

# O. J. Noer's Turf Tips



1960 Roundup — II

## Much Remains to be Learned about Herbicides

*Effects of Turf Reaction,  
Temperature, Makeup of Soil and  
Other Factors Must be  
Considered in their Use*

**R**HODES grass scale has been bad on many greens in Florida. It has been very troublesome on Bermuda turf in Arizona and possibly elsewhere in the Southwest.

The damage puzzled some because they didn't suspect the cause. The overall off-color of the grass suggested need of nitrogen. The turf failed to respond following its use. Leaf spot or some other types of foliar disease was then thought to be the probable cause. Finally, Rhodes scale was diagnosed as the real culprit.

The best spot to find the small, puffy, cotton-like scale is on the grass stem at the axil of the leaf, i.e. where the leaf joins the stem. Infestation is apt to be bad in the longer grass on the apron or fringe around the edge of the green.

Parathion gives slightly better control of the scale but Malathion is preferred by most because it is less hazardous to humans. The Florida Ag. Experiment Station recommends that treatments extend well beyond the green area so players will not track infestation from the fringe area back on to the green. For those who use Para-

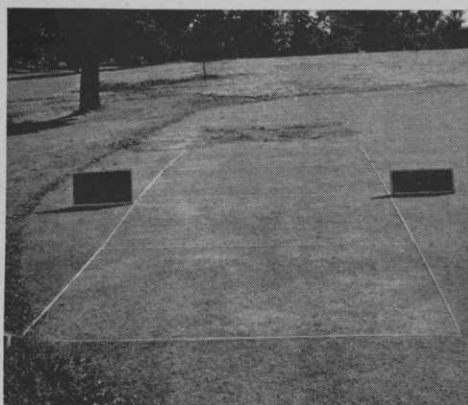
thion, a rate of 2 lbs., 15 per cent wettable powder plus 2 gals. summer oil in enough water to cover 5,000 sq. ft. is suggested. This combination is used twice. The third application is Parathion only. The suggested rate for Malathion is 4 lbs. of 20 per cent wettable powder with enough water to cover 5,000 sq. ft. Malathion also should be used three times. A three-week interval between applications is proposed for both materials.

### **Selective Herbicides?**

Selective herbicides have been and will continue to be useful weed killing tools, but less widespread than some enthusiasts advocate. In theory their action is selective but under adverse conditions severe damage to turf grasses is possible and has occurred. Among the phenoxyacetic acid type herbicides, 2, 4-D is for broadleaf weeds, 2, 4, 5-T for clover. Newer ones include 2, 4, 5-TP (Silvex) in the states, and Compitox, an English preparation, in Canada. Chemically, Compitox (4-chloro-2-methyl-phenny) is a propionic acid. Both are advocated for the control of chickweed, yarrow, etc. Before their discovery,



Rhodes scale damage on green of Tifgreen Bermuda grass on course in Florida.



Compitox damage on Old Orchard in nursery at double and quadruple suggested rate.



Grass type weeds along skipped line in Bermuda grass fairway sprayed with a proprietary disodium methyl arsenate plus 2, 4-D formulation.

none of the 2, 4-D type herbicides curbed either of these weeds.

As mentioned before, the use of selective herbicides is supposedly safe but that always has not been the case. This spring one club in Quebec was compelled to reseed a bent fairway on which 2, 4-D had been used the fall before. The soil was dry at the time of application and stayed that way. Another nearby club killed bent where phenoxy acetic acid type herbicide was used on greens in an attempt to kill localized spots of chickweed and a little clover. Extensive loss of Northland bent occurred in Alberta Province when 2, 4-D was used to kill broadleaf weeds on newly planted greens.

There have been similar instances elsewhere in other years. Damage from using a 2, 4-D, 2, 4, 5-T combination herbicide on fairways occurred on several metropolitan New York courses during the summer of 1959. The season was a bad one weatherwise. In the fall of 1948 some of the bent fairways at Milwaukee CC were sprayed twice with 2, 4-D in Oct. in a vain attempt to control chickweed. By spring, loss of grass was so severe that reseedling of the damaged areas became necessary. It was the first and last large scale use of 2, 4-D on fairways there.

