

Minimize Turf Compaction, Turf Researcher Suggests

A golf course superintendent can do several things to minimize turf compaction from maintenance equipment, according to Professor John H. Madison of the University of California, Davis.

He suggests four ways to minimize compaction. One is to use low pressure tires; travel in the same track or in a limited area; minimize the load per tire — either by using lighter equipment, more axles or more tires per axle; and use four-wheel drive vehicles, driving between five and seven miles per hour, rather than faster or slower.

Compaction is the loss of soil pores, and is usually the loss of the larger noncapillary pores," Madison told GOLFDOM. "Compaction results in poor soil aeration, decreased rooting, and heightened susceptibility of turf to invasion by weeds and diseases. Compaction reduces the rate at which water enters and moves through the soil making irrigation management increasingly difficult."

Madison said pressure on the soil is essentially equal to the air pressure in the tires on maintenance equipment. Pressure will be higher when stopping, starting or turning and when tires have lugs. Madison discussed the relationship between pressure and total load.

"Suppose I put an equal load on a truck tire with 35 psi air pressure and a terra tire with 6 psi of air," he said. "The ruts will be different-shaped but the compaction will be the same. If I now increase the load, compaction will be greater. Instead of looking at the rut which shows me how much soil porosity I have lost, suppose I look at the soil to see where the porosity has been lost. I find that with the lower pressure, the loss has been nearer the surface — with higher pressure compaction has extended deeper into the soil."

Madison said this seems important because the coring machine is the only mechanical way there is of trying to relieve the effects of compaction. The coring machine is effective only on the surface layer of soil. There is, at present, no mechanical means available for relieving deep compaction under turf, he said.

"If I simplify now and ignore

factors of texture, moisture content, etc., and consider repeated trips in the same rut, the compaction added is less during later trips and appears more or less to reach a limiting value," he said. "Suppose instead of making repeated passes in the same rut, I travel randomly and repeatedly over an area 100 feet wide as could happen on a fairway with golf carts. We now see an important difference. The soil under the terra tire has suffered less total compaction."

Madison said total compaction will be less with low pressure tires and the more travel is confined to a limited area. "These conclusions are not new," he said, "what is new to me is the distribution of compaction — nearer the surface when the load on the axle is smaller and the pressure lower and deeper in the soil with higher pressure tires or with more load per axle."

Japanese Beetles a Problem On New England Courses

A build-up of Japanese beetles has been a problem on some New England courses this season, according to Professor C. R. Skogley of the University of Rhode Island.

"The insect seems to be making a comeback and will always be more serious on well-watered turf," Skogley said. "Golf course irrigation systems may provide more easy living for grubs."

Skogley said if a superintendent is aware of considerable numbers of adult beetles or grubs on his course to take them seriously. He said eliminating as many of the adults with a good, safe insecticide (such as Sevin) will help. Treating all grass areas, including roughs, with chlordane by the time the adults are laying eggs should control grubs. Once the grubs attain some size they are difficult to control, he said.

Skogley also said chinch bugs and sod webworms are still about on some courses and that superintendents should keep an eye out for damage from these. There are a number of insecticides with short-term residues that will control these culprits effectively. He said not to use chlordane for these insects. His comments were reported in the newsletter of the Rhode Island Golf Course Superintendents Association.

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Enemy from page 32

to watch the clubhouse and course. One guard could be used to watch both the premises of a large country club in addition to making periodic rounds on the course. A possible security program would include one guard making periodic rounds on the course in a golf car, perhaps, with a K-9 watchdog to sniff out intruders. The fact that distant parts of the course are lit-up enable him to have visual control over the entire course without covering all the course on each patrol.

Better-known courses have used larger guard forces in the days immediately before a large tournament. A good combination would be one guard patrolling the course while another guard patrols the entire perimeter of the premises. Walkie-talkie communications between them enable them to "head off" and anticipate the moves of a trespasser.

As a psychological deterrent, signs should be prominently dis-



Checking In: A club guard checks the pass of a member at the entrance to private club. Management is striving to keep non-members and trespassers off the grounds and an identification system seems like the likely solution.

played in golf sheds, green areas, in the clubhouse and on perimeter fencing that trespassers will be dealt with severely.

At night, all but one gate onto the premises should be locked at all times and the guard should retain the key. A guard should be assigned to man the gate and should lock it when he leaves his post, for example, make his rounds.

