THE BULL SHEET, official publication of THE MIDWEST ASSOCIATION OF GOLF COURSE SUPERINTENDENTS.

DICK TREVARTHAN, Editor 122 Evergreen Drive Frankfort, Illinois 60423

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MIAMI BEACH

John Spodnik, golf course superintendent, Westfield Country Club, LeRoy, Ohio, is the new president of the GCSAA.

Elected vice president was Norman W. Kramer, Points O'Woods Country Club, Benton Harbor, Michigan.

Re-elected as a director was Robert V. Mitchell, Sunset Country Club, St. Louis, Missouri.

New directors include Warren A. Bidwell, Philadelphia Country Club, Gladwyne, Penn., and Keith Nisbet, Westview Golf Club, Aurora, Ontario, Canada.

Re-appointed to the board for one year term was Clifford A. Wagoner, Del Rio Country Club, Modesto, California.



Joe Canale

MEET YOUR SECOND VICE-PRESIDENT Joe Canale

He was born in Tusin, Italy, land where the boccie ball rules over the golf ball, coming to this country at the tender age of three and today is skilled in "Lands of Links" as the pro-superintendent at Deer" Park Country Club. Joe Canale of Oglesby, Illinois is starting his 25th season as head man at Deer Park.

is starting his 25th season as head man at Deer Park. Canale has lived with golf not long after he left his high chair. In 1921, at the age of 10, he began as a caddy at Deer Park.

In 1946 Joe quit another job to become full time boss man at Deer Park.

Joe has had some sub-par golf scores (67's, 68's) and has recorded a 274 yard hole-in-one.

Interesting note about Joe, he has attended 23 out of 24 times the Midwest Turf Foundation meetings held at Purdue each spring. He has 3 grand children, Cindy 10, Michael 8, and Lowie 5 years. He was born on June 4, 1911, 57 years ago.

Joe naturally has been assigned as Golf Chairman for MAGCS.

JAMES LATHAM

Milwaukee Sewage Commission

Guest Speaker — MAGCS — January Meeting held at O'Hare Inn, 1969.

Jim's talk consisted of slides showing turf conditions around the country.

One slide that created a lot of interest was one showing the toxicity of chemicals used by superintendents.

Jim stated that one sick man and a smart lawyer can wreck hell out of your budget. **"Know your Poison** control center."

In the Chicago area St. Lukes Presbyterian hospital is the Poison information center. Whereas, all hospitals are treatment centers.

THE CURIOUS CASE OF HIGHLAND BENTGRASS By Robert W. Schery

Dr. Schery is Director of The Lawn Institute, Marysville, Ohio. He is author of The Lawn Book (The Macmillan Co., New York, 1961).

The title may sound like Sherlock Holmes or Perry Mason, but the inspiration came from **The Garden Journal** itself. In reading Dennison Morey's interesting evaluation of the relative superficiality of rose breeding (Vol. 13, No. 3, May-June, 1963), a comparison with quality lawn grasses was inevitable.

The best lawn grasses from seed are the well-known Kentucky bluegrasses (**Poa pratensis**), the fine or red fescues (**Festuca rubra**), improved cultivars of which are grown in Oregon, and the bentgrasses **Agrostis**, in various species). Kentucky bluegrass and fine fescues are the main ingredients of quality lawn seed mixtures for the northern two-thirds of the nation, while the bentgrasses are mostly used alone for speciality turfs which can receive the sort of care that bentgrass merits.

The genetic situation is peculiar to each species, and not a little confusing. Kentucky bluegrass, almost surely an adventive from Europe, seems a thoroughly mixed-up polyploid which has for the most part adopted apomictic (non-sexual) reproduction by seed. Nature has so stirred bluegrass heredity that man can scarcely improve upon the brew, even were he inclined to take the trouble to meddle with crossing a predominately apomictic species. A plethora of Kentucky bluegrass cultivars are on the scene, simply selected out of wild or natural Kentucky bluegrass populations and perpetuated by rouging a largely true-breeding (because of apomixis) population. Outstanding cultivars can be found, for a particular trait, an especial climate, and so forth, but few selections match the versatility and wide adaptability of the parent natural Kentucky bluegrass, a hereditary melange with all the flexibility that this implies.

