A Golf Course Irrigation Package
From The Underground Pros

Easy to install. Long lasting.
FLINTKOTE'S "Underground Pros" can provide all the pipe and fittings you'll need to irrigate and drain any golf course... and do it economically.
It's part of our pipe package, a single source concept that gives you FLINTKOTE'S installation experience plus corrosion-resistant products like FLINTITE Asbestos-

Cement pressure pipe for large mains, FLINTKOTE Bell Joint PVC Pipe for mains and laterals, Orangeburg SP service pipe for laterals around greens and tees, and Orangeburg drainage pipe for greens, tees and other wet areas.

For more "Package" information contact the Pipe Products Group at Ravenna, Ohio 44266. We will deliver.
Be a four-star superintendent!

You can if you bring out the best in your golfers. And Agrico can do this for you by building thicker, more colorful, resilient turf grass from tee to fairway to green.

Golf is a darn challenging game regardless of whether the golfer is a duffer or a low-handicapper. He needs all the skill and confidence he can muster. Agrico and you give him a head start on confidence for that good shot.

Thick, rich fairways let golfers get a good bite into wood and iron shots. Colorful, lush tees condition them for a good start on each hole. Smooth, springy and true greens are essential for better putting.

It all adds up to better total confidence which brings out the best in golfers... keeps them enthusiastic about your course... makes you a four-star superintendent. Write us about Agrico's Custom-Tailored Golf Course Program. You might be our next four-star superintendent.
THE DECLINE AND FALL OF CONGRESSMAN DAY
... or the great golf hoax unmasked

By Norman Cousins
Editor, Saturday Review

In Saturday Review's first April issue, a communication from one K. Jason Sitewell appeared on the Letters-to-the-Editor page. The letter called on the editors and readers to oppose H.R. 6142, a bill introduced by Representative A. F. Day and co-sponsored by 43 Congressmen. The stated purpose of the bill was to restrict the size of private parks as well as to democratize public parks which were sparsely used. Mr. Sitewell asserted he was in a position to say positively that the actual purpose of the bill was to abolish golf. He had known Congressman Day since early childhood and could bear witness to his persistent and "psychotic" hostility to the game. This aversion, Sitewell said, was perhaps understandable in view of the Day's family tragic history in the sport. Day's grandfather had perished in a sand trap, the victim of massive exasperation. Less than a decade later, Day's father expired soon after hitting 19 balls into a pond in front of a par-three green.

Sitewell detailed yet other unspeakable horrors and abominations associated with the sport that had caused young A.F. Day to grow up with a fierce and fixed purpose. He was determined to destroy the so-called sport that had brought untold suffering to his mother and sisters and that had produced, across the nation, hundreds of thousands of coronaries, ulcers, broken homes, lost jobs, etc., etc.

Sitewell's letter was of course a spoof, full of absurd concoctions and broad hints, the broadest of which was the connection between the Congressman's name and the one day of the year when spoofing and nonsense have glorious sanction.

What happened? Enough to warrant a serious major sociological study. I have learned of emergency meetings called by boards of governors of golf clubs for the purpose of taking vigorous and far-reaching action to defeat Day's bill. At least a dozen Congressmen or their assistants telephoned to say that opposition to H.R. 6142 had turned up high on the daily tally list of what constituents were protesting. One of the nation's leading golf weekly magazines reprinted Sitewell's letter on its editorial page under the title, "A Frightening Bill," and called on its readers to defend the sport against this sudden and malicious legislative assault. The wife of a Federal judge in Illinois telephoned the Saturday Review to ask for reprints to send to her husband and his cronies who had gone off on their annual golf holiday, leaving their wives at home.

So it went, incident piled on incident, until the Wall Street Journal ran a delightful front-page story disclosing the spoof. Among the disclosures was the fact that H.R. 6142 is actually a bill to limit the liability of national banks for certain taxes.

As usually happens in a hoax, there are interesting implications and even things of value to be learned. First of all, it became apparent soon after Sitewell's letter appeared that non-golfers were far quicker to recognize the letter as an open-faced satire connected to April 1st than were golfers themselves. Is it possible that the absurdities immediately perceived as such by non-golfers were regarded by golfers as reminders of poignant reality? Is there a golfer who, upon hitting into a sand trap, does not feel deep in his subconscious that he may never get out? Is there a golfer who does not suffer more anguish over hitting expensive new balls into ponds than he does over reverses in his business or profession? Can any canard or calamity be concocted about the sport that does not have a parallel in the golfer's own experience? We ask these questions not only from the editorialist's chair, but from the confession box, as an addict who is himself mercilessly hounded by double bogeys.

