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SAYS: **Jack Baker**, PAST PRESIDENT, GOLF COURSE SUPERINTENDENTS ASS'N OF S-California



THE VALLEY CLUB OF MONTECITO,—Santa Barbara, California

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Sixty-five male members of the Chartwell CC in Severna Park, Md., had such an enjoyable golf holiday playing Pinehurst's five courses in February that many of their wives duplicated the trip the following month. While at the North Carolina golfing mecca, the women made their headquarters at Pine Crest Inn.

600 Persons Attend 3-Day Midwest Regional Meeting

Nearly 600 persons attended the 26th Midwest Regional turf conference held Mar. 4-6 at Purdue University, Lafayette, Ind. Theme of the three-day gathering was "Basic Principles" with emphasis on weed control, disease and fertility technology.

Speakers and the subjects they discussed:

Fred V. Grau — Residual supplies of nitrogen in turf rootzones; S. A. Barber — Diffusion of phosphorus in the rootzone; W. L. Nelson — Adequacy of potash; Ray Keen — Bermuda progress in sandy areas; and Tom Mascaro — Your opportunities as a salesman.

Zoysia Research Report

Purdue graduate students, C. W. Lobenstein, W. C. LeCroy and Charles Berry, reported on their research with zoysia grass. W. H. Daniel, Purdue agronomist and conference coordinator, announced that interstate certification of Evansville bent is expected soon and that there probably will be limited supplies of stolons of this grass for sale this fall.

Three scholarships were awarded at the conference. GCSA grants went to Robert Scobee and Tom Neidlinger and Dave Weisenberger received the Mueller Sod scholarship.

Newly elected officers of the Midwest Regional turf group are Stephen L. Frazier, supt., Woodland CC, Carmel, Ind., president; Richard Kennedy, Upjohn Co., vp; and G. O. Mott, treasurer. Bill Daniel continues as executive secretary.

Club Plans Awards for Holes-in-One

The National Hole-in-One Club of America, 3551 Charleswood ave., Memphis 22, Tenn., has been organized in recent months to bring recognition to persons who have scored aces. This will be in the form of a 10K gold pin for men to wear on their lapels, along with a matching gold medallion for golf bags. The pin and medallions are engraved with a gold ball mounted on the letter "H." For women, the pin is available for either a necklace or bracelet.

Besides the above awards, persons scoring aces will be given identification cards on which all particulars will be recorded. NHOCA is planning to publish an annual booklet listing the names of persons who have scored aces along with the pertinent details.

The club is a non-profit organization. Awards will be made after applications are thoroughly investigated. Applications should be mailed to the Memphis address.

Horticulture Seminars

University of California's agricultural extension department will hold afternoon and evening sessions on the irrigation of turf and ornamental plants, April 17 in Elysian Park in Los Angeles. Speakers will be Wayne Morgan and Dick Maire. This will be the fifth in a series of horticulture seminars conducted by the department in recent weeks.

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GRAU'S ANSWERS TO TURF QUESTIONS

BY FRED V. GRAU



So many interesting things were brought to our attention in the past several weeks that in this issue we will discuss not one idea, but several.

Conference Q & A Session

It has been suggested that one half-day session at some turfgrass conferences might be occupied with a Question and Answer Session. To make this work there would be four or five short papers previously prepared on carefully selected topics. These papers would be mimeographed and clipped together, and given to each registrant at the registration desk. The cover would say that this paper will not be presented but time will be devoted to Q & As after the people at the conference have read the paper. The Q & A session would be devoted to discussion and in clearing up misunderstandings or misconceptions on the subject presented in each paper.

New-Type Damage on Greens

On a recent visit to Shady Oaks CC, Fort Worth, Tex., Ross Bush, supt., showed us damage on several greens caused by a grass-eating rodent. Ross had killed one of the animals which was identified as a nutria, a furbearing aquatic mammal introduced from South America in 1930 by way of Louisiana.

The nutria is a "large muskrat", sometimes called a "swamp beaver". It has sharp front teeth with which it can chop vegetation and graze very closely, much closer than a green mower can cut.

This is believed to be the first reported damage to a golf course caused by this animal. Attempts are being made to secure pictures of a nutria for a future issue of COLFDOM.

