USGA JOURNAL AND TURF MANAGEMENT

DITHERING WILL GET YOU NOWHERE. HIT IT!

Senior golfers have called for speedier play, and plan to compaign for it in their home communities. Their object will be to minimize the unnecessary preliminaries, to obliterate the selfish hinderances, and to emphasize the GO in GOLF.

NOVEMBER, 1957

USGA JOURNAL AND TURF MANAGEMENT

Published by the United States Golf Association

VOL. X, No. 6 **NOVEMBER, 1957**

Published seven times a year in February, April, June, July, August, September and November by the
UNITED STATES GOLF ASSOCIATION
40 EAST 38th ST., NEW YORK 16, N. Y.

Subscription: $2 a year. Single copies: 30c. Subscriptions, articles, photographs, and correspondence should be sent to the above address.

Entered as Second-class Matter March 3, 1950, at the Post Office at New York, N. Y., under the Act of March 8, 1879. Additional entry at Post office in Sea Cliff, L. I., N. Y.

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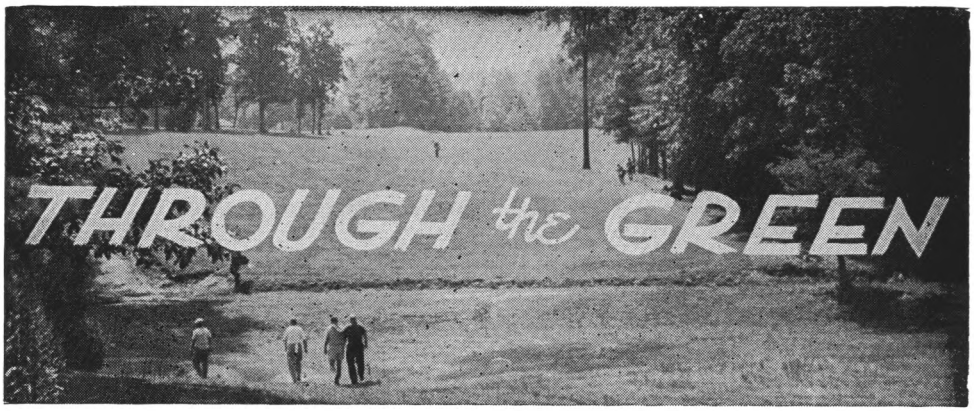
USGA COMPETITIONS FOR 1958

Championships

Championship or Team Match	*Entries Close*	*Sectional Qualifying Rounds*	*Dates of Event*	*Location*
Open	May 15	June 2	June 12-13-14	Southern Hills C. C. Tulsa, Okla.
Women's Open	June 13	None	June 26-27-28	Forest Lake C. C. Bloomfield Hills, Mich.
Amateur Public Links	*May 29	†June 15-21	July 7-12	Silver Lake G. C. Orland Park, Ill.
Junior Amateur	June 27	July 15	July 30-Aug. 2	University of Minnesota Golf Course, St. Paul, Minn.
(a) Curtis Cup Match	——	——	August 8-9	Brae Burn C. C. West Newton, Mass.
Girls' Junior	July 25	None	August 11-15	Greenwich C. C. Greenwich, Conn.
Women's Amateur	Aug. 1	None	August 18-23	Wee Burn C. C. Darien, Conn.
(b) Americas Cup Match	——	——	September 5-6	Olympic C. C. San Francisco, Cal.
Amateur	Aug. 7	Aug. 26	September 8-13	Olympic C. C. San Francisco, Cal.
Senior Amateur	Aug. 29	Sept. 16	Sept. 29-Oct. 4	Monterey Peninsula Country Club, Pebble Beach, Cal.

Dates entries close mean last dates for applications to reach USGA office, except in the case of the Amateur Public Links Championship. For possible exceptions in dates of Sectional Qualifying Rounds, see entry forms.

Re Amateur Public Links Championship:
*Entries close with Sectional Qualifying Chairmen.
†Exact date in each Section to be fixed by Sectional Chairmen.
(a) *Curtis Cup Match*—Women's amateur teams: British Isles vs. United States.
(b) *Americas Cup Match*—Men's amateur teams: Canada vs. Mexico vs. United States.



Cosmopolitan Golfing Terms

The game of golf, though now universal, has delved into three languages in the past for its terms and expressions.

One of the first was the bisque, a French word meaning odds which had previously been used with regard to tennis, lawn tennis and croquet. Bisques, though never officially recognized and seldom used today, were introduced during the latter half of the last century.

The gutta, as the old gutta percha ball was called, got its name from the Malayan word gëtah, meaning gum.

The verb to foozle, lifted from the German language, is more widely used in Britain than in the United States but is devastating apt for a fluffed approach.

It is perhaps too far a cry to claim the Indian name Schenectady, as Walter J. Travis' infamous putter was so called only because it had been introduced by a Mr. A. W. Knight, of Schenectady, N. Y.

Services Commemorated at Saucon Valley

The Board of Governors of the Saucon Valley Country Club, Bethlehem, Pa., has agreed to commemorate the services of two of its members by naming its new 18 hole course and halfway house after them.

The course will be known as the Grace Course in honor of Eugene G. Grace, honorary Chairman of the Board, who over the past six years has supervised the construction of the course to the smallest detail. His "Chief of Staff," Vincent J. Pazzetti, Jr. Vice President of the Club, will give his name to the "Villa Pazzetti" between the 9th and 10th holes.

Gunning for the Captain!

The ceremony of "playing-in" as Captain of the Royal and Ancient Golf Club of St. Andrews, Scotland, is one of golf's oldest traditions.

The scene is the first tee on the Old Course, the time, 8 a.m. on a September morning, always nippy and often damp from sea mist.

The townsfolk line the railing, the local caddies spread out down the fairway, for tradition has it that the caddie retrieving the ball will be rewarded with a golden sovereign.

The Captain emerges from the clubhouse and steps onto the "stage." There is no question of a Mulligan, for as the shot is struck the sound-effects man will fire the cannon and the annual ceremony will be over.

The cannon has stood sentinel over the first tee for 99 years. It was once manned by seamen of the 1,200 ton sailing vessel Sutlej, which was commandeered by the Government during the Crimean War and saw action at Balaclava when she sought to carry supplies to troops besieging Sebastopol. On the last leg of her homeward run to her native port of Dundee, she foundered on some rocks in St. Andrews Bay and was wrecked on April 1, 1858.

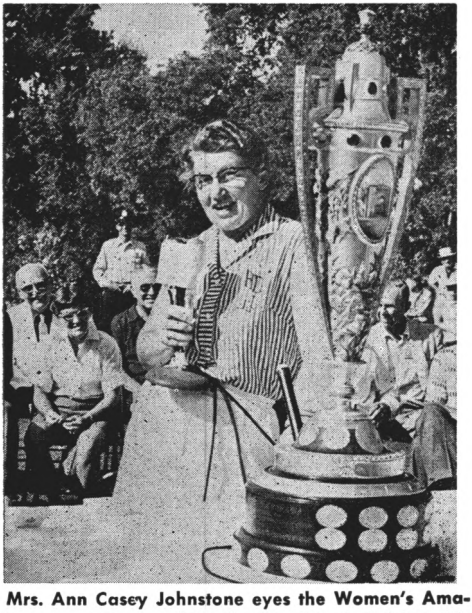
The cannon was among the gear sal-

vaged from the vessel. It was bought in a public auction and presented to the Provest of St. Andrews, since when it has guarded the municipal links.

Champion Runner-Up

If there were an annual award for the most deserving runner-up golfer, the 1957 candidate would surely be Mrs. Ann Casey Johnstone, of Mason City, Iowa.

She reached the final of the North and South at Pinehurst, N. C., in March, only to be beaten 3 and 2 by Miss Barbara McIntire, of Toledo, Ohio.



Mrs. Ann Casey Johnstone eyes the Women's Amateur trophy, one of the four which eluded her this season.

Four months later Mrs. Johnstone won her way to the final of the Women's Western Amateur Championship at Omaha, Neb., but fell 2-and-1 victim to the Collegiate Champion, Miss Meriam Bailey, of Evanston, Ill.

Mrs. Johnstone had reason for third-time-lucky optimism when she gained the final of the USGA Women's Amateur Championship at Sacramento, Cal., in August. However, her touch deserted her on the vital day and Miss JoAnne Gunderson came through to win, 8 and 6.

Jokingly Mrs. Johnstone told the gallery at the USGA prize-giving that she would go home and arrange a tournament just for herself so she would be sure to win. But the ex-school teacher is determined, and back she came the following month to the Trans-Mississippi Championship at Las Vegas, Nev., where she yielded by 5 and 3 in the final to Mrs. James Ferrie, of Gardena, Cal.

Two Titles in the Family

Dr. George M. Trainor and his wife, Jean, have set a precedent by being the first married couple to hold the two Club Championships concurrently at the Oak Hill Country Club, Rochester, N. Y.

Dr. Trainor is a member of the USGA Sectional Affairs Committee; Mrs. Trainor serves on the USGA Girls' Junior Committee.

Britain Takes Ryder Cup

Congratulations to Dai Rees and the British Ryder Cup Team on their magnificent comeback to win the trophy at the Lindrick Golf Club, England, after a lapse of 24 years.

Britain, for the first time, now holds two of the international trophies having won the Curtis Cup at Prince's Golf Club, England, in 1956.

Sixteen Times Champion

In our September issue mention was made of the fine record of Joe E. Bernalfo, Jr., in winning the club championship of the Country Club, Salt Lake City, Utah, 13 times in 13 attempts.

In Connecticut, it develops, Frank D. Ross, of the Wampanoag Country Club, won his club championship 16 times in 19 efforts. The US Seniors' Golf Association Champion of 1953 also won the Connecticut Amateur Championship twice and the New England crown once during a colorful career.

This year Mr. Ross was named captain of the Connecticut team, an honor he held on 10 other occasions.

Mrs. Lynn Creason, of Harrisburg, Pa., who alternates between producing children and winning golf championships, proudly presents her large family. On her lap is baby Elizabeth; in line are David, 12; John, 10; Richard, 9; Robert, 8; Mary Lynn, 6; Jimmy, 5 and Billy, 2. See story below, "Family No Hindrance to Golf Titles."

Family No Hindrance To Golf Titles

Mrs. Lynn Creason, of Harrisburg, Pa., (pictured above) is a remarkable woman. Not only has she produced a fine, strapping family of eight, but at the same time has been winning local golf titles galore.

Six weeks after the birth of baby Elizabeth, she defended her title in the Harrisburg District Championship which she has held for the past three years, only losing in the semi-final. Over the past seventeen years she has won the club championship of the Colonial Country Club on no less than ten occasions, and has also held the Central Pennsylvania title.

Her husband, no doubt in self defense, has an equally impressive record, having held the Harrisburg district title on four occasions, the Central Pennsylvania three times, the South Florida Amateur once, and been runner-up twice in the Pennsylvania Amateur.

Mayer Voted Tops by PGA

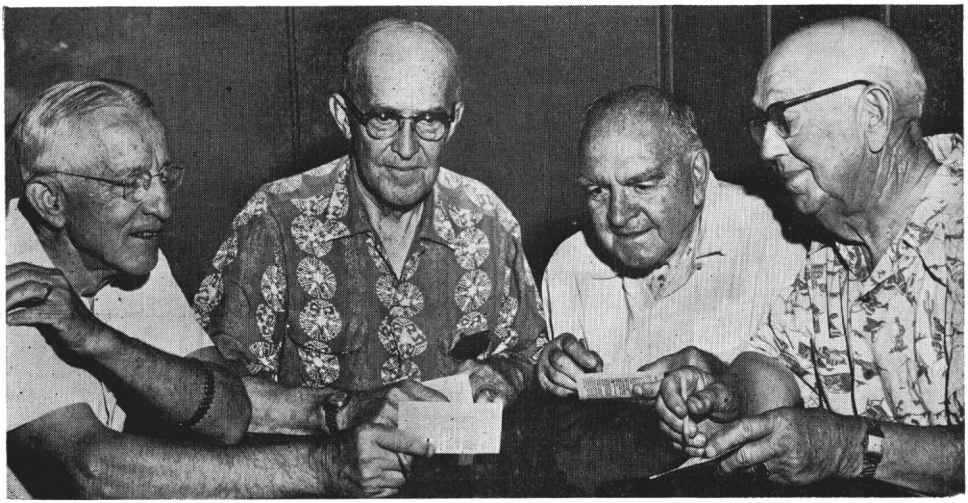
Dick Mayer, 1957 USGA Open Champion and winner of the Tam O'Shanter "World Championship," was voted PGA "Professional Golfer of the Year" for 1957 by an overwhelming margin in the nation wide ballot.

