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THE BLINDFOLD TEST PROVES IT!

To prove that Master-Matching really works, make a blindfold test. Blindfold your customer and challenge him to identify, by its swing, the Power-Bilt club you hand him. He should not touch the club head to the ground as shaft length differences could be a give away in extreme comparisons. So perfectly has the swingfeel of each club been Master-Matched to all others that he will not be able to identify the clubs you hand him to test swing. Woods and irons, regardless of their number, will all swing alike!

OTHER PLUS POWER-BILT FEATURES

- NEW WEIGHTING IN WOODS.
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POWER-BILT Citation Woods



Ladies'
POWER-BILT
Woods



Master-Matched for perfect SWING FEEL with Ladies'



U-3 Bermuda has thrived despite heavy play from this tee of a par-3 hole in Wilmington, Del.

performed well during all seasons of the year.

The greens at the city course in Sioux Falls, S. D., were planted several years ago. A mixture of equal parts Old Orchard and Arlington was used. There was no evidence of separation this year. The greens were good all season despite bad summer weather.

Mixing of vegetative strains of bent is a precarious undertaking and should not be done lightly. The results may be disappointing. Some of the old original supposedly pure Washington strain of bent greens testify to that fact. The odd bit of Metropolitan bent got into the nursery. The amount was insignificant and not detected. For a year or two the newly planted greens looked like pure Washington bent. Then the Metropolitan started to assert itself. Before long sizable patches of blue-green matted Metropolitan bent developed because of the more aggressive nature of this grass. Then it became well nigh impossible to keep good putting surfaces because of inherent differences in the two grasses.

Superior Turf Mixtures

Creeping bent grasses used in mixtures for vegetative planting should be alike in color and in growth habits. Under these conditions a mixture is apt to provide a turf superior to one from any member of the mixture. Each grass in the mixtures makes its own contribution to the turf.

For example, in the Arlington-Congressional mixture, the Congressional overcomes the objectionable swirl so characteristic of Arlington when grown alone. Congressional asserts itself in cool weather because it grows best then and keeps its color when other bents lose color because of cold. Arlington carries the load in midsummer because it seems to like heat better than Congressional.

Cohansey is one of the newer grasses from the standpoint of use. It was one of the selections used on the USGA pie greens. At the start it did not get deserved attention because of its light yellow-green color in cool weather. Cohansey caught the eye of several Oklahomans. There are a number of good greens in Oklahoma and elsewhere, but this strain was not as resistant to disease in 1955 as it was supposed to be. Some Oklahomans think Cohansey can withstand a higher soil concentration of soluble salts than other creeping bents.

Good and Bad Features

Pennlu is the newcomer among the vegetative bents even though the plot of it has been outstanding and the best at Penn State University for ten years or more. Pennlu has done well at Purdue both on the plots and on a test green. The grass on some Pennlu greens showed marked puffiness, which was never in evidence at Penn State. Puffy turf is frowned upon by the golfer. Pythium was very bad on some new Pennlu greens in southern Illinois Overwetness probably aggravat-



The right half of this fairway in St. Louis got a heavy dose of sodium arsenite (30 lbs. per acre) before it was planted in U-3 Bermuda.

ed the attack. Other bent greens in that area had pythium but less severe. Despite the fact that there has been disappointment in the behavior of Pennlu on some greens, the grass has a good record behind it. The final answer will be its behavior under use.

Collars Took Beating

Turf on the collars of the aprons around bent grass greens took a terrific beating during the hot weather. The grass was mostly poa annua. It has a bad time at best during hot weather - and is doomed when cut with a power greens mower especially if the grass is at or near a state of wilt. A power driven drum bruises the grass and spells its doom especially when turns are short and quick. A smooth drum is bad enough, but the sure way to kill poa annua is to use a corrugated drum. This type drum may be needed for Bermuda, but it is bad for bent or poa annua in hot weather when the grass is on the verge of wilt. A corrugated roller is not desirable for use on Bermuda greens overseeded with rye grass. Rye is tender and bruises easily.

The permanent grasses have been disappearing from the aprons of bent greens over a period of years. Some blame compaction and others accuse the modern power driven greens mower. Both are contributing factors. Oldtimers remind us that the problem was never serious in the days of hand mowing.