It is also significant perhaps that in none of the clamorous protest against H.R. 6142 were any questions raised about the devastating "facts" assembled by Congressman Day in support of his bill. No attempt was made by those who protested the bill to refute the long laundry list of dreadful consequences Day attributed to golf. It is of course not true that the game in an average year, produces 75,000 coronary occlusions, 83,000 cases of hypertension and ulcers and 9,300 golf car fatalities; nor that golf courses occupy twice as much land as all the natural parks put together; (Continued on page 35)
Step 2 in the TERSAN 1-2-3 Total Disease Preventive Program

Spray now with TERSAN® 1991 to prevent summer turf diseases before they start.

Dollar Spot and Large Brown Patch and Fusarium Patch (Pink Snow Mold). Stop these turf diseases before they have a chance to cause trouble. Begin spraying your greens, tees and fairways with TERSAN 1991—the only turf fungicide that works systemically as well as by contact for long-lasting control. TERSAN 1991 provides both curative (eradicant) and protective action.

The use of TERSAN 1991 in the summer is the second step in the Du Pont TERSAN 1-2-3 Total Disease Preventive Program.

A highly effective and economical program that controls all major turf diseases on all grasses all year long. TERSAN products have been tested around the country on golf courses like yours and have proven the most effective available. They are low in human toxicity, have a large safety factor on turf, and are all non-mercurial.

For complete information on the Du Pont TERSAN 1-2-3 Total Disease Preventive Program and a supply of TERSAN 1991—call your golf course supplier.

Note: to control Pythium, which can develop in the summer, applications of TERSAN SP should be used.

With any chemical, follow labeling instructions and warnings carefully.

Note: to control Pythium, which can develop in the summer, applications of TERSAN SP should be used.

For more information circle number 241 on card
nor that golf has caused 60,000 broken homes (although one wonders whether this latter figure may not be on the low side). None of these statistics were challenged in the valiant defense of the sport. Are we to believe that, even if these horrible facts were true, this would make no difference to golfers? Or is this an example perhaps of a larger truth: that many people who are directly affected by an issue are less concerned with facts than effects? Students of private and public psychology—or, for that matter, students of sociology and public opinion—might find the entire story of the Sitewell-Day affair replete with rewarding and significant material.

Finally, who is K. Jason Sitewell and why did the *Saturday Review* publish his letter? I confess to being Sitewell, who has appeared under that name in SR before—generally about the same time of year. The reason for the letter is that it is part of the *Saturday Review’s* editorial philosophy to place the highest value on laughter. SR is a serious magazine and it deals with serious issues in a serious way, but it tries to make a distinction between being serious and being solemn. In the catalog of human assets, few things provide people with greater strength than the love of life, of which the ability to laugh is a prime manifestation. Persons who survived the horrors of the concentration camps tell us they did so largely because they never lost their ability to hope and to laugh, the two being intimately related.

I see nothing inconsistent in publishing articles about grave world problems while interspersing them with humorous cartoons. I readily acknowledge that the choice of cartoons is the one task I retain for myself—not because I think I am a better judge of humor than other members of the staff, but because I relish the job.

As for my golfing friends who threaten to have me barred from every course in the nation: Please don’t. I suffer enough every time I play. Penance waits on every tee. There is kinship in suffering. We need each other.

---


Ryan aerators help rolling hills...

Relieving compacted turf on play-grounds, parks, golf courses means getting more air to turf roots. Turf breathes easier, grows healthier.

Ryan aerators core, slice, and renovate turf to keep it breathing better all season.

The Ryan Renovaire (1) is designed to contour aerate compacted turf on hilly and undulating areas. Its tine wheels are mounted in pairs to operate independently and follow "the lay of the land." High and low spots get equal penetration.

On large level turf areas (football fields, fairways and other level ground) the Ryan Tracaire (2) does great. With either unit, a dragmat breaks up cores so you top dress and aerate in one operation.

Interchangeable tines convert both the Renovaire and Tracaire to core, slice, or renovate, depending upon the season and condition of the turf. In early spring and fall the coring tines are used to aerate compacted turf, allowing air, water and fertilizer to penetrate. During hot weather the slicing tines gently keep the turf open and cushion-soft. The renovating tines are ideal for late fall conditioning of "problem" turf areas. Renovating does a thorough rebuilding job for seeding and fertilizing.

