

BETTER LAWN - - HARVESTS

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ANNUAL MEETING PLANNED

President Osburn has OK'd plans to hold the Institute Annual Meeting in conjunction with the ASTA sessions in Atlanta, Georgia. The time being considered is for late afternoon, the specific day and hour to be announced as soon as conflicts are resolved. The Executive Committee urges you to attend and to participate in Institute affairs.

Member suggestions are always welcome, and if there is a particular matter to be considered for the agenda at the Annual Meeting, please make it known to the Marysville staff offices.

President Osburn cordially invites you to be present for the Institute Annual Meeting during the ASTA Convention at Atlanta, Georgia, June 25-27.

APPEARANCES DURING THE QUARTER

The following magazine stories have appeared or been reprinted during the recent quarter, or are now in press:

American Rose - "New Lawngrasses Applauded"
Better Crops with Plant Food - "The Great Lawngrass Revival":
Better Homes & Gardens - "The New Look in Lawn Grasses"
Crops and Soils - "Lawnseed Today"
Flower & Garden - "Keeping up with New Lawngrass Varieties"
Horticulture - "New Varieties Bring Changes to Seeded Lawns"
Mass. Turfgrass Conference Proceedings - "Perspectives on Lawn Making and Keeping"
Resort Management - "Up-Grade Your Lawn"
Seed World - "The Bright Side of Bentgrass"

REMINDERS SENT TO SUPPORTERS

It is not always convenient to search out in the files a copy of the "Rules" governing voluntary assessments for support of the Institute. Secretary Russell feels that a quarterly reminder is in order, and the letter sent to sponsors at year-end is reproduced here as reminder for the first calendar quarter:

TO ALL LAWN INSTITUTE PROPRIETARY SPONSORS:

It is understandable that paying for something may be overlooked unless an invoice comes showing that a bill is due.

This letter is just a reminder to all the good people who have committed a variety to the Lawn Institute Proprietary program that quarterly payments are due October 1st, January 1st, April 1st and final payment as soon after July 1st as practical.

Your \$500.00 (\$250.00 on Bent) payment for your first variety covered the first 100,000 pounds of this variety. On any sales to the dates given above, payment of \$.20 per CWT is due to the Institute on any quantities over the 100,000 pounds (including past obligation neglected on earlier dates).

If, for example, on October 1st you had sold 225,000 pounds of your first variety, an additional payment of \$250.00 (225,000 less 100,000 /paid for by your initial \$500.00/ = 125,000 pounds or 1250 CWT @ \$.20 per CWT = \$250.00) would have been due the Institute. In the same way, if on October 1st you had sold 67,000 pounds of your second (or third, or fourth, etc.) variety an additional payment of \$34.00 (67,000 less 50,000 /covered for by your initial \$100.00/ = 17,000 pounds or 170 CWT @ \$.20 per CWT = \$34.00) would be due the Institute.

Your cooperation in following this schedule as closely as your accounting procedures will allow will help us tremendously in the budgeting of the Institute's expenses and income.

Many thanks.

Robert A. Russell
Secretary-Treasurer

BETTER HOMES STORY PROGRESSES

A lawn variety story prepared by Dr. Schery for BETTER HOMES AND GARDENS Magazine has progressed to the "copy fitting" stage. Apparently it is scheduled for the May issue, under the heading "The New Look in Lawn Grasses." Author and Institute are credited, even though text is traditionally a staff matter with BH&G.

The story discusses lawngrass objectives in general, then zeros in on seedbed preparation and the naming of grass types. A section covering "New Varieties" permits listing and discussion by name of most of the cultivars on the Variety Review Board list. Emphasis is given their disease-resistance, mowing qualities, usefulness in mixtures, and so on.

In his covering note, Tony Mason, Garden Editor, writes, "Everyone is extremely pleased with the article and information, and I hope you will be too."

WILL DISTRIBUTE INSTITUTE LITERATURE

We are grateful once again to George Abraham ("Doc"), syndicated columnist of the "Green Thumb," for offering to distribute literature without cost to the Institute other than for the reprinting. Abraham has offered through his column New Lawngrasses Applauded, from the American Rose Magazine. "Doc" also comments, "Sure like the piece in Horticulture - - - great job." It's nice to have a fan with this combination of enthusiasm and influence.

GARDEN SUPPLEMENT APPEARS

The American Seed Trade Association has mailed out sample copies of the "1973 National Lawn and Garden Week Newspaper Supplement," for which the Institute has contributed several items and photographs. The Supplement is a joint promotion with several associations, and is mailed to over four thousand newspapers. ASTA absorbs the cost of the seed trades' share of production, the Institute contributing only staff time in preparation of the articles.

