



In Weed-Killers or Cigarettes It's a *mistake* to "roll your own"!

The way to use 2.4D on a golf course is to use it in the formula that kills the weeds, and not to waste a lot of money on some untried, home-made concoction that merely gets your players' feet wet, or ruins some costly turf!

Use Weedone, the original 2.4D weed-killer; it has the background of three years' out-of-door use by the public.

There's more to Weedone than just 2.4D. When you spray with Weedone, the 2.4D sticks to the leaves of the weeds, and won't wash off even if it rains in

the next half-hour. Weedone penetrates right out to the root tips.

Use Weedone in the rough on poison ivy, poison oak, and the tougher weeds. Use it on blue grass and fescue fairways to kill turf weeds without killing the grass.

On creeping bent fairways where a milder weed-killer is desirable, use our Weedar or our Sodium Salt 70% 2.4D.

Neither Weedone nor Weedar corrodes metal spray equipment. Either of them will save you half the cost of the hand-weeding method.

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WEEDONE

REG. U. S. PAT. OFF.

PRODUCT OF
THE AMERICAN CHEMICAL PAINT CO.
AMBLER, PA.

S. Cal. Pros Honor Supts. and Amateur Aide

With more than 200 members and guests attending, the 27th annual meeting of the Southern California PGA was held recently at Riviera CC, Los Angeles.

One innovation was the attendance, for the first time, by invitation of the pros, of over a score of greenkeepers from the clubs of the respective pros, each greenkeeper being the guest of his home pro. The SCPGA has approved a policy of "closer cooperation with the greenkeeper" so that the further exchange of ideas and problems of course maintenance may be enhanced. The SCPGA announced that it will go "all-out" in the drive to have the 1948 National Greenkeepers Association annual convention select Los Angeles or some other Southern California city as the site for this important event.

A definite cementing of the pro-greenkeeper tie was accomplished when the SCPGA honored 3 local greenkeepers with a gift to each in the form of a sterling silver engraved cigarette lighter, for their very fine work, time and talent given to the construction and maintenance of pitch and putt "rehabilitation" golf courses for servicemen at Sawtelle and Birmingham General Hospitals, the Long Beach Naval Hospital and two similar layouts at Santa Ana GI convalescent centers. The greenkeepers so honored by the SCPGA were William Stewart of Hillcrest CC, the pre-

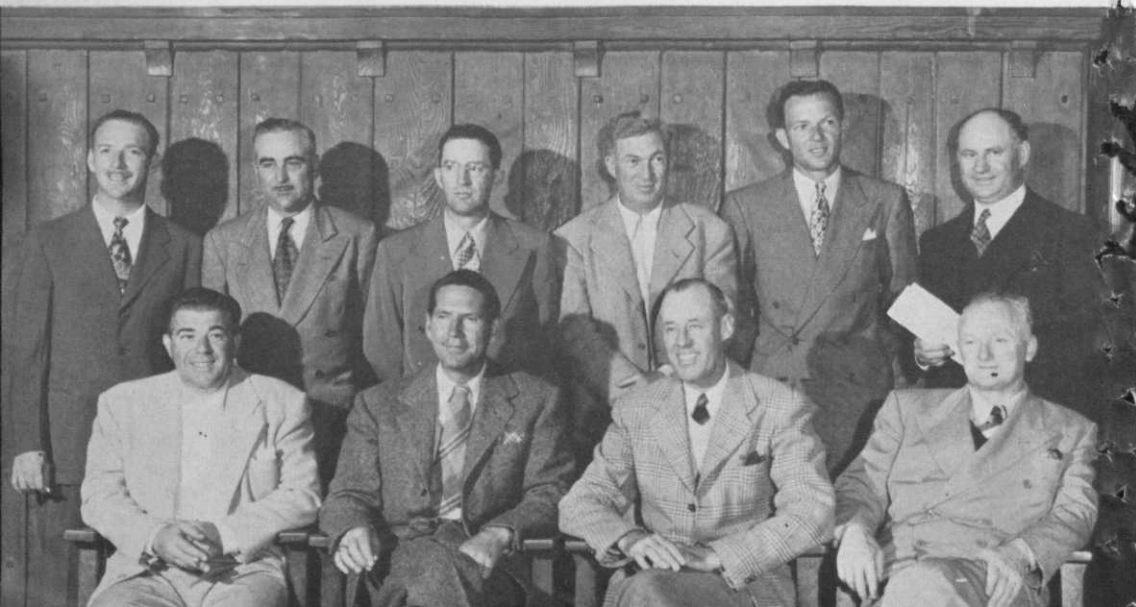
sentation being made by George Thompson, president of Hillcrest acting for and on invitation of the SCPGA; Robert Greenfield, greenkeeper at Wilshire CC, whose gift was proffered by Olin Dutra, past president and now honorary life member of SCPGA, and Rodney Barker, greenkeeper, Virginia CC, who stepped up and received his honor from William P. "Billy" Bell, well-known golf architect, acting for SCPGA, and who designed all the PGA-sponsored pitch and putt rehab golf courses. John Paap, Long Beach attorney and director of the Long Beach Recreation Commission, was given a similar award for handling all the legal work in connection with the rehabilitation program.

