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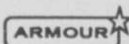
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Spreadability brings you green fairways, shining turf...that make a golfer feel he's on the world's best course! *Spreadability* is an even flow, an accurate spread pattern, and a broad cast. But *spreadability* goes further . . . into the extra thought in engineering design to bring you: less maintenance, longer life through fewer moving parts, all unenclosed; ease of feed control from tractor seat; capability to handle tough spreading jobs; fewer re-fills. All of this is *spreadability*. This is the Larson Broad-Caster.

The popular 410 (15 cu. ft. cap.); the NEW heavy-duty 420 (25 cu. ft. cap.). Both available with 3 h.p. gas engine drive.

NEW! 403 PIGGYBACK BROAD-CASTER

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Some features as
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Cap. 15 cu. ft.



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CITY STATE

be opened until the spring of 1965 . . . Another de luxe golf establishment being developed near Paris since golf and home-site promotion of Golf de Saint-Nom-La-Breteche, where 1963 International Golf Assn. tourney was played, has become such a success . . . It is Le Golf de Rochefort-en-Yvelines . . . It will have 18 full size holes, designed by F. W. Hawtree of England, and a 9-hole, Par-3 both watered courses . . . Clubhouse will be impressive chateau with 40 residential suites . . . Start building Northway Heights CC, Elnora, N.Y., third of courses in Schenectady district under construction.

Because of heavy play last year, many city and county courses are raising fees to out-of-the-tax-district players in 1964 . . . Begin building Sacramento (Calif.) County's first county course . . . 18 holes in Hoffman Park, Sacramento, being built to design of Bill Bell . . . Mike Macaluso will be pro. . . Manhattan (Kan.) CC clubhouse destroyed by fire . . . Loss estimated at \$250,000 . . . Leo Mallory named pro at Lake Region Yacht & CC, Winter Haven, Fla. . . Joe Jimenez from Manhattan (Kans.) CC to pro job at Jefferson City (Mo.) CC . . . Jack Fleck quits tournament trail to become pro at Green Acres CC (Chicago district), succeeding Red Dennison.

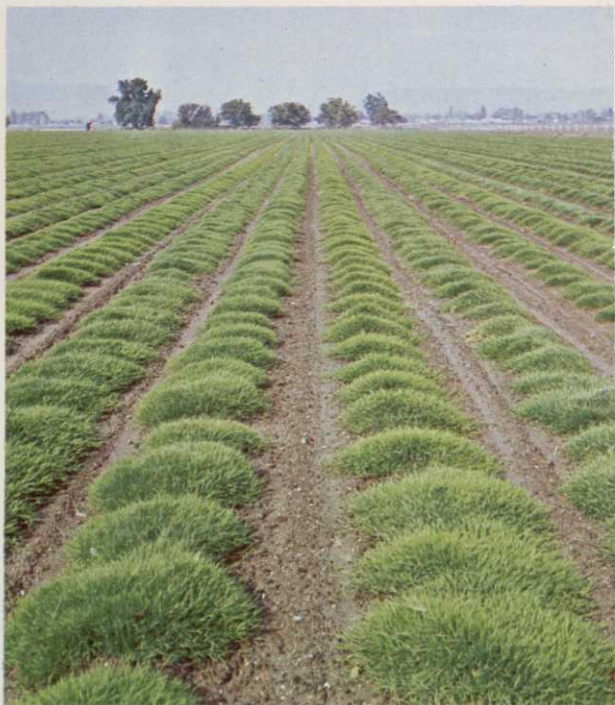
At the PGA 1963 annual meeting delegates and officers received 918 pages of printed reports, plus "verbal reports made to supplement them." . . . The Executive Committee was authorized to "put into effect the recommendations of a management consultant firm which made a survey of all PGA operations last summer." . . . What would be your recommendation about handing a professional 918 pages to examine and study before he goes into an annual meeting?