In this issue we are pleased to see one of the Institute's stories used as a first page lead item, Spring Excitement in New Cultivars. Most of the commercial bluegrasses, fescuses, bentgrasses and ryegrasses are identified by name.

Two short items appear on page 3 (New Protection and Grass Heals Land). The former opens, "Lawnkeepers have a new heady assortment of Kentucky bluegrass varieties from which to choose. - - " On page 6, the glossary of Useful Terms appears, identifying everything from "cool-season grass" to "ureaform." Page 7 carries a short item, Why Fescues; page 9 a lengthier Plant Lawn Seed Earlier, as well as Bentgrass Varieties and a photograph of Kingston velvet bentgrass (with golf club).

Page 10 carries another photograph, and an article of medium length entitled Revitalize Lawns. This mentions, "A first step on the road towards improvement of a questionable turf is overseeding or bolster seeding."

Although a few misspellings and editorial mistakes are noted (which could have been caught had proof been submitted before publication), the Supplement is generally attractive and well done. We are confident that the Institute's contributions will add to its effectiveness and help to further Institute objectives.

ADDITIONAL CIRCULATION

The Institute was pleased to grant Dr. Paul R. Harder permission to reprint in the Massachusetts Turf Bulletin, the Institute's story Turfgrass Cultivars originally appearing in the American Horticulturist. We are glad to achieve this added exposure through the Massachusetts Turfgrass Council.

THE LAWN BOOK REVISION PROGRESSES

Indexing and page proof reading were completed in February for the revision of The Lawn Book (Macmillan), being retitled by the publisher A Perfect Lawn. Most of the newer cultivars are named in the revision, many of them pictured. The revision also offers opportunity to emphasize the latest slow-release fertilizer formulations, and other useful chemical approaches to simplified lawn tending.

INTERNATIONAL TURFGRASS CONFERENCE

Plans have matured for the second International Turfgrass Society Research Conference, to be held this time in the United States, in three phases. The first conference was four years ago, in Harrogate, England, followed by a tour of turfgrass facilities in northern Europe.

Phase One of this year's program is an "Eastern Tour" of research facilities from Massachusetts to Virginia. Phase Two involves formal presentation of papers at VPI, Blacksburg, Virginia. The Institute will be represented through a paper given by Dr. Schery analyzing lawnseed offerings in major market centers of the United States. Phase Three involves a tour of Ohio, Indiana and Michigan, and extensions are being made available to foreign visitors to visit the West Coast and southern research centers.

Over two hundred turfgrass professionals have indicated intent to attend the conference, about one third from outside of the United States (primarily Canada and northern Europe, a few from Japan and elsewhere). The conference and tours represent chance not only for foreigners to become acquainted with turfgrass research in the United States, but for United States researchers more economically to visit research centers on an organized basis than would be possible individually.

PARKER ISSUES BOOKLET

Dr. Schery has been cooperating with the Parker Sweeper Company of Springfield, Ohio, in preparation of a lawn booklet entitled Lawn Grooming Made Easy. This will be widely distributed through Parker aegis. It should prove a boon to Institute objectives.

The booklet begins with a brief biography of Dr. Schery as author, then opens, "Advances in lawn keeping are hallmark of the times. New bluegrass varieties lend particular excitement. Now, in addition to Merion, we have Adelphi, Arista, Baron, Bonnieblue, Fylking, Galaxy, Nugget, Pennstar, Prato, Sodco and Sydsport, just to name a few of the dramatic new selections . . ." Similar listings are given for fescues, perennial ryegrasses and bentgrasses.

Still another section deals with lawn fertilization, and emphasizes slow-release fertilizer products. Watering, pest control, mowing, and finally thatch control, are topics for discussion. Parker is to be complimented on preparing this broadly inclusive bulletin, even though Parker products are involved almost solely with the thatch-control aspects.

GARDEN GUILD BOOK REVISION

The American Garden Guild is undertaking a revision of that old favorite, 10,000 Garden Questions Answered. Dr. Schery will handle the section on "Lawns and Turf Areas," with opportunity to update the text with the latest varieties and lawn care products.

RECOMMENDATION PASSED

"We are in need of editorial copy for our Garden Pages which appear every Friday. Ron Rokos, Editor of The News Tribune, recommended you very highly." W. R. Skripko, Daily Observer.

STORY IN HORTICULTURE

The Institute story, New Varieties Bring Changes to Seeded Lawns, with author and Institute credit, appeared in the February issue of Horticulture magazine. The story has received favorable mention by garden writers, and has been reprinted for distribution and possible use in a future press kit.

The story opens, "With bluegrasses, perennial ryegrasses, and to an extent fescues and bentgrasses, new proprietary varieties or cultivars seem to be the wave of the future." The story goes on to mention varieties by name, and tells something about their care. ". . . the slow-release fertilizers, most of them utilizing sizeable percentages of ureaform rather than readily soluble sources of nitrogen change the picture . . ."

