Photographed at The Homestead, Hot Springs, Virginia.

Rent the best...Harley-Davidson.

Because Harley-Davidson doesn't cost any more to rent than an ordinary golf car. Rental fees are all pretty much the same. It's the cars that are different. And Harley-Davidson golf cars make the difference. Running, our gas car makes less noise than your own voice. And exclusive instant ignition eliminates idling. Gives you absolute silence on every shot. The electric runs farther between charges. That means you'll never be stranded out in the middle of the 16th. Gas or electric, both are the smoothest riding golf cars you ever played a round with. Cars designed to let you put everything into your game. That's why it's Harley-Davidson, exclusively, at nearly 3000 clubs all over the golfing world. If your club isn't one of them, you might well be wondering why. AMF | HARLEY-DAVIDSON, Milwaukee, Wis. 53201.

GRAU *from page 20*

for information. Then consider the various state-oriented turfgrass councils, associations and foundations. I've said nothing so far about seed companies which grow, process and distribute seeds designated to produce better turf. Some promote items which have not had adequate field trials to support claims of superiority. If it were possible to bring together these widely diverse interests in turf into a nationally or internationally coordinated source of unbiased information, perhaps we might be able to avoid some of the pitfalls of poorly-prepared, inadequate specifications and faulty recommendations which have been the nemesis of natural turf while encouraging the use of artificial turf.

Can we find or develop the kind of international organization that could function as a coordinator? Would the several groups mentioned be willing to lend moral and fianancial support?

It would seem inappropriate for this writer to suggest that any one group might be best qualified to serve. Hopefully, these editorial meanderings may elicit a series of responses that would give direction to the idea.

Q—*The large number of bluegrass varieties has created confusion, but now we seem to have a similar situation developing with turf-type perennial ryegrasses. Are the ryegrasses being recommended as blends the same as are the bluegrasses?* *(Maryland)*

A—Yes. There are ryegrass blends on the market. One that came to my attention last year at the Tifton conference was Medalist II, which is used for overseeding dormant warm season turf. Regretfully no one could tell me anything about the varieties that made up the blend. Another that has become very popular both in the North and in the South is PaLaMoRa. It is a blend of *Pelo* (from Holland), *Manhattan* (bred and released by Rutgers University) and *Pennfine* (bred and released by Penn State). Each one is superior in its own right. Combined they provide excellent diversity to overcome temporary weaknesses due to disease, climate or stress. □

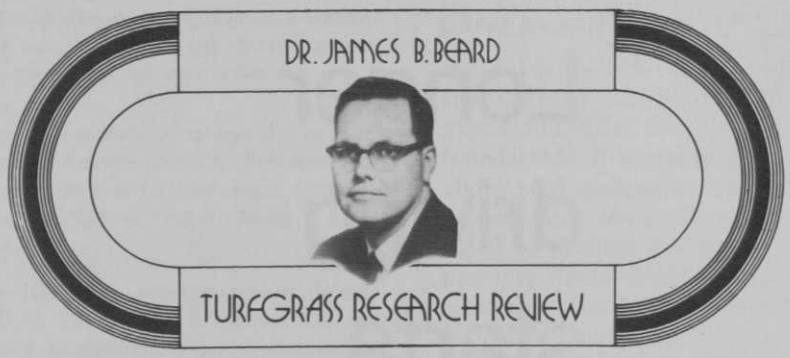
Longer driving starts here.....and here!

DON'T HANDICAP YOUR GOLF CARS.
Use Trojan Golf Car Batteries with years of proven quality — standard of the industry is the Trojan J-170.
For extra rounds of golf plus extra months of service use the Trojan J-190 — or for the finest of all, the Trojan J-217.