Decision of the British PGA to use the larger (not less than 1.68 dia.) USGA standard ball (USGA and R&A regulations are that ball shall not weigh more than 1.62 oz.) instead of R&A 1.62 in. or less, diameter has British pros in a clash with R&A and British ball makers . . . British amateurs agree with the pros . . . Joe Carr, captain of Britain's Walker Cup team, suggests that British amateurs start using the USGA larger ball in preparing for the 1965 Walker Cup matches . . . Carr says the large U.S. ball is easier to play around the greens and in holing

PENNCROSS CREEPING BENTGRASS



A SUPERIOR PUTTING GREEN TURF FROM SEED



Penncross is a new concept in putting green turf. It is a synthetic variety produced by cross pollination of three outstanding creeping bentgrass selections (as in picture above). The first generation seed from this cross is named *Penn-cross Creeping Bentgrass*. Only this seed is eligible for certification.

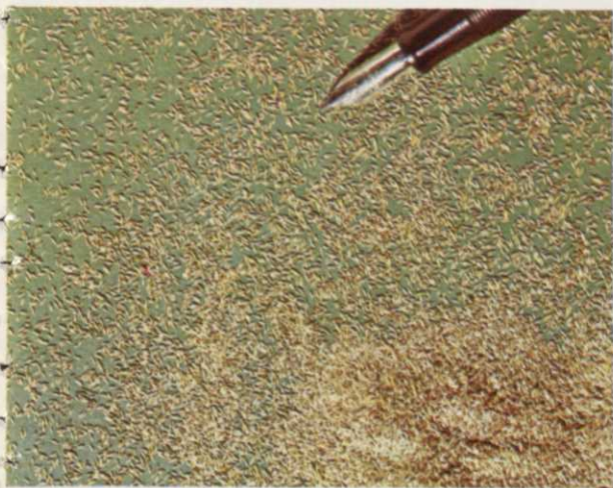
Penncross was developed by Prof. H. B. Musser of Penn State University after years of research. During five years of testing it proved distinctly superior to other commonly used bentgrasses including New Zealand Colonial, Highland, Astoria and Seaside. Turf quality records for this 5-year period show that Penncross was significantly better in density, disease-tolerance and rate of recovery from attacks.

Penncross is the only improved bentgrass that can be seeded rather than sprigged in. Thus it brings superintendents a money-saving way to produce superior greens. Golf course men from Coast to Coast report that Penncross is not only an outstanding performer under golf course management, but also shows such additional features as amazingly quick growth, fine and uniform texture, great vigor, strong disease resistance, economy in seeding rates and unusual drought tolerance.

• Penncross bentgrass germinates very fast, often within 5 to 7 days. Greens seeded to it are frequently ready for playing on within 45 to 50 days. "Penncross starts growth earlier in the spring and continues later into the fall," says one Montana golf course superintendent.

• Very quick response to fertilizer application and tolerance to fertilizer burn are two other Penncross qualities noted by golf course experts. One reason is that root depth after 4 months is often 7 to 8 inches. Plants become well established fast.

• Penncross makes a better putting surface than other bentgrasses. Richard Ferguson of the Fort Washington Golf Club, Fresno, California reports: "I've had considerable experience as a pro-teacher. Penncross holds the ball better and makes a better putting surface than any grass I've ever seen. It's unnecessary to brush out Penncross greens to get the knap out of them. The leaves are finer and they stand erect—hold the ball very well."



THE SEED, ACTUAL SIZE—See how tiny this seed is? One big reason why Penncross bentgrass is so economical to use. Seeded at a minimum rate, it creates a superior quality green. Reason: the purity of the seed and the extreme vigor of Penncross prevent weeds from creeping in.

DISEASE AND WEAR RESISTANCE—"Outstanding on both counts" in the words of one nationally known golf course superintendent. "It has better color, is more resistant to disease and displays better growth vigor than any other bentgrass."