Turf on the collars will be bad during hot midsummer weather so long as poa annua is the sole or principal grass on the aprons. Aerifying, spiking, and reseeding with bent, fescue or bluegrass never seems to work. Poa annua seedlings get the jump and smother the other grasses. Some think resodding is a better answer. It can be done quickly with a modern power sod cutter from a nursery of good grass. Several clubs have used bluegrass sod from the rough and overseeded with bent because bluegrass will not persist indefinitely under close cutting. The old poa annua sod from the apron is laid back in the rough. Under high cutting there the poa annua disappears and Kentucky bluegrass regains possession.

Wider Aprons Help

Wider aprons would go a long way toward solving the vexing problem on aprons. They should be provided on new greens and narrow ones should be widened if at all possible when aprons are resodded. Slower mowing speeds and the elimination of quick, abrupt turns will help the overall problem of maintenance.

The problem of power mowing was emphasized in 1955 at one club on the southwest side of Chicago. Grass was never good on two badly located greens. Coverage had been sparse and algae rampant every summer since the greens had been rebuilt unsuccessfully. The soil was loaded with peat, Soil and air drainage were bad.

After trying everything else, it looked like another rebuilding would be the answer. As a last resort, hand mowing was tried in 1955; sprinklers were discarded and these greens were watered carefully by hand in the early morning and watched closely during the day for wilt. To the surprise of some, both greens came through 1955 without a blemish. Turf density was good all year and algae was no problem.

A unit combining the desirable features of the hand and power greens mower would be useful. It may be powered by



The left half of this fairway in St. Louis shows a strong growth of U-3 Bermuda which is being seriously considered as substitute for bent grass fairways in this area.



Carl Springer, Congress Lake GC, Parksville, O., is well satisfied with fairway turf produced by using sodium arsenite to kill weeds and poa annua before re-seeding with Bent.

electricity. In the meantime, a good hand greens mower is needed for emergency use.

Thatch Increase Alarms

Thatch on greens is increasing at an alarming rate. Infrequent mowing, the solid scalping roller on the mowers, and failure to topdress are cited as contributing causes. Excessive thatch can be prevented by the use of the various machines now on the market. Incidentally, the use of these machines has made vastly better putting surfaces on Bermuda grass greens. They have solved the surface runner problem.

Every green should have a sole of turf to help hold the ball and provide a true surface. That does not mean a thick mat. Turf of that kind footprints badly and scuffs around the cup. A heavy thatch fosters shallow root development and the mat stays overly wet after rains or after watering because of its peat-like character. Then iron chlorosis, leaf spot, and every kind of disease may take their toll. Fungicides do not stop them or prevent loss of turf. Topdressing buries the mat, hence is not the answer. Its use should wait until it can make contact with the soil. Some have solved the problem by providing aerification and using a little lime periodically to speed decomposition. The greens are aerified in four or five directions the first time, followed by verti-cutting to shatter the plugs along with a light dusting of lime.

Pythium Stubborn in '55

Every known disease and possibly some new ones were prevalent in 1955.

Pythium was most stubborn. The use of a little hydrated lime applied dry seemed to be as good as anything for it, and for algae.

Leaf spots of various kinds got the big

play. When they were the primary cause of trouble fungicides stopped them, but not when they were secondary to something else such as fron chlorosis, excessive thatch, improper fertilization, etc. Then, underlying faults had to be corrected. After that leaf spot usually became a problem no longer. Howard Beckett expressed himself very aptly in this way: "Why all this fuss about leaf spot? We have a little trouble with it at Capital City. Our aim is to give the grass a bland diet and be careful about everything else we do."

Great changes are in the making in the South where common Bermuda was the universal golf course grass. Better, finer textured Bermuda selections are finding favor for use on greens. The Gene Tift and Everglades strain has behaved well in Florida, along the Gulf Coast, and is liked by C. S. Smith in Guadalajara in Mexico. The Everglades selection has been used by some Florida clubs. Pinehurst and Charlotte (S. C.) C. C. have some good greens of selected Bermuda grass. It looks as though Tifton 328 will supercede Tiffine. It makes a better textured turf and has all the virtues of Tiffine. One city course in Dallas has 18 good greens of T 35 A, which is one of the better Texas selections.

Finer Bermuda Management

The finer Bermudas must be managed more like bent grasses than like common Bermuda. Solid scalping rollers on mowers must be discarded. They develop mat. Feeding should be at light rates when needed.

Improved strains of Bermuda are replacing common Bermuda in Florida for use on tees and fairways. There is no question about the superiority of the turf.