THE CLEAN QUIET GO FOR YOUR GOLF CARS...
GO ELECTRICALLY...GO TROJAN

TROJAN "MILEAGE MASTER" GOLF CAR BATTERIES

TROJAN BATTERY COMPANY • 9440 ANN STREET • SANTA FE SPRINGS, CALIFORNIA 90670



ENDOTHALL CONTROL OF POA ANNUA

The role of 7-oxabicyclo (2.2.1) heptane-2, 3-dicarboxulic acid (endothall) in annual bluegrass* (Poa annua *L.*) *control in turf.* A.J. Turgeon. 1971. Ph. D thesis, Michigan State University. pp. 1-101. (from the Department of Crop and Soil Sciences, Michigan State University, E. Lansing, Mich. 48823).

The objective of this investigation was to determine the basis for the selectivity of endothall in Kentucky bluegrass and bentgrass turfs and the potential of endothall as a control for annual bluegrass. Field, greenhouse and growth chamber studies were conducted over a period of three years.

Results of these extensive experiments can be summarized as follows. Foliar applications of endothall made under controlled greenhouse conditions caused a distinct suppression of annual bluegrass without discoloration or browning of Kentucky bluegrass or creeping bentgrass. However, the responses to foliar endothal applications in five field experiments were quite varied in terms of selectivity. Annual bluegrass control was achieved but with a distinct discoloration of the desirable Kentucky bluegrass and creeping bentgrass species. The variability in selectivity was attributed to variations in the physiological condition of the plant and the season of year in which the endothall was applied. Although the desirable species exhibited distinct foliar necrosis, they were able to recover rather rapidly, whereas annual bluegrass was more seriously effected; recuperation was delayed for a much longer period of time. The visual responses were supported by net photosynthetic measurements, which showed a reduction from endothall applications in both Kentucky bluegrass and creeping bentgrass. It lasted for 48 hours after application. In the case of annual bluegrass, the reduction in net photosynthesis lasted for a substantially longer period of time following treatment.

The author indicated that endothall has potential for reducing annual bluegrass infestations in Kentucky bluegrass and creeping bentgrass turfgrass communities when applied as a foliar spray in late summer. This may involve a gradual transition resulting from the superior competitive ability of the desirable species caused by the endothall inhibition of annual bluegrass, rather than quick eradication. The effectiveness of endothall was enhanced by (a) the addition of a surfactant and (b) the use of relatively large spray volumes. The author warns, however, that a temporary discoloration or browning of the desirable species is frequently associated with foliar endothall applications. Late summer and early fall applications were more effective in annual bluegrass control than spring applications.

Studies concerning root applications of endothall using a granular carrier resulted in greater selectivity between annual bluegrass and the perennial turfgrass species than was obtained with foliar applications. These responses were confirmed by both greenhouse and field experiments. Root absorption studies revealed that the quantity of endothall absorbed by annual bluegrass was

continued on page 26

Ag-Organics Department, Midland, Michigan 48640

Dursban insecticide. Bugs have another name for it.

They call it "The Unsurvivable One!" Because nothing wipes out chinch bugs, sod webworms and many other serious turf pests like DURSBAN* insecticide. And DURSBAN insecticide won't leach. It has excellent residual activity. It's safe, too, for all common turf grasses. And economical—you get more bugs for your buck, because so little goes a long long way. Ask your Dow distributor or your contract applicator for "The Unsurvivable One!"

DOW*

*Trademark of The Dow Chemical Company

For more information circle number 254 on card

DOW CHEMICAL U.S.A.

BEARD *from page 24*

much greater than that for Kentucky bluegrass or creeping bentgrass. The greater selectivity was also evident in the photosynthetic measurements. A transpiration rate study revealed significant reductions which were much greater in annual bluegrass than in Kentucky bluegrass and creeping bentgrass. This effect resulted from root applications, but not from foliar applications.

The effectiveness of granular applications (root absorption) varied in field experiments depending on the soil type and irrigation practices. The best annual bluegrass control and the highest selectivity occurred (a) on soils low in clay and organic matter and (b) with turfs that had been maintained under a frequent irrigation schedule that avoids plant moisture stress.

