Notice how completely free of leaves this lawn is after the Standard Leaf Pulverizer goes into action.

tall, short, tough, or wiry grass

STANDARD ROTARY POWER MOWER HANDLES THEM ALL

POPULAR ROTARY TYPE TO LINE

Mows any grass stand from 1 inch to 4 feet tall clean as a whistle. The Standard Rotary Power Mower, recently acquired by Jacobsen Manufacturing Company, Racine, Wisconsin, has been delivering this kind of performance for years for thousands of users in all kinds of grass-cutting work. The complete line of Standard rotary power mowers, the amazing Standard teaf Pulverizer and allied equipment will be produced by the Worthington Mower Company at Stroudsburg, Pennsylvania, subsidiary of Jacobsen.

> Built in 6 models with cutting widths ranging from 20 to 62 inches, Standard rotary power mowers are extensively used in cemeteries, parks, institutions and on city and suburban lots.

LICK THIS FALL'S LEAF DISPOSAL PROBLEM

Now you can eliminate the costly raking, hauling and burning of leaves that clutter your grounds every fall. The Standard Leaf Pulverizer attached to a Standard Model No. 3 Rotary Power Mower disposes of leaves as fast as ten men can rake. Leaves are brushed mechanically into the pulverizer and chopped to a fine mulch which is then spread through the grass. When the mulch disintegrates it becomes an excellent soil fertilizer.

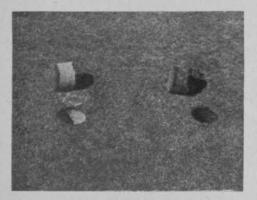
For full information on the complete line of Standard rotary mowers and Standard Leaf Pulverizer and other attachments, see your Jacobsen or Worthington dealer or write us today.

Standard Rotary Power mower has a 25" cutting width. 4 hp. gasoline engine. Capacity 5 to 6 acres per day.

This Model No. 1

WORTHINGTON MOWER COMPANY Stroudsburg, Pennsylvania Subsidiary of Jacobsen Manufacturing Co., Racine, Wis. looked. Unless that is done, dry spots develop along the edge of the green proper.

The effect of soil compaction is obvious, but the reason behind soil acidity is not often recognized. Clay particles in acid soil exist as separate entities for the most part. Water penetration is slow because the fissures or channels for absorption are small and narrow. In the presence of lime, the colloidal clay particles gather into flocs and form large size clusters. Soil structure is thereby improved and water intake speeded because soil fissures



Soil plugs taken out with hole-cutter show water from surface sprinkler wets only top half-inch of soil on localized dry spot but moves deep into the soil on normal area. Sub-irrigator wets the soil from the bottom up and gets same degree of moisture to soil in dry spot as shown in normal condition at right.

are larger and wider. Trees pump enormous quantities of water out of the soil. Greens filled with their roots become dry to a depth of several feet or more. The putting surface becomes hard and greens refuse to absorb water.

Dry soil sheds water. The soil particles resist wetting because of a waxy coating on them—like feathers on a duck's back. But once soil becomes moist it absorbs water in a normal manner. This is the reason why it is impossible to eliminate dry spots by sprinkling, or by spiking with a device which does not make holes deeper than 1 to 2 inches. Such a spiker is useful to prevent dry spots, but not to re-wet them.

Deep forking with a hollow-tine fork, followed by drenching with water enough times to moisten the soil, or the use of a tree sub-irrigator are the most common methods used to eliminate dry spots. Both are slow and the tree sub-irrigator is a tricky tool to use.

Turf on all the greens at North Hills was badly matted when Ray Rolf returned this spring. Infrequent mowing, because of the manpower shortage during and after the war produced the excessive mat. It was too late to remove the surplus by raking and close cutting. So a sub-irrigator was devised by Rolf—one which quickly and effectively restored moisture in the dry spots. With the Rolf sub-irrigator a workman does a green in a short time, and finishes a bad one in half an hour or less.

The main part of the sub-irrigator is the center tube from an old beer pump. The lower end is cut off with a hack-saw to remove a strainer located there. A discarded welding tip, because it is made of hard metal, is brazed to the bottom of the tube. The welding tip is straight and has a hole in the end about the size of a lead pencil, or less. A hose coupling is attached to the top and then the irrigator is ready for use. The method of operation is illustrated in the accompanying pic-ture. The valve is opened part way be-fore the tube is inserted in the ground. The straight stream of water softens the soil so the irrigator can be inserted easily into the hard dry spot. The Rolf sub-irrigator introduces water from below. It restores moisture and softens the soil, without blowing out the turf, which frequently happens with the ordinary tree sub-irrigator equipped with three small side holes and a closed pointed tip.