Accidental Deep Mixing Gives Surprisingly Good Drainage

At Carswell A.F.B., Fort Worth, Bob Alexander pointed out putting greens that have drained perfectly since they were built. According to Bob, one of the reasons for the good drainage can be traced to a mistake made by a rotovator operator. Pea gravel had been spread on the sub-grade beneath which there was drain tile. The soil, sand, and peat (about 12 inches, loose) were laid down, to be mixed in place with a rotovator.

Instead of adjusting his machine to stay just above the pea gravel, the operator misunderstood and mixed pea gravel, soil, sand and peat all together at about 15 inches depth. Bob says that setting cups occasionally can be difficult but there never has been a question about drainage.

This raises the question, which will not be answered here, whether the soil topmix over the gravel layer may be too shallow on many greens to permit good drainage. Perhaps topmix should be much deeper to increase the distance between the saturated zone at the water table level and the surface of the green. Reader comments will be welcome since this subject will receive further attention.

Will There Be Enough Supts.?

The rate at which new courses are being built and opened for play poses a serious problem to owners and operators. Experienced supts. are in heavy demand. For a while topnotch men can be pirated from other clubs by the simple expedient of offering more money, better living conditions, better schools for the youngsters, better shops, offices and equipment. But — comes the time when we run out of experienced supts. that are willing to move.

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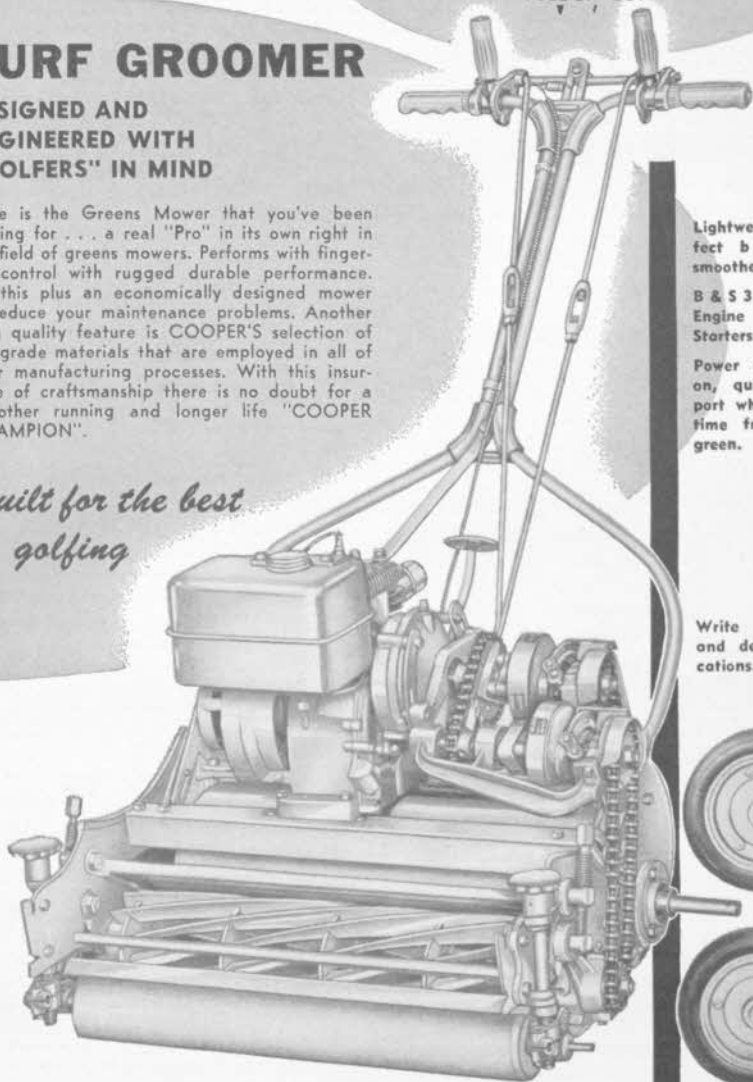
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The bright young men who are being graduated from two and four year courses at universities are very much in demand. Divot News, the official publication of the G.C. Supts. Assn. of So. Calif. Chapter, says in an article entitled "Looking Into the Future" "A step in the right direction would be hiring of Assistant Supts. at more clubs." Where will these assistants come from but from training courses at universities where the theoretical "why" is coordinated with the practical "how?"

Who but an experienced supt. can complete the training of these young men from the colleges and short courses? Call them "graduates", "trainees", "assistant supts." or what you will, they are the men who will be occupying the top jobs in the near future. They are invited to golf clubs to be paid while they learn. When they have reached a certain proficiency the supt. helps them to secure a position of trust and responsibility as a supt. at some other course. Rarely, if ever, do they take the job of the incumbent supt. unless that man is ready to move or retire. Sometimes they "flunk out" and don't make the grade.