Final pages of the story carry an alphabetical listing of Variety Review Board acceptances, according to species (Kentucky bluegrasses, perennial ryegrasses, fescues, bentgrasses). A thumbnail sketch is given of each cultivar.

"GARDEN TALK" PUBLICATIONS TO CONTINUE

Word has been received from Paddock Publications, Chicago, that the weekly "Garden Talk" series will continue its spring and autumn publications again in 1973, beginning March 23. Paddock has used Institute materials in past years, and asked to be included in for Institute releases again this year. "Garden Talk" appears in suburban newspapers in the Chicago area.

PHOTOS FOR LAWN RELEASE

Dave Zarkin, University of Minnesota, telephoned asking whether photographs might be made available for spring press releases on lawns issued by the University. We were happy to furnish eleven prints to Mr. Zarkin for his considerations; additional print copies for Minnesota newspapers are to be the responsibility of the University and not the Institute. We are happy to have this chance to help in publicizing good lawns.

SPRING PRESS KIT ISSUED

In line with customary procedures, the Institute's spring press kit was mailed to select editors, writers and newspapers the second week of February. By the end of March a number of usages had been noted. This spring's press kit contained 18 pages of stories, plus the covering letter and 3 supporting reprints.

INSTITUTE GROUNDS

As in many parts of the country, spring has been early and very rainy on the Institute demonstration grounds. Grass has looked excellent as it did all through 1972 (a year with well-balanced rainfall and a late autumn). Where a late March snow drifted and was a number of days clearing, some "disease" blanched foliage under the snow blanket. The Rutgers hybrid bluegrasses have shown excellent color all through the mild winter, and none of the perennial ryegrasses winter-killed (compared to severe damage two years ago). With rains almost daily in March and early April, it has proved impossible to prepare the soil well for new seedings.

GRASS INFORMATION SUPPLIED BUSINESS WEEK

Cynthia Korb, doing a story for Business Week magazine on lawns and lawn tending, contacted the Institute by telephone. We were pleased to discuss lawngrasses and procedures with Miss Korb, and sent her reprints from which to gain firsthand information.

BENTGRASS STORY

Some lawnsmen seem to have over-reacted in antipathy to bentgrass. After all, many varieties of bentgrass are well-adapted to certain regions, and objections come mainly to volunteer "wild" strains that are coarser and clumpier than pedigree cultivars. We have attempted to make this clear, in behalf of our sponsoring bentgrasses, through publication of the "Bright Side of Bentgrass" in Seed World. The reprint received wide distribution, including 3,000 copies sent to a syndicated garden columnist. Highland, Exeter and Penncross are illustrated. The story concludes, "Instead of apologizing, perhaps it is time to give three cheers for the likes of Highland-Holfior-Exeter - - - increasingly, they seem to get along nicely with the new breed of low-growing bluegrasses, fine fescues and perennial ryegrasses."

LAWN PUBLICATION BOOKED

Plans advanced for the Turfgrass Slide Monograph, by the turfgrass division of the Crop Science Society of America (Agronomy Society). Dr. Schery has been asked to be senior author for the chapter on Lawn Maintenance. The Monograph is meant to be chiefly a teaching tool, particularly useful for high schools and junior colleges, or for horticultural groups having limited background in the field. Wayne Morgan, Los Angeles, is general chairman for the project.

TURFGRASS CONFERENCE PRESENTATION

Dr. Schery, speaking on behalf of the Institute at the Massachusetts Turfgrass Conference, presented a paper entitled, "Perspectives on Lawn Making and Keeping." This is expected to be published in a forthcoming proceedings and may be reprinted for circularization thereafter.

The discussion opened with an examination of what trends are shaping turfgrass interests (cited were the new environmental "awareness," the advent of new cultivars, and expectation of competent specialization). Attitudes differ, and alternative options are open. The majority, however, do want an attractive, weed-free turf and are willing to pay for results. Competent service operations should have a promising future.

The medium upon which service operates is, however, changing (particularly due to the introduction of improved cultivars). Their care requires tailored products and techniques, - - such things as the controlled-release fertilizers. The effectiveness of the water-insoluble, polymer types was cited. Trends shaping up in mowing, irrigation, pest control, and so on were briefly reviewed.

The industry is now entering an era where more elaborate diagnosis is possible. Will we soon have "clinics" for turf, with laboratory techniques? The bearing proper diagnosis has on management to control thatch, shade performance, and so on, was discussed.