Award to "Golf's Best" Aide

Highlight of the general meeting was the SCPGA's annual award to the person voted to have "best served golf" in Southern California. This year the award went hands-down to Milton P. Arthur, Long Beach chain-theatre owner and member of the Virginia CC of that city, for his remarkably insistent and consistent record of helping servicemen, particularly handicapped men, with golf facilities and other services. As George Lake, SCPGA president, aptly put it, "the 9-hole pitch and putt course at the Long Beach Naval Hospital will re-

(Continued on page 92)

SCPGA Officers and Directors for 1947. Back row, left to right: Clayton Aleridge, Rio Hondo CC, Downey; John Bellante, La Jolla CC, La Jolla; George McInerney, 19th Hole Driving Range, Huntington Park; Curly Howard, Long Beach Public GC, Huntington Beach; Bud Oakley, Palos Verdes CC, Palos Verdes Estates, second V.P.; Joe Novak, Bel-Air CC, West Los Angeles. Front row, left to right: Harry Bassler, Fox Hills-Baldwin CC, Culver City, first V.P.; George Lake, Recreation Park GC, Long Beach, president; Marvin Clawson, Sunset Fields, CC, Los Angeles, secretary-treasurer; Willie Hunter, Riviera CC, Pacific Palisades, honorary president.





New invention makes it easy to transport Greensmowers

For many years one of the biggest headaches in golf course maintenance has been transport trucks on power greensmowers. Dozens of types have been tried out and most of them were too cumbersome and tricky to be of value.

Even pick-up trucks have been used to haul mowers from green to green, because seemingly no better way could be found.

But in the new Toro Power Greensmower this problem is

licked so easily and so cheaply, the wonder is that someone didn't think of it before.

Two stub shafts on the drive roller axle, plus a pair of slip-on rubber-tired wheels, make the best and simplest power transport truck that has ever been devised. The cost is so slight that we include it in the price of the mower.