#### Sodium Arsenite Effective

Before 1948 and after the bad results with 2, 4-D that fall, sodium arsenite has been relied upon for chickweed control at Milwaukee. Spraying has been in the range of 1 to 2 lbs. per acre, starting in mid-Sept. Discoloration never has been more than slight. Fairways have been sprayed three to four times, spaced 7 to 10 days apart.

These Milwaukee fairways are singularly free of chickweed and clover. They contain a minimum of poa and a high proportion of bent. Worm casts are never noticeable underfoot. Those who promote the use of the new phenoxypropionic acid herbicides overlook the plus values produced by sodium arsenite. Hence it is apt to retain its popularity for use on watered bent grass fairways.

An attempt to control yarrow in Milwaukee roughs with 2, 4, 5-TP has been reported. Control was not complete with the one treatment made in 1959. Another application in 1960 seems to have killed 90 per cent or more of the yarrow. The rate both times has been 1½ lbs. per acre. No attempt has been made to kill scattered patches of yarrow in the fairways because of severe damage to bent on test plots in

*(Continued on page 79)*

## Noer's Roundup

(Continued from page 62)

1959 even at 1½ lbs. per acre. Temperatures were moderate at treatment time but weather changed abruptly from cool to hot.

Comptox at the minimum rate controlled chickweed on several new greens in Toronto and helped save a Penncross nursery there. It can cause injury to close-cut creeping bent. Test plot damage was severe at double and quadruple the recommended amount. Weather stayed cool in the range of 65 to 75 degs. F. In extreme heat, results might be different at the suggested rate.

Bluegrass seems to be damaged least by the phenoxy type herbicides. Then come Merion Kentucky blue, fescue, colonial and creeping bent in that order. Bermuda resembles bluegrass in ability to resist damage.

### Study Needed

A study of the conditions under which turfgrasses are injured by herbicides would be most helpful. Until then the safe procedure is to use them in May or June when the temperature range is 65 to 75 degs. and at minimum amounts to produce satisfactory weed control without damage to desirable grasses.

Calcium arsenate has been eminently successful in some cases but also a dismal failure. One supplier is faced with the possibility of a major lawsuit to repay a club for fairway turf loss. In cases of injury, heavy applications of phosphate have been advocated to overcome the evil effects of calcium arsenate. This is based on findings at Purdue and is justified where damage is a physiological function. A soil factor may be involved. Calcium arsenate is less stable chemically than lead arsenate. When used on an acid soil with a low calcium saturation in the exchange complex, the calcium of calcium arsenate becomes a part of the unsaturated insoluble soil exchange complex. Then insoluble calcium arsenate becomes completely water soluble arsenic acid. This is extremely toxic. Lime would seem like a better antidote than superphosphate in these instances.

### Good Effect Counteracted

In January, 1942, U.S.D.A. Technical Bulletin 788 by W. E. Fleming reported on the effectiveness of various arsenicals and their toxicity to plants. Calcium arsenate gave better grub control than acid lead arsenate but growth of rye grass was re-

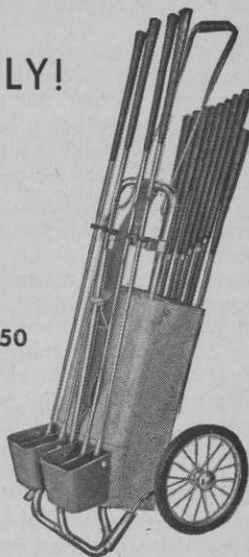
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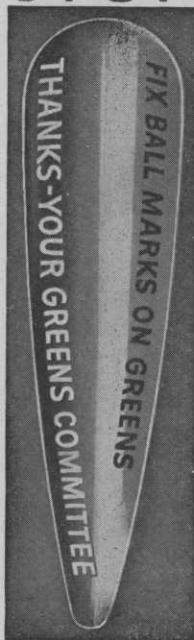
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tarded markedly by all concentrations of it. Seedling plants were more susceptible than mature ones. Arsenious oxide gave best control but was highly toxic to rye, grasses, and nursery plants at larvicidal levels.