Fescues are not so obligingly apomictic, but here, too, selection and isolation have been the chief techniques for uncovering new cultivars. On occasion "inbreds" are combined in the planting field, both with fescue and with certain bentgrasses, to yield "polycross" seed. To the best of my knowledge, controlled sexual crossing has not wielded any very unusual or useful cultivars, although it is something of a triumph that Dr. Buckner, at the University of Kentucky, was able to achieve a cross so wide as between ryegrass (Lolium) and tall fescue (Festuca arundinacea). All in all, it seems as though with the better turf grasses, unlike with roses, there have been no outstanding results from formal breeding programs which demand the crossing of different botanical, or even horticultural, varieties. Selection from what nature has supplied does just about as well (there is plenty of ploidy and genetic intermixture already). Moreover, the economic use of a good turf grass demands not a distinctive shape or shade of flower, but only a persistent groundcover of green, albeit of attractive, fine texture. Subtleties are thus not so important in a turf grass cultivar as in a rose or other ornamental. Just so the basic essentials of persistence, adaptiveness to mowing, and low-spreading growth exist, how the lawn grass is treated (fertilized, mowed, weeded, watered) makes more difference than hereditary subtleties. For such fundamental desiderata, natual selection seems already to have accomplished more than planned breeding. The few broadly based attemps at sexual

crossing, such as the extensive series of matings between bluegrass species and ecotypes with Jens Clausen's Carnegie Hybrids, have almost invariably yielded inferior rather than superior variants for clothing suburbia's luxurious swards.

As an example of this state of affairs in the realm of quality turf grasses, let's take a look at the "curious case of Highland bentgrass," about which we can speculate a bit more readily because of the geographical confinement of the modern product and its production. The diverse terrain of western Oregon, where bentgrasses are so much at home, supplies many ecological niches within a relatively small geographical area, too.

Highland History

Harry A. Schoth at Oregon State University has checked up on the early history of bentgrasses in Oregon, to the extent that the imperfect and fragmentary evidence allows. It is Schoth's belief that the many cultivars (or even entities regarded as botanical species) probably originated from introduction of unselected European lots of "mixed German bent." As this polygot bent was spread widely on the west slope of the Cascades, there was apparently natural selection of variants for differing habitats.

Today, there are several recognized species or cultivars, corresponding roughly to different climate and locale. The taxonomy of the bentgrasses is very confused. Most agriculturists follow Peck's treatment for Oregon and Hitchcock's (Hase) (A Manual of The Grasses of The United States, in which creeping bentgrasses are given specific status as Agrostis palustris, colonial forms (including Highland and Astoria) specific status at A. tenuis. In addition, a coarser haygrass species, generally termed redtop, is considered A. a'ba in Hitchcock's manual. Not all authors recognize these delimitations nor necessarily these specific names (viz. Abrams' Illustrated Flora of The Pacific States.

The situation is further complicated by many recent introductions from the far corners of the world, and by a wide number of non-commercial specific entities which most authors treat as endemic. The Taxonomic relationships are confused not only in the United States, but in Europe and elsewhere. At present Chris Eisele of Darmstadt, Germany, is inquiring of informed persons throughout the world in an effort to make some sense out of bentgrass classification in Europe. There is real incentive for this in Germany, because taxation on the sale of seeds differs significantly whether the grass be classified as an agricultural species (as redtop would probably be in this country) or as an ornamental species (as most creeping bents, and velvet bent, A. canina, would be). A. tenuis, as presently understood, could justifiably be considered either, depending upon choice of example.

(Continued on next page)

THE CONSTANT DROP OF WATER WEARS AWAY THE HARDEST STONE,

THE CONSTANT GNAW OF TOWSER MASTICATES THE TOUGHEST BONE,

THE CONSTANT WOOING LOVER CARRIES OFF THE BLUSHING MAID,

AND THE CONSTANT ADVERTISER IS THE ONE WHO GETS THE TRADE.