The St. Petersburg, Fla., professional amassed 532 votes, the highest total ever recorded in the ten years history of the award. Runner-up 488 votes behind was Don Finsterwald, followed by Sam Snead, Doug Ford and Jimmy Demaret.

The award for "Golf Professional of the Year" has gone to 48-year-old Dugan Aycock, of the Lexington Country Club, N. C.

Drastic Step by British PGA

The British PGA has suspended Harry Weetman from competition for a year for complaining about his treatment as a member of the 1957 British Ryder Cup Team.



This Denver, Colo., quartet, who have played together for 28 years, are still as keen as mustard although they aggregate 314 years. They are from left to right: Walter Beans, 74; R. E. Spencer, 78; Fred L. Andrews, 84, and LeRoy Lynch, 78. See story "2,250 Rounds—Same 4-Ball" below.

Weetman has been barred from playing in tournaments in which about $84,000 in prize money will be at stake.

2,250 Rounds—Same 4-Ball

Four gentlemen from Denver, Colo., members of the Lakewood Country Club, have played in the region of 2,250 rounds together over the past 28 years and vow their one desire is to continue to do so twice a week.

They are Fred L. Andrews, 84; Walter Beans, 74; R. E. Spencer, 78, and LeRoy Lynch, 78.

In order to keep playing the year 'round, they pack their bags each March and hie themselves off to Phoenix, where they play at the Arizona Country Club.

Some time back Walter Beans, the youngster of the quartet, considered buying an electric cart, but, thinking better of it, decided that they still enjoyed the exercise as well as the fun.

Turfgrass Scholarships Allotted To Penn State University

Two scholarships of $100 each have been placed by the Golf Course Superintendents' Association Scholarship and Research Fund at The Pennsylvania State University, University Park, Penn., for the Turfgrass Management Winter Course to be offered under the College of Agriculture.

The complete Turfgrass Management Course consists of two eight week terms in the 1957-1958 school year, a Placement Training Period of six months with employment in a specialized turfgrass field from April 14 to October 18, 1958, and two eight week terms for the 1958-1959 school year.

Placing of these two Scholarships by the Golf Course Superintendents Association Scholarship and Research Fund is part of a continuing program for personnel and turf improvement. Other activities of the Fund include a $400 Scholarship at Purdue University, Lafayette, Ind., and a $500 Research Grant placed at the University of California at Los Angeles.

Books Received

TIMING YOUR GOLF SWING by Robert Winthrop Adams, (The Citadel Press, $3.95). Mr. Adams, an engineer by profession, stresses the importance of rhythm in the mechanics of the golf swing. Incorporated with the book is a 45 rpm disc designed to achieve good timing through waltz time.

TO H—— WITH GOLF by Fred Beck, (Hill & Wang, $2.75).

A RETURN TO THE GOLDEN YEARS

BY
JOHN P. ENGLISH
USGA Assistant Executive Director

IN the golden years following World War I, when it was feasible to seed a match-play draw, the semi-finals of the Amateur Championship customarily drew together four of the acknowledged best players of the day. It was not unusual for three or even all four to be members of the current Walker Cup Team. Bob Jones, Francis Ouimet, Chick Evans, Jess Sweetser and George Von Elm appeared regularly in the semi-finals—Jones nine times, for example, and Ouimet seven in that era alone.

The growth of the game, however, matched the progress of these appealing Apollos and there came a day when no one any longer had the perception to seed a draw successfully. There were too many fine young players coming up in all parts of the country every year. So after a period of experimentation the all-match-play form and the blind draw were instituted.

During the years following World War II, the quantity of fine players, the increased number of 18-hole matches and the blind draw sometimes gave the round of four a morning-glory quality. Semi-finalists withered as fast as they bloomed, and only such giants as Willie Turnesa, Charley Coe, Harvie Ward and Hillman Robbins could achieve that estate twice in the last eleven years.

A year of Walker Cup competition usually became a particular shambles of form. It seemed a fortunate thing if one Team member made the semi-finals. There was even the debacle of 1951 when Coe, the only surviving member, was beaten not in the semi-finals but in the quarter-finals. In 1953 and 1955, Gene Littler and Harvie Ward again were the only Team members in the quarter-finals, but they did redeem the situation somewhat by going on to win.

There was no reason to think this state of affairs would be improved when this year's fine Walker Cup Team, fresh from its hard-earned, 8-to-3 victory over Great Britain, arrived at The Country Club, in Brookline, Mass., for the 57th Amateur Championship and the fourth at that Club since 1910. If anything, there was suspicion that the situation might worsen, for the famous course where so many great championships had been held in an earlier era now seemed hardly long or severe enough to defend itself completely against modern clubs and balls and present-day skills.

LT. HILLMAN ROBBINS, JR.

However, The Country Club folk were among those who shared in the suspicion, and they did something about it beforehand. With 27 holes to choose from, they eliminated three par 4s (the first, second and fourth, the latter two of which are quite short) from the first, or Clyde, nine

USGA FILM LIBRARY

Latest addition to the USGA Film Library is a 17½ minute, full color 16 mm. presentation entitled "Golf's Longest Hour." Filmed at the Oak Hill Country Club, Rochester, N. Y., during the 1956 Open Championship, it covers the closing stages when Cary Middlecoff had to wait it out while Ben Hogan, Julius Boros and Ted Kroll were striving in vain to beat his score.

Other films in the Library are:

"Play Them As They Lie," a 16 mm. color production, running for 16½ entertaining minutes in which Johnny Farrell, the Open Champion of 1928, acts as intermediary between Wilbur Mulligan, a beginner of unimpeachable integrity, and Joshua P. Slye, a past master in the art of breaking the Rules. The film was made at the Baltusrol Golf Club, Springfield, N. J., where Farrell is professional.

"Inside Golf House" gives the viewer an opportunity to see the many interesting exhibits in "Golf House," USGA headquarters in New York, and to re-live golf triumphs of the past with many of the game's immortals. The film is a 16 mm. black and white production and runs 28 minutes.

"The Rules of Golf—Etiquette" also has proved popular. The film stresses the importance of etiquette by portrayal of various violations of the code in the course of a family four-ball match. Ben Hogan appears in several scenes, and Robert T. Jones, Jr., makes the introductory statement. A 16 mm. color production, the film has a running time of 17½ minutes.

The distribution of all three prints is handled by National Educational Films, Inc., 165 West 46th Street, New York 36, N. Y., which produced the films in cooperation with the USGA. The rental is $20 per film; $35 for two; $50 for three, or 60 for four, in combination at the same time, including the cost of shipping prints to the renter.

of the traditional Old Course, and in their place substituted three monsters, all of which fell on the second nine, otherwise composed largely of holes from the Squirrel unit. One of the monsters was not a single hole at all but a combination of two which found the visitors playing from the tee of Primrose 1 across the water hazard behind that hole, to the green of Primrose 2. The next two holes were the eighth and ninth of the Primrose unit, not previously a part of the championship course. The finish was, of course, the last five holes of the championship course about as they had been played since Ouimet beat Vardon and Ray in the 1913 Open.

The addition of these Primrose holes made the second nine Herculean, and many an ambitious youngster who had managed to gain an advantage of a hole or two on an experienced player over the first nine saw it vanish before his eyes as they turned down the home stretch.

Thus, as the eliminations proceeded, the experienced players, the known quantities, kept winning, and when the semi-final was reached four members of the Walker Cup Team remained. They were Dr. Frank M. Taylor, Jr., of Pomona, Cal., Pvt. Mason Rudolph, of Clarksville, Tenn., Lt. Hillman Robbins, of Memphis, Tenn., the eventual winner, and Rex Baxter, Jr., of Amarillo, Texas.

In their wakes lay certainly as strongly balanced a field as has ever sought the Amateur Championship, in spite of the absence of Harvie Ward, of San Francisco, Cal., the 1955 and 1956 Champion, who had been found in violation of the Rules of Amateur Status and was serving a probationary period. The entry of 1,578, only 22 short of last year's record, included Reid Jack, of Scotland, the British Amateur Champion, and all the other members of the British Team, a strong one.

In particular, the semi-finalists had eliminated four other great players in as exciting a series of quarter-final matches as the old championship has ever seen.

For example, Taylor made a brilliant birdie 3 on the home hole for a one-under-par 71 to beat Gene Andrews, of Los Angeles, Cal., the 1954 Public Links Champion and a man who had lost only to Reid Jack in the fifth round of the British Amateur last spring. Andrews had made a run for it by holing a 50-foot putt for a 2 on the sixteenth.

Rudolph dropped an equally fine birdie 3 on the nineteenth to stop Richard L. Yost, of Portland, Ore., a member of the 1955 Walker Cup Team, after Yost had squared the match at the eighteenth. Rudolph also was 71 for the eighteen holes.

Robbins finished with two successive birdies, a 2 on the sixteenth and a 3 on the seventeenth, to oust Richard D. Chapman,

of Osterville, Mass., the former United States, British, Canadian and French Champion, 3 and 1. Robbins, too, needed a par for a 71 when Chapman finally succumbed after another great showing at the age of 46.

Baxter eliminated his fellow-student at the University of Houston, 19-year-old Phil Rodgers, of La Jolla, Cal., by holing a tough eight-footer at the twenty-first hole. Rodgers had holed a fifty-foot downhill putt for a birdie 3 on the seventeenth, only to see Baxter match it from twenty feet, and then a twenty-footer for a birdie 3 on the eighteenth which Baxter could not match. Baxter had, however, played the regulation round in 72.

Unfortunately, the British had not appeared in the quarter-final round and, in fact, stayed nowhere near as long as many had hoped they would. Jack was a third-round victim of Claude L. Wright, of Denver, Colo., and by the fourth of the eight rounds only two had been left, Alan Thirlwell, of England, and Alan F. Bussell, of Scotland, and they were paired against each other. Thirlwell won, but it was his last victory.

It was in a way sad that the eliminations had to continue after these sensational matches, and as a matter of fact the players did display less zest in the semi-finals. Taylor defeated Rudolph, 5 and 4, with one-over-par play; and Robbins barely got away from Baxter with an eight-over-par performance.

Incidentally, Rudolph, Robbins and Baxter, all southerners, came to the championship together and roomed together throughout the week.

In the final, Taylor and Robbins emulated the girl with the curl. Taylor won the very first hole with a smart birdie 3, lost the next five hand-running to four pars and a birdie, then surged back and was 1 up again at noon. Neither player was at his best, however.

The brilliant golf of the earlier rounds did not appear until the short sixth in the afternoon where Robbins in effect stole the hole to draw even. Robbins' iron shot came to rest in the rough at the base of a steep bank to the left of the green, and Taylor's ball stopped on the front apron. However, Taylor chipped too strongly. Robbins wedged dead to the hole and Taylor missed his putt for the par and the half.

Thereafter, Robbins, a 25-year-old Air Force officer, made four pars and three birdies on the last eight holes to close out the 40-year-old dentist, who obviously tired rapidly.

There were, of course, many other great matches in the early rounds, and not the least appealing of these were the two in which Chick Evans, the 67-year-old winner of the 1916 and 1920 Championships, triumphed by successive scores of 4 and 3, then 4 and 2. The championship was his forty-fifth in succession since 1907; the appearance in match play was his thirty-first; and the victories were his fifty-fifth and fifty-sixth.

Exciting, too, was the fourth-round contest in which Willie Turnesa, of Elmsford, N. Y., the 1938 and 1948 Champion, and Jack Penrose, of Miami Beach, Fla., went to the 24th hole, Penrose finally winning.

These were all sources of keen interest for some of the largest and most golf-minded galleries to attend the Amateur in years. The favorable response indicated that Boston never should have allowed twenty-three years to elapse between Amateur Championships. The last one it had seen was in 1934, also at The Country Club, when Lawson Little won his first Little Slam.

Bostonians, too, seemed to appreciate not only a first-hand look at the new young amateur stars but a chance to see again their own favorites—Jesse P. Guilford, the 1921 Champion, Fred J. Wright, then the Senior Amateur Champion, and Ted Bishop, the 1946 Champion, all of whom were in action, and Francis Ouimet, who was in the gallery.

The response, too, was a tribute to the energetic and conscientious manner in which Charles Devens, the general chairman, and all The Country Club's officers and committees applied themselves to the business of putting on an attractive, hospitable and well-managed event.

"UNCLE JOE" DICKSON A MANY-SIDED GOLFER

by MISS NANCY JUPP

IT is a sad fact that many ardent golfers become one-track-minded and develop into golfing bores. It is therefore a surprise and a delight when one comes across a man like Joseph S. Dickson, of Louisville, Ky., who has turned his fertile brain and adequate resources down so many diverse channels.

Mr. Dickson, who will celebrate his 79th birthday on November 24, has been dubbed by scholars "The Sage of Louisville." The intimate appellation of "Uncle Joe" was accorded him, with good cause, by Louisville's public links golfers, and taken up by those who have had the good fortune to come within his orbit.