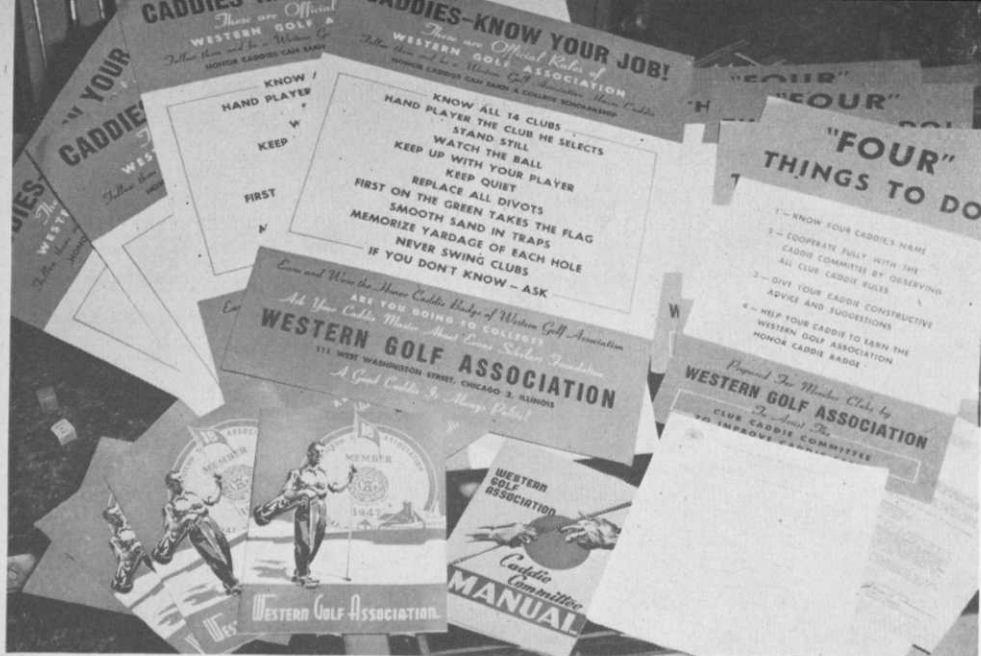
Simplicity of design is the chief objective of the Toro postwar line. It will pay you to use it.

TORO MANUFACTURING CORPORATION

MINNEAPOLIS 6, MINNESOTA

MOWING MACHINERY SPECIALISTS FOR OVER TWENTY-FIVE YEARS

May, 1947



These items in the Western Golf association's member club "caddie kit" present a complete program for caddie recruiting, education and management.

WESTERN GOLF HAS COMPLETE CADDIE KIT

Western Golf Assn. has added a project to its famous Evans Scholars Foundation for caddies that offers a new club membership plan which furnishes a most complete service to its clientele.

The WGA has bundled its contributions to each new member club into a club kit. Included are:

- A Caddie Committee Manual
- Four Caddie Posters—"Caddies: Know Your Job"
- Four Player Posters—"Four Things To Do"
- Evans Scholars Foundation Scholarship Application Blank
- Four 1947 WGA Brochures
- WGA Honor Caddie Plan Instruction Letter

In addition to this club kit, WGA also dispatches to its new member clubs a 3-color membership certificate and the 10 Honor Caddie badges to be awarded in this unique new system of encouraging superior caddie service. These distinctive awards are manufactured in rose golf plate with green baked white enamel letters and a safety-catch pin attachment.

The 10 Honor Caddie badges presented to each club are awarded to the caddies on the following basis: 1. Faithful attendance; 2. Outstanding work record; 3. Excellent deportment; 4. Personal cleanliness.

One of the other important items in the club kit is the Caddie Committee manual, a 40-page copyrighted publication which is

being acclaimed as the most complete information ever assembled on establishing and operating a caddie program. It even includes a section on the legal responsibilities of clubs to their caddies.

The posters, "Caddies: Know Your Job", also are presented in 3 colors, and the 16 x 20 items include the 12 rules for good caddying, established and circulated by WGA. These are made available for posting in the caddy house, pro shop and other locations where they will come to the attention of the caddies and players.

These rules include: 1. Know all 14 clubs; 2. Hand player the club he selects; 3. Stand still; 4. Watch the ball; 5. Keep up with the player; 6. Keep quiet; 7. Replace all divots; 8. First on the green takes the flag; 9. Smooth sand in traps; 10. Memorize yardage of each hole; 11. Never swing clubs; 12. If you don't know—ask.

The posters, "Four Things To Do", are directed to the players and suggest such aid to the caddying cause as: 1. Know your caddy's name; 2. Cooperate fully with the caddy committee by observing all club caddy rules; 3. Give your caddy constructive advice and suggestions; 4. Help your caddy earn the WGA Honor Caddy badge.

The scholarship application for aid from Evans Scholars Foundation will be made available to the caddy or caddies the member club nominates for appointment to the full college scholarships made possible for needy caddies by WGA.



**1008 BALLS RETRIEVED
IN 8½ MINUTES!**

**This amazing machine means
real profit to every
Driving Range**

**Ask any owner
about the new 1947**

PICKER-UPPER

They will tell you about savings that you would not have thought possible . . . savings in time, labor, worry and ball investment that will immediately and substantially increase your operating profits.