Many have expressed concern about the



New, fine Bermuda green (Everglades 1 strain) sprig was planted a month before this picture was taken. Sprigs, set in 8 to 10-in. centers, were 4 to 5-in. long. They were planted in holes with only 1-in protruding above ground.



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WALTER HAGEN, Division of Wilson Sporting Goods Co., Grand Rapids, Michigan

bent grass fairways in the North. The bent on some of the watered fairways fared badly during the bad weather in midsummer. There was brown patch on many courses, and others were plagued with localized dry spots. As a result, U-3 Bermuda is being considered seriously as a substitute in the belt from Washington to St. Louis and Kansas City. With it the problem will switch to winter survival. Farther north the use of Bermuda is not feasible. It has winter-killed each of the past two winters in Milwaukee. Both were comparatively mild. Until something better is found or developed, bent grasses are bound to predominate on watered fairways in the region north of a line from New York to Chicago and beyond. The problem is to learn how to live with them.

Bent was not abandoned for use on greens following the disastrous summer of 1928. Management practices were over-hauled instead. Approaches on watered courses seem to be the big headache. The cover is mostly poa annua, Plugging rather than reseeding with bent is the solution urged by some.

Life Magazine Out As Golf Day Co-Sponsor

After originating National Golf Day in 1952 and participating as co-sponsor with the PGA since the start of the event, Life magazine has announced its withdrawal from the golf promotion that has raised \$477,000.

J. E. King officially disclosed the Life decision at the annual meeting of the National Golf Fund, Inc., Dec. 20, at Lake Shore Club,, Chicago. The National Golf Fund is the disbursing agency for approximately half of Golf Day revenue. The other half went to the USO in 1952, 1953 and 1954. Forty per cent went to the Red Cross in 1955.

PGA Got National Advertising

Life paid practically all the expenses of National Golf Day, including the cost of medals awarded for entrants who beat the various men and women National Open champions. The magazine's generous promotion budget plus the services of its star staff put Golf Day strongly on the golf calendar and resulted in excellent national advertising for the PGA.

Harry Moffitt, PGA pres., at the Dec. 20 meeting, expressed gratitude to the management of Life for its National Golf Day achievements and announced that the PGA would continue National Golf Day as sole sponsor, if no acceptable co-sponsor volunteered.

Disbursements Listed

At this Fourth annual meeting of the National Golf Fund the following disbursements were made from the approximately \$160,000 realized from the "Beat Ed Furgol" — "Beat Patty Berg" National Golf Day of 1955:

To the National Amputee Golf Fund of Possibilities Unlimited, Inc.\$5,500 To the U. S. Blind Golfers' Assn. ... \$,000

To the U.S.G.A. Turf Research and Educational Programs at Colorado A. & M., Kansas State College, University of California, Purdue, Rhode Island, Penn State, Georgia Coastal Plain Experiment Station,

Total PGA \$18,000

To the U. S. Junior Chamber of
Commerce—Jr. Golf Program\$ 8,000

To the American Women's Voluntary Services 2,000

To the United Voluntary Services 2,000

To the U. S. Olympic Committee 1,000

To the Caddie Scholarship

In addition to the above disbursements, the American Red Cross' 40 per cent amounted to approximately \$63,000.00. The favorite charities of Ed Furgol and Babe Zaharias each are to receive one per cent of the total proceeds — amounting to approximately \$1500 for each. Babe Zaharias has designated that her share is to be appropriated to the Cancer Research Fund which she is establishing. Ed Furgol is donating his share to the Crippled Children's Institute of which he is Honorary Chmn.

At the same meeting the following National Golf Fund officers and directors were reelected: Fred L. Riggin, Sr., pres.; J. E. King, vp.; Thomas W. Crane, sectreas.; Herb Graffis, and Milton Woodard, directors.

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GCSA Sets Program for Long Beach Meet

Golf Course Superintendents' Assn. of America program for its 27th national turfgrass conference and equipment show, Feb. 7, 8, 9, 10 has been set except for assignment of a few authorities to cover selected subjects.

The program to be presented at the Long Beach, Calif., meeting continues the policy established two years ago when targets for a progressive turf research and course management plan were agreed upon.

Most of the space available in the Beach Municipal Auditorium for the display of equipment and materials for golf course maintenance already has been lotted. A few booths still are available. Data on them may be secured from Agar Brown, Executive Sec., Golf Course Supts'. Assn., St. Charles, Ill.