Highland's Hills

A segregate from the bentgrass complex in Oregon found certain cleared hills in the foothills of the Cascade Range just southeast of Salem, Oregon ((Willamette Valley), very much to its liking. Indeed, in this relatively restricted area, Highland betngrass, as it became named,¹ has proved irrepressible. Here old fields turn to Highland bent, just as cultivated soils in the upper Midwest turn to Kentucky bluegrass. The grass seems ideally adapted to make a fine protective cover on land generally too sloping for cultivated crops, and has extended its domain appreciably in the last three decades.

Although differences are not invariable and perfect, the cultivar now recognized as Highland bentgrass seems distinguishable from the creeping bentgrasses in seed, panicle, and ligule characteristics, and in general mass appearance in the field. Distinction between Highland and Astoria, both of them A. tenuis, is not so easily recognized, and scarcely possible on the basis of voucher specimens alone. But agronomists who are familiar with the growing characteristics feel that recognition is possible, at least during certain stages. It stands to reason that there is some segregation of genes to conform with habitat, for Astoria bentgrass is grown on low-lying soils, generally high in peat and "swampy" until drained, in the more coastal areas where rainfall is exceptionally heavy (up to ninety inches per year).

By contrast, Highland bentgrass flourishes in the hilly region where soils are heavier and better drained, where summers are hot and bright, and where rainfall is more limited (in the neighborhood of forty inches, mostly during winter). The Highland cultivar is almost indistinguishable from what is marketed as "Colonial" bentgrass, the latter having become the approved common name for all **A. tenuis.** Seed from the circumspect Highland area is termed "Highland Colonial," while that from other sections simply "Colonial."

Highland Versatility

The parellel between Highland bentgrass and Kentucky bluegrass is interesting. Natural Kentucky bluegrass, with a complex and extensive gene assortment, has supplied candidate grasses which have made firstrate ecotype cover in many differing habitats thousands of miles apart in this country. Evidently Highland is a segregate out of a similar broad complex of bentgrasses, made by nature but recognized and perpetuated by man. Highland is thus bequeathed a fine measure of identicalness nicely blended with a generous measure of subtle genetic variability which should stand it in good stead as a lawn grass. This chance alliance of adapted segregate with unusual foster habitat satisfied an ecological situation somewhat peculiar for bentgrass. One would not expect a bentarass to do so well as does Highland on unirrigated hills where summers turn hot and dry-such as are summer conditions in the hot midwestern United States, which is generally considered poor habitat for bentgrasses.

Phone: 312 669-5452 or 312 669-5377 LOUIS SCHACHTNER Distributor BLACK DIAMOND HUMUS SOIL HUNTLEY, ILLINOIS

The question is inescapable: if a bentgrass segregate has become adapted to such an ecological situation in Oregon, why would it not fit similar climates in the East? Certainly it seems as though it should². But it is questionable whether the pure Highland cultivar has been thoroughly enough and widely enough tested through the eastern United States to know. In good "bentgrass country" of the eastern United States, such as near the Great Lakes and in New England, much volunteer bentgrass is already growing, possibly some native, but more likely escapes from seed mixtures sown in the area through the decades. Included are many variants which form dense colonies or "mats," which are both distracting and difficult to care for when they invade lawns planted to other grasses. For this reason, the name "bentgrass" has not been looked upon favorably everywhere.

Experience with Highland bentgrass on the grounds of The Lawn Institute, however, indicates that it is not an aggressive invader of bluegrass-indeed the reverse seems to be true. We are intrigued by the possibility that this may be a bentgrass for hot, dry summer conditions, which can survive in midwestern lawns which must be clipped closely, without all the meticulous care generally required for creeping bentgrasses. Maybe here is a cultivar among lawn grasses which satisfies a condition against which Gleason Matoon in his Horticultural Newsletter takes umbrage for ornamentals generally: "How different from the newer hybrids these old favorites (speaking of ancient planting noted on farms). (Newer types) are precocious and colorful, but they lack qualities we long for in flowering shrubs and garden perennials. More especially we ponder on the continual urging to spray, prune, protect, fertilize, weed, and cultivate. Do the new kinds require such babying? If so, forgive us for longing for plants which will persist with neglect and continue to fulfill their roles in this complex world, without the necessity for giving them a daily injection or feeling their pulse weekly."