Investigations concerning the basis of selective control of annual bluegrass revealed that differential absorption accounted for about 50 per cent of the selectivity with foliar applications and 20 per cent from root applications. The rates of endothall translocation and metabolism were not significantly different. However, the relative sensitivity of the physiological system, particularly respiration and photosynthesis, to endothall was significantly different and contributed significantly to the selectivity along with the absorption differentials.

Finally, the investigator observed intraspecies variability in sensitivity to endothall. The annual, noncreeping, prolific seedforming types were killed at a substantially lower rate of endothall application than the perennial, creeping types. Thus, the rate required for control of annual bluegrass in a given situation will vary not only with the season of year, physiological condition of the plant, soil type and irrigation practices, but also with the particular type of annual bluegrass that exists within the turfgrass community.

Comments: Endothall is not a new herbicide. It has been evaluated for annual bluegrass control many times over the past 12 to 15 years. The results from previous studies can be summarized as somewhat erratic annual bluegrass control with a high potential for injury to the desirable turfgrass species. Results from this investigation reveal some of the potential reasons for the erratic performance of endothall in past experiments.

Herbicide selectivity is defined as the control of weeds within a turfgrass community without killing or no more than slightly effecting the desirable turfgrass species, such as creeping bentgrass and Kentucky bluegrass. Selectivity is relative and can be achieved in a number of different ways and at several different times during application, absorption and translocation of the herbicide.

Selectivity and the degree of control is greater from late summer or fall applications than from spring applications, although some variability can probably be anticipated even within this period. The variability in response to environmental and cultural factors can be explained in relation to the basis of

selectivity. The studies reveal that endothall activity is primarily the result of differential rates of endothall absorption and the physiological effects on the photosynthetic and respiration processes within a given species.

A particularly interesting conclusion resulting from these studies was that selectivity was much greater if the endothall herbicide is absorbed through the root system rather than the foliage. The possibility of granular endothall applications to the soil is quite attractive in terms of the increased selectivity.

The main problem with foliar applications is the variability that can be anticipated. There is a high potential for discoloration and browning of the desirable turfgrass species. This is certainly objectionable even though it may only be a temporary effect with the desirable species recovering rapidly while the annual bluegrass is being eliminated. Perhaps additional studies can more clearly delineate the environmental and cultural conditions under which endothall could be applied foliarly for effective control of annual bluegrass without injury to the desirable turfgrass species.

The use of a material such an endothall is particularly attractive because it is a relatively simple structure that has a rapid rate of biodegradability. This is a desirable feature for herbicides used in modern turfgrass culture because the environmental pollution issue is of such great concern. The use of short-lived herbicides such as endothall is particularly attractive for this reason.