Ex-Champ Cyril Walker Dies

Cyril Walker, 58, winner of the 1924 U.S. National Open championship at Birmingham Hills CC (Detroit dist.) was found dead Aug. 6 in a cell at Hackensack, N.J. police headquarters where he'd applied the previous night for permission to sleep. The diminutive Walker had been going downhill for some years. Jersey pros conducted benefits for him and made other efforts to assist him in rehabilitation but the little fellow who'd led Jones, Mehlhorn, Cruickshank, Hagen, Mac Smith, Chick Evans, Tommy Armour, Gene Sarazen and the rest of the greats in winning a title, couldn't beat himself and J. Barleycorn. Best Walker ever was able to do in the PGA was in 1920 when Hagen beat him 5 and 4 in the quarter finals. Walker was born in England and mais. Warker was born in England and came to the U.S. in 1914 on a job in Wanamaker's sports dept. He held jobs as pro at Shackamaxon, Idle Hour at Macon, Ga., Englewood, N.J., Oklahoma City and Saddle River, N.J. At one time he operated a driving range in New Jersey. During recent years he caddied in the winter around Miami. His 74, 74, 74, 75-297 won the 1924 Open by three strokes when Jones soared to a 78 in the last round. Cyril was a sick little guy at the time but held together when Jack Mackie got for him an effective remedy for dysentery.

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Kaddie Kart is the sign of quality and distinction. It has large 14 inch wheels, ball bearings, single natural position handle. Demountable axle, handle and frame.

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September, 1948

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Officers of the Golf Peddlers Association meet at Manakiki CC, Cleveland, O. (L to R) Tim Mc-Grath of Spalding, pres.; Earle Schlax of Kroydon, Ticket Com. Chmn.; Harry Hull, Sec'y.; and Lloyd Barton of Worthington Ball, Prize Com. Chmn.

Tim McGrath of A. G. Spalding Bros., pres., GPA, presents Bill Hoyt Memorial Trophy to cup winner Tom Higgins, Sales Mgr., Horton Bristol Golf Co., Bristol, Conn. at 1948 Peddlers Tournament held at Manakiki CC, Cleveland, O.

Peddlers Have Big Day

Nearly 200 golf playing equipment salesmen, club owners, pros and managers turned out Aug. 2 at Manakiki CC, Cleveland, to make this year's annual tournament of the Golf Peddlers Assn. one of the liveliest in the organization's history. Over the finely groomed course of host manager Bob Shave, Tom Higgins led the Peddlers to win the Hoyt Memorial trophy while Earl Christiansen was whitling out a 66 to cop tough dough in the pro division. A bus full of others busted into the prize column with awards made during the day's closing banquet.



Peddlers attending the annual meeting of the GPA at Manakiki CC (Cleveland) are as follows: Front row, (L to R) Earle Schlax, Kroydon; M. Harris, Acushnet; Roy Thibert, Wilson; Ernie Sabayrac, MacGregor; Jim Brydon, sales mgr., Worthington Ball; Tim McGrath, Spalding; John Skinner, Toro Mfg. Co.; Sam Holler, sales mgr., Burke; Lloyd "Red" Barton, Worthington Ball. Second row: (L to R) L. A. Vaughan, Franc Shirts; Tom Higgins, Horton-Bristol, winner of Bill Hoyt Memorial Trophy; Jack McGraw, Burke; Clayton Waara, U.S. Rubber; Don Glover, Wilson; Ed Austin, Par-Oval; J. J. Gibbons, Worthington Ball; R. F. Smith, Worthington Ball; Art Alves, Wilson. Third row: (L to R) J. P. Conroy, U.S. Rubber; Dick Griffith, Horton-Bristol; Joe Dragoon, Hagen; Bob Sichterman, Hagen; Earl Christiansen, Acushnet, winner Pro flight of tournament with low gross of 66; W. H. Craig, Jackman Sportswear; Harry Hull, Dunlop; Tom Skinner, U.S. Rubber, Frank Mitchell, sales mgr., Kroydon, finished late and missed the photographer's click



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Grip designs shown are Flexi-Grip (left) and Golf Pride (right)

THE FAWICK FLEXI-GRIP COMPANY 2306 TOWER BLDG., AKRON, OHIO

Chick Harbert

ALF PE



Group attending Turf Field Day at New Jersey Agri. Exp. Station, Rutgers Univ. are shown portion of 500 experimental, demonstration and test plots devoted to crabgrass control. Others show results of seeding various grass strains, effects of fertilizer and disease and weed control. Attendance at Rutgers is indicative of interest all over the country in Field Day events and tests devoted to the study and development of fine turf.

