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# Poor Root System Softens Turfgrass for the Big Kill

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*This was the lesson of 1962 . . . Winterkill, disease, etc. took the usual toll but shallow roots struck the hardest blow of all, according to this observer*

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By **CHARLES G. WILSON**

Sales Manager, Milwaukee Sewerage Commission

“When spring transition is bad there was something wrong with the Bermudagrass the previous fall.” This favorite saying by astute Southern supts. has wide application north of the Mason-Dixon line. A harsh winter creates few problems if the grass is put to bed in a healthy state.

Those in the North Central states who were hit hardest by so called winterkill this spring will concur. Although desiccation, ice injury and various disease complexes may have hit the final blow, it was the body softening punishment of a shallow root system that was the real culprit.

As a great practioner in the art of hindsight, it is easy for me to trace the injury by reflecting back to the fall of 1961. The Chicago area was very wet. This was especially true on the south side tapering

off as one headed north toward Milwaukee. Winterkill followed the same pattern being very severe on the south side and almost non-existent farther north.

## No Frost in Ground

As a result of the very wet fall, root systems were shallow to non-existent. Mowers were blamed for scalping. The blame actually should have been placed on the puffy turf caused by shallow roots. Because of the wet weather supts. were unable to get in a thorough aeration, and for the first time in the memory of man these badly injured areas went through a complete winter with no frost in the ground. The snow came early and left late. Nature failed to cooperate with its usual alternate freezing and thawing to alleviate compaction.

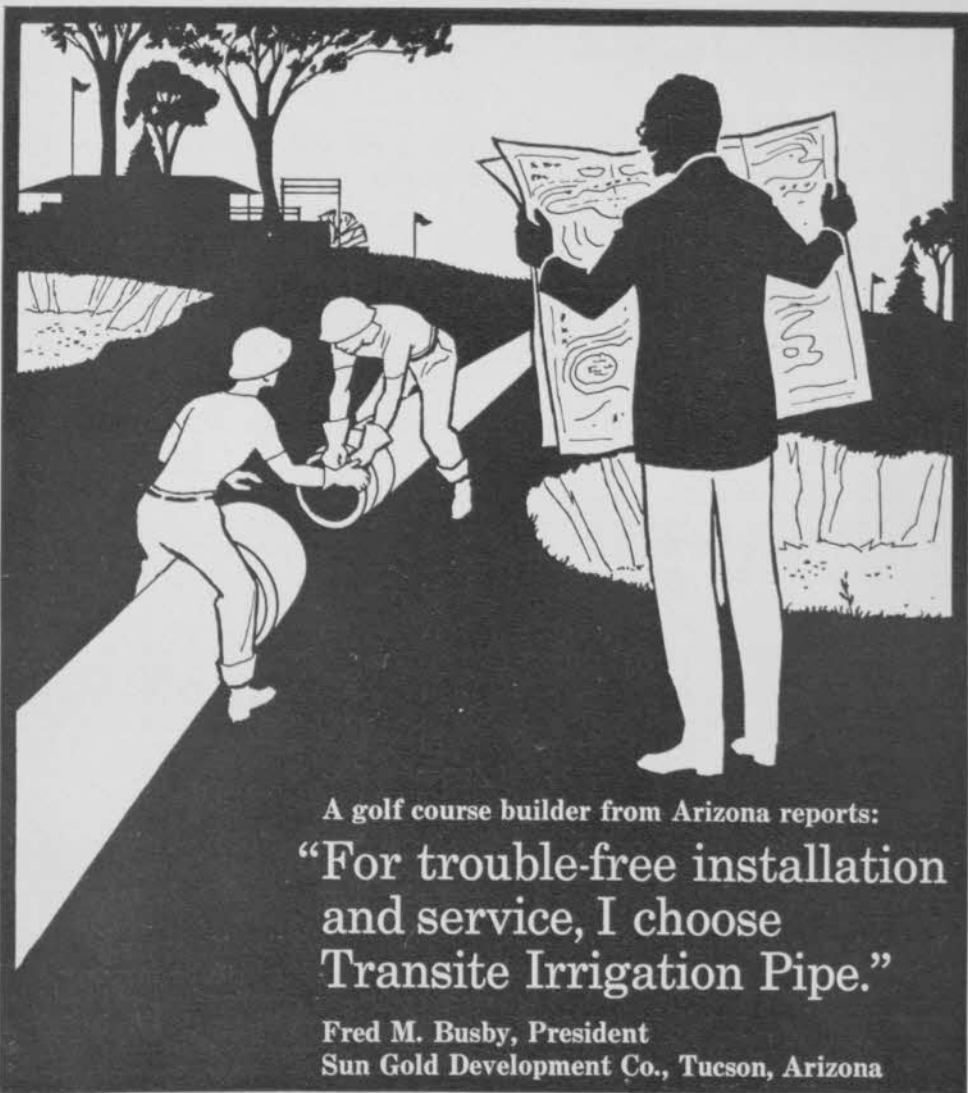
The result of all of these factors was an increase in annual bluegrass and an unprecedented knotweed problem in late summer and fall of 1962.