Adaptability



Penncross has been carefully tested and studied in many different regions and under many different soil and climatic conditions. It has been grown in such widely separated areas as the New England States, Pennsylvania, Georgia, Missouri and Minnesota. Consistently, it has done well under golf course management in all areas where bentgrass is adapted.

Further, Penncross is one bentgrass that does well even in the South and Southwest. In fact, some of its first major successes were scored on golf courses in California. The Cover illustration is a California Penncross Bentgrass green. Nick D. Lombardo, Pro-Manager of the Fig Garden Golf Course in Fresno, California, reports that his Penncross greens were hardly affected when a pump failure left them without water for *four days* of 100 degrees-plus temperature. "We're convinced Penncross thrives on much less moisture than other putting turf varieties," he says.

Penncross has an equal ability to stand up through tough winter weather, even in areas where winters are most severe. Herbert J. Hasch of Riverside Country Club, Bozeman, Montana reports, "Our Penncross greens came through a very tough winter in excellent condition."

Such versatility of adaptation is one reason why Bob Baldock—one of the nation's foremost golf course architects—says he recommends Penncross bentgrass exclusively on the new courses he designs.

OREGON

Quality Seed

Penncross bentgrass seed is produced exclusively in Oregon under the ideal growing conditions there. The climate is cool and damp enough to produce bentgrass seed of maximum vigor and hardiness.

WEED RESISTANT—Penncross production fields are planted vegetatively—not seeded. Thus, all seed harvested is of maximum purity when you plant it. Penncross bentgrass's vigorous growth aggressively holds back weed infestation. Freedom from weeds remains as a major characteristic of Penncross. "In our third year with Penncross bentgrass greens we have yet to see any other grasses or weeds creep in," reports Leonard Klausung of the Kildair Country Club in Ottawa, Ohio, and, from California, where Bermudagrass encroachment is often a problem, another golf course superintendent reports no weeds at all in his Penncross greens.



MANAGEMENT — Penncross requires a much lower seeding rate than other bentgrass varieties. This, in itself, helps affect major economies. In southern areas, seeding rates as low as $\frac{1}{2}$ pound per thousand square feet have produced superb greens. And in northern areas, for example at Lima, Ohio, a seeding rate of only $1\frac{1}{2}$ pounds per thousand square feet produced the finest greens on the golf course.

Penncross was developed for golf course putting greens and similar intensive use turf grass areas. In the words of its developer, Prof. Musser, "It is not intended, nor is it recommended, for general lawn or athletic field use."

Penncross wears extremely well under golf course management. Course superintendent Robert J. Holtsberry of Lima, Ohio says, "Penncross would be my recommendation to anybody for establishing new greens. Our players like the way these greens hold on approach and the way they 'cut'."

For information about availability and prices of Penncross bentgrass seed and specific recommendation on cultural and management practices in your area, write Northrup, King & Co., Albany, Oregon or Minneapolis, Minnesota.



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MINNESOTA

BOISE,
IDAHO

FRESNO,
CALIFORNIA

out . . . He says it emphasizes bad shots and is only a few yards shorter in drives into the wind . . . The pro and amateur statements put British ball makers in a tough spot with their present standard molds . . . U.S. ball makers were in a similar plight when USGA ruled in the balloon ball for a brief period some years ago . . . What hasn't been mentioned in print is that the larger ball was made desirable by the tremendous and world-wide improvement in first class course maintenance conditions, spurred by the achievement of U.S. golf course supts.