Both machines cover a 6-ft. swath and can aerate at speeds up to 10 mph. The Tracaire is available in two models: 9-wheel and 12-wheel which attach to a standard 3-pt. tractor hitch. The Renovaire has 12 aerating wheels and attaches to a tractor drawbar. Keep your turf free from compaction and breathing all season with a Ryan aerator.

Write for a FREE Ryan catalog.

RYAN EQUIPMENT COMPANY
2055 White Bear Avenue
St. Paul, Minnesota 55109
Telephone 612-777-7461
SUBSIDIARY OF OUTBOARD MARINE CORP.

For more information circle number 207 on card.
In this day of far-flung operations, it is not easy to get the answers to the problems of supplies, prices, service and new developments, but we’ve made an effort by talking to leading superintendents in strategic areas. We shall try to develop a consensus on several points and hope that we score at least 51 per cent. Obviously, we will not be infallible and cannot be correct on every item, but perhaps we can offer reasonable guidelines.

**Water**

Irrigation dominates the talk at conferences, in bull sessions and in board rooms. Automation is the name of the game. The goal is saving labor, uniform distribution, water when and where needed and better control. The emphasis is on perfection of equipment, installation and performance. Cost seems to be secondary. Those systems that are built on “lowest bid” seem to end up with leaks, blowouts and other assorted headaches. Herein lies a lesson, often learned at great cost.

Another consideration is that of supply. Will there be enough water to go around? Will there be water when needed? What will happen when water runs short and turf needs are restricted?

Yet another item is that of water management. Are systems operators being trained to utilize the installations to the best advantage? In many cases the best turf occurs where there isn’t quite enough water. Profligate use of water adds to already existing headaches, encourages Poa annua and clover, necessitates more frequent mowing, creates a need for additional fertilizer and often increases compaction. It seems odd, but when a new system is installed, there is a tendency to overuse it for a while, at least.

Clubs are getting smart. Instead of buying pipe here, sprinkler heads there and monitor systems somewhere else, they are looking for the outfit that can do the whole job. Then, when something goes wrong, there is no buckpassing. Responsibility and service are fixed in one spot.

**Equipment**

The hottest thing going today is the triplex putting green mowers. There are three manufacturers and each claims certain points of superiority. One of the best discussions on pros and cons took place at Tifton, Georgia, Turfgrass Conference. Pictures, slides, movies, live demonstrations and panels left participants with the firm conviction that these mowers are here to stay. The biggest hang-up was the potential danger of broken oil lines and the resulting damage to the turf. This has happened and will happen again. Flushing with detergent and soaking up the oil with topdressing have minimized damage. Labor saving is the big selling point. It seems that no one has any trouble training operators.

The question of cost was brushed off as insignificant. Superintendents are going to have them high cost or no. Turf quality is as good or better with the narrow walk-behind motorized mowers. Adjustment takes a bit more skill but that presents no problem.

An attachment for pulverizing aerator cores looks very good, especially when the soil in the greens is good enough to go back as top dressing. There are soils, however,
that deserve to be removed and replaced with lighter material.

Thatch removal equipment is improving every year. For this we salute the manufacturers’ engineers. Thatch is a constantly recurring problem that, when excessive, complicates the job of turfgrass management.

I couldn’t leave equipment without a word of commendation for two items: 1) the scarifier-seeder, which reduces the quantity of seed required, cuts overseeding into established turf without interfering with play and practically guarantees a stand; 2) the hydraulic seeder, which is a versatile machine that can rapidly apply, in water, practically any material used on turf.

With virtually all equipment, the cost continues to rise, due to many factors, some hidden. There seems to be no problem of supply, but more and more superintendents are buying where they are sure they can get adequate service.

Grasses
It was interesting to hear Dr. Glenn Burton state that none of the newer strains of vegetative warm-season grasses have been shown to be as good as those now in wide use (Tifgreen, Tifway and Tifdrawf). The heavy loss of turf in spring, 1970, was not repeated in spring, 1971. The answers still are not clear but temperature variations seem, to have been largely responsible.

Among the cool-season grasses there is widespread interest in the fine-textured turf-type ryegrasses. Pelo and Pelo-Mora have done a fine job as companions to the newer bluegrasses. Manhattan is newer, and seed supplies seem to be plentiful. The same holds true with the newest release, Pennfine. With the interest in Pennfine for overseeding bermuda greens in the South we will need quantity seed production to meet the demand. The price of the superior (elite) ryegrasses holds in the $.65 to $.85 range and no one seems to object as long as they do a better job at lower seeding rates than ordinary ryegrasses.