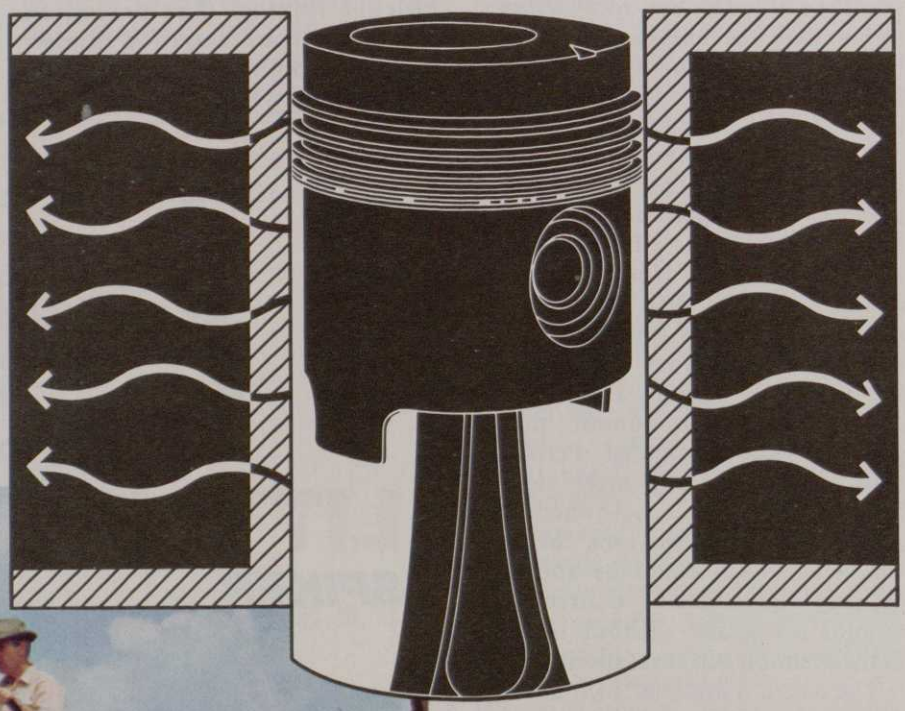
The short-lived herbicide is also beneficial to the turfgrass species from the standpoint of no long-term detrimental effects on the desirable turfgrass species. This is in contrast to most of the available preemergence herbicides used for annual bluegrass control which do have certain detrimental effects on the turfgrass root system as well as inhibiting certain physiological growth processses.

The results of this investigation at Michigan State have stimulated a renewed interest in endothall as a potential herbicide for the control of annual bluegrass. Perhaps increased research efforts with this herbicide at other state experiment stations will provide the professional turfman with sufficient information so that it can be incorporated as one of the herbicides available to the turfman for annual bluegrass control.

Finally, the variability in effectiveness of control within the annual bluegrass species is a very significant finding. The perennial, creeping types required higher rates of endothall to achieve control. This may be one of the major reasons for the diversity in the degree of annual bluegrass control obtained from experiments with various herbicides conducted in states throughout the country. Thus, when assessing the annual bluegrass control data for a given herbicide it is important to know whether an annual, bunch type or perennial, creeping type of annual bluegrass was used. The professional turfman must also determine which type or combination of annual bluegrass types exist on his own golf course. □

THE FORD DIFFERENCE

AN ENGINE THAT RUNS COOLER BECAUSE IT WORKS WITHOUT SLEEVES.



We're going to show you Ford tractors are *better* by showing you their *differences.*

Look at this difference. Ford engines are missing something found in many competitive engines: cylinder *sleeves.* "Dry" sleeves retard heat flow. Causing rings and pistons to run hotter—wear out faster. "Wet" sleeves can *leak.* Spilling coolant into engine oil and causing serious trouble.

Ford engines are sleeveless. They have no sleeves that can retard heat flow or extra seals that can leak. Elimination of sleeves means more rigidity in the block—greater precision in cylinder bore. That's why Ford tractors run cooler, stronger, longer!

Your Ford tractor dealer will show you *all* of the Ford differences. Be sure to watch these pages for more!

NUMBER ONE ON WHEELS

FORD TRACTOR

Ford

Your Ford industrial tractor and equipment dealer is listed in the Yellow Pages under "Tractors" or "Construction-Equipment." See him for information on how to buy, lease, rent or finance.

For more information circle number 224 on card

AVOIDING LABOR PROBLEMS: LABOR RELATIONS AND THE GOLF CLUB

PART 1

Successful labor relations in the golf industry, as in other industries, results from intelligent planning with clearly defined goals. Probably most club managers, superintendents, golf professionals or club officials have thought about what they would do to meet the attempt of a union takeover. A passing thought, however, won't prepare the club for the intricacies of a union drive.

This first part explores the major causes of employee discontent and how the employer can avoid a union organizing drive at his course

by THOMAS P. BURKE

WHY A UNION?

Employees choose unions because something—wages, hours of work, or conditions of employment—dissatisfies them. Recently I discussed this very problem with a golf course superintendent whose employees were actively seeking union representation.