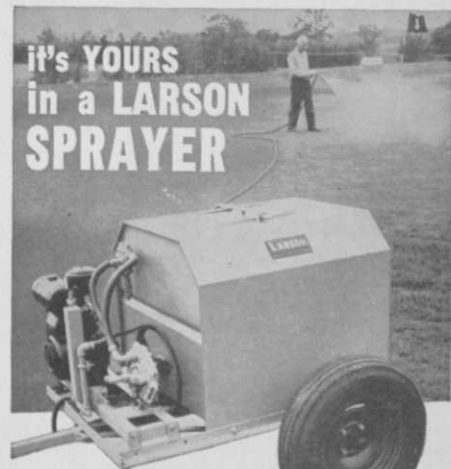
Syd Clarke now supt. Cape Coral (Fla.) CC, succeeding Mac Parsons, who retires because of ill health . . . Syd is a great veteran, having been in course construction and maintenance for 40 years . . . His son, Stanley, now is supt. of La Gorce CC, Miami Beach, Fla. . . . Charles Knowles is now teaching pro at Army-Navy CC, Arlington, Va. . . . Walter Burkemo switches from pro post at Franklin Hills CC, Franklin, Mich., to Detroit (Mich.) GC, succeeding the late Horton Smith.

Ron Reiner, formerly asst. to Don Fischesser at Evansville (Ind.) CC, now pro at Fairmount CC, Chatham, N. J. . . . Royston Laboratories and North Suburban Lands Co. of Pittsburgh, buy Riverside Inn and course at Cambridge Springs, Pa. . . . Basil Amoroso now head pro at Braidburn (N.J.) CC . . . Barbara Rotvig, 35, women's golf instructor at University of Michigan and a leader in staging the Ladies PGA and National Golf Foundation instruction conferences, died of cancer in Ann Arbor, Mich., after a long illness . . . Barbara did a lot more for women's golf than is realized.

Merv Adelson to build course as feature of his \$20 million Winterwood, Inc., housing development . . . Wausau (Wis.) CC building clubhouse as part of \$400,000 improvement program . . . Carl Allison from Shoreacres club (Chicago dist.) to pro post at CC of Detroit, succeeding the late Joe Belfore.

Bill O'Hara, pro at Westbrook CC, Mansfield, O., is running a training camp for young pros who graduate from Bill's tutelage to head pro jobs . . . Latest of Bill's proteges to go to a job of his own is Jim Geram who becomes pro at Troy

SPRAY ABILITY



Sprayability . . . keeps greens healthy . . . makes putting sheer pleasure . . . beautifies fairways, shrubbery and trees . . . keeps them clean and healthy. Sprayability is EXTRA engineering excellence, featuring: broad pressure range to meet all spraying requirements; longer pump and motor life through special Larson unloading valve; coated corrosion-resistant tank with large opening; adjustable solution agitation; and, of course, Larson-engineered ruggedness of construction. All of this is Sprayability. This is the Larson High Pressure Sprayer.

12 models, HP300 and HPI50 Series, 300 and 150 gal tanks. 22 and 11 GPM pumps. Engine. PTO drives. Trailer, skid mounted.



ACCESSORIES: Spray Boom, Hand Guns, Hose Reel, Wheel Jack, etc.

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(O.) CC after three years with O'Hara . . . Geram is the fourth O'Hara assistant in eight years who has gone to his own head job.

Petersburg (Va.) CC, will relocate with a new 18-hole course, Olympic size pool, lighted all-weather tennis courts and a large clubhouse . . . In nearby Prince George County, two 18's, one of tournament quality, are under construction on the old Rennie Arnold estate . . . The courses will be called Arnolda Ranch G&CC . . . Glen Ellyn, Ill. recently voted \$1½ million for a combination course and storm reservoir system . . . Dave Gill of St. Charles, Ill., architect, hopes to have the Glen Ellyn 18 ready for play in the fall of 1965 . . . Recently renovated Duck Creek course in Davenport, Ia., is planning a \$40,000 pro shop and restaurant.

Nearing completion at Reston, Va., is a retirement community with an 18-hole course that's next door to Washington, D.C. . . . New 18 in East Orange, N.J., beleaguered by racial troubles in 1963 will be open to all residents of East Orange and Millburn this year . . . Still to be ironed out are financial details between the two N.J. communities . . . Don Mi-

randi, official scorekeeper of the National PGA, scored his third hole-in-one at Canyon CC in Palm Springs, Calif.