Pennstar Kentucky bluegrass is the newest on the market. It has been exhaustively performance-tested, and superintendents are ordering it whenever they can find it. There was reluctance to talk about prices because supply is short. One can justify the higher cost of bluegrasses, such as Pennstar, Merion, Fylking and Prato, on the basis of lower seeding rates needed, superior performance, aggressiveness, lower disease incidence, less Poa annua, higher tolerance to drought, tolerance to closer mowing and superior appearance.

No one seems to be “blowing the horn” for bentgrasses or fescues. The newer ones do not apparently rate accolades perhaps because of their more limited use. Penncross seems to be very big, wherever bent greens can be grown. Charles Danner converted bermuda greens to Penncross greens in one winter without any tearing or ripping of any kind. He made it sound easy.

We must remember that the smoke pollution problem has created a crisis in the grass seed fields of the Pacific Northwest. No longer can seed growers burn off their stubble to control pests and to get rid of the thatch. Without burning seed yields go down and the price the grower must get for his seed goes up. The superintendent must learn to live with higher seed prices.

Fertilizers
No item used on turf is in better supply. Prices hold steady—are perhaps even down a little. One big problem is the multiplicity of brands, analyses, claims and counter claims. Many mixed (“complete”) fertilizers are used by superintendents, who have no idea how the material has been formulated. The source of nitrogen determines to a large degree how the material best should be used yet seldom is the essential information on the bag. As long as higher authorities over the superintendent insist on buying on the basis of price-per-ton, regardless of nutrient content or percentage of water-insoluble nitrogen, fertilizer use remains in the dark ages. Emphasis today is on reduced labor requirements which brings slow-release sources of N sharply into focus. Soluble nitrogen is lower in cost per pound of N but labor requirements are sharply higher. Also there is a higher loss from leaching and from volatilization, particularly with urea (45 per cent). Burning turf no longer is necessary and cannot be tolerated.

Potash usage, particularly sulfate of potash, is beginning to receive the attention it deserves. Cost, when related to the benefits, is ridiculously low. Potash improves turf quality in several ways—lower disease incidence, greater drought tolerance, improved cold hardiness, stiffer blades and improved color and playing quality including wear resistance. Potash can be derived from potassium nitrate, sulfate of potash magnesia, muriate of potash and sulfate of potash. Sulfur-bearing potash materials cost slightly more but they carry a big plus value because of the sulfur they contain. Sulfur is a vital element in soils, contributing to the health of micro-organisms, giving turf deeper color and lower incidence of disease. Now a Salt Lake firm produces a super-fine particle size in sulfate of potash that lends itself to spray systems with no particles to clog nozzles. There is a growing tendency to apply sulfate of potash in quantities to yield poundage of K equal to the N used. Supply no longer is a problem; prices are reasonable.

The latest development in urea-form is a product (38-0-0) with hard granules of uniform size, dust-free, suitable for distribution with a spinner or with any other type of spreader.

Coated fertilizers are very much in the limelight because of the potential for varying the resin coating to yield a product that can be programmed for definite time-release patterns of 3, 6, 9 and 12 months duration. We shall watch this development.

(Continued on page 38)
What's ahead? continued from page 37

Pesticides

The Environmental Protection Agency (EPA) has aroused deep concern over the fate of some of our standby turf protectants. Because the regulations vary so greatly from state to state we shall not dwell on the subject here and now. Careful studies indicate virtually no contamination of the environment from the use of mercury, arsenic, cadmium and others. Turfgrass soils are rich in organic matter which acts as a highly-effective filter, especially for heavy metals. For the most part superintendents can secure permits to continue to use the time-honored materials which have given good results with no known contamination.

Lime

The widespread generous use of lime, high calcium and dolomitic types contribute in a large measure to the good health of turf and to the minimal contamination of the environment from pesticides. Lime does many things besides supplying Ca and Mg. With generous use of lime (high-lime arid regions excepted) we find a lower incidence of disease, stronger healthier root systems, improved color and wearing qualities of the turf.

Lime supplies are unlimited and prices seem to hold remarkably steady. Most superintendents maintain a ready supply of hydrated (sprayable) lime for use during hot weather. Reports indicate a growing confidence in hydrated lime as a home remedy against summer stresses. It can't be considered a fungicide, but it beats the tar out of fungal hyphae.

Sand greens

Time was and still is in some places that a sand green was just that. It was built of sand which had been more-or-less oiled, then before putting, the sand would be smoothed with a section of pipe to facilitate the roll of the ball. My first game of golf was played on sand greens.