His association with golf dates back to 1919 when he was taken to play at the Cherokee course, Louisville, Ky. It speaks volumes for his instant enthusiasm and personality that in no time at all he was President of the Club, a position he held for ten years.

It was during his tenure of office at Cherokee that Uncle Joe began to champion the public links golfers. Since 1929 he has been their guide, philosopher and friend, and has accompanied the Louisville team to every USGA Amateur Public Links Championship since that date, with the exception of the 1953 meeting in Seattle, Wash.

In 1933 he was invited to join the USGA Public Links Committee, and now holds the distinction of being both the oldest and longest serving USGA Committeeman. There is no keener student of Roberts' Rules of Order, and woe betide the man who steps outside its code during a committee meeting.

Joe Dickson's service to golf has not been confined to the one channel. He designed and organized the Seneca Golf Club in Louisville, and served two terms as its President in 1933-1934 and 1949-1950. He was further honored with the Presidency of the Kentucky State Golf Association in 1951-1952 and again in 1955-1956. He is still on its Board of Directors. Besides Cherokee and Seneca, he is a member of the Shawnee and Iroquois Clubs and an honorary life member of Cresent Hill.

Joseph S. Dickson strikes a familiar pose as he leans on his famous cane.

Considering he was a man of forty-one before he became acquainted with the

game, his service is all the more remarkable. But golf has only been one facet of his many sided life.

As a young lad he did not have more than an average education. He entered a store as office boy at the age of 17 and later became a printer's devil.

When he was 27 his father founded a printing works and took Joe into partnership. The business is flourishing to this day and Joe is still at his desk in charge of operations.

From his earliest days he was a deep thinker, and when problems worried him he would not rest until he had found a solution.

His biggest problem, which took him thirty-six years to resolve, was a satisfactory interpretation of the Book of Revelation.

He was 22 when he first began to question all and sundry; he was 58 when he published an 159-page volume entitled "The Revelation of St. John the Divine: An Explanation." His research had taken him deep into the realms of astronomy covering a period of 12,000 years. He had taught himself Greek, Hebrew and Latin, and had studied the rites, cultures and agricultural practices of all the ancient races.

Joe Dickson is more than an intellectual. He is a humane man. He was so moved to pity one day by a child who had never walked that he took up the problem with some of his Masonic friends. Three years later a Crippled Children's Hospital was built sponsored by the Kosair Temple. He served on the Board for twenty years.

An ardent Mason, Dickson has been honored by Temples throughout the country. In his eary days he sang in the Temple's Chanters and played a Chinese musette in its Oriental Band.

But there is also a lighter side to the Kentucky benefactor as those who have seen him perform with his cane will testify.

Joe Dickson's cane has a history. It was the treasured possession of one Captain William I. Hunt which had been sent to him from Jacksonville, Fla., during the Civil War.

GOLFER AND CADDIE

Mr. Golfer, I would warn you, there's a youngster at your side,
And if you are fit to be with, he will very soon decide.
He must watch the ball you play with,
That is what he's paid to do,
But as long as he's your caddie, he'll be also watching you.
You're that growing boy's example. You will not have journeyed far
Before you will have shown him just the sort of man you are.
If you break the rules he'll know it.
He'll exactly keep the score
And he'll know the hole just finished was a "five" and not a "four".
He'll go home and tell his mother:
"I had So and So today
And I Liked him, or I didn't"
Mothers learn of men that way.
You may think it doesn't matter what you say or what you do,
But that youngster, Mr. Golfer, has both eyes and ears on you.

Edgar Guest

Seeking a life of peace and quiet, Captain Hunt eventually pitched his tent in Cherokee Park in 1889 where he tended the tennis courts and skating pond.

Two years later he laid out a 9-hole golf course. Cherokee became his home and his life in his twilight years.

When the Captain was 90 be bequeathed the cane to Uncle Joe who was then President of his beloved Cherokee. That cane, refinished and lacquered, has accompanied Dickson on all his many golfing trips. Watching others play he used to swish about with the cane until he became quite proficient. He would offer to shoot a 10 on the longest par five hole and would often finish with a 7 or 8.

One day he wound up the subject of an unusual radio commentary from the North Fulton Park Golf Club, Atlanta, Ga., in 1948. Six interested parties had wagered amongst themselves that he couldn't shoot the first hole in 12. A radio reporter with nothing else to cover joined the unique gallery and reported a blow for blow description.

Those "for" him were in the money—Joe shot a 7.

DO YOU KNOW YOUR GOLF?

Answers to questions below will be found on page 16.

Scoring: Answers right—4 (Par 36). For every answer wrong—5.

1. What famous golfer — *Score*
   (a) Won the Purple Heart? .....
   (b) Was killed in an RAF crash? ....

2. Complete the names of
   (a) Samuel Jackson .....
   (b) Patricia Jane .....
   (c) Arthur D'Arcy .....
   (d) William Joseph ....

3. In what States are the following courses?
   (a) Oakland Hills Country Club .....
   (b) Oak Hill Country Club .....
   (c) Southern Hills Country Club .....
   (d) Indian Hills Country Club ....

4. Are these statements true or false?
   (a) The weight of the ball must not be less than 1.62 ounces avoirdupois .....
   (b) Ben Hogan was injured in 1949 .....
   (c) Schenectady putters are illegal in Britain .....
   (d) Commonwealth players are eligible to play on British International Teams ....

5. Can a golfer get relief from an obstruction in a bunker? ....

6. The diameter of the hole is 4¼ inches. Has it ever varied? ....

7. You have often heard a player say: "Another roll and it would have been in." Approximately how far does a ball travel in a single revolution? ....

8. Which of the three major team matches between the United States and Great Britain was the first to be instituted? ....

9. Excluding the Junior Championships, two teenagers hold USGA titles. Can you name them? ....

SENIORS APPEAL FOR SPEEDIER GOLF

BY

JOSEPH C. DEY, JR.
USGA Executive Director

FAR more than a champion is apt to come out of a national golf championship, especially when the players are elder statesmen of the game. So it was with the third Senior Amateur Championship of the United States Golf Association, conducted recently at the Ridgewood Country Club in New Jersey, on the outskirts of New York City.

The Champion who came out of this Championship is J. Clark Espie, of Indianapolis, and a very deserving winner he is. He was 3 down and 6 to play in the final match against the man who had defeated him in last year's final, Frederick J. Wright, of Boston.

But there were other happenings of note at Ridgewood, and chief among them was the start of an effort by the seniors to influence golfers in general to speed up play.

The seniors began with themselves. At the USGA Players' Dinner before the Championship, four types of golfing "snails" were described—the Nature-Lover, the Debator, the Waggler, and the Surveyor. The unhappy delay they can cause for following golfers was pointed out by four prominent seniors—Messrs. Espie, Wright, Chick Evans and Woodie Platt, who was the first USGA Senior Champion in 1955.

As elder statesmen, seniors can exert good influence upon the game in their home clubs and districts. The USGA Senior Championship Committee hopes to enlist them to carry the gospel of speedier play through the land. Chairman of the Committee is John G. Clock, of Long Beach, Cal., a USGA Vice-President.

It is entirely possible that from the small beginning at Ridgewood can start an effort which will, through force of education and public opinion, cut out some of the unduly slow play now bedeviling golf.

The problem is, to some extent, a matter of courtesy. Ray Schlicht, a senior of St. Paul, Minn., had suggested to the USGA that seniors be asked to take the lead in bringing about better observance of golf's code of etiquette. Now the spearhead is to be an attack on slow play.

So, Seniors, arise! Out with the stopwatches! Ready . . . Set . . . Go!

Repeat Finalists

Clark Espie and Fred Wright set a USGA record for men's championships in being the Senior Championship finalists for the second year in succession. Bob Jones and George Von Elm were twice finalists in the USGA Amateur Championship but not in consecutive years—1924, when Jones won, and 1926, when Von Elm won. The Women's Amateur Championship has had one case of consecutive finalists—Mrs. Julius A. Page, Jr., and Miss Patty Berg, who won in that order in 1937 and 1938. Mrs. Edwin H. Vare, Jr. (Glenna Collett) and Miss Virginia Van Wie thrice met for the Championship but never in successive years.

Espie produced perhaps his best golf of the week at the crucial stage of his 18-hole Championship match with Wright. It looked as if Wright would retain the Championship when he was 2 up at the turn and 3 up after 11 holes. But Espie played the next six holes in one under par and took five of them, winning the match by 2 and 1. Factors in his winning surge were two big putts he holed, two three-putt greens by Wright and a virtually unplayable lie by Wright in the base of a tree-trunk on the concluding hole.

The new Champion, who is 58 years old,

reached the final by victories over Martin M. Issler, of West Orange, N. J.; Vincent Fitzgerald, Garden City, N. Y.; Harold B. Ryder, Siasconset, Mass., and John M. Winters, Jr., Tulsa, Okla., who is Chairman of the USGA Rules of Golf Committee. The semi-final with Winters was even after 11 holes and Espie took four of the next five for a 4-and-2 victory.

Wright's victim in the semi-finals was James H. McAlvin, of Lake Forest, Ill., 2 and 1. Before that he defeated Roy L. Corey, of Syracuse, N. Y.; Paul A. Dunkel, Ridgewood, N. J., and Thomas C. Robbins, Mamaroneck, N. Y.

Espie, who has several grandchildren, has won the Indianapolis district, Indiana Senior and Western Senior Championships. He is a member of the USGA Senior Championship Committee.

The Ridgewood course provided a sound and exacting test. It was the scene of the Ryder Cup Match between British and American professionals in 1935, and it kept the seniors on their toes. The course was in splendid condition. So was Ridgewood's hospitality—nothing was left undone for the seniors, thanks to Howard Smith, Ridgewood's President; Joseph Ganann, General Chairman of the Club's Committees for the Championship, and George Jacobus, long-time Professional and formerly PGA President.

Sectional qualifying at 24 locations reduced the original entry of 349 to 120 for the Championship proper. At Ridgewood the medalist was a new senior, 55-year-old Thomas M. Green, Jr., of Seattle, with 73. Scores of 81 tied for the last place in the Championship flight of 32 who competed for the trophy presented by Frederick L. Dold.

For the first time there were consolation match play flights of 16 for non-qualifiers, and the results in the finals were:

First flight—Allen R. Rankin, Columbus, Ohio, won by default from James S. Manion, St. Louis.

Second flight—Maurice R. Smith, Kansas City, defeated William E. Norvell, Jr., Chattanooga, 6 and 4.

Third flight—Frank K. Stevens, New Rochelle, N. Y., defeated C. E. Bader, Gary, Ind., 3 and 2.

Fourth flight—Maurice L. Wilcox, Philadelphia, defeated G. Calvert Hoyt, Redwood City, Cal., 3 and 1.

Losers in the first round of all flights became eligible for an 18-hole consolation stroke play, which resulted in a tie at 83 between Robert U. Davidson, of Kansas City, and Paul W. Horn, Allentown, Pa.

A Lifetime Game

Anyone seeking to make a virtuous case for golf as a lifetime game doesn't have far to look. Among the many exemplars in the Senior Championship we would cite Chick Evans and Runcie Martin.

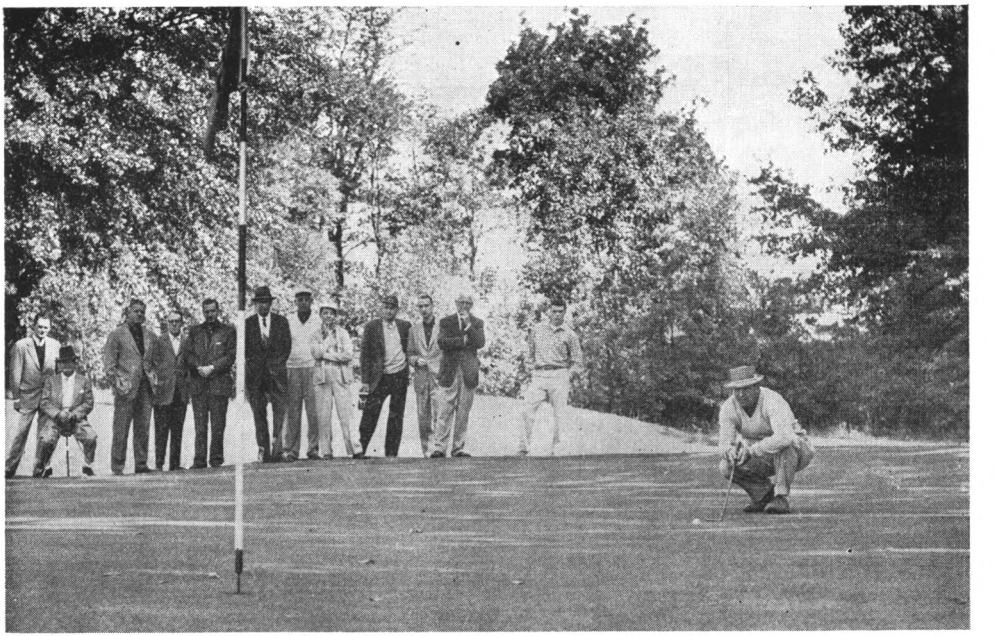
Chick Evans is 67 now, and it is 41 years since he won the Open and the Amateur in the same season. This year, after winning two matches in the National Amateur in September, Chick went to the Senior Championship. His qualifying score of 84 landed him in the first consolation flight. In spite of some seventh-decade aches and pains, he played as far as his game would take him.