The program:

Tuesday afternoon, Feb. 7

George L. Lanphear, Chm., supt., Riviera CC, Pacific Palisades, Calif., representing Golf Course Supts'. Assn. of So. Calif.

Official opening of conference William Beresford, Pres. GCSA.

Tricks of the Trade - Edward K. Zuckerman, Southern Calif. Golf Assn. H. E. Montgomery, mgr., San Gabriel (CC) Calif. Bud Oakley, vp., Southern California PGA. Roy Nelson, supt., Golden Valley CC, Minneapolis, Minn.

Golf Today and Tomorrow - Rex Mc-Morris vp, National Golf Foundation.

Wednesday Feb. 8

L. E. Lambert, Chmn., supt., Oakwood G&CC, Dodson, Mo. representing Heart of America Golf Course Supts'. Assn.

Theme: Cool Climate Golf Course Main-

Water Management: Dr. Robert M. Hagen, Chm., Dept. of Irrigation, University of Calif.

Maintenance Improvements Through the

Years: (Speakers to be assigned)

Meeting Demands of the Public Course Player: Walter Fuchs, Gleneagles CC, Lemont, Ill.

Experiences With Improved Grasses:

(Speakers to be assigned)

Moderator and to make summation: Dr. Fred V. Grau, Agronomist, West Point Products Corp., West Point, Pa.

Afternoon

Stanley H. Graves, Chm., supt., Westwood CC, Rocky River, O. representing Cleveland District Golf Course Supts'. Assn.

Theme: Warm Climate Golf Course Maintenance.

Water Management and Alkali: Louis LeValley, Agronomy Dept., Fresno (Calif.) State College.

Uses for the New Warm Climate Grasses: Dr. James R. Watson, Chief Agronomist, Toro Mfg. Corp., Minneapolis, Minn.

Large Scale Planting of Improved Bermuda: L. W. DuBose, Jr., Supt., Houston

(Tex.) CC.

Bent Greens in Desert Country: (Speaker

to be assigned)

Fertilizer - When, Where, How Much: O. J. Noer, Agronomist, Milwaukee (Wis.) Sewerage Commission.

Thursday, Feb. 9

(Chairman to be assigned) representing Philadelphia Assn. of Golf Course Supts. Theme: Business techniques for the golf

course superintendent.

Employee-Employer Contracts:

Clock, Long Beach, Calif.

Responsibilities of the Golf Course Superintendent: Elmer Border, Supt., Olympic CC, San Francisco, Calif.

Keep Them Informed (Getting the job done and keeping your golfers, management and labor crew informed): Tom Dawson, Jr., CC of Virginia, Richmond, Va.

Budget Preparation and Presentation: Howard Baerwald, La Grange (III.) CC.

Afternoon

Inspection of trial plots and experiments at Meadow Lark Golf Club, Huntington Beach, Calif.

Friday Feb. 10

(Chairman to be assigned) representing Northeastern Golf Course Superintendents' Association.

Theme: Progress in Course Management. Is Fairway Renovation Paying Off? Al

Radko and Charles Hallowell.

Is Research Producing Better Turf for Better Golf? Dr. Marvin H. Ferguson, Southwestern Regional Director, USGA Green Section, Texas A & M College, College Station, Tex.

Can We Expect Improved Mowing Equipment? Representatives from Toro Mfg. Corp., Jacobsen Mfg. Co., Roseman Mower Corp., Worthington Mower Co.

Summary of Conference: Charles G. Wil-Agronomist, Milwaukee Sewerage

Commission, Milwaukee, Wis.

Afternoon

Panel Sessions for Members of Turf Council, Golf Course Superintendents and all Persons interested in Turfgrasses.

Colin C. Simpson, General chmn., past pres. and former Green Chmn., L. A. CC.

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O'Keefe Re-elected Western Golf President

JAMES L. O'KEEFE was re-elected pres., Western Golf Assn. at the organization's 57th annual meeting, held Dec. 16 at Golf, Ill.

Outstanding among the WGA advances in 1955 were establishment of permanent headquarters in the association's new building in the village of Golf and the award of Evans scholarships to 259 caddies.

Under O'Keefe, prominent Chicago attorney and political leader, Western Golf Assn. introduced three important "firsts" to golf in 1955. It issued the first Caddie Master Manual; it presented the first survey on electric golf cars, and it introduced group insurance for the employees of

country clubs.