Cleaning a swath 9 ft. wide at a speed of 8 miles an hour the Picker-Upper gathers up golf balls with effortless efficiency . . . it gets 'em all and deposits them in a hopper ready for speedy replacement at the tees.

The Picker-Upper quickly pays for itself for its savings begin the moment it goes into operation.

It brings quick relief to high labor costs and worries . . . to back-fence theft . . . to needlessly high ball investment and deterioration.

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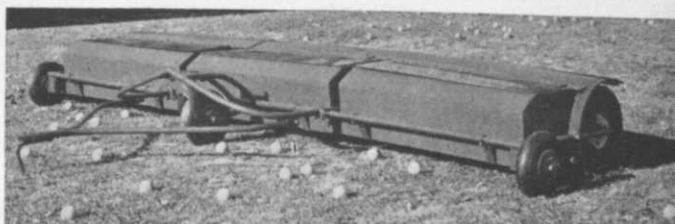
**FONKEN
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BURBANK, CALIF.

The Picker-Upper has special plastic disks which ride on sealed-in life-guaranteed ball bearings. Its construction is welded steel and its auxiliary wheels are Timken bearing equipped requiring no lubrication.

It is designed to operate under all weather conditions. A three-wheel truck scooter or motorcycle has been found the most efficient means of motive power. The machine is constructed to fit the ground contour on your range. It flexes.

The Picker-Upper, with 5 years of research and nation-wide use, is a machine of proven performance in the operation of successful driving ranges. Ask any owner.



Correct Spraying Methods Cut Cost of 2,4-D Results

By **KEITH C. BARRONS**

Agronomist, The Dow Chemical Company

The over-all cost of spraying golf course turf with 2,4-D for the control of weeds may be appreciably lowered this year by applying the chemical in a minimum amount of water. Such a conclusion is indicated on the basis of experiments undertaken last year at Walnut Hills CC near Lansing, Mich. In cooperation with Don Halstead, Walnut Hills greenkeeper, The Dow Chemical Co. field research staff conducted tests in which 2 lbs. of a 2,4-D composition containing 70 per cent actual 2,4-D were applied per acre.

While the amount of chemical used per unit area was kept constant, the volume of water used to apply it included 25, 50 and 100 gals. per acre on adjacent plots. On the fairway, 2 lbs. of the 70 per cent 2,4-D composition per acre dissolved in 25 gals. of water gave as good results as the same amount of chemical applied in larger volumes. When applied on the rough, 50 gals. per acre, likewise containing 2 lbs., gave slightly better results than 25 gals. Even so, the degree of dandelion and plantain kill obtained with the 25 gals. volume was classified as good. Apparently the denser vegetation on the rough requires a somewhat greater volume in order to get complete coverage, particularly of the smaller weeds that may be partially protected from the spray by taller growth.

With less suitable equipment than used

in these tests, one might find it difficult to evenly distribute 25 gals. per acre, but 50 gals. per acre appears to be a practical objective for golf course spraying. Many greenkeepers will find that with small orifice nozzles and greater speed of the rig, 25 gals. will work satisfactorily on the fairway. Compared with 150 to 200 gals. per acre as used by many greenkeepers during 1946, these lower volumes may be applied at a considerably lower cost. Employing a spray rig mounted on a pick-up truck, speeds up to 10 miles an hour were used successfully in the above tests. Lower volume, of course, also means less time involved in filling the tank and less water to pump. Furthermore, spraying can be done with a smaller tank.