Runcie Martin, a curler and a golfer from Duluth, Minn., has never had the skill of Chick Evans but, today at age 72, he is no less enthusiastic. He played at Ridgewood, and it was just 52 years after he first played in—a national Championship, the Amateur of 1905.

After the tournament he wrote the USGA as follows: "I thoroughly enjoyed meeting some 27 contestants in your Senior Championship whom I had either played with in previous tournaments or made the acquaintance of during tournaments in the past."

Now there is supposed to be an essential difference between the USGA Senior event and most other senior tournaments. In the USGA Championship the emphasis is on competition; in the others, the main idea seems to be just fun and sociability. But the two objects are not mutually exclusive, as Mr. Martin has so nicely testified.

Senior golf has had a tremendous growth since World War II. The last ten years have produced a favorable climate for the game to appeal to elder citizens—an abundant



J. Clark Espie, of Indianapolis, Ind., lines up a putt in the final of the USGA Seniors' Championship. From 3 down with 6 to play, he made a great come back to win by 2 and 1 from the holder, Frederick J. Wright, of Boston.

economy, shorter work days, earlier retirement, more leisure time, the example of a golfing President. These elements have been added to the natural charm of golf as a lifetime game in which, with handicaps, you can make a match with your grandmother. The result has been a quiet but rather phenomenal upsurge in interest among older men. It has been evident at all levels, starting in individual clubs and extending to international team matches.

A strong reflection of booming local interest is seen in sectional and national competitions for seniors. New tournaments have sprung up all over the country. Senior entry lists sometimes must be held down by such devices as limits of age and handicap.

The United States Seniors' Golf Association pioneered national competition, starting in 1905. Its members are individual seniors at least 55 years old. The membership list is restricted to a fixed number.

The USGA started its Senior Amateur Championship in 1955, for members of USGA member clubs whose age is not less than 55 and whose handicaps do not exceed 10.

Although various senior events have various emphases, they all have the same flavor of boyish play. The participants may be business leaders or manual laborers, ministers of the gospel or skilled technicians, but in golf they find a common denominator, and become boys again.

Golfers often improve with age. Although it is not really an old man's game, it has produced some rather astounding Champions. The 1933 British Amateur Champion was a gentleman aged 54, the Hon. Michael Scott. Just five years ago the USGA Amateur Championship had its oldest winner in Jack Westland, of Everett, Wash., now a Congressman. He won at age 47. When it was all over and the USGA asked Mr. Westland for a club or other memento for the USGA Museum in "Golf House," he sent a shooting stick-seat on which he had rested frequently during the Championship; it was accompanied by a note saying it had helped him "more than any club in the bag."

JOHN AMES NOMINATED FOR USGA PRESIDENCY

64th Annual Meeting to be Held in Chicago

JOHN D. Ames, of Chicago, has been proposed for the Presidency of the United States Golf Association in the report of the Nominating Committee, presented by Isaac B. Grainger, Chairman. The report will be acted upon by delegates to the Association's 64th Annual Meeting to be held Saturday morning, January 25, 1958, at the Drake Hotel, Chicago.

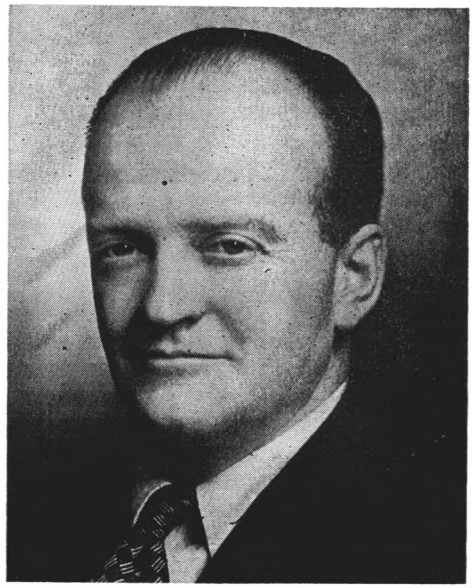
This will be the first Annual Meeting since 1927 to be held outside of New York.

Richard S. Tufts, of Pinehurst, N. C., will retire from the Presidency and from the USGA Executive Committee, of which he has been a member since 1946. Mr. Tufts has been President the last two one-year terms; it is customary for a USGA President to serve no more than two years.

Mr. Ames has been an Executive Committeeman since 1946, was Treasurer in 1950-51, Secretary in 1952-53, and a Vice-President since then. He has been Chairman of the Championship Committee since 1950, and was Chairman of the Implements and Ball Committee 1948-49.

Mr. Ames was a lieutenant colonel in the Army in World War II and served as Deputy Military Governor of Rome, Italy. He is a Princeton alumnus, class of 1928, and was Captain of Princeton's championship golf team. He is a partner in an investment firm. In 1956 he was Chairman of the Finance Committee of National Citizens for Eisenhower. His father, the late Knowlton L. (Snake) Ames, was a member of the USGA Executive Committee 1913-14 and had been a football star at Princeton.

John G. Clock, of Long Beach, Cal., has been re-nominated to be a Vice-President. Nominated for the other Vice-Presidency is Charles L. Peirson, of Boston, who is presently Secretary. In Mr. Peirson's place as Secretary the Nominating Committee has proposed John M. Winters, Jr., of Tulsa, Okla. J. Frederic Byers, Jr., of Pittsburgh, has been re-nominated to be Treasurer. Wm. Ward Foshay, of New York, is on the ticket to be General Counsel again.



JOHN D. AMES

There are to be two changes in the 15-member Executive Committee. John W. Fischer, of Cincinnati, will retire along with Mr. Tufts. Mr. Fischer, the 1936 National Amateur Champion, has been a member of the Committee since 1952 and is currently Chairman of the Amateur Status and Conduct Committee. He has regretfully made himself unavailable for re-nomination because of other responsibilities.

Nominees for these two Executive Committee places are two members of the present Sectional Affairs Committee—Hord W. Hardin, a banker and former attorney, of St. Louis, and Bernard H. Ridder, Jr., newspaper publisher, of Duluth, Minn.

Thus, the ticket to be presented by the Nominating Committee at the Annual Meeting comprises:

Green Section Educational Program

The USGA Annual Meeting will be preceded by an educational program conducted by the USGA Green Section for the benefit of club green committee chairmen and golf course superintendents.

The program will be given Friday, January 24 at the Drake Hotel, Chicago. There will be morning and afternoon sessions.

Officers

President	John D. Ames	Onwentsia Club, Lake Forest, Ill.
Vice-President	John G. Clock	Virginia Country Club, Long Beach, Cal.
Vice-President	Charles L. Peirson	The Country Club, Brookline, Mass.
Secretary	John M. Winters, Jr.....	Southern Hills Country Club, Tulsa, Okla.
Treasurer	J. Frederic Byers, Jr.	Allegheny Country Club, Sewickley, Pa.

Executive Committee

The Officers and:

C. W. Benedict	Winged Foot Golf Club, Mamaroneck, N. Y.
Emerson Carey, Jr.	Denver Country Club, Denver, Colo.
William C. Chapin	Oak Hill Country Club, Rochester, N. Y.
Richmond Gray	Country Club of Virginia, Richmond, Va.
Hord W. Hardin	Bellerive Country Club, Normandy, Mo.
Stuart A. Heatley	San Francisco Golf Club, San Francisco, Cal.
Gordon E. Kummer	Milwaukee Country Club, Milwaukee, Wis.
William McWane	Country Club of Birmingham, Birmingham, Ala.
F. Warren Munro	Waverley Country Club, Portland, Ore.
Bernard H. Ridder, Jr.	Northland Country Club, Duluth, Minn.

General Counsel

Wm. Ward Foshay	Round Hill Club, Greenwich, Conn.

The Nominating Committee proposed for 1959 comprises:

Totten P. Heffelfinger, Chairman	Minikahda Club, Minneapolis, Minn.
Charles R. Coe	Oklahoma City Golf and Country Club, Oklahoma City, Okla.
John W. Goodrich	The Country Club, Brookline, Mass.
Corydon Wagner	Tacoma Country and Golf Club, Tacoma, Wash.
Charles R. Yates	Augusta National Golf Club, Augusta, Ga.

The current Nominating Committee consists of:

Isaac B. Grainger, Chairman	Links Golf Club, Roslyn, N. Y.
Edwin C. Hoyt	Wee Burn Country Club, Darien, Conn.
Charles D. Hunter, Jr.	Tacoma Country and Golf Club, Tacoma, Wash.
Lynford Lardner, Jr.	Milwaukee Country Club, Milwaukee, Wis.
William H. Zimmerman	Country Club of Columbus, Columbus, Ga.

THE OBJECTIVES OF THE GOLF BALL STUDY

A Restatement of the USGA's Purpose

GOLFERS who have followed the game over a period of years probably will agree that there has been a long-term increase in the distance a golf ball may be struck and that any new materials and improved production methods in future would tend to continue and perhaps accelerate this trend unless the present controls exercised by the USGA are adequate.

An increase in distance would, of course, injure the game by minimizing the architectural values of courses, and the USGA feels a primary responsibility to protect its member clubs from the necessity of having to purchase additional land, redesign holes and pay increased taxes and maintenance expenses.

Since 1942, the distance factor has been governed by the paragraph of Rule 2-3 which states: "The velocity of the ball shall be not greater than 250 feet per second when measured on the USGA's apparatus . . ." This apparatus, completed by the Armour Research Foundation in 1941, is designed to hit golf balls with a mass moving at a definite velocity and to measure the resultant velocity with which the ball leaves the driving face.

While there is no question as to the efficacy of this apparatus in measuring initial velocity, it may be that a simple test of initial velocity is inadequate. The characteristics of the clubhead and shaft, the speed and angle at which the club is swung, the coefficient of restitution of the ball, aerodynamic forces which come into play during flight and other factors presumably influence distance. Their relative importance is not known precisely, however.

In order to obtain the best possible answers to these and corollary questions, the USGA a year ago engaged Arthur D. Little, Inc., a research firm of Cambridge, Mass., to make a comprehensive study of the ball with two objectives:

(1) To develop an improved standard or rule to control the distance the ball may be struck, and

(2) To develop a simpler and more practical control test of the flight of the ball than the present velocity test which requires unwieldy and expensive apparatus now set up in "Golf House."

Research scientists have worked on the problem for about a year and during the recent Amateur Championship recorded practice strokes of some of the prominent players with a specially developed camera which made 9,000 separate pictures a second. Subsequently, articles on the project appeared in newspapers and magazines.

One effect has been some premature publicity which over-emphasized certain

DO YOU KNOW YOUR GOLF?

(*Answers to questions on page* 10).

1. (a) Lloyd Mangrum; (b) Miss Pam Barton.
2. (a) Snead; (b) Berg; (c) Locke; (d) Patton.
3. (a) Mich.; (b) N. Y.; (c) Okla; (d) La.
4. (a) False (the weight must not be *more* than 1.62 ounces); (b) true; (c) false; (d) false. They are limited to the British Isles.
5. Yes. See Rule 33-1c.
6. No. The size was first mentioned in the 1893 code of the R. and A.
7. 5¼ inches.
8. The Walker Cup, instituted in 1922.
9. Don Essig, III, the Public Links title; Miss JoAnne Gunderson, the Women's Amateur.

details and distracted attention from the basic objectives of the study. Therefore the purpose has been restated here almost exactly as it was phrased last January by Charles L. Peirson, of Boston, Mass., in his annual report as chairman of the USGA Implements and Ball Committee.

In the meantime, the scientists are reviewing their studies, and the next, or February 1958 edition of the USGA Journal will publish their findings.

The original golf ball, called the feather ball, consisted of a sewn spherical shell of leather stuffed hard with feathers. In 1848 a smooth sphere of gutta percha was introduced and gradually replaced the feather ball. The guttie was much more lively than its predecessor, but it suffered from erratic flight characteristics. A scientific Scot soon observed that an old ball would fly truer than a new ball. This property was correctly attributed to nicks and scratches in the surface of the ball. Balls that had a rough surface were produced as a result of this observation.