He angrily asked me, "If they feel this is such a bad place to work, why don't they leave and get other jobs?"

The answer is that employees feel they have a right to their employment and have no intention of leaving. More important, the Federal law and most state laws recognize their right to organize collectively and bargain to improve their working conditions without employer interference.

continued

LABOR RELATIONS *continued*

This superintendent might have avoided the union problem, if he had shown interest in his employees' working conditions before the union drive. Solutions then are not always complicated or difficult to achieve.

One employer, for example, has never experienced an organizing drive even though he is located in a predominantly unionized area. His situation did not merely happen. He learned that some employees thought their medical coverage was inadequate. Instead of angrily retorting, he took the time to explain the plan to all his workers. The medical plan was adequate; the employees just didn't understand the benefits offered. That employer eliminated discontent because his employees appreciated honest communication.

Although communicating with employees is important it is not enough. A manager must establish and maintain working conditions that will not force his employees to seek a union.

What conditions are important? Why not take a page out of an AFL-CIO publication designed to aid union organizers by showing them the reasons why employees choose unions?

If you understand these areas of discontent, you can eliminate some major problems. These

"Many golf clubs have adopted a sound policy of paying wages equivalent to the . . . 'Going Rate.' "

guidelines did not originate with the AFL-CIO. They are the same factors that any labor relations expert knows cause dissatisfaction among employees.

The trained union organizer looks for 1) inadequate or unfair wage rates; 2) inadequate benefits; 3) poor supervision and lack of communication (unfair and unevenly applied discipline and favortism), and 4) lack of job security.

Take a look at the following categories and compare them to your employee policies. Do you see areas that might be improved?

INADEQUATE WAGE RATES

The assumption is made by many that most union organizing drives succeed because they promise higher wages. Although over-simplified, this idea is the spur that starts many union organizing drives. A golf club employee easily becomes dissatisfied with his wages if he hears of a union in another industry that bargained substantial wage increases.

Obviously, the golf club cannot pay the same wages that are paid in, for example, the construction industry. What should you do? Talk to your employees and explain the club's wage policy. To do this, you need a set policy, not a hit or miss approach. And if you pay the lowest wages possible, you can expect trouble.

Many golf clubs have adopted a sound policy of paying wages equivalent to the so-called "going rate," which is determined by surveying the wage policies of other club employers with similar job classifications.

This survey need not be limited to local golf clubs; it could also include similar types of work in other industries. But it should cover union as well as nonunion employees. Obviously, it does no good to be on the same wage level as a nonunion golf club, if a nearby golf club has a union contract providing substantially greater wage rates. A union organizer would not waste much time pointing out this fact to employees.

One West Coast nonunion golf club tailors its wage policies to those of a unionized neighboring golf club. This policy has been communicated fully to the employees. To date, they have shown no interest in organizing any union.

Simply to implement area wage practices is not enough, though. It is equally important to tell the employee the amount of his or her increase and the basis of the increase. An employee will be more satisfied with the wage rate if he or she

"One or two employees who have experienced large medical bills can . . . convince the others that a better medical plan is needed . . . "

knows it is fair in relation to other employees who perform the same or similar job in other companies or golf clubs.

The club might also avoid the so-called "merit" increase for select employees. All employees performing satisfactorily should share, if an increase is given. If an employee's work is not satisfactory, give him or her a chance to improve for 90 days. If the work improves, grant the raise. If not, consider replacing him or her with someone else. Disparate wage rates for employees of substantially equal performance is a source of employee friction.

INADEQUATE BENEFITS

The term benefits includes vacation policy, holidays, medical benefits, pension plans, sick leave and many others. A number of miscellaneous types of benefits are a product of highly-sophisticated collective bargaining in well-established bargaining relationships. These should not concern the management of the average golf club. Basic benefits should be developed first. How should these benefits be developed?

Start with the employees and learn what concerns them most. One or two employees who have experienced large medical bills can easily convince the others that a bet-

continued on page 33