In areas where homes or roads are adjacent to remote greens or property, a fence should be erected with the bottom of the chain links entering the ground, preventing youths from climbing under it. Three strands of taut barbed wire should be strung parallel to one another across the top.

Require the guards to investigate all empty cars near the course.

Guards should also be required to use several routes alternately in patrolling the course so that intruders cannot predict their whereabouts at any given time.

Theft of maintenance equipment such as tractors, fairway gang units and trimmers which are often stolen from maintenance sheds can be eliminated. Such storage facilities should be equipped with burglar alarms and checked hourly by guards. Many maintenance sheds have gas tanks and pumps which

should be locked and lock-checked by a guard on the first round. Pumps should be turned off and locked at night.

Applicants for positions which allow access to keys, cash, or golfers' valuables in the locker room, should be polygraphed to determine any criminal history. All club personnel should be issued I.D. cards, containing a picture of the bearer.

Golfers or club members should be encouraged to use only combination locks on their lockers. They should also be taught to lock valuables in their locker when taking a shower.

Golfers should be advised to leave all valuables with a guard, who would keep them in a locked box.

Some owners have tried these security measures and have seen their losses fall off dramatically. Some owners feared initially that these were "police state" tactics that would be distasteful to their patrons. But this fear has largely been proven unfounded. In fact, members of the more exclusive clubs respect and often appreciate the efforts of owners to "watch out for them." Said one jaunty Midwest golfer: "My course has got to be hassle-free and perfect. When the owners try to protect it, they protect me too." □

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LICENSING from page 17

Williams said there is bound to be some job protection for the pro if the licensing bill is passed, and that it should benefit the PGA because owners will be looking to the PGA to provide most licensed pros. He said nobody can say there would never be red tape from the state, but if run correctly, the state would simply be authorizing testing. If later the state would decide it wanted more control of the procedures, Williams admits there could be problems. He said he has not yet talked extensively with most of the pros in his chapter about the program but feels most would be for it.

John LaPonzina is pro at Pembroke Lakes Country Club in Pembroke Pines, and is vice president of the Southern Chapter. He has received mixed comments from members of his chapter and personally thinks licensing is a step in the right direction for the pro. He said it would give more credibility to the profession and would assure that a better quality pro would be at clubs in the state.

"Some of the fellows think that state control would hinder our profession, but I feel we would set the guidelines and standards and would not be dictated to by the state," LaPonzina told GOLFDOM. "I think this would make for every club in the country to have a qualified man as pro at its club."

Bob Keller, vice president of the West Central Chapter, until this month was pro at Sarasota Lakes Country Club in Sarasota. He said the general consensus in his chapter is that the PGA should be strong enough to handle its own affairs. He said he was not at the meeting where the executive committee voted and does not know all the fine points of the licensing program. But he knows that he does not like the idea of government being able to tell the pros how to run their profession. And he also brings up the point that a pro would not have to be a PGA member to be licensed, and that this seems somewhat at odds with the aims of the PGA and job security. He thinks the PGA is getting stronger every year and that the section should be strengthened from within, not with an outside

licensing agency. But he admits that if run correctly, it could be beneficial to the pro.

National PGA President Henry C. Poe said he has not really heard that much about the program to have formed an opinion about it. He did say that he questions if pros in the state are going to be interested. He attended the annual Florida section meeting and said he heard many comments against the plan.

Bill Carey, executive director of the Florida State Golf Association said licensing is a "thoroughly bad idea."

"I thought it was ridiculous," Carey told GOLFDOM. "I see nothing wrong with the PGA licensing its pros, but for the section to get a lobbyist to work on creating another government bureaucracy is ridiculous. We have more government now than we need."

"And if the pros are naive enough to think they would have control over a licensing board, if they think they are going to dominate it, it is just not so. I heard they want a seven-man board with five pros. It will never happen. Let the PGA institute a licensing formula and administer it. All the pros would be doing with state licensing is creating another hack state agency."

Opponents, or at least persons not in favor, of the bill say the licenses issued pros would not be similar to those of doctors and lawyers but more along the lines of those issued barbers, electricians and truck drivers. They say pros cannot expect the government to identify who the qualified pros are if the PGA cannot do it with the Class A rating. They say PGA membership should identify the capable pros, and that getting the government involved in the procedure only undermines the PGA and what it is trying to do. And they say it will not sweep the country, whether it passes in Florida or not.