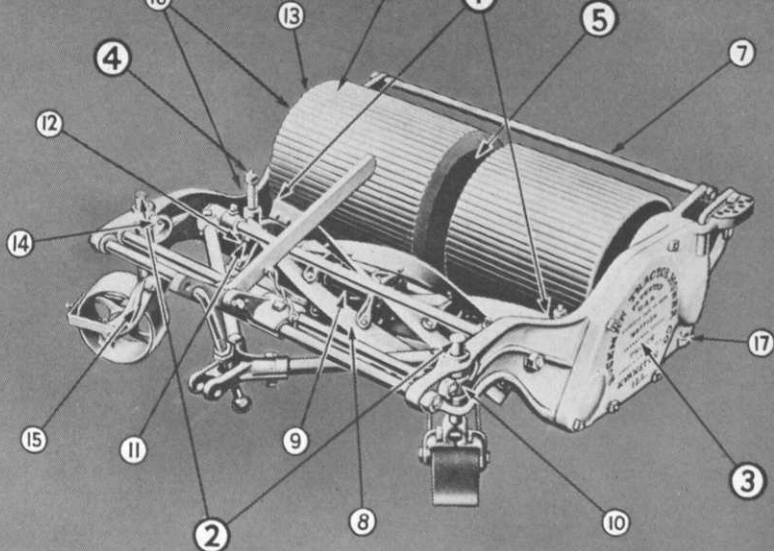
Distributes Spray

The important thing to remember is that with 2,4-D sprays it is not necessary to cover weed leaves with a continuous spray film. A few droplets distributed over each leaf seem to do the job, provided of course that they contain enough 2,4-D. The 50 gals. per acre volume is sufficient to get such a distribution of the spray.

In the Walnut Hills tests fan-type nozzles were used with 14 in. spacing. The boom was usually set at 15 in. above the ground and this arrangement gave a 50 per cent overlap of the fans. This double coverage seems highly desirable, judging



This 20-nozzle boom mounted on the front of a tractor with spray tank towed, makes an efficient rig for 2,4-D application. Flat fan spray and minimum of fog in application. Boom wings are hinged for ease in keeping 2,4-D away from areas where material should not be applied.



1. Better Fairways **✓ 3. Lower Cost**
2. All-purpose Mowing **4. Neater Roughs**

These 17 QUALITY MOWER FEATURES ASSURE TOP PERFORMANCE, LONG MOWER LIFE, AND LOWER COST

1. Full 30 inch cutting reel made of tempered, high grade crucible steel that takes plenty of abuse.
2. Caster wheels on a 28 inch span. Carefully engineered placement controls cutting reel, prevents scalping or skipping on uneven grounds.
3. Roller-chain and sprocket drive to reel enclosed in a dust-tight housing, runs in an oil bath. Power driven from roller-drive shaft through a differential. Provides high speed cutting, maximum strength, light pull, correct balance, plenty of power.
4. Patented, spring-type bed-knife adjustment. Shock-proof, it safe-guards against reel damage.
5. Spacing of roller-drive sections prevents slide-slip on hills, mounds and bunkers.
6. Channeled roller tread gives maximum traction, and constant, steady drive to cutting reel.
7. Special designed back girt and non-clogging scraper.
8. Extra wide, heavy-duty chrome nickel steel reel blades. Mounted on malleable steel spiders.
9. New designed shoe with oil hardened, carbon molybdenum steel lipped bed knife, insures long wear.
10. Simple cutting height adjustment can be accurately gauged, and easily changed. Cutting can be safely gauged to as low as $\frac{3}{8}$ inch height from turf surface.
11. Easily adjusted, this Timken roller bearing adjustment allows perfect reel alignment and long life.
12. Dust-proof grease retainers provided on reel bearings and roller-drive shaft bearings for safe lubrication.
13. Hyatt roller bearings used on shaft of roller-drive to reduce friction and allow lighter pull.
14. Forced feed lubrication on caster stems protect from danger of rust or excess wear.
15. Casters equipped with grease-retainers and special designed bronze bearings.
16. Alemite Zerk, high pressure lubrication for reel, roller-drive, caster and other bearings.
17. Positive oil level measuring gauge for oil bath in gear housing.

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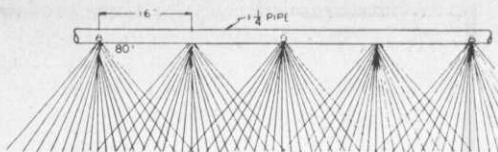
ROSEMAN  **MOWERS**

from the results obtained. Most people who have compared the conventional cone-type with the fan-type nozzle prefer the latter. Good results may be obtained with either, but at a given orifice size there seems to be less uncontrolled spray mist arising from the fan sprays.