N.J. GSA Sets Up Fund for Study of Tropical Earthworm

More than 65 greenkeepers and others interested in turf culture from Garden State golf courses, Westchester Co., N.Y. and Conn. attended the combined Turf Field Day and business meeting of the New Jersey GSA at the N.J. Agri. Experiment Sta., Rutgers Univ., New Brunswick ment Sta., Rutgers Univ., New Brunswick, for discussion and study of turf renovation, crabgrass and weed control.

Some 500 experimental, demonstration and test plots showing results of seeding of various grass strains, effects of fertilizer and disease controls and weed controls were inspected. More than 50 materials are being tested on weed control plots alone. Scoring of results is being made according to dosage rates, effectiveness, discoloration, ease of application and cost.

Discussions brought to the attention of those attending a new threat to turf, especially greens turf, in the form of damage by the Tropical Earthworm, commonly called the "Stinkworm" which has not yet been brought under control in the northern New Jersey, Westchester Co. and Conn. areas. A research fund of \$2,000 has been established for the study and control of this pest which throws up casts on some courses with such frequency that greens must be poled between rounds of play by caddies or attendants. Traces of the worm have been in evidence on some greens since 1934.

Speakers who appeared on the program arranged by Carlton E. Treat, Montclair GC, included Wm. Zimmerman, O E. Linck Co.; John Anderson, grnkpr., Essex Co GC, West Orange; Dr. Ralph Engel and Dr. Gilbert Ahlgren of the N.J. Experiment Sta.

Pa. GSA Holds Tourney With Summer Field Meeting

The First Annual Tournament of the Pa. GSA will be held on the Penn State GC, Sept. 20 and 21 in conjunction with the Annual Summer Field Meeting on Turf Experiments. The tourney is sponsored by the six local Assns. in the state. The program has been arranged to cover a two-day period to provide ample time for both golf and inspection of the plot work. Invitations have been extended by the Pa. group to greenkeepers in other states to attend the Penn State meeting and participate in the tournament.

Michigan Golfers to Celebrate Hagen Day, Sept. 8

Michigan PGA and state's amateurs and sports writers will hold a tournament and dinner Sept. 8 at Blythefield CC, Grand Rapids, Mich., honoring Walter Hagen. Last year's celebration at Detroit drew a large attendance to pay tribute to the merry gent who instituted a new era of fiscal and social rating for professional athletes.

This year's affair promises to be even larger with pros and veteran amateurs from central states having expressed eagerness to attend an "old settlers' reunion" and see if they can't coax the "Haig" out of retirement and again slash the ball around the pastures.

METHODS AND MATERIALS

(Continued from page 31)

PMAS and PMAS-AA, applied July 14 and 21, pt 1:3,000 and 1:4,000, gave practically 100% check without permanent



Every Need of Instruction and Practice is Answered by these Two Ederer Nets — "Portable" and "Invincible".

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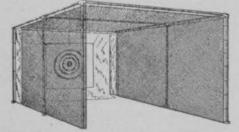
A brand new lightweight net that completely answers your own, and your players' need for a compact, easily portable net that provides for full shot golf instruction and practice.

 $6\frac{1}{2}$ ft, high and 10 ft, across with wings spread; ample area for inaccurate shots of beginners. Amazingly light, weighing less than 23 lbs, with backstop yet sturdy enough for continuous use for instruction. Its modest price means ready sales to your players at a fine profit to you.



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 plete Ederer line of sports nets...Golf, Tennis, Badminton and Volley Ball. "Invincible" — the full size Ederer golf net is the standard throughout golfdom for outdoor and indoor instruction and practice. Hundreds of clubs and pros have found the "Invincible" one of their most popular and profitable features in developing better and happier players. Ideal for controlling first tee waiting, instruction privacy and practice without shag boys.



turf injury. It was thought that complete continuous control did not occur because a few seeds germinated after July 21. In August, when two treatments of PMAS and PMAS-AA at 1:3,000 and three treatments at 1:4,000 and 1:5,000 were applied at weekly intervals, complete continuous control was recorded on plots of dense turf. Four treatments at weekly intervals with PMAS-AA at 1:6,000 were 100% effective. Light concentrations (1:6,000 and 1:9,000) of the phenyl mer-cury materials, when applied four and five times, gave excellent control of crabgrass with little or no discoloration of the permanent grasses and also inhibited weeds other than crabgrass. Heavier concentrations (1:3,000 and 1:4,000) requiring two or three treatments produced light temporary turf injury.