Others like Charley Stine, editor of FLORIDA GOLF WEEK, say they see loss of control by the pro and loss of importance to the PGA as an organization if the licensing bill goes through. Stine says the PGA has been in a monopoly situation for a long time and that licensing could be the catalysts for a rival organization. He said that over a period of time the state examining

board could become more powerful in the state than the PGA.

The licensing bill will not come before the legislature until next year at the earliest if it gets out of committee. While the bill remains in the legislature, the Florida PGA Section will be doing all it can to get the information out to its members about the benefits of the plan. It is for sure that the pros in the state will make their feelings known to their chapter and section officers. □

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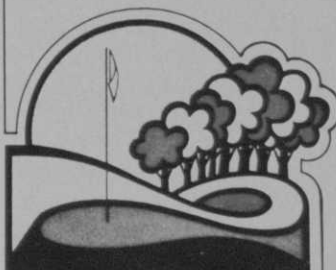
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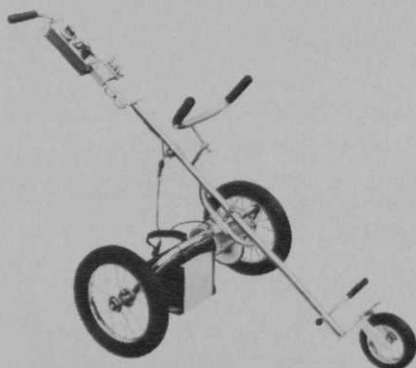


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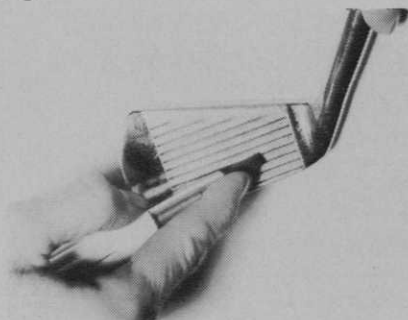


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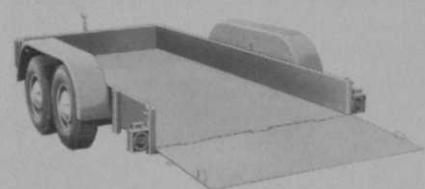
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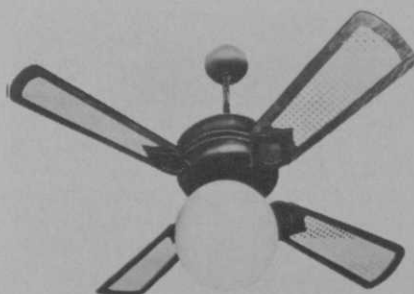
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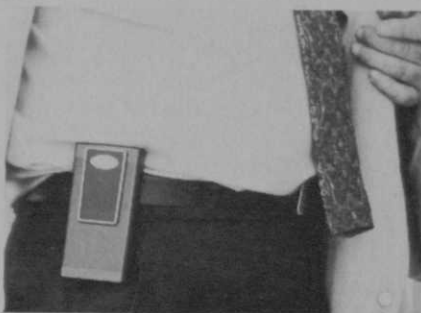
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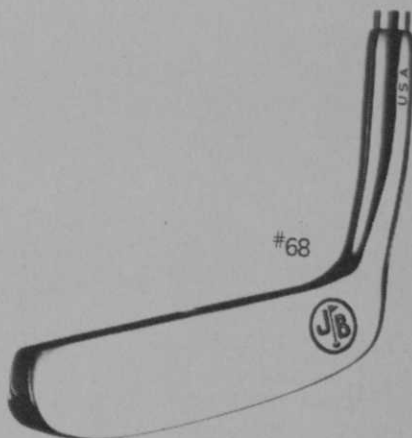
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Leonard Ind.	53
Lester Electrical	46
Lofts Pedigreed Seed Co.	2nd cover
Maddox Construction Co.	55
Milwaukee Sewerage Commission	47
Motomco, Inc.	19
Wm. Newcomb Associates	55
North Central Plastics, Inc.	50
Oregon Ryegrass Commission ..	29
Ottawa Silica Company	13
Packard, Inc.	55
Par Aide Products Co.	27
P.B.I./Gordon Corp.	41
Perfect Picker Corp.	3
Rainbird Sprinkler Mfg. Corp.	4
Royer Foundry and Machine Co.	40
Sanyo Electric Inc.	51
Shamrock Golf Co.	53
Speed-Fil Div.	42
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Tee-2-Green Corp.	4th cover
Teutonix Inc.	43
Trojan Battery Co.	30-31
True Temper Corp.	20
Westinghouse Electric Co.	3rd cover