Obviously, we can't aerify in the middle of a rainstorm, and there will be years when the grass will not be deeply rooted in the fall for reasons beyond our control. These are the years to watch out for because extra precautionary steps must be taken to bring the grass through the winter. A graphic example of this relates to one of Ted Woehrle's greens at Beverly CC on Chicago's south side. As an experiment, Ted removed most of the snow from half of the green in January. This half came through free of injury while the other half was so bad it had to be reseeded. Ex-Minnesotan Roy Nelson also removed snow and ice from Ravisloe's greens and they came through the winter in good shape.

## Drainage Situation

A bad winter, like a wet season, is infallible in bringing out poorly drained areas. Spring of 1962 can be credited with an assist in getting badly needed drainage programs started at clubs from Memphis to Montreal. We are surprised at how few clubs have the necessary power equipment to clean out tile lines. Clarence Wolfram at Maple Lane in Detroit has been doing this for years. It lessens winter injury and permits earlier play. This means more money in the till for public fee operations and happier private club golfers.

Courses that were poor this spring are also taking a second look at certain management practices that might have weakened the grass. Four years ago one of our Midwestern clubs carried on an arsenical



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"Building a golf course to wind its way through a 700-home development is indeed a challenge. This was the case when the 18-hole course for the Rolling Hills Country Club Park in Tucson was designed by William F. Bell of Pasadena, Calif.

"Among other problems, it was extremely important that the irrigation mains be installed quickly and simply. Further, the pipe chosen had to be one requiring little or no maintenance over the years. Transite Irrigation Pipe filled the bill on all counts."

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experiment on two greens. One received 24 lbs. arsenate of lead and the other got 17 lbs. calcium arsenate per 1000 square feet.

### **Kill Too Effective**

Both arsenicals were applied on the same day in the fall with no visible injury to the grass. The following spring both greens were dead — the bent as well as the Poa had been killed. Two fall's ago a Chicago club sprayed its irrigated fairways with a strong solution of 2,4-D and 2,4,5-T to control clover. The clover kill was nearly perfect, but by the following spring the Poa annua and bent had been severely weakened. Seedhead formation on the bluegrass was profuse and fertilizer failed to produce desired color and growth. When hot weather hit, several fairways failed completely and had to be renovated. Proof was present in the one fairway that had not been sprayed. It contained some clover, but growth and fertilizer response was normal and seedhead formation was not excessive.

Obviously, then, spring is the safest time to use 2,4-D and related materials on irrigated bent fairways. However, some even worry about the wisdom of using it then. Several Canadian courses have been using a material called Compitox. It does an excellent job in controlling clover with relatively light injury to bent. At one Ontario course, members complained more about the summer bare spots than they had about the clover that was removed so beautifully this spring. Indeed, this new club had a gigantic clover problem the previous year, but golfers' memories are notoriously short. O. J. Noer prevailed on a neighboring course to grow grass and the clover would take care of itself. The extra fertilizer did the trick to the golfers' satisfaction.

### **An Interesting Plant**

Clover is an interesting plant even though golfers hate it. Through a unique arrangement with certain types of bacteria in the soil it fixes atmospheric nitrogen. If grass were able to do this there would be a great many fertilizer manufacturers in some other line of business. Despite this ability, clover is really poor competition for actively growing grass. Most of the nitrogen fixed by clover bacteria in a poor clover year is utilized by grass the following year. This crowds the clover until the grass runs out of nitrogen when the cycle is repeated.