About 1885 Prof. Peter Guthrie Tait, of Scotland, a noted mathematical physicist and an ardent golfer, became interested in the flight characteristics of golf balls. Tait observed that the longest drives were those that began with a low trajectory and that balls frequently remained in flight as long as seven seconds. Both of these observations contradicted Newton's laws of motion, which predicted that maximum carry would be achieved for greater initial angles of elevation and that the time of flight could not in any case exceed three or four seconds. Tait showed that these discrepancies could be resolved if the effects of backspin were included. Backspin coupled with the viscous nature of the air produces lift, much as is the case in the flow of air past an aircraft wing. Lift causes the ball to soar above the Newtonian or gravitational trajectory and thus carry farther and remain in the air for a longer period.

The familiar dimple marking was invented by an English mechanical engineer who observed the flow of cigar smoke past the bramble ball and concluded that a ball with better aerodynamic properties could be produced if dimples were substituted for the raised bosses on the bramble.

USGA COMPETITIONS FOR 1959

Championship or Team Match	*Entries Close*	*Sectional Qualifying Rounds*	*Dates of Event*	*Location*
(a) Walker Cup Match	——	——	May 15-16	Honourable Company of Edinburgh Golfers Muirfield, Scotland
Open	May 13	June 1	June 11-12-13	Winged Foot Golf Club Mamaroneck, N. Y.
Women's Open	June 11	None	June 25-26-27	Churchill Valley Country Club Pittsburgh, Pa.
Amateur Public Links	*June 4	†June 21-27	July 13-18	Denver, Colo. (course to be determined)
Junior Amateur	July 1	July 21	August 5-8	Stanford University Golf Course Stanford University, Cal.
Girls' Junior	July 31	None	August 17-21	(to be determined)
Women's Amateur	August 6	None	August 24-29	Congressional Country Club Washington, D. C.
Amateur	August 12	Sept. 1	Sept. 14-19	Broadmoor Golf Club Colorado Springs, Colo.
Senior Amateur	Sept. 2	Sept. 22	Oct. 5-10	Memphis Country Club Memphis, Tenn.

Dates entries close mean last dates for applications to reach USGA office, except in the case of the Amateur Public Links Championship. For possible exceptions in dates of Sectional Qualifying Rounds, see entry forms.

Re Amateur Public Links Championship:
*—Entries close with Sectional Qualifying Chairmen.
†—Exact date in each Section to be fixed by Sectional Chairmen.
(a) Walker Cup Match: Men's Amateur teams—Great Britain vs. United States.

A BUMPER YEAR FOR NEW GOLF COURSES

California Heads Activitiy List

THE 160 new golf courses and additions opened for play in 1957 top all previous 12 month periods since World War II, according to the 21st Annual Report of the National Golf Foundation. Joe Graffis, Sr., president of NFG, points out that these new courses and additions added 1,843 holes of golf to those already in play.

The 289 golf courses and additions under construction and the 758 courses in the planning stage in 1957 underline the growing public confidence in the future of golf.

"More than 500 new golf courses and additions have been put into play since 1952, when the National Golf Foundation embarked on an accelerated program to assist in the development of new golf playing facilities," Graffis said. "Not only has this program helped to bring many of the new courses into existence, it has been directly or indirectly responsible in saving many courses threatened with extinction by shopping centers, real estate subdivisions and superhighways.

"Today fewer courses are falling by the wayside due to the American public's increasing awareness of the need for recreation facilities in the modern young community, of golf's appeal to all age groups of both sexes and the golf courses proven ability to pay its own way without eating into already strained local tax structures!"

Graffis said that a survey of the 108 golf courses open for play in 1955, to which nearly 25 per cent of the courses responded, indicated that the 1955 group represents a total capital investment in land, improvements, equipment and supplies of approximately $27,000,000. Based on this estimate, and ignoring subsequent increases in land, labor and materials costs, this year's 133 new golf courses (not including additions) represents a total capital investment of more than $35 million.

NEW MEMBERS OF THE USGA

Regular	
Country Club of Darien	Conn.
Lido Golf Club	N. Y.
Mahopac Golf Club	N. Y.
Milbrook Club	Conn.
Associate	
Antelope Hills Golf Course	Ariz.
Old Orchard Country Club	Ill.

Other highlights of the Foundation report show that California again leads all states with 28 new golf courses and additions open for play and 40 courses under construction during the past 12 months, more than double its 1956 report and more than twice the number in each category reported this year by New York, second in line with 10 courses open for play and 19 under construction.

Texas is third in golf course development with 7 courses open and 21 under construction. North Carolina, Ohio and Tennessee each reported 6 courses open for play. Vermont, the only state not reporting courses open for play or under construction this year, shows 2 golf courses in the planning stage.

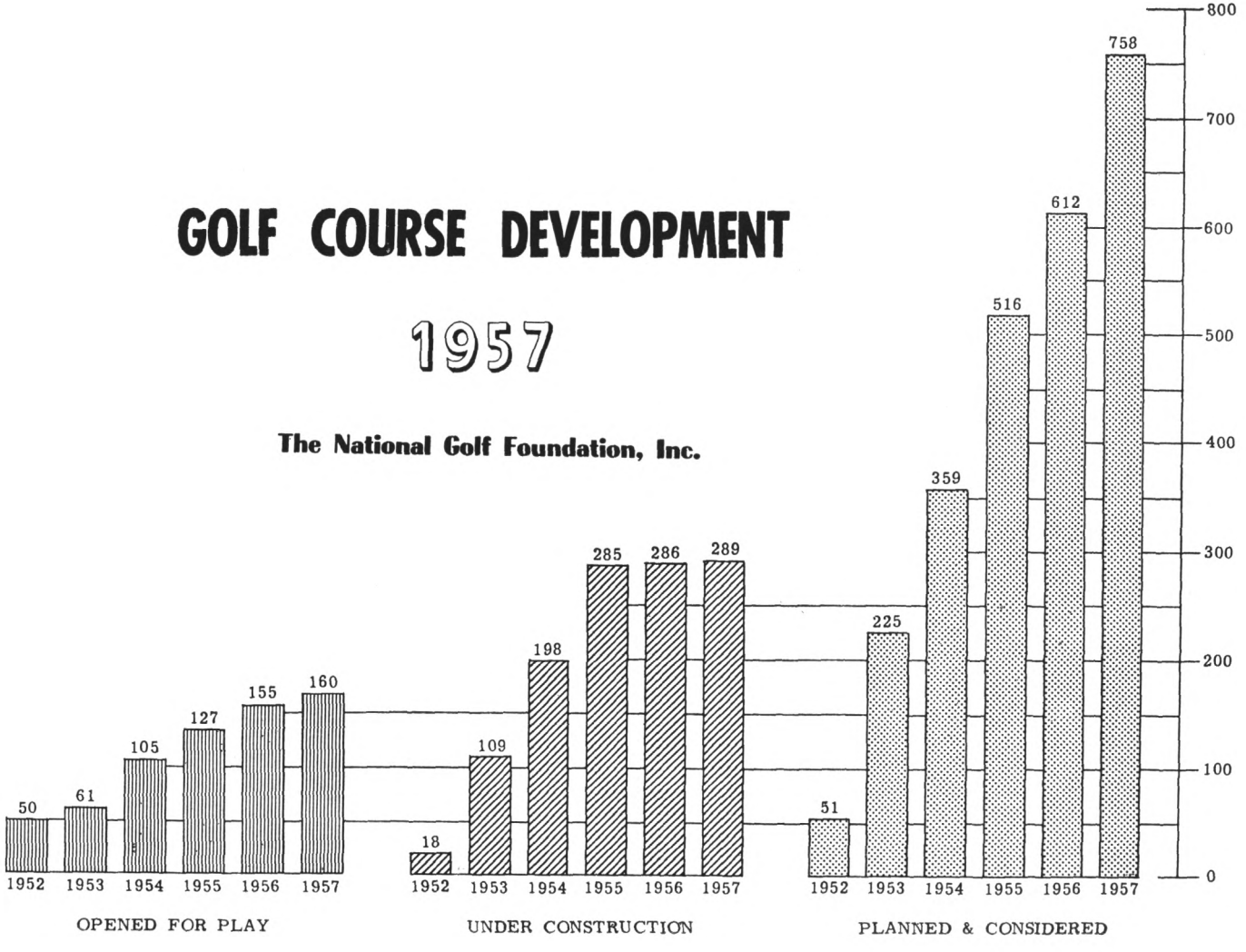
The National Golf Foundation report revealed a steady increase in golf activity throughout the country. There were 71,000,000 18-hole rounds against 67,500,000 in 1956. Women's play was up 15 per cent over 1956 and junior play (under 18 years of age) was up 20 per cent over the previous year.

As a non-profit organization, the National Golf Foundation helps any individual or group interested in the development of golf facilities or golf activity wherever they are needed in America. Its address is 407 South Dearborn Street, Chicago 5, Ill.

GOLF COURSE DEVELOPMENT IN THE UNITED STATES

OCTOBER 1, 1957

STATE	OPEN FOR PLAY 9-h	18-h	Oth.	Tot.	UNDER CONSTRUCT 9-h	18-h	Oth.	Tot.	PLANNED & PROSPECTIVE
Alabama	2	2		4	4	2		6	13
Arizona	3			3	2	2		4	3
Arkansas	2			2	1	4		5	3
California	20	7	1	28	18	22		40	110
Colorado	1	1		2	8			8	10
Connecticut	1			1	2	1		3	9
Delaware					1			1	1
District of Columbia	1			1	1	1		2	2
Florida	3	2		5	5	10	2	17	24
Georgia						3		3	11
Idaho	1			1	4			4	6
Illinois	1	1		2	2	2	2	6	23
Indiana	4	1		5	1	2		3	14
Iowa	2			2					17
Kansas	3	1		4	4	1		5	9
Kentucky	2			2		4		4	6
Louisiana	2	2		4	2	2		4	4
Maine	1			1					5
Maryland	3		1	4	3	3	1	7	15
Massachusetts	5			5	8	3		11	19
Michigan	4	1		5	8	5		13	17
Minnesota	3			3	3	1	1	5	28
Mississippi					2			2	4
Missouri					4	4		8	16
Montana	1			1		2		2	5
Nebraska	3			3	3			3	14
Nevada	1			1	2	3		5	4
New Hampshire	1	1		2					4
New Jersey	2	1	1	4	3	3		6	19
New Mexico					3		1	4	8
New York	6	4		10	10	7	2	19	51
North Carolina	5	1		6	6			6	10
North Dakota					1			1	5
Ohio	6			6	2	6		8	44
Oklahoma	5			5	7	1		8	11
Oregon					5			5	12
Pennsylvania	1	4		5	8	5		13	37
Rhode Island						1	1	2	7
South Carolina	2			2	1	1		2	4
South Dakota							1	1	2
Tennessee	4	2		6	3	1		4	19
Texas	4	3		7	7	11	3	21	31
Utah	1	1		2	1			1	5
Vermont									2
Virginia	3	2		5	1			1	19
Washington					3	1		4	13
West Virginia	4	1		5	1	1		2	7
Wisconsin	1	1		2	1	1		2	19
Wyoming	1			1	1		1	2	6
Azores					1			1	
B. W. I.									1
Canada	1			1	1			1	13
Dominican Republic		1		1					
Ecuador									1
France									1
Germany							1	1	
Guam									1
Hawaii					1		1	2	4
Iceland									1
Japan		1		1					
Mexico									3
Puerto Rico									2
South America					1			1	
Spain									2
Virgin Islands									1
	116	41	3		156	116	17		
Total Courses (including additions)				160				289	758


GOLF COURSE DEVELOPMENT
1957
The National Golf Foundation, Inc.
800
700
600
500
400
300
200
100
0
50
61
105
127
155
160
1952
1953
1954
1955
1956
1957
OPENED FOR PLAY
18
109
198
285
286
289
1952
1953
1954
1955
1956
1957
UNDER CONSTRUCTION
51
225
359
516
612
758
1952
1953
1954
1955
1956
1957
PLANNED & CONSIDERED

THE REFEREE

Decisions by the Rules of Golf Committees

Example of symbols: "USGA" indicates decision by the United States Golf Association. "R & A" indicates decision by the Royal and Ancient Golf Club of St. Andrews, Scotland. "57-1" means the first decision issued in 1957. "D" means definition. "R. 37-7" refers to Section 7 of Rule 37 in the 1957 Rules of Golf.

Chalk on Clubface Violates Rule

USGA 57-6
R. 2-2b,d

Q: During the 1956 Amateur Championship, I observed a few players applying chalk to the faces of their irons.

Is this permissible? If not, what is the penalty in match and stroke play?

Question by: ROBERT K. HOGARTY
Northfield, Ill.

A: It is not permissible to apply chalk or other foreign materials to a clubface during play.