The Evans Scholars Foundation, which is sponsored by WGA, experienced its greatest year, according to Trustee Chairman Carleton Blunt. The Evans Foundation established new chapter houses at Marquette and Michigan State universities in 1955. The 1955 contribution to the scholarship fund from George S. May and wife and Tam O'Shanter CC totaling a record \$14,576 was announced by the WGA. In support of the program which has awarded scholarships to 40 of their caddies, Tam O'Shanter members and Mr. and Mrs. May over the years have donated a total of \$72,746 to the Evans Fund.

Reelected with O'Keefe as 1956 officers of WGA were: Vps-Cameron Eddy, Chicago; Frank H. Hoy, Milwaukee; Harold A. Moore, Chicago and George K. Whyte, St. Louis; Sec.-A. R. Carman, Jr., Chicago; Treas.-Walter W. Cruttenden, Chicago. Lynford Lardner, Jr., Milwaukee,

was elected General Counsel.

New directors elected to the Western board of directors were: Ralph A. L. Bogan, Jr., Chicago; Mack P. Brothers, Jr., Nashville, Tenn.; William D. Kerr, Chicago; George S. May, Chicago; David L. McCahill, Jr.; Pittsburgh; Dr. Ernest W. Miller, Milwaukee; Otto Norton, Grand Rapids, Mich.; Adelor J. Petit, Jr., Chicago; James G. Riddell, Detroit; Sidney B. Slocum, Milwaukee; Oliver G. Willits, Camden, N. J., and Charles S. Winston, Jr., Chicago.

Holdover directors include: Ben N. Boren, Dallas; Norman G. Copland, Chicago; Andrew C. Cowan, Chicago; Terrence J. Dillon, Chicago; Joseph G. Dyer, Denver; Charles Evans, Jr., Chicago; Harrold E. Foreman, Jr., Chicago; Harry L.

Givan, Seattle; Don W. Heppes, Chicago; Hubert E. Howard, Chicago; Robert A. Hudson, Portland, Ore.; Paul H. Hyde, Buffalo, N. Y.; Frank E. Kenney, Detroit; Leon G. Kranz, Evanston, Ill.; John E. Lehman, Chicago; David M. Lilly, Minneapolis; Allan M. Loeb, Chicago; Robert E. Maxwell, Chicago; Robert McDougal, Jr., Chicago; Roy D. Moore, Memphis; Walter Mullady, Chicago; Bernard H. Ridder, Jr., Duluth, Minn.; James M. Royer, Chicago; S. B. Sifers, Kansas City, Mo.; A. Pollard Simons, Dallas; Richard L. Snideman, Chicago; William F. Souder, Jr., Indianapolis, Pedro R. Suinaga, Mexico City.

Trustees of Evans Scholars Foundation, serving with Blunt are: Jerome P. Bowes, Jr., James L. Garard, Stanley J. McGiveran, and Stuart B. Smithson, all of Chicago;

and C. L. Miller, Detroit.

Chester Keeley Honored for Work at Notre Dame

More than 100 Indiana and Illinois superintendents, school authorities and turf experts gathered at Notre Dame, Ind., Nov. 21 to honor Chester R. Keeley on his 25th anniversary as superintendent of the University of Notre Dame athletic fields, campus grounds and Burke golf course. Focal points of special interest on the inspection tour of the grounds conducted by Keeley were the excellently maintained course over which close to 35,000 rounds annually are played (at 25¢ a round) by the students and faculty, and Keeley's notable achievement in completely renovating the football field.

New Seed Bed

After preparing a new seed bed for the field's 2.2 acres, using new soil, organic matter and sand, Dowfume MC-2 fumigant was applied under plastic coverings to kill unwanted grass, weeds and their seeds, insects, etc. Planted Apr. 29 to half-and-half Merion and Kentucky bluegrass the field was ready for the first home game Sept. 24th, and an amazingly improved field it was according to two who should know -Paul Hornung, quarterback and John Druze, end coach, who spoke during movies of the N.D. Iowa game. With Joe Boland of Station WSBT as mc, among those who paid high tribute to Keeley, an easy and pleasant task in view of the evidence, were Rev. Jerome Wilson, vp. Notre Dame; Rev. G. L. Holderith, golf coach; Rev. Frank Cavanaugh and O. J. Noer.