Clover can also become a problem in both dry and wet years. Its tap root for-

ages deeply for moisture in a dry year so growth remains active after grass has gone dormant from a lack of moisture. Wet years weaken grass more noticeably than clover because of this same depth of rooting difference. In addition, a wet year or copious irrigation eliminates water as a growth factor and intensifies the grasses' need for more nitrogen.

### **Borrow Farmer's Idea**

To grow clover, the farmer uses lots of lime and plenty of phosphorus and potash. If clover starts to get the upper hand to the extent that he is concerned about bloat in his cattle, he topdresses his pastures with nitrogen to bring on the grass. Successful supts. utilize this knowledge. They use minimum amounts of phosphorus and potash and emphasize nitrogen as a means of keeping clover under control. Herbicides judiciously used also can be helpful. The 2,4-D materials are widely used and highly recommended for Kentucky bluegrass and Bermuda fairways and all rough areas.

On bent fairways we continue to like sodium arsenite. Three or four treatments each fall at 1 to 2 lbs. per acre keeps most weeds and insects in check and may have a further advantage in hardening off the turf for less winter damage. Sodium arsenite will be widely used this fall to clean up the knotweed that came in after the winterkill.

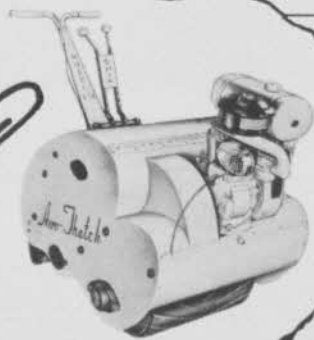
It would have been senseless to treat last spring because control would have resulted in bare ground, crabgrass or something worse.

### **Reseeding Necessary**

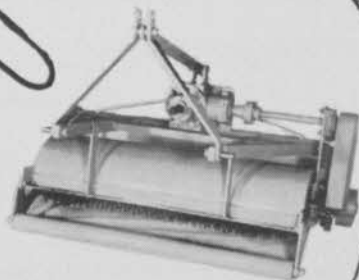
Some reseeding will be necessary and seed prices for creeping bent will be high. Another mystery of our time is the failure of some to appreciate the merits of bentgrass for fairways. There is no other grass so ideally suited in the north for playable turf. Condemning its failings is a negative approach in our opinion. Experiment stations should be working around-the-clock to develop fairway strains that can be planted vegetatively. We admire people like Dr. Glen Burton who didn't allow the failure of Bermudagrass to come true to type from seed thwart his improvement program in Georgia.

Burton worked on the theory that people would find a way to plant a truly improved strain of Bermuda and the reader knows the rest. Farmers throughout the south use his coastal Plains Bermuda on pastures, and you could count on one hand the few southern courses that have

*(Continued on page 126)*



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A golf architect can give a practical and pleasing solution to the problem of handling heavy demand for public course facilities. Floyd Farley, in designing the LaFortune Park municipal course, Tulsa, Okla., placed two practice putting greens and many yards of range tees in front of the beautiful clubhouse. These areas provide practice time for many who are awaiting their turn on the first tee. In this way the capacity of a public course is increased and the ability of the players developed. LaFortune Park pro, Charley Weisner, claims to

have the highest type of public course and the best men and women golfers in the country. Weisner declares that the class of play at LaFortune permits testing bunker designs that are architecturally superior to many on first class private courses. At LaFortune, Weisner says, is as fast as that at the Notwithstanding the character of architecture, play typical private club. The land, course, clubhouse and pool were given to the city by Joe LaFortune, capitalist who has been a pretty fair golfer himself.

## Reservoir, Pumps Reduce Water Bill at Bob O'Link

Until about two years ago, Bob O'Link GC in Highland Park, Ill., depended on the local water system to supply its irrigation needs. Often, during hot weather, the course was shut off completely or was forced to use a minimum quantity of water for irrigation purposes. There was a large annual loss of fairway turf.

In the fall of 1960, Bob O'Link's maintenance staff, under the supervision of Bob Williams, supt., constructed a lake reservoir and increased the course's pumping facilities. Water thus became available whenever it was needed.

