, this is somewhat akin to hearing a physician exclaim that he's heard all he wants to hear about the common cold! Turf maintenance is a very demanding and unforgiving endeavor, but it is far from an exact science. There is always something to learn. And, though many superintendents have uncanny knowledge and skills, most of us would agree that we have never known a "world's foremost authority."

In traveling across this country we hear *Poa annua* referred to as "Poa," "Poey," "Po anna" and in any number of irreverent ways. But, most of us prefer to reduce it to a neat three syllables and say "Po an-ya". With such a "cussed" reputation, it's one of the few grasses that is known more often by its botanical name rather than its common name. So even though Annual Bluegrass does have a nice pleasant sound, it is rather a mouthful. To compound our confusion, *Poa annua* can hardly be called a true annual, because there are many variations. We can all recall the apple green patches that persist and maintain at least some color through the winter and into the following year. This is quite the opposite of a true annual

that completes its life cycle in one growing season.

Many golfers can attest to the fact that their own home lawns are beautiful and that *Poa annua* has never been a problem. Few superintendents would question this reality, but the golfer is seldom aware that his demands for a golfing turf are also the things that favor *Poa annua*. The golfer mows his own lawn at one and one-half to three inches, which may be higher than he expects on the golf course rough. But, he insists that fairways be cut at three-quarters of an inch and greens at no more than one-quarter. *Poa annua* is the one predator that thrives in this situation. To keep the grass growing and pleasingly green under these close mowing conditions, requires proper nutrients and an adequate supply of moisture. For an endless number of reasons "adequate" often becomes excessive and an even more ideal environment is created for the establishment of *Poa annua*.

There are cool, moist and most particularly, coastal areas where the turf on golf courses is almost completely *Poa annua*. It grows amazingly well, doesn't seem to seed prolifically and proves to be well suited for superintendent and golfer. In contrast, there are other courses where *Poa annua* composes only a small percentage of the turf, but presents unbelievable problems. For several weeks in the spring and most often when golfing reaches a fever pitch, a putt on the green can be compared to a putt in the alley. To say that the golfer is annoyed, would be putting it mildly. He's hot and he's mad! There's only one guy to blame — the Superintendent, and he catches it from every direction. Sometimes he lowers the mower in hopes of catching more seed, but mostly he tries to keep a very low profile until the crisis passes. And, as soon as it passes, which it will, he has only to continue the vicious cycle by keeping the apple green patches moist enough through hot weather to stay alive until another season.

Many times we have seen a bright, energetic superintendent walk into a golf course position, with every inten-

tion of using the latest methods to bring the *Poa* problems to its knees. After several years, he too bows to the insurmountable odds that others before him have faced. He throws in the towel and moves on to another course.

Fortunately, there are pre-emergence herbicides that now offer some hope in *Poa annua* control. With judicious use, they can be very effective, especially on newer courses, or where infestations are still in minor stages. But, even under the best of conditions there are no absolute, "sure fire" cures.

As every superintendent and turf student has learned, in any discussion of *Poa annua* sooner or later there comes the admonition about "poor maintenance practices." And in the case of *Poa annua*, "poor maintenance practices" means primarily excessive moisture. It's a "teeth gritting" expression, for the inference is that when *Poa annua* is present "poor maintenance" is the cause and the superintendent is at fault. Other factors are seldom observed, or discussed.

Not all golf courses are equipped with "bionic" watering systems, but most are more than adequate. The superintendent knows that every area of his course is different and must be watered to its best advantage. But, there are peaks and valleys, humps and depressions, areas of compaction or infiltration and many other variables. It's often necessary to apply more water to a hill just to keep it alive, even though it's certain that the run-off is too much for the valley *Poa annua*, or no *Poa annua* in some situations the maintenance options are few.

For the present at least, there seems to be very little evidence that a solid, absolute cure for *Poa annua* is near at hand. In fact, there is some question if this possibility could ever become a reality. On more golf courses *Poa annua* must be continually treated as an unwanted pest. The superintendent's only recourse is to wage a consistent effort toward its eradication by using every known practice at his disposal. His chances for any degree of success can only be increased by learning more about *Poa annua* from every available source.

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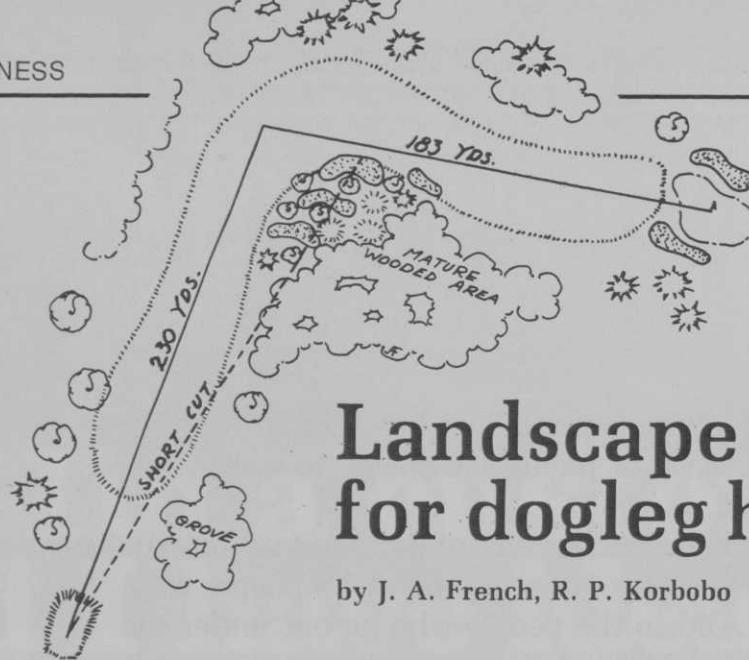
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Landscape options for dogleg holes