Rule 2-2b provides: "The player or other agency shall not change the playing characteristics of a club during a round."

Rule 2-2d provides that: "Club faces shall not bear any type of finish made for the purpose of putting additional spin on the ball."

The penalty for violation of Rule 2 is disqualification, unless waived or modified under Rule 36-5.

Comment: Decision 57-6 represents a revision in policy. Players in past championships have applied chalk to club faces without being considered in violation of any Rule.

Knocking Ball Away Tantamount to Lifting

USGA 57-22
R. 23-3, 35-3

Q: In stroke play, Mrs. E. was on the 18th green in 3. Her first and second putts were missed, and the ball lay about two inches from the cup. In disgust she knocked the ball toward the side of the green with the back of her putter. It didn't go far and she knocked it again, off the green. She was reminded she had to hole out, so she picked up the ball and replaced it two inches from the cup and did not leave the green until she holed out.

Is she disqualified for not playing the ball back to the hole from where she knocked it? Or should she incur a two-stroke penalty, which would have applied had she only lifted the ball? Or should she incur the two-stroke penalty plus the two strokes she took in hitting the ball away from the hole?

Mrs. E. finally felt she should withdraw to be absolutely fair to the whole field.

Question by: MRS. CHARLES F. FOX,
Secretary, Women's Metropolitan
Golf Association
Highland Park, Mich.

A: The player should have been permitted to replace the ball under a two-stroke penalty as provided for in Rules 35-3 and 23-3.

The player in effect lifted the ball when it was close to the hole. The two-stroke penalty is adequate to regulate further play and to equalize any possible advantage she may have gained in moving the ball with a club rather than actually lifting it. The word "lift" in Rule 23-3 need not be interpreted too literally here.

Committee Responsible For Scoring Procedure In Team Match

USGA 57-23
R. 11-1,-3,-4; 38-2,-3

Q: In an interclub team match, play was in four-ball matches, three-point Nassau, with one point for low ball on front nine, one point on second nine and one point for overall total.

When match was completed, Twaalfskill was declared winner by a 20-19 score.

A member of the Woodstock team discovered an error against his side about one-half hour after the match was over. The score had been reported by one of the Twaalfskill members playing in the four-ball match as a 3-0 victory for Twaalfskill, but the Woodstock player insisted the first nine had been halved entitling each side to ½ point. This would have made the final result 2½ to ½ in favor of Twaalfskill and thrown the final tally to a 19½-19½ tie.

A check of the scorecard revealed a halved nine.

Twaalfskill insisted the score should remain as originally posted and that, even though a Twaalfskill man turned in the erroneous score, the Woodstock players were liable and responsible for not checking. Twaalfskill claimed the 20-19 victory. Woodstock said the score should be corrected and the match declared a 19½-19½ tie. Other Woodstock players insisted that the erroneous score turned in by the Twaalfskill member of the foursome, who was serving as official scorer, invalidated the entire match, which should be thrown out. This would create a Woodstock victory.

Efforts to settle the argument on the basis of sections 2 and 3 of Rule 38 failed to satisfy either side.

Question by: CHARLES J. TIANO
Kingston, N. Y.

A: The Commtitee in charge should determine the matter, as it apparently fixed a procedure for scoring and reporting results of matches. If the Committee cannot come to a conclusion, it may submit a written statement to the USGA as provided for in Rule 11-3.

The players in the match should have had an understanding as to the status before results were reported.

The issue is the status of the Nassau point for the first nine holes. If the players agreed on the status of the first nine before any player had driven from the tenth tee, no later claim was admissible, under Rule 11-1, unless wrong information were involved.

If an erroneous report of the results was made by one player in the match, without consultation with and agreement by the opponents, the error should be corrected. See Rule 11-4.

The Rules give no status to a score card in match play. However, the Committee may use a score card in a supplementary manner when it considers the card could be of assistance.

Rule 38 applies to stroke play, not match play.

Ball Struck on Backward Swing Incurs Penalty Stroke

USGA 57-24
D. 3, 30;
R. 16, 27-1a, 27-1c.

Q. 1: In a tournament, a thunderstorm came up, and the committee ordered play suspended until after the storm. One woman had driven off the tee, and all four in the group marked her ball visually; no actual marker or cover was placed over the ball or spot where the ball rested. After the storm and when play resumed, the other women drove off, but the woman who had first driven was unable to find her

ball. Someone must have removed it, accidentally or otherwise. The committee penalized her two strokes over her objections. What should the ruling be?

Q. 2: On addressing a ball on the fairway or putting green, should the face of the club touch the ball, I understand that is allowable, but suppose on the putting green the ball is jiggled, not actually moved? I've seen players double-face a ball, put the putter first behind then over the top of the ball and line the putt up from in front of the ball then place the putter behind the ball to stroke it. Any number of times I've seen the ball jiggle. Is this a stroke? I've been told that a ball must roll half a revolution to be a stroke, something which is pretty hard to define.

Q. 3: A player chipping missed his shot completely, and in swinging his club back he accidentally hit his ball, which was driven backwards some dozen feet by the back of the club. Is this considered a stroke, or does he just count the missed stroke and not the one hit as his club swung backwards?

Questions by: FRED C. CLARKE, JR.
Woodstock, Vt.

A. 1: As the player's ball was visible from the tee by all four players before play was suspended, it can be claimed in equity that the ball was moved by an outside agency, and a ball must therefore be dropped without penalty under Rule 27-1a. When play is temporarily suspended, it is permissible and advisable, but not obligatory, to lift and mark the location of a ball in play.

A. 2: A ball may be touched while being addressed provided it does not move. (Rule 16). A ball is deemed to have moved if it leaves its position and comes to rest in any other place (Definition 3).

A. 3: A "stroke" is the forward movement of the club made with the intention of fairly striking at and moving the ball (Definition 30). In addition to counting the missed stroke, the player is charged with a penalty stroke for accidentally moving the ball with his backward swing following the missed stroke (Rule 27-1c); and the ball is then played as it lies.

Testing Brake With Putter Contrary To Rules

USGA 57-27
R. 35-1c, 35-1d

Q: I have been experimenting to check the break on a green by placing my mallet-head putter flat on the green and then by lifting it at the end of the handle and checking the way it swings to determine the break.

Putter-head placed in three places—immediately behind the hole, just to the side of the line of putt, and immediately behind the ball—can give me a very definite idea of break.

In no case have I touched the line of putt or placed the putter with more than its own weight, nor has the green been rubbed with the putter to test the grain. I don't see that I have violated any rule but would like your opinion as to this procedure.

Question by: GENE ANDREWS
Beverly Hills, Cal.

A: The action violates Rule 35-1d, which prohibits testing the surface of the putting green.

Attention is also called to the provision in Rule 35-1c that "the line of the putt shall not be touched in front of, to the side of, or behind the hole".

Holes Must Be Played In Correct Sequence

R. & A. 56-75-31
D. 29

Q: Two players in an Inter-Club Match played on a neutral course, and omitted to play the fifth hole.

They were playing on a nine-hole course and found out their mistake at the 9th hole. They returned to the clubhouse and reported their mistake and the member in charge for that day told them to return to the 5th hole and replay to the 9th, cancelling 6th to 9th holes played. Was this correct?

A: In the circumstances described by you, the member in charge gave a correct ruling. The stipulated round consists of playing the nine (or eighteen holes) in their correct sequence. Definition 29.

THE EFFECTS OF COMPACTION ON GOLF GREEN MIXTURES

by R. J. KUNZE, M. H. FERGUSON, and J. B. PAGE

Former Graduate Assistant, Texas A. & M. College; Mid-Continent Director and National Research Coordinator, USGA Green Section; and Dean of The College, formerly Head, department of Agronomy, Texas A. & M. College, respectively.

ONE of the difficulties encountered in building a golf green is the choice of the proper sand-soil-peat ratio. When preparing a soil mixture for use on golf greens, one must consider a host of factors. Not only should this material produce a turf with a good putting surface, but it should also possess a resiliency that will be suitable to the players. It should hold moisture, yet allow any excess of water to drain in a short period of time. After much play and frequent applications of water, the soil mixture should retain its porosity and permeability to air and water. Preferably the mixture should be of such a nature that the maintenance costs of the green are at a minimum.

Nature has endowed very few soils with the chemical and physical properties that meet all the specifications of a good golf green soil mixture. Although man has found reasonable means of controlling and maintaining the fertility of the soil, he has had very little success in the alteration of its physical properties. When a soil is subjected to compaction, high moisture applications, and nutrient levels that accelerate the decomposition of organic materials, experimental evidence indicates that the physical properties will not be maintained at a level that will produce turf with a desirable playing surface.

One way to overcome this undesirable change in soil structure is to create a soil mixture that will resist the effects of compaction but otherwise possess the qualities that are conducive to good turfgrass growth. The objective of this investigation was to evaluate experimental mixtures and to find a sand-soil-peat mixture that would be superior to all others in the experiment. This evaluation was made by measuring the clipping yield and total root weight of grass grown in various soil mixtures. Physical measurements were made of each mixture at the conclusion of the experiment. An attempt was made to relate the magnitude of these measurements to the clipping and root yields produced.

Commercial concrete sand was used as the skeletal agent for the soil mixtures. It was used in a natural form and in five sieved sizes. Houston Black clay soil and a black cultivated sedge peat were the other constituents. Mechanical analysis indicated that the soil was 57 percent clay, 34 percent silt, and 9 percent sand. A soil aggregate analysis by the Yoder wet sieve

method showed 91 percent aggregation. The soil aggregates like the sand were sieved into 5 separate sizes.

An experimental green with adequate subsurface drainage was constructed. Metal containers (five-quart size) were buried in the green so that the tops of the containers were level with the surface of the soil. Drainage from the container to the porous material below was facilitated by three ½-inch holes in the bottom of each container. These containers were filled with different mixtures containing sand, soil, and peat.

A single core of Texturf 1F (formerly T-35A) Bermudagrass with all the soil was planted in each container. Before compaction treatments commenced, the grass became well established in each container and completely covered the surrounding area. During the course of one summer seven compaction treatments were applied with an impact device. A high moisture treatment was applied for a period of 40 days the following spring before the conclusion of the experiment. Six lots of clippings were taken during the 21 month experiment to be used for growth analysis purposes.

Prior to compaction, the clipping weights indicated only very small differences in yields between mixtures of different particle sizes. After compaction these differences were found to be quite large. It was found that the 1-0.5 millimeter and the mixed particle size gave by far the largest clipping yields. This is indicated by Figure 1. The lower yield of the 0.5-0.25 millimeter size corresponds to decreases in non-capillary porosity and permeability rates.

The root weight on the other hand increased with a decrease in particle size. This is shown in Figure 2. The roots in the finer mixtures had a long thin appearance while the roots in the larger particle size mixtures were thick and short. This lack of correlation between root and top growth had not been anticipated. Temperature, aeration, moisture, nutrient supply and other plant environmental factors have been shown to have a differential effect on root and top growth. Additional work is necessary to help clarify this phenomenon.

With the more desirable particle sizes (1-0.5 millimeter or mixed) it was found that compacted soil mixtures of 5 to 10 percent Houston Black clay soil by volume or 2 to 4 percent clay by weight produced the largest yield of top growth and in most instances also produced the largest amount of root growth. Larger amounts of clay soil reduced the amount of non-capillary porosity and decreased the permeability of the mixtures.

The amount of total porosity is not as important as a graduation and continuity of pore sizes. The presence of the proper amount of large or non-capillary pores in the soil is needed for the removal of excess water, exchange of gases in the soil and for the growth of a deep rooted system. Small pores on the other hand act as

COMING EVENTS

November 18-22
American Society of Agronomy Annual Meetings
Atlanta Biltmore Hotel
Atlanta, Ga.

December 4-5-6
12th Annual Oklahoma Turfgrass Conference
Oklahoma State College, Stillwater, Okla.
Dr. Wayne W. Huffine

December 9-10-11
12th Annual Texas Turfgrass Conference
Texas A. & M. College, College Station, Texas
Dr. Ethan C. Holt

1958

January 13-14-15
Second Annual Meeting of Weed Society of America
Peabody Hotel, Memphis, Tenn.
Leonard Lett, P. O. Box 9905, Memphis 12, Tenn.