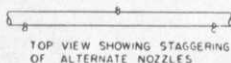
Fan nozzles may be operated at pressures as low as 40 lbs. and there appears to be little need for exceeding 125 lbs. As pressures increase, the problem of a fine spray mist increases. Uncontrolled mist can cause injury to those kinds of shrubs, trees, flowers and crops that are especially sensitive to 2,4-D, not only on the course but on neighboring property. One should use suitable equipment and give consideration to wind velocity and direction in order to avoid trouble.

From the standpoint of weed kill, 2,4-D may be applied over a long season. Generally speaking, plants should be in an active state of vegetative growth to be killed effectively by 2,4-D. Golf course maintenance men frequently ask when one should spray in relation to time of mowing. Experiments on fairways have failed to indicate any objections to spraying as little as one day after or 2 days before cutting. A workable rule is to spray about half way between mowings. Even with a 4-day mowing schedule on fairways, this should give sufficient time for leaf growth before spraying and translocation of the 2,4-D or its effect into the crown and roots before the leaves are cut off.

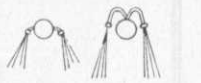
How much 2,4-D should be used per acre? Experiments over a 2-year period at Walnut Hills indicate that from 1½ to 2 pounds of 2,4-D per acre is a satisfactory amount. This is based on actual 2,4-D content. Thus, 2 pounds of a 70 per cent composition as used in the tests would contain just under 1½ pounds of actual 2,4-D. Possibly less can be used with good results when turf is actively growing and



FRONT VIEW OF SECTION OF SPRAY BOOM SHOWING ARRANGEMENT OF FAN NOZZLES TO GET DOUBLE COVERAGE



TOP VIEW SHOWING STAGGERING OF ALTERNATE NOZZLES



END VIEW SHOWING METHODS OF CONNECTING NOZZLES

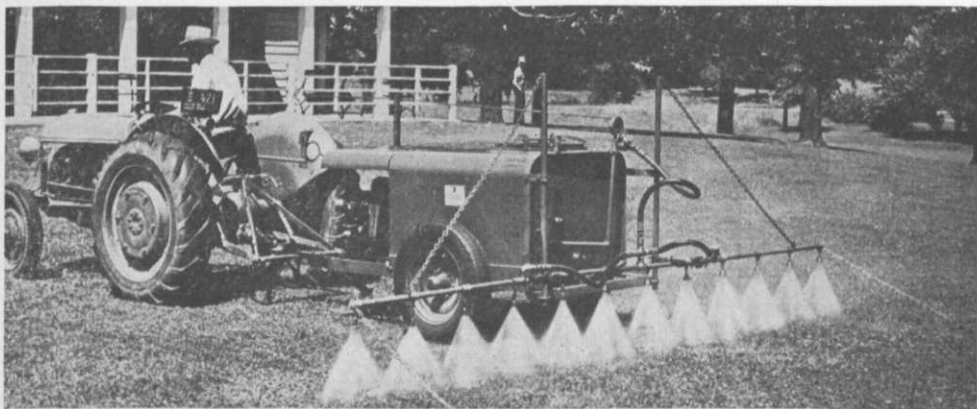


FAN NOZZLE SHOWING MACHINED GROOVE WITH ORIFICE ACCURATELY CENTERED.

Details of nozzle arrangement. 50% overlap of fans, as shown, is desirable. Nozzles may be connected by elbows or by U-shaped ¼-inch pipes. Pipes are attached to boom by couplings welded over holes drilled at proper spacing. 16-in. spacing of nozzles is often used. At this spacing the boom should be carried about 18 in. above top of foliage when nozzles with an 80 degree fan are employed. Most fan nozzles are 80 degrees.

continuing warm weather with ample soil moisture is anticipated. Reducing the amount of liquid employed for application rather than the amount of chemical is suggested as the safer way to lower costs. After all, it is the 2,4-D and not the water that does the killing.