In areas where soil acidity prevails and bent or fescue are dominant grasses, prudence suggests that the effect of calcium arsenate be tested in a limited way before embarking on large scale applications.

#### Effective in the South

The newer disodium methyl arsonates have been especially useful in the South because of their ability to control some weeds that have resisted other herbicide types. Control of crabgrass has been good but no better than with sodium arsenite. The combination of disodium methyl arsonate and 2, 4-D has eliminated nutgrass, bullgrass, dallis grass, goosegrass, lemongrass, pennywort and dichondra.

Where infestation is only crabgrass, control can be obtained at less cost with sodium arsenite. There will be discoloration but that will occur with any effective herbicide where the infestation of crabgrass is heavy.

Fairway spraying with phenyl mercury and ferrous sulphate started in the Chicago area in the poor 1959 season. Their use was continued in 1960 even though the summer was not bad weatherwise. Rates were in the range of 1/2 to 4/5 ozs. of 10 per cent phenyl mercury and 2 to 3 pounds of ferrous sulphate per acre. Indications are that more clubs will spray in 1961. Poa survival has been better both years as a result of the spray program.

#### Change in Fertilization

Fertilization of watered, cool season fairways on Northern courses is undergoing change. With the new type wide-throw spreaders, an 18 hole course can be fertilized in a day or less. Best results are obtained with granular fertilizer. Drift loss is excessive with dusty fertilizers. Scorch or burn is less likely with fertilizer of low solubility but moderate activity. Fairways are fertilized generously in late fall. Need for phosphate or potash is satisfied at that time. No more fertilizer is used until June because spring is the best season for growth. During June, July, and Aug. fertilization is at the rate of 250 to 400 lbs. per acre, or 15 to 24 lbs. actual N each time.

Fairway watering continues to gain favor. On high pressure systems the trend is to closer spacing of snap valves at about 80 ft. instead of 90 to 100.

## Seniors Play 22nd Championship

Thirty-four sectional Teacher's Trophy winners will compete in the 22nd PGA Seniors' Championship to be played in Dunedin, Fla., Feb. 14-19. Prize money of \$15,000 will equal the all-time high of 1960. Dick Metz of San Antonio is the defending champion. For the eighth consecutive year the tournament, for professionals who are 50 or older, is being co-sponsored by Wm. Teacher & Sons, Ltd., Glasgow, Scotland. Prize money has tripled since Teacher & Sons came on the scene. Closing date for entries is Jan. 28.

## Swinging Around Golf

(Continued from page 16)

itect for course near Hammond, Ind. . . . Al Tull is architect of 27-hole layout for Whitney G&CC, to be built on former estate of Cornelius Vanderbilt Whitney at Old Westbury, L. I., N. Y., near Roosevelt Raceway.

Pros coming to PGA's Dunedin, Fla., course have a chance to see a short course of a type that probably will become popular and profitable as adjuncts to a motel . . . Bob Sutherland built the 6-hole course on 7¼ acres 2½ miles east of Dunedin on highway 580 at Sun-ni-land motel owned by Mr. and Mrs. C. G. Overcash . . . Par for the 6 holes is 22 . . . No charge for motel guest to play for 18 holes . . . General public charge is \$1 for 18; after 4:30 p.m., 50 cents.

Lost Tree Club 18 designed by Mark Mahannah and with Joe Belfore, CC of Detroit pro as its winter pro, opening soon . . . It has two miles of Atlantic frontage and some frontage on Lake Worth, south of Seminole . . . Combination course and very deluxe real estate project headed by Lloyd Ecclestone, Detroit financier.

Harry A. Meusel, Yale university course supt., elected pres., Connecticut Assn. of Golf Course Supts. . . . Maurice S. Ryan, Race Brook, is vp and Charles Traverse, Mill River, sec.-Treas. . . . Andrew F. Lentine, Tumble Brook, was elected asst. sec.-treas., and Robert W. Sully, Wampanoag was made a director . . . Roland Wingate, Fort Myers (Fla.) CC pro, during trip he and Mrs. Wingate took to Britain this summer, visited grave of Young Tom Morris at Kirkaldy and found that vines had overgrown the stone and plaque . . . Wingate took out his pocket-knife and cleaned up the place.