- ¹ Hyslop and Schoth recognized it as a distinctive "variety" in 1926. The first seed was havested in 1927 from a volunteer stand. Certificaton status was accorded in 1934.
- ³ Harry A. Schoth, Professor Emeritus at Oregon State University, an oustanding expert on Highland bent, states: "Highland bent is very versatile, so far as soils are concerned. It is considered as perhaps the most satisfactory of the bents for low fertility soils and soils that may get quite dry during some periods of the year... on the other hand, it will succeed on lands that may be quite wet during portions of the year.... Its use for turf is the result of wide adaptability, ability to withstand heavy abuse, generally satisfactory color, texture and appearance, comparative freedom from disease and insect attack, and good sod-forming ability that will stand heavy tramping without lasting injury."

RECENT LETTER TO THE EDITOR FROM DR. ROBERT SCHERY.

It seemed apparent that little or no Poa annua contaminates Highland bentgrass in its main growing area, the Silverton Hills on the east slope of the Willamette Valley near Salem, Oregon. Dr. Schery supposes that several factors are involved. For one thing in this particular area, where highland is so well adapted, it probably crowds the poa pretty well. Additionally, Poa probably does not do so well on well drained hills, and is not ecologically favored there. Also farmers take pains not to introduce Poa.



In 100 samples taken, there was not a single case



of Poa annua, although it was frequent in seed of other types of bent grown in the valley.

So it looks as though Highland bentgrass, from its main producing area, the Silverton Hills of Oregon, for all practical purposes comes to market free of Poa annua.



HOLMES' CORNER by James L. Holmes USGA Green Section Mid-Continent Director

Lee Record and I had the privilege of attending the 7th Annual Nebraska Turfgrass Conference earlier this month. A solid ice sheet has formed over all of eastern Nebraska, to a depth of 4 to 8 inches. Golf course superintendents were curious to know what could or should be done about it. As a result of our experience in the Chicago-Detroit-Cleveland local the winter of 1963-1964, we informed the Nebraska superintendents that the complete, clear ice sheet present, should not be allowed to remain in place for longer than 25 days. After 25 days every effort must be made to remove said ice. A number of practices have been successful, such as applying a topdressing material, at rates of 100 to 200 lbs. per 1000 sq. ft., applying a natural organic fertilizer at a rate of approximately 50 lbs. per 100 sq. ft, breaking ice with machines such as front-end loaders or heavy duty vertical mowers and by punching holes through the ice with iron bars. In any event, past experience dictates that if ice is left in place for longer than the 25 days, turf damage will result. This is especially true on greens which tend to become "over wet" and have a history of turf problems. Water soluble, inorganic fertilizers must not be applied over ice as, resulting salt concentration will be toxic to grass. When grass begins growth in spring it should be allowed to grow for a few days before fertilizers are applied or do not force turf until a vigorous growth has been initiated.

It looks like this spring will be a far cry from the desiccation damage so prevalent last spring. However, a word of caution. If snow should melt and the same 3 or 4 warm days, temperatures in the 80's and hard dry winds prevail in late February or early March, it is probable that desiccation will occur. After all is said and done, regardless of ice sheet damage which has and does occur, it is my opinion that more turf is lost to desiccation in late winter and early spring than from ice sheet damage.

An important point, repeatedly brought out during the Nebraska conference, was that of rapid surface and internal soil-water drainage. Unless rapid drainage is assured it is practically impossible to correct other problems. It seems that everyone involved in turf, is becoming more aware that rapid surface drainage is absolutely vital and one hears comments regarding the necessity of improving or building-in adequate drainage from simply everyone in the turf field.