Dandelion, buckhorn and broad-leaved plantain, the 3 most common turf weeds throughout much of the country, are among the many weeds killed by 2,4-D. Occasionally, more regrowth occurs than one anticipates. In some cases, plants will show the typical first response and then many of them will recover. Fortunately, this is the exception rather than the rule, and in most instances more than 90 per cent of these 3 weed species are killed.



This 12-nozzle boom, mounted behind a tractor-drawn spray tank, provides a flat fan spray with a minimum of fog. Wings fold up for ease in transporting. Boom available in limited quantities this year.

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or

Golf PENCILS

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**Immediate Service on Golf Tees either Wood or
Plastic. Wood Tees are Made from First Quality
Maple. Plastic Tees are Brilliant and Fluorescent.**

GOLF TEE CO.

AMSTERDAM, N. Y.

Lack of proper coverage, insufficient amounts of 2,4-D, slow growth due to dry weather and rainfall immediately following application seem to be the most probable reasons for these less favorable results.

Greenkeepers should not give up on any difficult-to-kill weed species until they have tried repeat applications after new growth appears. It is also worthwhile to try an ester composition of 2,4-D on such plants. This formulation is now available for use in controlling stubborn weed species.

When used according to directions, established bluegrass and many other species used on fairways and rough are not injured by 2,4-D. Bent grass as used on greens has been injured in some instances, and therefore this type of grass usually should be given only a spot treatment with a hand sprayer.

White clover is in a class by itself so far as weeds go, being a desirable constituent on most home lawns but a weed to many greenkeepers. Single average applications of 2,4-D do not ordinarily kill white clover. The plant suffers a severe setback but usually recovers to such an extent that a reduction in the population is hardly noticeable a year later. At Walnut Hills, it was observed that spraying just before its blooming season reduced clover flowering to a minimum during the 1946

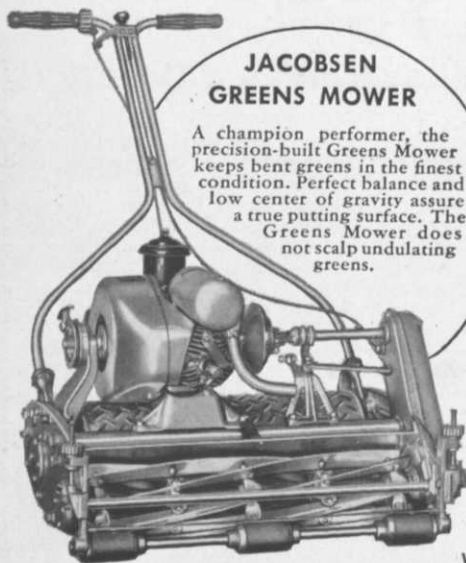
season. The ester formulations of 2,4-D have more effect on white clover than the salt formulations.

Sprayer Cleaning Important

None of the various 2,4-D compositions are corrosive, and if the spray rig is being used for weed spraying alone or for applying fungicides to greens, a simple wash with cold water is all that is necessary in cleansing the sprayer. Small amounts of 2,4-D remaining in a sprayer will cause a bad reaction on certain highly sensitive plants such as roses and tomatoes if the sprayer is used later for an insecticide or fungicide. Washing with water or even soap suds is not always sufficient, especially if one of the ester compositions of 2,4-D is used. The U. S. Department of Agriculture reports that household ammonia is a satisfactory material for eliminating 2,4-D from a sprayer.

MICHIGAN PGA MEETS—Annual spring meeting of Michigan PGA brought together pros and amateur officials at Detroit Leland hotel, April 14. Showing of a new golf film produced by the Michigan pros' educational and promotional committee was a feature of the evening. With PGA and the USGA Women's National in the Detroit district this year the pros and amateurs had plenty of planning to discuss at the session.

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A champion performer, the precision-built Greens Mower keeps bent greens in the finest condition. Perfect balance and low center of gravity assure a true putting surface. The Greens Mower does not scalp undulating greens.

Here's welcome springtime news for hard pressed golf course and park maintenance officials. Dependable, smooth-cutting Jacobsen Greens Mowers are now available for immediate delivery. Yes, this year you can really start the season right — with brand new Power Greens Mowers. See your Jacobsen dealer or write directly to us.



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