January 20-23
Rutgers University Turf School
Rutgers University, New Brunswick, N. J.
Dr. Ralph E. Engel

February 2-7
29th National Turfgrass Conference and Show
Shoreham Hotel, Washington, D. C.
Agar M. Brown

February 17-28
Penn State Turfgrass Conference
Nittany Lion Inn, University Park, Pa.
Prof. H. B. Musser

February 24-25
Southern Turfgrass Conference
Chickasaw Country Club
Memphis, Tenn.
Reg Perry—P. O. Box 2057 DeSoto Station

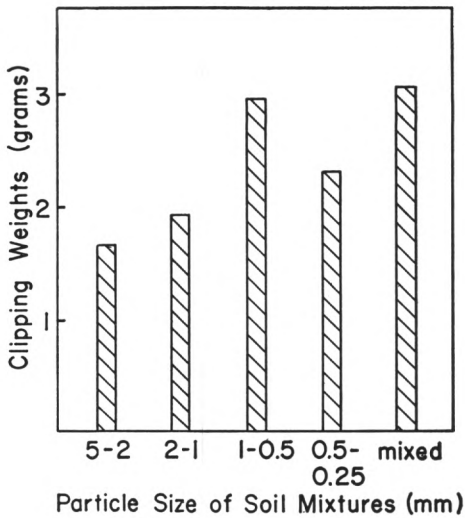


Figure 1
Clipping weights produced by the indicated particle sizes. Each bar represents an average of 16 measurements.

water reservoirs which may be utilized by the plant as needed. Except in very sandy soil mixtures or soils with good structure the larger pore sizes usually are limited in quantity. In turn aeration is reduced, and this impairs root respiration. Consequently absorption of water and nutrients is reduced, followed by a resulting reduction in plant growth. Baver(1) gives an

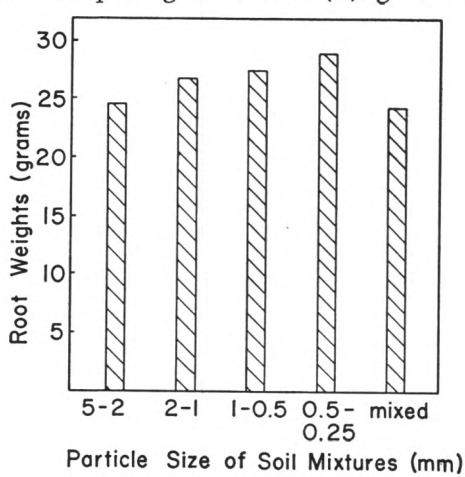


Figure 2
Root weights produced by the indicated particle sizes. Each bar represents an average of 8 measurements.

excellent discussion of soil porosity and its importance in soil-plant relationships in his text. Figure 3 shows the relationship between the percent of non-capillary porosity of various mixtures and the amount of clippings produced by these mixtures. With each added increment of soil, the amount of larger pore space is reduced with a corresponding reduction in yield. On the basis of this work it appears that 10-15 percent non-capillary porosity is sufficient for good plant growth.

Permeability data indicate that mixtures with ratios of 8-1-1 or $8\frac{1}{2}$-$\frac{1}{2}$-1 regardless of particle size were highly permeable to water. Only with the very fine mixture sizes (less than 0.25 millimeter) was there any

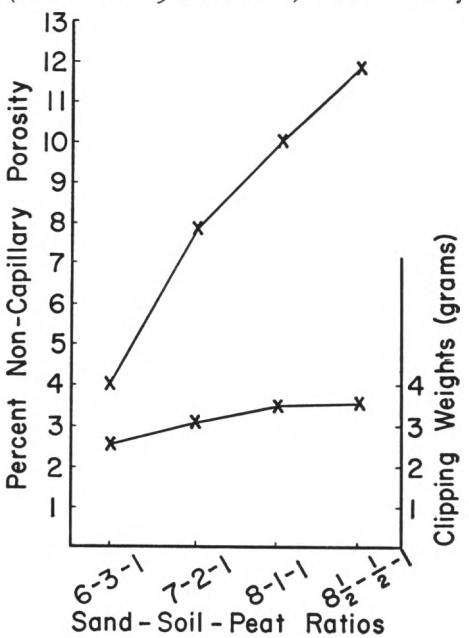


Figure 3
Variations in clipping weights and non-capillary porosities obtained from mixed particle size mixtures. The reduction of the non-capillary porosity indicates a corresponding decrease in clipping weights.

difficulty in getting water through the mixture. This is in general agreement with the work of Lunt(2) who suggested that fine sands—0.25 to 0.10 millimeter—may be satisfactory, provided they are relatively free of silt and clay.

The bulk density determinations were

of very little significance in evaluating the over-all fitness and productiveness of the soil. Evidence was found that the variable amounts of roots found in the soil cores was a major factor in the inconsistencies found in the bulk density measurements.

The heavy rates of water applied during the last 40 days of the experiment did not appear to limit growth. Clippings weights before and after the moisture treatment exhibited the same general trend of growth. This seemingly indifferent response was not anticipated; however, subsurface drainage appeared to be quite adequate so that no harmful effects resulted.

Because of the wide variations in the physical and chemical properties of soils presently used on golf greens, it would be foolish to suggest that these findings should apply to all situations. Every possible effort should be put forth to have the selected soils analyzed for their various physical and chemical properties before any green construction is attempted. Much additional work with other soils and skeletal agents, with other climatic environments, and with other grasses, is needed so that a more abundant and diversified library of information may be made available.

References

(1) Baver, L. D. Soil Physics. Third Edition. John Wiley and Sons, Inc., New York. 1956.

(2) Lunt, O. R. Minimizing Compaction in Putting Greens, United States Golf Association Journal and Turf Management. 9:5, 25-30, 1956.

SNOWMOLD CONTROL

by J. R. WATSON, JR. & J. L. KOLB

Agronomists, Toro Manufacturing Corporation, Minneapolis, Minnesota

SNOWMOLD probably causes more damage to golf course turfgrass than any other disease in the snow belt—northern United States and Canada. The disease is most serious on the green proper, the aprons, approaches and shoulders. Bentgrass tees and fairways are likewise attacked, but in general, damage is less severe than on greens. Under extreme environment—heavy and persistent snow packs with temperatures around freezing—snowmold may cause damage on tees and fairways.

Two organisms—*Typhula itoana,* the "gray snowmold," and *Fusarium nivale,* the "pink snowmold," are responsible for this disease. These organisms are active between 28° and 42° Fahrenheit, when excessive moisture is present. This environment exists as the snow pack melts in late winter and early spring. The common name, "snowmold," has developed because of this association with melting snow. It should be pointed out, however, that the disease will develop whenever temperature and moisture are favorable, irrespective of snow coverage.

Several fungicides have been reported and are known to be effective against the snowmold organisms. The list includes Calo-Clor*, Phenyl Mercury, (Liquaphene, PMAS, etc.), Teresan, Semesan, Cadminate, and straight corrosive sublimate. This latter material has proven especially effective against the virulent strain of snowmold found in the Prairie Provinces of Canada.

The major problem associated with control of the disease is one of longevity and persistence of the applied chemical. This develops from the *necessity of applying the fungicide in late fall or early winter, after the soil is frozen and prior to the first snowfall which will remain.* Another problem is that of holding the fungicide in place when thaws occur in late winter or early spring. Often snow may melt, partially or completely, thus washing out or dissipating the material.

In an effort to find a material which would prolong the effectiveness and persistence of the fungicide, a snowmold test was located on an experimental green at the Toro Research and Development Center in the fall of 1953. This study was con-

* *Trade names of chemicals and carriers included in the study are used for purposes of clarity and convenience.*

tinued in 1954, 1955 and 1956. The results of the 1953 and 1954 tests (readings made in the spring of 1954 and 1955) were reported in the May, 1956, issues of "Golf Course Reporter" and "Golfdom."

Materials and Methods

Certain revisions were made in the 1955-56 study. These were as follows:

(1) *Chemicals*—only one rate of each chemical was used—PMAS at three (3) ounces of 10% material per thousand square feet; Calo Clor at three (3) ounces per one thousand square feet. In earlier tests, PMAS was used at one and one-half (1½) and three (3)ounces per thousand square feet, and Calo Clor at two (2) and four (4) ounces per thousand square feet.

(2) *Carriers*—Processed sewage sludge —Milorganite at the rate of fifty (50) and one hundred (100) pounds per thousand square feet, topdressing at a volume equal to one hundred (100) pounds of Milorganite, a mixture of topdressing and Milorganite at a volume equal to fifty (50) and one hundred (100) pounds of Milogranite, and water as a spray, were used as carriers.

Sand was omitted from the test in 1955-56. Earlier studies had shown the sand to be of little value, other than providing additional bulk for spreading the chemical.

(3) Milorganite, topdressing and a combination of the two materials were used without chemical.

(4) A series of plots received soluble nitrogen from an inorganic carrier (ammonium sulfate) at a rate to equal the amount of nitrogen contained in one hundred (100) pounds of the organic carrier—Milorganite.

The treatments were replicated three times. They were applied in late November only.

Effectiveness of the various chemicals and carriers were measured by recording the actual number of snowmold spots which devoloped during late winter and early spring. Color ratings were also recorded during this period. Two or three thaws and subsequent snows occurred, thus providing excellent conditions for evaluating longevity and persistence of the various chemicals and carriers.

The 1955 snowmold control program at the Somerset Country Club, St. Paul, Minnesota, although not an integral part of these experiments, serves to illustrate the practical application and to support the validity of the test results. Following a fall topdressing, the greens were treated in late November, early December, with four ounces of Calo Clor mixed with ten pounds of Milorganite per thousand square feet. The results of this program are presented in the discussion phase of this paper.

Results

Results of the 1955-56 test at the Toro R. & D. Center show:

(1) Three ounces of Calo Clor per thousand square feet produced effective control of snowmold, irrespective of carrier.

(2) The three ounce rate of PMAS was effective against snowmold under

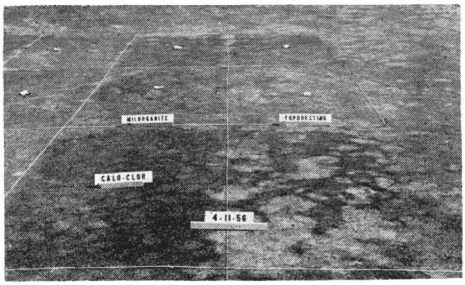


Fig. 1—Plot (left foreground) treated with Milorganite and Calo Clor. Plot at right treated with topdressing alone. Note color and freedom of disease on treated plot. Note also color of the disease-free grass on topdressing plot in contrast to that beyond test area, and on the spray plot located immediately behind topdressing plot.

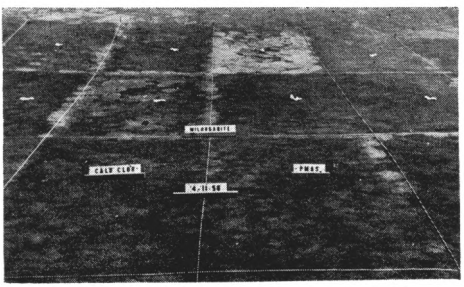


Fig. 2—Plots treated with Calo Clor and PMAS as indicated. Milorganite was used as carrier for both chemicals. Note development of disease along plot borders. Second plot in rear of PMAS plots is a check—no treatment. Note severity of snowmold infestation.

normal environmental conditions. Under heavy and persistent snow pack and in low areas where moisture persisted—extreme environment—as on some plots, PMAS failed to render control, irrespective of carrier.

(3) Milorganite and topdressing produced earlier greening than spray treatments.

(4) Effectiveness of the Milorganite as measured by density, vigor and color throughout the growing season, was considerably superior to topdressing.

(5) Milorganite, topdressing, or the combination alone—without chemical—did not effect control of the snowmold.

(6) Soluble nitrogen (ammonium sulfate) produced severe damage resulting in almost complete destruction of the turf.

Some variation between the results obtained in 1955-56, and those of previous years are noted. These variations will be discussed.

Discussion

Check plots, as well as plots which received carrier alone—without chemical—were heavily infested with snowmold. See Figures 1, 2 and 3. The degree of infestation was less on plots receiving carrier alone than on the check plot (Figure 3). Nevertheless, the necessity of using a chemical effectively to control snowmold is obvious, since any degree of infestation is undersirable.

Calo Clor applied in late fall—early winter at a rate of three ounces per thousand square feet under the conditions studied controls the development of snowmold, irrespective of carrier or severity of environment (Figure 3). Effectiveness of Calo Clor may also be noted in Figures 1 and 2. Figures 4 and 5 show the effectiveness under field conditions. While the three ounce rate was satisfactory under controlled test conditions, it would appear that four ounces per thousand would be a more practical and desirable rate for golf course greens. It likewise appears that in the northern sections of the border states and

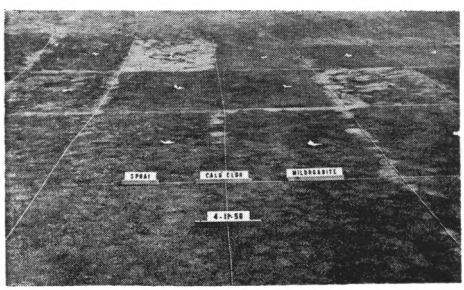


Fig. 3—Plots in immediate foreground treated with Calo Clor. That to left was sprayed; to right, Milorganite was used as carrier. Note contrast in color and freedom of disease. Check plot located three plots in rear of spray plot. Plot treated with topdressing alone—without chemical—located two plots to rear and one to right of Milorganite plot.

in Canada, an even higher rate may be desirable.