New Standard of Judgment

The way things are moving in the golf field, the progressive supt. may be known by the number of students he helps toward the completion of their training. It must be a great satisfaction to think, "There are 'six' courses right around here that are managed by supts. who got their basic training at State and who finished their practical experience right here on my course."

The salaries of top supts. are beginning to attract high school students who formerly could find no incentive to seek employment in the turfgrass profession. Recognition and social standing also help to attract young men to the work of supts. Improvement in this phase of greenkeeping has been remarkable.

Arlington Needs Nitrogen

Q. I have one green that was built with gumbo. It was planted to Arlington (C-1). I treat it the same as my Seaside greens but it never looks good even though I don't lose any grass. Do you think it needs iron? How about nitrogen? (Kansas)

A. Arlington bent needs about twice as much nitrogen as most other bentgrasses. I would say that the grass is hungry.

Arlington does better if the soil is allowed to become quite dry now and then.

It cannot stand wet feet as well as Seaside. Try aerifying it more thoroughly, feeding heavier with nitrogen and keeping it drier. Keep the thatch trimmed off by 3/16 inch daily mowing and vigorous combing, brushing or vertical mowing.

Aeration Is the Word

Q. Each spring we have some trouble with dead grass, mostly on the greens. Some call it waterkill, others say it is spring-kill. In 1962 we had snow and ice stacked up on our practice green and we noticed that there was no damage at all around each cup hole. The perfect grass extended out 6 to 8 inches from the hole, then beyond that all the grass was dead. The same thing was noted around aerifier holes, but the area of good grass was smaller. How do you explain this? (Wisconsin)

A. To oversimplify, the answer comes in one word, "aeration". The situation you have described has been observed in several locations. The only way it can be explained is that there was sufficient exchange of gases to enable the grass to stay alive. While the grass was covered with snow and ice, the grass was still respiring. Gradually the concentration of CO₂ built up and displaced the oxygen so that the roots were smothered. Where there was a hole there was a chance for CO₂ to escape and oxygen to enter. It is recalled that the soil was soaked from excessive fall rains in late 1961.

Weedy Fairways

Q. Over the past several years our ordinary bluegrass fairways have become weedier. We sprayed for dandelions and plantain and then the clover came in. When we sprayed for clover the turf was left so thin and sparse that it will not hold a ball up. The members complain they hurt their wrists when they hit shots. We have not fertilized because this is rich corn ground. Your help will be appreciated. Indiana)

A. When bluegrass turf is adequately supplied with nutrients it becomes progressively more dense and more resistant to weed invasion. Without seeing soil test results we'd say it is a safe bet that the grass is nitrogen starved in spite of the "rich corn ground."

By all means have your experiment station test the soil. If pH values are below 6.5, apply one ton of agricultural ground limestone (preferably dolomitic) to an acre this fall. If phosphorus is medium or higher, do not apply any of this element. If P and K are both low, you may use to advantage a high-nitrogen complete fertilizer, such as 10-5-5, 12-6-6, 15-5-5 or a 20 per cent at a rate to supply at least two lbs. of nitrogen to 1,000 sq. ft.

If P and K are satisfactory you may use a straight nitrogen fertilizer twice a year until soil tests again show that P and K are needed.



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Dave Kent examines a model of a green designed for a California club.

nary specifications, the professional consultant coordinates his work with that of a team.

What It Amounts To

Good design is a successful combination of beauty and efficiency of the greens and plantings, a foolproof drainage pattern, a scientific irrigation system, and careful budgeting and preparation for operation and maintenance.

Today's costs for materials and labor make such detailed advance planning an absolute necessity. Working drawings and specs must be so complete in detail that they enable a contractor to make a flat bid, whether he has had course construction experience, or not.

Our firm includes specialists in at least six major areas: Civil and hydraulic engineering, landscape architecture, agro-

Bringing Specialists Together

Golf Architecture: Coordinating the Skills of Experts in Many Fields

By **DAVID W. KENT**

David W. Kent & Company, Northridge, Calif.

Golf course design has become a highly specialized profession. The qualified golf architect is something of an artist with a mastery of exact engineering principles and a sound knowledge of business management. He is well versed in landscape architecture and land values and has the ability to utilize construction equipment efficiently.