Factors Determining Dosage

The higher the grass, the stronger concentration can be used. For example, turf cut at lawn height (1 in. or more), under favorable soil moisture conditions, can stand a 1:3,000 solution of PMAS or PMAS-AA at the 10-gal. rate. Turf cut at putting-green height (approximately 1/4 in.) appears to stand a concentration of not more than 1:8,000 without injury.

The kind of grass to be treated is a factor in weed control. Kentucky bluegrass was injured less than Chewing's fescue or Colonial bent. Velvet bent appeared more susceptible than the other grasses to turf injury; consequently, less chemical should be used when treating velvet bent.

Seedling turf and new turf with shallow root systems can not stand the same concentration of chemical as will older and more mature turf. Therefore, judgment should be exercised and the concentration reduced to about $\frac{1}{2}$ the amount suggested for mature turf; apply light concentrations to retard crabgrass and more treatments, if necessary, for complete control.

In the tests, good coverage and distribution of the chemicals was obtained by spraying with 10 gal. of solution per 1,000 sq. ft., with the ordinary cone-type spray nozzle. However, good crabgrass control resulted from a preliminary test with a Rollosprayer having a flat fan spray nozzle that would uniformly cover 1,000 sq. ft. with only 1 gal. of water.

If a turf is mostly crabgrass, treatment with chemicals will naturally produce a brown discoloration of the crabgrass plants. In turf that is not over 10% crabgrass, however, little discoloration will be noticed, as the plants wither and soon disappear. Dormant crabgrass seed appeared very difficult to kill and it is doubtful if it can be killed, except when germinating or maturing, with solutions that do not harm lawn grasses. The best time for treatment with a minimum number of applications appeared to be in July and August.

Applications of PMAS or PMAS-AA at the rates of 1:4,000 or 1:5,000 (1 part of the active ingredient to 5,000 parts of water with actual toxicant calculated on the basis of 10 gal. of solution to 1,000 sq. ft.) used three times at weekly intervals gave 100% control of crabgrass on lawns composed of Kentucky bluegrass, Chewing's fescue and Colonial bent. Such treatment appeared to be the most practical method of eradicating crabgrass without injuring the permanent turf grasses. Complete control of weeds, including common and fall dandelion, narrow and broad plantain, chickweed and crabgrass, with no permanent injury to the turf, was obtained by three treatments at weekly intervals in August with a mixture of PMAS 1:6,000 and 2, 4-D butyl ester 1:4,000, applied at the rate of 10 gal. to 1,000 sq. ft.

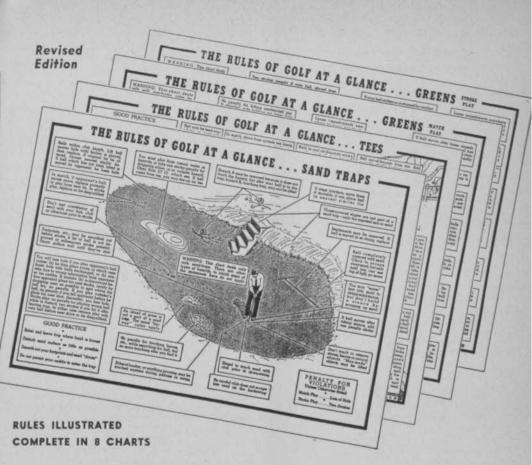
2, 4-D sodium and 2, 4-D butyl ester alone appeared ineffective against crabgrass except during periods of germination and young stages.

Phenyl mercury formulations such as PMAS, PMAS-AA and Puratized 641 have also given good control of some turf diseases, especially dollarspot. As a preventive against crabgrass and certain diseases of putting-green turf, it may be advisable to apply the chemicals at 1:8,000, or even 1:10,000, every two or three weeks from June through September. Therefore, in the maintenance of putting greens and other fine turf areas, these chemicals have a dual use, controlling both diseases and weeds.