Now a sand green might mean a Purr-wick green (all sand) or a green built to United States Golf Assn. specifications. In 1946 at Beltsville, Humbert and Grau studied and published results on 1) easy-to-keep greens, and 2) hard-to-keep greens. The answer was deceptively simple. The more sand, the easier the greens were to keep. Some greens are being built on a blend of 80 per cent sand (by volume) and 20 per cent peat. No soil is involved. The reports are encouraging. Those that are built of 100 per cent sand with a plastic sheet to create a perched water table are under study and they look promising.

The faster the percolation the greater will be the leaching of soluble nutrients. This focuses attention squarely on the materials of lower solubility—ureaform, sulfate of potash and natural organics.

Recycling

As we learn to recycle our wastes and to reuse water, many of our current shortages will become non-existent. Processes are being developed that will convert most of our wastes into usable products, that will keep the ecosystem intact. We will be hearing of these developments in due time. Even now some turfgrass areas are being irrigated with effluent water. This is only a beginning.

---

At Last! Range Ball Retriever
with its own power source*

- FLEXIBLE
- CONTOURS TO TERRAIN
- EASY OPERATION
- 8' OR 16' MODELS
- REMOVABLE BASKETS
- CAGE FOR OPERATOR
- ROLLS ON WHEELS

*Pusher power unit optional or pull with golf cart
FOR LITERATURE, PRICES OR DEMONSTRATION
contact
HARRY PHILLIPS
12458 QUEENSURY, HOUSTON, TEXAS 77024
(713) 465-0789

For more information circle number 202 on card
HYDRO-SEEDER:

NEW USES PLUS OLD

A hydro-seeder can be used to solve different course maintenance problems, says Tantallon’s superintendent

By James G. Estepp
Superintendent, Tantallon CC, Tantallon, Maryland

A hydro-seeder can prove invaluable not only in golf course maintenance but in construction as well. Tantallon CC, Tantallon, Md., purchased a 500-gallon unit in 1964 for seeding areas around utilities and streets throughout the development. The unit is mounted on multi-rib, low pressure tires and, when loaded, can be easily pulled by a 40hp turf tractor. The average load of seed, mulch, fertilizer or water covers 4,500 square feet. Time to prepare and apply a full load averages about 30 minutes.

Different uses for this machine became evident as certain difficult and time-consuming jobs arose, such as the application of limestone on greens and tees. Using a drop type spreader and pulverized limestone, it usually took up to five full man-days to apply lime to the greens, which average 10,000 square feet. Part of the trouble was the mess involved. Golfers were bothered because the dry limestone could be kicked up and would stick to their clothing and shoes. The lime, therefore, had to be watered in immediately, but this method of application was uneven. We decided to try an application with the hydro-seeder to see if we could achieve a more even distribution, dispense with the immediate requirement for water and also save time and money. It worked beautifully. The limestone, suspended in water, was easier and faster to apply and it came in contact with the soil more quickly. For this operation one load in the seeder covered two greens or 20,000 square feet.

During the summer of 1969 we experienced many problems with the golf course irrigation system. As usual the problems arose at the most critical times, when it was extremely hot and dry. We used the hydro-seeder to syringe greens. Without it we would have lost some, if not all, of our bentgrass greens.

In many instances our unit has been used to apply fertilizers, both soluble and organic, herbicides, insecticides and fungicides. It was also invaluable for watering new trees and shrub plantings on the golf course and for watering small areas of seed or sod in out of the way places.

I still like to use the broadcast methods for seeding bentgrass, such as Penn-cross, on tees and greens. After seeding I apply a heavy concentration of hydro-mulch fiber and get the same benefits as from hydro-seeding, i.e., moisture retention, protection of the seedling from the elements and soil erosion control.

When seeding, I’ve found that the most effective method was to use a two-inch fire hose and, with the seeder running at about one-third power, I can direct the mixture directly down into the seed bed. This gets a more even distribution and the seed into closer contact with the soil. The hose is rigged with quick connecting snap couplers. A quick coupling sprinkler key was modified to fit the two-inch hose coupling so that the seeder can be filled from any valve on the course, thus the hose is used for filling the tank as well as for distributing the material.

Several different nozzles are available and each has definite advantages. We use three different ones: 1) the wide ribbon, which distributes material to a width of 20 to 25 feet; 2) the narrow ribbon, which covers a width of 10 to 15 feet, and 3) a firefighting or elongated type for distant or hard to reach places. Because the firefighting type gives more pressure, we use it for washing down parking lots, entrance roads and buildings.
Clubs turning to Love

OH YOUR MARK... GET SET...