by J. A. French, R. P. Korbobo

New Course - No Large Trees

Any golf course worthy of the name will have at least one "dogleg" hole built into it. Some courses have as many as five or more. On hilly terrain they turn out to be the only solution in certain areas of the acreage devoted to the layout.

Any worthy golf course architect will try to utilize the existing contours whenever possible. It not only keeps the cost of construction down but also enables him to preserve the natural beauty of the area to the fullest. In so doing, all sorts and shapes of dogleg holes present themselves as possibilities to the designer responsible for the ultimate landscape. The golfer must negotiate these formidable obstacles with great finesse.

Since no two golf courses could ever be alike, this article will try to include many possible types of dogleg holes. Each will have its own solution. On a "young" course where the tree cover is practically non-existent, there can be two solutions. One, a temporary (short term) arrangement, and the other a long term treatment.

SHORT TERM SOLUTIONS

- If the dogleg is so open that even the hacker can "cut the corner" while the newly placed trees are growing up, you can employ a temporary (10-20 year) design to encourage the golfer to reconsider before he tries to save a stroke by hitting over the dogleg. These are a few methods to consider:
- (1) place large sand traps around the "elbow" or "joint" to catch the short artist who fails to really carry the necessary distance;
 - (2) place a thick planting of shrubbery among the new trees as well as out into the same area as the sand traps described in (1) above;
 - (3) make it an out-of-bounds area for those who fall short on their gambling attempt; and
 - (4) construct earthen mounds (berms)

in the elbow itself and around the corner of the rough a good distance beyond the bend.

If the ball lands in such areas (failure to execute the short cut) the chances for a good lie for a shot to the green would be less likely.

All of the above suggestions are predicted on the assumptions that the right trees have been strategically placed to be effective 20-30 years into the future. As these permanent plantings reach maturity, the above suggestions could be eliminated. The temporary traps, shrubs and sculptured mounds could all be removed and the usual rough and cut fairway alignments would be restored to the original design.

In rocky country, simply spreading large rocks and boulders in the impact areas where unsuccessful shots would land, would penalize the golfer who tried but failed. After one or two aborted attempts, the player would find life much easier if the hole was played "honestly".

LONG TERM SOLUTIONS

"Water on the elbow"

If the golf course architect is fortunate enough to be able to place water at the strategic spot on a dogleg hole, no trees will be needed. In relatively flat country, this possibility very often presents itself to the architect. He will locate the hole purposefully so the body of water is in the joint of the elbow. Any ball that fails to carry the challenging distance would naturally cost a penalty stroke.

Doglegs with a short tee shot (Sketch 1)

Those dogleg holes that have a short tee shot and a long second shot present a different landscape problem. You now should design the landscape planting on the far side of the elbow in such a manner that it will catch the "slugger" who will overshoot the tee shot. Such a golfer should not be able to land on a smooth short rough and

have a perfect lie, thus providing themselves with an open shot to the green.

Plantings, traps, rocks, mounds, water, etc., should be so located as to make it difficult for a clear shot to the green.

Doglegs with a long tee shot (Sketch 2)

If the first shot off the tee is a long one, then few golfers will be ambitious enough to try to cut the corner. All that is required here on a young treeless course would be the usual deep rough.

However, for pure beauty as the course gets some age to it, there should be a long range tree planting program started even though such plantings may not be needed to control play. (We are speaking of courses that are located in areas which support a natural tree cover, not those located in the moors, prairies or deserts.) On such golf layouts where trees are next to impossible to grow, deep roughs, earthen mounds, water, sand and/or rocks will have to be worked into the design to make it a truly challenging dogleg.

Traps vs. trees

If you are in a position to make a choice between using trees or traps to make the dogleg effective, there are a few points to consider. Traps can give you an immediate effect. However, in addition to the initial cost of these traps (and they will have to be large in size), they are a daily maintenance job for the grounds crew. If you don't want your large traps looking like a busy beach at the shore, then daily manicuring is a necessity on a busy course.

You may also need to solve a drainage problem with such traps. This could mean extensive sub-surface drain tiles. All these factors must be taken into account before the decision is made to use traps.

Trees, on the other hand, may turn