Plans for new Los Angeles, Calif. courses include the Mira Loma 18 in Antelope Valley . . . Just completed in LA is the Hansem Dam 9 . . . Also under consideration is an 18-hole layout next to LA International Airport . . . Up north on the Monterey Peninsula, construction starts soon on the 18-hole New Pebble Beach Pine GC designed by Robert Trent Jones . . . DeKalb County, Ga., okayed its first public course, an 18-hole layout called Mystery Valley GC near Atlanta.

New 18 under construction near Houghton, Mich. on the Upper Peninsula is backed by Chicago industrialist, George Young . . . Clubhouse construction has begun at the Williamsburg Inn's Golden Horseshoe GC in Virginia . . . Park Mammoth Resort at Park City, Ky. includes 18-hole course, swimming pool, 100 room motel and a 2½-mile miniature railroad to nearby caves . . . New managers of the Harlan (Ia.) G&CC are Henry Griswold and his wife plus their four

(Continued on page 118)

Remember . . .

BAGS 'N' CARTS

spend much more time in storage than in play . . .

- ✓ Don't build up a flood of justifiable gripes on how they are stored . . .
- ✓ Banish wear 'n' tear. Establish loving care, . . . with space to spare!
- ✓ **PLAN NOW TO INSTALL**

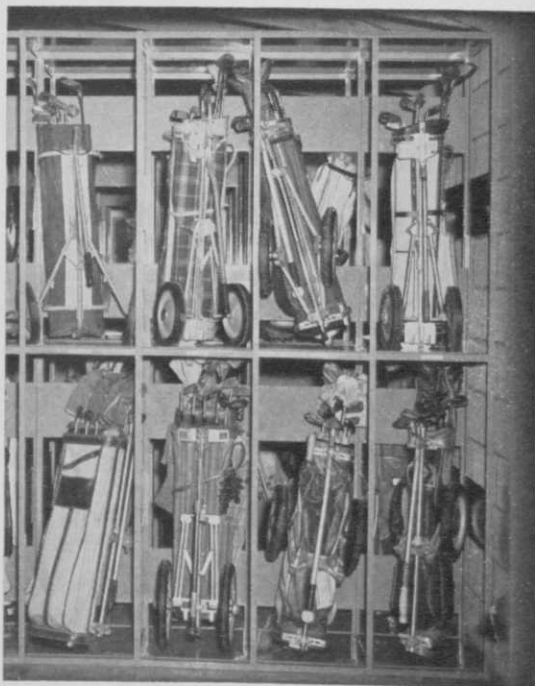
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AGRICO gives Westmoor C. C. consistently good color through longer lasting feeding



Erwin Bertram

"AGRICO Country Club Fertilizers feed immediately, yet last longer to give us the deep green color we want in our turf," says Erwin Bertram, superintendent of Westmoor Country

Club, Milwaukee, Wisconsin.

"We feed our greens and tees AGRICO

regularly with a spinner-type spreader; adding AGRINITE, dry-applied to greens, in the summer. We feed all fairways three times a season and get beautiful results."

For the best and latest in turf feeding, ask your Agrico Representative for an AGRICO Country Club-AGRINITE Feeding Program for your course. Or write: The American Agricultural Chemical Company, New York 7, N. Y., or Agricultural Chemicals Ltd., Toronto 15, Ontario.

AGRICO[®] COUNTRY CLUB FERTILIZERS

Want Championship Greens?



Then plant *Warren - STOLONS* Grown on Sterilized Soil

DEFLOWERED BEFORE SEEDING TIME TO PREVENT CROSS POLLENIZATION

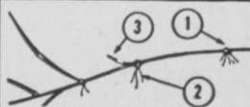
Field sterilization assures purity of strain — prevents *Poa Annua* — eliminates off-strains of Bent — kills weed seeds.