A number of questions have come into our office regarding the use of snowmobiles on golf courses. For the past 3 or 4 springs I have observed considerable damage, especially to putting surface, where snowmobiles have been used. Most sever damage results in areas of heavy traffic or "trails." Even if snow is deep, repeated snowmobile traffic over a given area, encourages formation of ice, and turf suffers. Even though severe damage is done to putting green turf, all types of turf will suffer in heavy traffic locations. Even though it has not been definitely established, it would seem to me, that at least 8 to 10 inches of snow must be present before snowmobiles are allowed. Further, all putting surfaces should be fenced-off; (it would be advisable to isolate tees, also). Care should be taken that "regular runs" do not develop and snowmobile traffic is dispersed as much as possible. As soon as snow begins to melt in the spring all such traffic must be eliminated. Obviously, the golf couse belongs to the members and if they wish to use snowmobiles throughout, it is their prerogative. Nonetheless, they should be made aware that serious problems can result, through the use of these machines, and the necessity of certain restrictions explained to them.

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Tentative Midwest Regional Turf Conference

March 3-5, 1969 Theme - EFFECTIVE TECHNIQUES Monday, March 3 - Loeb Theatre

P.M.

- 1:15 A Purdue Welcome J. B. Peterson
- Man and His Golf A need fulfilled -1:35 Warren Bidwell
- Environmental Science Advances -2:05 James Newman
- 2:40 The Compus Beat - G. S. Daniel
- 3:00 Break
- The Midwest Turf Foundation Today -3:15 W. H. Daniel
- Turf and Vietnam Capt. Ed. Hunnicutt 3:30
- Projecting Golf Nationally Peter Miller 4:10
- Board of Directors Dinner 6:30
- 8:00 Films - 9:00 Annual Meeting

Tuesday, March 4

Golf Courses

The Modern Golfer and His Golf - H. R. Taylor Dew is not Dew - Tom Mascaro Diseases of Fine Turf - M. Shurtleff Gardening 600 B.C. to C. C. Rd. - W. Bidwell Let's Talk Turf Improvement - C. Wilson

Basics for Beginners

Today's Species and Varieties - H. Kaerwer Turf Nutrition - Principles — John Jordan Understanding Turf Diseases — Don Scott Herbicides for Turf - Will Evans, Fred Warren

Architects and Builders

Why Second Architect Program? - W. H. Daniel The Architect Views His Challenges - F. Garbin Water Movement and Evaporation - J. Mannering Clays and Their Action – J. L. White Infiltration and Pore Sizes – H. Kohnke & D. Ralston Peats in Process – Gene Holder Calcined Aggregates - W. H. Daniel

Tuesday Afternoon

Golf Courses - Private and Architects Irrigation Now and Then - Tom Kramer Automatics - An Overview Quality Control by Automatic Irrigation - John Dunlap Walter Wilke

Topdressing and Cultivating Fine Turf - Lee Record Softening Hard Soil Areas – Robert Feindt Instant Drainage - An Idea – W. H. Daniel

Athletic Turf

Is Your Grass Safe? - Wayne Morgan Upgrading the Purdue Stadium - Jim Sinninger Soil Warming in Action - Ray Freeborg, J. Barrett Topdressing for Wear Resistance - W. H. Daniel Artificial Turf - Inquiries & Comments Levels of Athletic Turf Maintenance - C. Wilson

Public Golf - Managers

Characterizing the Public Fee Golfer -Harold Glissmann

- Promoting Turf and Promoting Golf -Jack Keesling and Don Street
- Promoting Golf My Ideas Bill Lyons, Bill Duwe, John Raber - any others
- Special and Night Maintenance Discussion -Bill Duwe, Leader

What of Regulations - Laws, Taxes, etc. -Bill Lyons, Leader

Share with others! Speak up! It's your session!

Banquet Glee Club

Wednesday Morning, March 5

Golf Courses

Ten Years of Decisions - James Brandt Manpower on Wheels - Panel - Tom Sams, Bob Mitchell, ??