In the 1955-56 test, PMAS at three ounces per thousand square feet failed to produce the satisfactory control experienced during the previous years of the study. It should be pointed out that certain plots receiving PMAS were completely free of snowmold (Figure 2); nevertheless, the average infestation for all plots in all replications was such that the overall performance in 1955-56 was rated unsatisfactory. This average was materially influenced by the heavy infestation occurring on plots located in areas classified as having an extreme environment. The failure to control the disease on these plots is probably related to the soluble nature of phenyl mercury, since it appears that under normal environment, PMAS does render satisfactory control. Heavier rates, as well as retreatment with PMAS in late winter—early spring, may produce satisfactory control under all conditions.

Uniformity of coverage is essential for effective control of snowmold, This is illustrated in Figure 3, which shows the development of the disease along plot borders where treatments did not completely abut. Also, the development of disease along spreader borders where material was not lapped (Figure 4) and where the hopper was exhausted of material midway through one lap (Figure 5) illustrates the importance of uniform coverage. The evidence indicates that where carrier is used with the chemical, it is held in place with little to no lateral movement.

As noted, earlier spray applications are as effective in the control of snowmold as are those in which an organic carrier is used. The convenience of applying chemicals with available spray equipment may, under certain conditions, constitute an advantage for this method. It should be noted that the carrier may be applied dry and the Calo Clor sprayed over the material in place, as well as mixing carrier and chemical before application.

The major advantage of using an organic carrier appears to be the early greening produced. Plots receiving Milorganite and topdressing alone or in combination "greened up" some two to three weeks earlier than sprayed plots (Figures 1 and 3). This early greening may be partially explained by the thermal effects produced. The dark material absorbs and holds more heat; hence, raises the temperature of the micro-climate enough to permit early growth activity. The presence of available nitrogen at this time stimulates additional growth.

Other than the initial early greening produced by the topdressing, there appeared to be little advantage from using topdressing as a carrier. However, plots which received Milorganite alone or in combination with topdressing displayed continued superiority in density, color, and

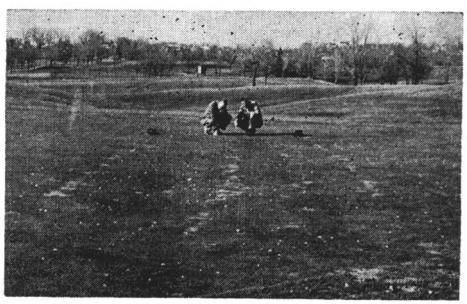


Fig. 4—Green at Somerset CC topdressed in fall and treated in late November with four oz. of Calo Clor and 10 lbs. of Milorganite per 1000 sq. ft. Note development of disease along areas where spreader did not lap. Note also severity of disease on untreated apron and shoulder.

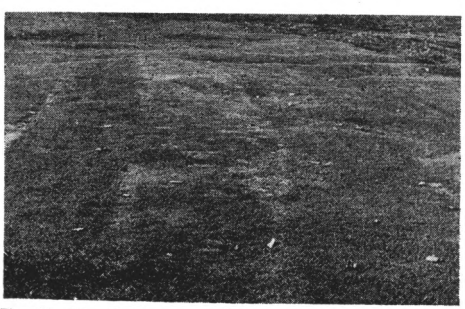


Fig. 5—Small area of bentgrass in fairway at Somerset C.C. treated with four oz. of Calo Clor and 10 lbs. of Milorganite per 1000 sq. ft. Note development of disease and lack of color in center swath where spreader was exhausted of material midway through run.

vigor in almost direct relation to the amount of material used.

The rates of Milorganite used in the 1955 test supplied three and six pounds of Nitrogen; in the 1953 and 1954 tests, twelve pounds of nitrogen; and the rate used at the Somerset Country Club in 1955, six-tenths (0.6) pounds of nitrogen per thousand square feet. In one series of plots in 1955, ammonium sulfate was applied at a rate to supply six pounds of nitrogen per thousand square feet.

It is highly significant to note that damage to the turf in the form of burning or over succulence from even the twelve pound rate of nitrogen from sewage sludge did not occur, whereas severe damage—actually almost complete kill—resulted from the use of six pounds of nitrogen from the soluble carrier (ammonium sulfate). The contrasting results can be attributed only to the difference between the rate of release of nitrate from the two types of carriers. The failure of the Milorganite treated plots to develop succulence and the resultant damage associated with this condition may be partially explained by the slow breakdown of the material. The application was made very late in the fall; low temperatures at that time, as well as during winter, prevented complete breakdown. Subsequent spring temperatures were such that decomposition proceeded rather slowly, with no apparent ill effects. The possibility exists that the grass may be able to utilize some of the early products of decomposition (amino acids) for its very reduced metabolic activity during its period of dormancy. The use of soluble nitrogen at materially reduced rates to produce early greening may be possible; however, the results of this study do not warrant a recommendation as to the rate or time of application.

In the central and southern extremities of the snowmold zone, it would appear that low rates—ten to twenty pounds—of Milorganite would be preferable to the higher rates—up to fifty pounds—which appear satisfactory in the more northern areas. Although the 100 and 200 pound rate of Milorganite gave satisfactory results, it is felt that a maximum of fifty pounds per thousand square feet is adequate. Higher temperatures and more infrequent snowfall in the central and southern belts would undoubtedly lead to a release of more nitrates than would be experienced in the northern belts. This conceivably could produce sufficient succulence which, when coupled with rapid drops in temperature, might produce damage to the turfgrass.

Conclusions

Based on the results of experiments and observations conducted at the Toro R. & D. Center for the past three years, the following conclusions regarding the prevention and control of snowmold on golf course turfgrass seem warranted.

1. Three to four ounces of Calo Clor per thousand square feet provides satisfactory chemical control of snowmold.
2. Spray applications of Calo Clor give effective control of snowmold, but grass takes longer to green up than when Milorganite or topdressing is used as a carrier.
3. Milorganite or topdressing may be applied and Calo Clor sprayed onto them with the same results as obtained from mixing chemical and carrier before application.
4. Ten to fifty pounds of Milorganite per thousand square feet will produce greening some two to three weeks earlier. Greens so treated will exhibit superior color, density and vigor for an extended period of time in almost direct relation to the amount of material used. Low rates —ten to twenty pounds—are sug-

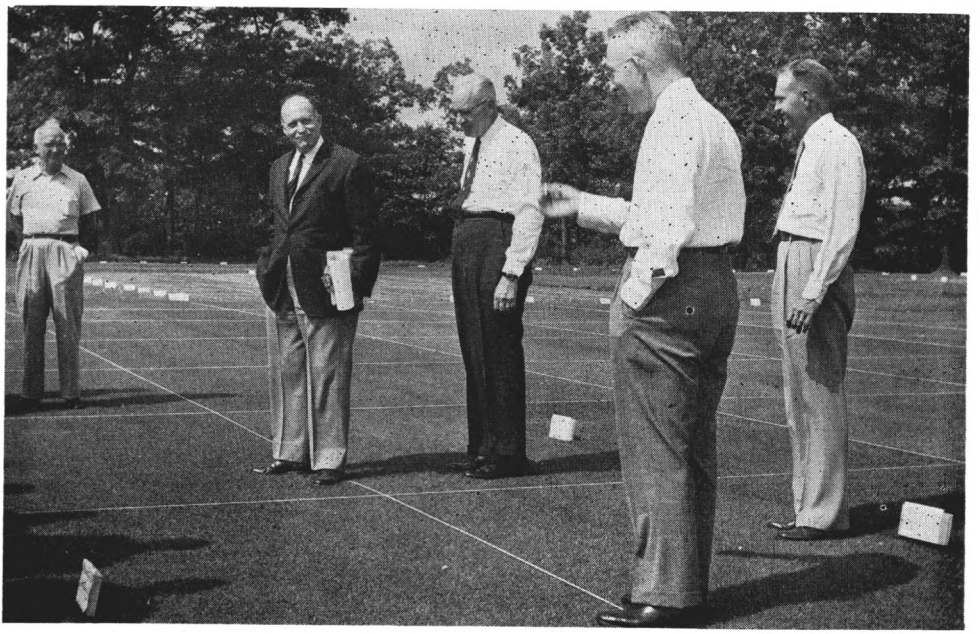


Photo by O. J. Noer

Experts gathered at the University of Rhode Island for the Rhode Island Field Day Meeting are left to right: Edwin H. Vare, Jr., Chairman, Green Committee, Philadelphia C.C.; Dr. J. A. DeFrance, Research Professor; Dean Mason H. Campbell, Director, Rhode Island Agricultural Experiment Station; Dr. W. H. Wiley, Associate Director, Rhode Island Agricultural Experiment Station; Dr. T. E. Odland, Head, Department of Agronomy.

gested for central and southern belts; higher rates appear satisfactory in more northern areas.

5. Topdressing used as a carrier produces eary greening, but fails to produce the improvement in quality experienced on Milorganite treated areas.
6. The combination of topdressing and Milorganite used as a carrier produces satisfactory results—early greening and superior quality. Prolonged superiority from a quality standpoint is directly related to the amount of Milorganite used.
7. PMAS (10%) used at a rate of three to four ounces per 1000 square feet may provide satisfactory control under normal conditions, but appears inadequate under extreme environment—heavy and persistent snow pack and low poorly drained areas. Retreatment in late winter—early spring, or possibly higher rates may be necessary to produce completely satisfactory control under all conditions.
8. Uniform application of any chemical is essential for satisfactory control.
9. Treatment of aprons, approaches and shoulders, as well as the green proper, is recommended. Such will protect the bentgrass present on these areas and possibly prevent invasion of weeds.
10. The results of these studies clearly indicate that from a practical standpoint, snowmold can be effectively controlled and greens brought into play considerably earlier by correct choice of chemical and carrier. Nevertheless, further research on all phases of this investigation are warranted. Fundamental studies are particularly needed on the effectiveness and retention of mercury vapors by humus and related materials, as well as the relationship between late fall—early winter applications of nitrogen and turf quality.

IT'S YOUR HONOR

USGA Handicap System in Brazil

TO THE USGA:

Our Brazilian Open was won by Robert de Vicenzo, and I feel that the tournament was most successful. This in part was possible through the advice which you gave us.

It may interest you to know that our club, Itanhanga, now uses the USGA Golf Handicap System and the members are very enthusiastic about it.

Our course has been rated 73 by Mario Gonzales, pro at Gavea; Walter Seigh, pro at Itanhanga; Walter Ratte, captain of Gavea, and yours truly.

CHARLES M. JOHNSON
CAPTAIN, ITANHANGA GOLF CLUB
RIO DE JANEIRO, BRAZIL

Research in St. Louis

TO THE USGA:

I feel that we in the Mid-west should be recognized now and then for the work we are doing in the way of research. I understand that St. Louis is probably the only city in the country that is doing private research and we, in turn, pass on our information to the USGA and the Midwest Turf Foundation.

This past summer we had a young student from Purdue University who worked here from June 15 until September 15. Our experimental work took in about twenty-five experiments consisting of the following: fertilized plots, weed control, crab grass and goose-foot control, soil fumigation on soil and top dressing from eight clubs, pythium controls, four different types of Bermuda.

We had an afternoon field day which was attended by 191 men, and a dinner meeting held at the Westwood C. C. attended by 143 persons.

St. Louis is one of the toughest places in which to raise grass, and through the fine work of the superintendents' association and the St. Louis Turf Research, which the Association is called, I believe we have conquered a large part of our trouble.

LEO S. BAUMAN
ST. LOUIS TURF RESEARCH
CREVE COEUR, MO.

Memories Revived at Minikahda

TO THE USGA:

The Walker Cup Match at Minikahda really brought back old memories to me of the days when we had the Public Links Championship here in 1931, which was the first activity Tot Heffelfinger took part in for the USGA. I think that Championship had a lot to do with his becoming part of your organization and I remember he spent a great deal of time with Ganson Depew and other executives of the USGA at that time. It truly made me homesick. The ten years I served as a member of that Committee were ones of great remembrances as well as experiences which I shall always cherish.

TOM HASTINGS
MINNEAPOLIS, MINN.

Mid-West Appreciation

TO THE USGA:

As Co-Chairman of the Green Committee at the Ashtabula Country Club, I wish to express the committee's high regard for the many splendid articles appearing in the USGA Journal. The April 1957 edition with its articles about the work and problems of Green Committees was greatly appreciatetd and we all hope many more will be printed in the future.

JOSEPH F. SWIFT
ASHTABULA, OHIO

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