Pure strain foundation stolons grown on sterilized soil result in velvet smooth greens of uniform texture and color.

Our research has shown that when greens are grown with Bent seed, there can literally be hundreds of variations in color and texture from the same seed bag, because of the variability of seed. People illustrate this principle: a dark-haired mother and blond father could have a red-haired child.

When greens are grown from stolons, it is the same individual plants which grow again. Therefore, uniformity is maintained in color and texture of the grass.*

**For further information on this subject, check coupon.*



A WARREN CREEPING
BENT STOLON
(1) Node, (2) New Roots,
(3) New Bent Plant.

Warren's Stolons give more
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**Shipped anywhere on
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Continent within
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Golf course superintendents
from New York to California
— from Mexico to Canada
are numbered among our
satisfied customers.

Ask about our new Putting
Green Bluegrass Sod for
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For Perfect Putting-Greens
PLANT

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Where Economy Is False . . .

Don't Sacrifice the Potentially Great Holes To Save Money

By **KENNETH WELTON**

Architect, Welton & Collett, La Jolla, California

Any consideration of golf course architecture should start with function rather than with the details of course design and building. The architect can make his most valuable contribution before these phases get under way. Primarily, the architect should explore the main objective of a project and guide the developers toward the attainment of a course that will be suitable to the needs of the group of players it is being built for. In fact, many times he must take the lead in coordinating facts and figures to bring about a separation between extravagant and impractical ideas and reality.

Course developers are inclined to lend too much weight to the opinions, either solicited or unsolicited, of low-handicap local players and amateur architects. Too often their recommendations are along the

line of the spectacular, such as the so-called championship layout, or the extreme features which may be exactly opposite to the type of course the prospective supporting players should have. Apart from whether the course should be comfortably within the playing capacity of the majority, or laid out for tournaments and low-handicap players, there is the important question of costs.

Where there may be difficulty in financing the building of the course and its maintenance, the promoters should be helped to avoid costly artificially created architectural features and expensive maintenance conditions. In short, there is a great variety of objectives to be considered in arriving at the type of course to be designed. Some are strictly for private membership while others are for business

and the consequent profit motive. It is easy to see why the course architect's initial responsibility to his client is to make certain that there is a firm agreement on the type of course wanted and the money available before his further services are put to use.

Once these matters have been agreed upon, the architect is in a position to give sound advice on the selection and price of the property for the course. The preliminary examinations should satisfy him as to the feasibility of laying out and constructing the type of course agreed upon within the financial limitations set. Any major compromises with these goals should be made before the purchase of the property or construction is started.



Augusta wouldn't be Augusta, nor Winged Foot (below) Winged Foot if all the emphasis had been on economy.

lems he is building into a course. An extra construction expense may be warranted if undertaken to attain an extra fine golf hole. But if it is almost certain to result in a continuing high maintenance expense, perhaps there should be a compromise. At the same time it isn't wise to deliberately sacrifice opportunities for outstanding golf or aesthetic values on any hole solely in order to attain low maintenance costs. Such action may backfire; the uninteresting course resulting might not attract the clientele it is being designed for. Saving money on building or maintenance does not depend so much on sacrificing an especially good golf hole as it does on controlling the urge to create the spectacular.

The aspects that should be suspect from an economy standpoint are the obvious window-dressings, such as putting greens with ridiculously high fills and steep banks, putting areas 50 to 100 per cent larger than the hole calls for, and useless bunkers scattered around the course. All of these require extra hand-maintenance and add nothing to the playing qualities of the course or its natural beauty.