This paragon need not be a genius, but he should have access to smart men in fields closely allied to his work. The professional course architect must coordinate the knowledge and skills of a team of experts. As many country clubs have learned to their sorrow, hiring amateurs to design a golf course on the site eventually means hiring a professional to redesign the project.

The qualified architect insists upon precision planning well in advance of construction. Even before delivering prelimi-

nary, Chemistry, construction and construction equipment, turf management and club management and operation.

One Frustrating Problem

One of the most fascinating — and frustrating — problems for the architect is that he is not given the opportunity to assist in locating desirable sites, but is compelled to use the land available. The sites are often in flood-control areas, approaches to airfields, areas that were once used as public dumps, and sections totally unsuitable for construction.

It requires a great deal of optimism to conceive of these wastelands as a potential thing of beauty and a joy forever for golfers. It also demands all the cold-headed realism an architect can muster to design an efficient course. Drainage is one of the worst obstacles. Our company insists on showing all finished grades and drainage patterns for the course, surrounding areas, and sub-surface drainage for the greens well in advance of con-

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struction. We owe this to the developers.

We and other architects prepare exact scale models of all individual greens long before expensive construction work begins. This is so that we can meet with our clients and carefully discuss their project and make changes that take only a small amount of the architect's time.

Produce Contour Plans

Architects usually produce contour plans from the scale models. Exact specifications are detailed for construction of tees, fairways, greens, traps, irrigation systems and all other features essential for a course which meets the highest engineering standards.

Not much is left to doubt? Courses represent a tremendous investment on the part of private firms and public recreation agencies. Although I have been a creative architect for more than 30 years, much of my work has been in the redesigning and salvaging of courses that have been expensive failures because of poor initial design. Many other architects have done the same kind of work. Precise engineering would have left nothing to doubt.

At present, our firm has upon its drawingboards projects representing millions of dollars in redesign, maintenance and reconstruction of golf courses; fairways and greens have been washed away; grass didn't grow in soil, where the saline content of the water was too high; the irrigation system failed to provide sufficient water for the greens. It's a story that, unfortunately, is frequently repeated.

Start from Scratch

Like most architects, I consider myself primarily an artist, bringing to my work what I hope is fresh vision and individuality. Architects like starting from scratch, whether it's the conception and precise design of an 18-hole course on the California and Arizona desert sands or a country club and course for a high-rise apartment development on the nearly impossible slopes overlooking an ocean or lake. For the latter project we may have to prepare the most incredibly detailed specifications, perhaps involving the removal of nine or ten million cubic yards of dirt, to mention only part of the myriad challenges.

In 1957, my father and I moved our firm to Northridge, Calif, in an attempt to keep pace with the many contracts that come to us from the Far West. Recently I completed my work on a 9-hole layout

in the middle of the Great American Desert, or as some cynics would have it, the middle of nowhere. My client knew the region well. He swore that no one could grow grass out there. He added that he was convinced that no one could make that trackless waste look interesting, even for golf. Even the palm trees had to be imported.

My client is pleased enough with the results that he has asked me to consider designing another course. Other architects have experienced the same kind of satisfaction and patronage, of course. My client in this case is the Marine Corps, which paid for the course out of post exchange funds, at no cost to the taxpayers. The 29 Palms Marine course was difficult, but not impossible for our team of skilled specialists.

Diversity Creates the Interest

Diversity helps make our profession exciting, even though it may appear sometimes that we are over-exacting. With the increasing importance of the subdivision course, we have entered an era of greater sophistication in planning for the needs of the average players or 95 per cent of the golfers who play today.

Land developers and subdividers recognize the importance of a well-engineered, beautiful, fun-to-play course as a means of attracting homebuyers to their subdivisions. The courses pay for themselves in increased sales for the developers. They offer splendid recreational and social opportunities for the home owner and give a park-like atmosphere to the development. But they must be so carefully planned and engineered that there will be no errors that will lead to costly maintenance and repairs.

What Is Involved

For one subdivision golf course in Southern California our firm prepared specifications providing for the drainage of 1,200 acres surrounding the project. We detailed the drainage pattern carefully. It was based upon the findings of our hydraulic engineer and a team of professors of agronomy from one of the California universities. We also consulted with meteorologists and historians, charting the weather pattern over a period of nearly a century. This gives you some idea of what an architect becomes involved in.

Currently we are quite busy designing courses for municipal recreation and parks departments. The smart local citizen-sup-
(Continued on page 124)