PMAS is sold as Tat-C-Lect Crabgrass Killer for lawns and as Soilicide for putting-green turf. Directions are given on the container. The chemical is produced by the W. A. Cleary Corp., New Brunswick, N.J., and marketed by the O. E. Linck Co., Clifton, N.J. It is probable that PMAS will be sold under other trade names.

It is very doubtful if pets, animals or children will be harmed by contact with the diluted material when sprayed on lawns. The concentrated material, however, is poisonous and care should be exercised in handling it.

In view of the new chemical methods for crabgrass and weed control, there appears to be no good excuse for weeds in greens, fairways, lawns or other turf areas. The dream of a weed-free turf is now realized, provided the fundamentals of good construction and maintenance are followed.



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September, 1948

59

Jaycees National Tournament Great Event for Juniors

The third National Junior Amateur championship held at the Lincoln CC (Nebr.) Aug. 3-8 under the sponsorship of the United States Junior Chamber of Commerce and its affiliated organizations drew 160 participants from 38 states and the Dist. of Columbia, doubling the field over the previous year.

Gene Littler, San Diego, Calif., runner-up in the 1947 event, won the championship and together with Don Whitt, Bud Holscher and Bill Casper helped win the team championship for Calif. Tom Matey, Warren, Ohio, won medalist honors with a 145 on the par 72 course playing the first day in the rain which had prevented any practice rounds by the early arrivals.

Reports by local and state Jaycee chairmen indicate the field for the national event represented upwards of 10,000 eager young golfers who participated in local, district and state tournaments. Iowa led other state tournaments with a field of 147 from 8 districts. Ohio had 67 from a field of near 600 entries. Minnesota qualified 4 from each of 11 district events in which over 500 participants entered. Little Conn. had more than 100 participating. These figures are the first of a tabulation of what Jaycee officers expect to approach a total of near 10,000 boys for which local and state Junior Chambers have provided active competitive stimulus in the greatest carry-over sport of the day.

PRO MERCHANTS

(Continued from page 27)

around, which means keeping abreast with the best buys both in quality and prices. They know what the various manufacturers are putting out, etc. Of course buying in large quantities as they do they of course get lower cost prices. This being the case makes it doubly hard and doubly important for the pro to keep shopping around for supplies.

"As a little illustration I located a wholesale house where I buy a particular type of shirt for approximately $\frac{1}{2}$ less than what I had been paying and to top it off the new shirt was better designed. This cost price was naturally reflected in my retail price.

"If the pro can supply quality merchandise at a comparable price that would be paid in town he acquires the confidence of his members who in turn usually are only too glad to make their purchases in the shop. Even if a pro is not in a position to carry a large stock he can at least have a little variety both in merchandise and equipment. This is often wiser as he can constantly freshen his stock with new equipment and merchandise as he sells."

Never let it be said that the canny Scot influence hasn't benefitted pro merchandising. Consider Alex Campbell, pro at Sunnyside CC, Waterloo, Ia. Alex found the answer to the problem of extending the selling season by coming guickly to the conclusion that what members didn't see they wouldn't buy.

He says, "Much of the blame must be placed on pros themselves for shortening of the buying season. Some of them are so worried about having to carry merchandise through the winter they absolutely refuse to keep a full stock after midyear. Just look at the bare shelves as evidence!

"My members buy all through the year. Instead of cutting down my stock in midyear I vary it all I can, adding new merchandise."

James K. Thomson, pro-gkpr., Mohawk GC, Schenectady, N.Y., does a long season business. Jim credits part of the increased volume to general improvement in golf business and pro merchandising. He remarks that more golfers now than ever before are playing which is plenty of incentive to livelier pro shop merchandising. Then he notes that the shops have been made much more attractive to buyers and members have been educated to know they can get practically all of their golf requirements at the pro shop at prices which are in line.

Seed Sales at Pro Shop

Jim did a big business last spring giving lawn advice to members and keeping a supply of seed in his shop. The combination of expert service and lawn material picked up a volume that points a new source of income to active pro-greenkeepers.

Thomson always tries to push some novelty according to the time of the season. This continues from spring through fall when he gets to work strong on Christmas business.

He declares, "By keeping the pro shop in the minds of members you educate them to realizing that it's a pleasant and convenient place to shop. I make bids for Mother's day, Father's day and birthday business and work conscientiously in supplying the best merchandise within the budget as prizes for events played at the club.

"We have had a big year here although weather hasn't been too favorable. We have a lot of golfers. It's the club's 50th birthday and my 30th year at the club. In celebrating the club's 50th birthday I have increased my business 50%