Must Know the Shots

What qualifications must a course architect have to function along the lines described above, and to finally design and construct the course agreed upon. First, he must be a student of the game of golf. It does not seem necessary that he be an outstanding player. It is more helpful if he has studied many courses than to have played top golf. But he must know

(Continued on page 110)



"YOU'RE YEARS AHEAD WITH A HARDIE SPRAYER"*

SAYS: **Jack Baker**, PAST PRESIDENT, GOLF COURSE SUPERINTENDENTS ASS'N OF S-California



THE VALLEY CLUB OF MONTECITO,—Santa Barbara, California

THIS HARDIE SPRAYER IS 30 YEARS OLD ...AND IT'S STILL LIKE NEW

This Hardie Sprayer was bought in 1932 . . . Jack Baker, Superintendent of the Valley Club of Montecito stated: "We've had the finest of performance from our Hardie, and with its continual use for more than thirty years, it is still in good dependable condition . . . I use two of the deadliest weed killers available, and with Hardie's wooden tank as part of this fine sprayer, I've never had to think about replacement . . . In fact, other golf courses familiar to me have replaced their spraying equipment three or four times in this same period of time because of steel tanks."

Hardie Hi-Pressure sprayers are available in sizes from 3 to 60 gallons per minute. Pressure is adjustable from 50 lbs. for weed spraying to 800 lbs. for hand spraying greens, shrubs, etc. The Hardie Hi-Lo pressure regulator weed boom gives you quick change-over from high to low pressure, insures constant and accurate low pressure at all times, and is considered by many Golf Course Superintendents as the ultimate in boom design and performance.

Hardie manufactures a complete line of sprayers for golf courses or turf specialists

*BECAUSE HARDIE GIVES YOU

that have either the famous long lasting wood tank, or the conventional interior coated steel tank. A complete selection of single and multi-nozzle spray guns for selective greens and shade tree work are also available. Write to Hardie today . . .

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- BARREL CRADLES
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YEARS OF DEPENDABLE SERVICE

THE WEEKEND MAKE READY

Set a deadline and stick to it and your course will be ready when the Saturday and Sunday golfers swarm in . . . Even if you have 45 holes to maintain

By **DUDLEY SMITH**

Supr., Silver Lake CC, Orland Park, Ill.

This article is condensed from a speech made by Smith at the Midwest GCSA turf clinic, held in December at Olympia Fields (Ill.) CC.

Every supt. has his own way of getting the absolutely necessary things done. As for myself, I have established a deadline — an unrelenting one, I might add. At 4:30 p.m. every Friday afternoon during the playing season the 45 holes at Silver Lake (a semi-private club) must be in the finest possible condition, ready for the surge of weekend golfers. There is no hedging on this. It is impossible to accomplish any work on the courses during the peak play period. I know it — and so do my employees. All we can hope to get to on Saturdays and, if necessary, on Sundays are the offsite jobs.

If, by any chance, a Friday or a Monday is a holiday, giving us a three-day weekend, our problems are multiplied.

The big factor, of course, is the weather. It helps greatly if it doesn't rain on Friday, but rain or not the deadline stands. I keep the five-day forecast in mind, but usually call the weatherman once a day to check on the humidity, the southwest wind velocity out of nearby Joliet (Ill.) and any frost warnings.

Every Blade Must Be Cut

I try to have every blade of grass at Silver Lake mowed on Friday. Monday isn't critical. Anything not finished then can easily be completed on Tuesday. If tees and fairways are mowed any earlier than Friday afternoon they will be shaggy and complained about on Sunday. To accomplish this one-day manicuring job requires a lot of equipment. Each machine needs a qualified operator. Silver Lake is never short on manpower. In 1963 I had five fulltime men and 15 highschool and college boys on the payroll.

Our work schedule starts on Thursday evening while the twilight league players are on the course. The practice putting greens and bent nurseries are watered while we wait for the course to clear and the southwest wind to die down. Usually, about nine o'clock we can make the first set on the greens. It takes five sets to water the greens on the 18-hole North and South courses. Rolling Hills, the new 9-hole layout with its large sandy greens, is watered independently and requires four sets.

The length of each set is not standardized. I make this decision at the last minute considering when the greens were watered last, and how much water they will accept without flooding. I usually water heavy on Thursday night. This allows the greens to dry out some on Fri-