### Increased Consumption

Since the lake was constructed, Bob O'Link has increased its overall water consumption by from 50 to 75 per cent per year. City water still is used as an auxiliary supply, but only about one-sixth as much has been consumed in 1962 as in 1959.

Williams recently added up the city water bills for the last four years and found that they totalled the following amounts: 1959—\$4,462; 1960—\$4,263; 1961—\$1,908; 1962—\$762 (through August).

Williams estimates that if all the water now used on the course came from the city supply, the annual cost would run to around \$6,000. Thus, it is apparent that Bob O'Link has reduced its water bill by about \$5,000 a year since the reservoir and additional pumps were put in.

## First Houston Women's Tourney

Houston's first Ladies PGA tournament, known as La Femme Golf Classic, will be played at Westwood CC, Oct. 25-28. Prize money of \$10,000 is being offered.

The 32nd Dixie Golf Championship (72-hole medal) will again be played at Palmetto CC in Miami, Fla. Feb. 5-8, 1963. Paul Des Jardins is defending champion.



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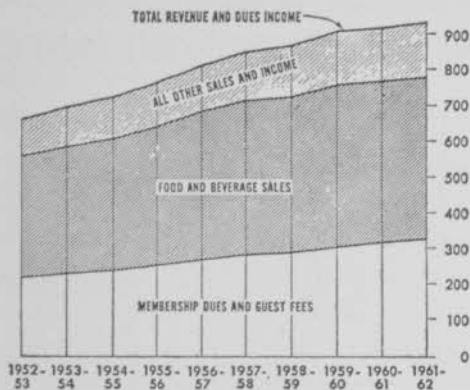
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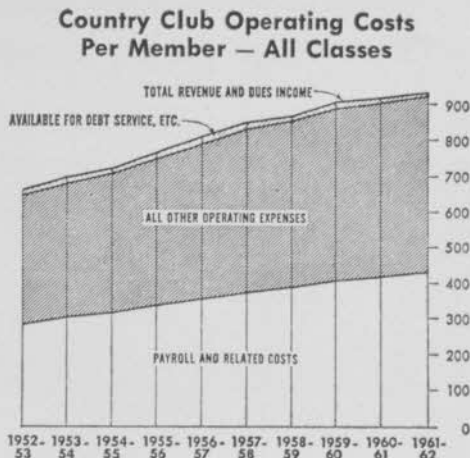
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## Country Club Operating Costs Up 43 Per Cent in Past Decade

**Big Rise in Payroll Expense Increases Dues By 50 Per Cent, Other Expenditures by 37 Per Cent, Says Accounting Firm**

The impact of inflation and its resultant decrease in the purchasing power of the dollar has been the major contributing factor in increasing the costs of operating a country club by 43 per cent during the past decade. City club costs have increased by 29 per cent. Naturally, the cost of belonging to a club has also been on the rise.

The city club member has found that his annual dues are about 36 per cent higher today than they were 10 years ago, and that he is spending about 23 per cent more for his food, drink, occasional lodging and other incidentals at the club. The country club member's expenditures have increased by about 50 per cent for his dues and 37 per cent for his various purchases.

The greatest increase in expense has been for payroll and related costs. They are up by 40 per cent in city clubs and 54 per cent in country clubs. All other operating costs have advanced by 20 per cent in city clubs and 34 per cent in country clubs.

These conclusions were developed by a recent national survey of the operating

results of 50 representative city clubs and 50 country clubs with golf courses. The survey, entitled "Clubs in Town and Country — 1961-62," was conducted by the accounting firm of Harris, Kerr, Forster & Company, and includes data from clubs with fiscal years ending from June, 1961 through May, 1962.

### Revenue per Member \$607

The operating revenue per country club member averaged \$607 during 1961-62 with \$273 representing food purchases, \$178 beverages, \$58 sports activities, and \$98 all other purchases. In addition, annual dues averaged \$390 per regular member and \$167 for all other membership classifications.

The current year's total gross revenue and dues income of 26 million dollars for the country club group exceeded last year by \$513,000. This gain, though, was more than absorbed by an increase of \$662,000 in total operating costs and expenses. As a result, this year's balance of \$260,000, available for debt service, capital improvements and other financial

(Continued on page 129)



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