An Effective Technique for Recognition - H. Gaskill

Poa annua - Today's Views - W. H. Daniel

Effective Mowing Techniques - Roger Thomas Why Exercise? - A. H. Ismail

Sod Growing and Using

Continued Bluegrass Research - Terry Riordan Production and Plans for Sodco - Laurel Meade Fylking Pennstar -

A-10 and Others - Warren

Experiences in Merchandising New Varieties -**Discussion** Leader

Sod Handling - An Overview

Bluegrass Response to Close Cutting - John Long Industrial Landscape and Contract Maintenance

Architects and Builders

Charcoal and Sponge Rubber - Nutrient Storage in Rootzones - W. H. Daniel Cation Exchange Resins - M. Robey

Humus and Sand Greens - Western Style - W. Morgan

Sands - Principles and Practices - Dave Bingaman

Observing Research Plots - Dave Ralston Build a Plastic Under Sand Green - film - Dave Ralston

What's your View? - Discussion Ten Ways to Build - W. Daniel

ILLINOIS TURFGRASS FOUNDATION **ELECTION OF OFFICERS FOR 1969**

Mr. Robert G. Johnson of the Illinois Lawn Equipment, Inc., in Orland Park, was elected again for the second term as President of the Illinois Turf Foundation, Inc. at the December meeting of the foundation held in Urbana, Illinois. Mr. Oscar Miles of Olympia Fields Country Club in Olympia Fields, Illinois was elected Vice-President. Mrs. Dorothy Cary of Orland Park, Illinois was reappointed as Executive Secretary-Treasurer.

The Board of Directors are Ben Warren, Warren's Turf Nurseries; Ronald Damgaard, Landscaping; Harold Frederickson, Edgewood Valley Country Club; Tom Guttschow, Lincoln Greens Golf Course; Walter Fuchs, The Upjohn Company; Leon Short, Leon Short & Sons, Inc., and Vernon Verstraete, Kewanee Park District.

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John Jackman, Ted Sokolis and Bob Newkirk (Banquet entertainment M.C.)



Tom O'Hara, Managing Editor — The Golf Superintendent, and Jerry Cheesman.



John West and Bert Jannes



L. to R. Mrs. Sokolis, Mrs. Frankowski, Mrs. Jackman and Mrs. Saielli.



Julius Albaugh, Dale Habenicht and Ted Sokolis.

WHAT'S NEW

If you have a news item in your area please contact one of the following persons: FAR NORTH – John West (312-623-5729) NEAR NORTH – Julius Albaugh (312-AL 1-4600) WEST SIDE – Ted Sokolis (312-469-5652) WEST SIDE – John Jackman (312-773-1700) SOUTH SIDE – Dick Trevarthan (815-469-5903)

Arrow Head Golf Club has installed 27 new redwood tee signs. Superintendent Bob Breen plans to have his new automatic irrigation system on his new 9 working this spring. I understand he has quite a system.

Walter Hoyt has retired and is living in Florida. Downers Grove Park District has purchased a regulation 9 hole golf course for its town folks. Ray E. Hoover is the new superintendent at Pheasant Valley Country Club in Crown Point, Indiana.

Oliver Miles, Superintendent, Joliet Country Club is building 3 new complete holes, one and one-half acre lake, and rebuilding one old green. The three new holes plus the one new green will have automatic irrigation.

Roy Nelson, Superintendent Ravisloe Country Club, is changing his manual fairway system over this spring to an automatic one.

John Jackman, Superintendent Medinah Country Club, has installed Monsanto Astro Turf on two of his tees. The two tees being number 14 and 18 on Medinah's Number 3 course. The artificial turf was put on the front of one tee and in the center of the other. Astro Turf can be purchased at many different heights, John chose 3/8". The size of the area covered on each tee is 300 sq. ft. Total cost of material only was \$750.00. John's method of construction was as follows: First, he installed a 2x6" frame at ground level (15x20). He then filled the center with sand. Carpet stretchers were then used to stretch the astro turf to the 2x6 frame. The astro turf, after being stretched, was nailed to the frame. John says he will give comment next year after a full season of play.





Melvin Odle and Ken Quandt



Bill Hargrave



Jim Burdett, John Lapp and Ken Lapp



Dudley Smith and Paul Voykin

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