PEOPLE IN THE NEWS

David W. Campbell has been appointed general manager of the **Plymouth Golf Ball Co.**, a subsidiary of the Shakespeare Co. . . . Victor M. Cushing has been appointed vice president of marketing of **Jacobsen Mfg. Co.**, Racine, Wis. . . . Virgil Chevalier is pro at **Columbia Country Club**, Claverack, N.Y. . . . Joe Benevento is pro at **Potowomut**



Campbell

Cushing

Country Club, Rhode Island. . . . Roger Haymond is manager at **Chillicothe Country Club**, Ohio. . . . Walter Thomas is club manager at **Woodmont Country Club**, Nashville, Tenn. . . . Hylbert Hams is club manager at **Medinah Country Club**, Illinois. . . . Steve Morton is pro at **Montclair Golf Club**, New Jersey. . . . Ken Bartosh is pro at **Bryn Mawr Country Club**, Illinois. . . . Ken Harper has moved up from assistant to head pro at **Lake Wildwood Country Club**, California. . . . Bill Dupree is pro at **Van Schaick Island Golf Club**, New York. . . . Denny Howell is pro at **Riverside Golf Club**, Pocatello, Idaho. . . . Gene Jennings is superintendent at **Hyperion Field Club**, Grimes, Iowa. . . . Gunther Jurawitz is club manager at **Cedar Rock Country Club**, Lenoir N.C. . . . Dennis Allen is pro at **Lorenzo Country Club**, Texas. . . . Richard Masters is manager at **Tip-ton Golf and Country Club**, Iowa. . . . Steve Gill is pro at **Wichita Country Club**, Kansas. . . . Sam Manarchy is pro at **Red Barn Country Club**, Rockton, Ill. . . . Leonard Black is superintendent at **South Suburban Golf Club**, Littleton, Colo. . . . Dr.

Berlie L. Schmidt has been named professor and chairman of the Department of Agronomy at the **Ohio Agricultural Research and Development Center**, Wooster. . . . Leon Larson is general manager at **Cypress Creek Golf Club**, Orlando, Fla. . . . Thomas J. Wallisch has been appointed to the newly created position of manager of market research and forecasting for the Outdoor Power Equipment Group of **Toro Co.**, Minneapolis, Minn. . . . Ardyce Twombly, superintendent at **Bel-Air Country Club**, Los Angeles, has been elected president of the Golf Course Superintendents Association of Southern California. . . . Frank Davitt is president of the **Pocono Turfgrass Association**. . . . Bill Pearl is pro at **Leesburg Golf and Country Club**, Virginia. . . . Jack Haby is pro at **Lost Creek Country Club**, Austin, Texas. . . . John Ruston has been named director of marketing and sales for **Geerpress Wringer Co.**, Muskegon, Mich. . . . Chris Morup is superintendent at **Beechmont Country Club**, Cleveland. . . . Bruce Burchfield is superintendent at **Hillcrest Country Club**, Long Grove, Ill. . . . Lee Roberts is manager at **Indian Springs Country Club**, Broken Arrow, Okla. . . . Dick Jordan is pro at **Saratoga Spa Golf Club**, New York. . . . Steve Menchinella of **University-Sequoia Sunnyside Golf Club** has been elected president of the Northern California PGA Section. . . . Robert Williams is manager at **Cabarrus Country Club**, North Carolina. . . . Norman Oliver is club manager at **Portland Golf Club**, Oregon. . . . Richard Lawrence is club manager at **Monroe Country Club**, Wisconsin. . . . Ron Benson is pro at **Hillcrest Country Club**, St. Paul, Minn. . . . John Hopkins is pro at **Concord Country Club**, Massachusetts. . . . Jim Lee of **Red Hill Country Club** is president of the San Bernardino-Riverside Chapter of the Southern California PGA Section.

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