ADDITIONAL REPRINTS OFFERED

Mention was made elsewhere of the distribution of our reprint New Lawngrasses Applauded, by George Abraham, at no cost to the Institute. Additionally, a second offering of the Horticulture story New Varieties Bring Changes to Seeded Lawns is being made through the Green Thumb column. We are flattered by "Doc's" comment, - - "Keep me in mind for the one coming in March, too. We would like 3,000 of those too, Bob. Can't tell you how lucky I am to be able to offer such fine material. You're the best lawn man in the country -- barring none."

LITERATURE EXCHANGED MAILED

Early in the quarter a mailing was made of Institute reprints to all members of the Agronomy Society Literature Exchange mailing list. It is felt that this sort of mailing acquaints the technical fraternity with the Institute viewpoint and efforts, even though most of the articles are not of a research nature. Send out in this mailing were:

A Lawn You'll Have Time to Enjoy
Lawngrass Proprietaries Come of Age
Seed Mixtures for Sod
All-purpose Fertilizer Suits Roses to a Tea
New Turf Grass Varieties Bred to Resist Disease
Environmental Restrictions Affect Lawnseed Costs

Trends in Lawnseed Trade
Avoid Summer Brownout in Lawn
Turfgrass Cultivars
New Lawngrasses Applauded
New Lawngrass Varieties
New Grasses Dramatize Lawn Renovation

PRO LIVING TURF

We're indebted to Secretary Robert Russell for sending along an item from the January 10 Daily News, under the heading "Chance to Play on Real Turf Makes Csonka Happy." This, of course, was just before the Super Bowl football game in California, which the Miami Dolphins won (Csonka their leading ground gainer).

With a dateline from Long Beach, California, Csonka is quoted as being happy on two accounts: "For one President Nixon has not been favoring the Dolphins with - - play suggestions. For another, Super Bowl VII will be played on a grass field."

Csonka is quoted as saying, "I'm very happy to be back on grass. - - It makes for a more real game when the guys don't have to worry about footing." Csonka's interviewer says that Csonka is almost psychopathic about his dislike of artificial turf. "All I know is that it takes me a lot longer to get over a game when we've played on artificial turf. - - I really think they should have tested it a lot more before putting it in all those stadiums."

Coach Shula also seems to favor live grass. He said, "We do our practicing on grass and we consider ourselves a grass team." A Csonka fumble on artificial turf in Dallas in 1972 was instrumental in the Dolphins losing the Super Bowl game that year.

LAWN SEED INDUSTRY STORY SCHEDULED

We have word from Bill Luellen, Editor of the Crops and Soils, that our review of trends within the lawnseed industry will appear in the June-July issue. Bill writes, "Thank you very much - - - for the excellent job - - I'm sure our readers will be quite interested - - ."

LITERATURE FORWARDED

An expectant graduate in landscape operations from the University of Massachusetts has requested from the Institute reprints to "better enhance my service to my customers." Mr. Heifron anticipates entering business in 1973.

RECORDING COMPLETED

A telephone interview with Don Lerch, Washington, D. C., initiated by Margaret Herbst for the Merion Bluegrass Association, was completed in late February. This interview with Dr. Schery is one of several being distributed for radio through the public relations offices of Mr. Lerch. About 200 stations are serviced.

EDUCATIONAL REPRINTS SENT

Russell Brunby, Horticulture Instructor, LaSalle High School, Niagara Falls, New York, requested multiple reprints "regarding ryegrass, bluegrass, fescues and bentgrasses." These were forwarded immediately for class use.

SOUND POLLUTION

A report from the Plant Research Institute, Canada, (published in February Park Maintenance) questions usefulness of low shrubs or trees in hedge form for reducing noise. Nine different plants and plantings, from five to ten feet wide and tall, reduced noise at most about 3 percent (in some cases not at all). Noise without any barrier was 70 decibels, reduced to 69 decibels across an arborvitae hedge, and to 68 decibels with certain lilacs. White spruce, common honeysuckle and lilac, showed no reduction. It would seem that a grass planting should do as well, "deadening" the reflection of noise as does a carpet in a room!

ENVIRONMENTAL QUESTIONS DISCUSSED

With environmental discussions so much in the forefront these days, and with lawns and their care often mentioned as both a pollution source and anti-pollution force, the continuing series of professional articles in the Journal of Environmental Quality will have interest for members. The magazine is sponsored by the several agronomy societies, out of Madison, Wisconsin. Because of space limitations articles are not reviewed here individually, but we do want to point out that many have at least some bearing for ornamental plantings. Here are a few of the subjects covered in the October-December issue which may provide information perhaps applicable to home grounds.

Organic influences on herbicides in the soil, effects of sediment on water quality, oxygen status of sediments, soil absorption of air pollutants, nematode influences, organic compounds in soil water, pesticide transformation in soil, waste materials for irrigation and fertilization, thermal degradation of pesticides, nutrient content from animal (barnlot) wastes, sewage sludge uses, phosphorous from urban soils leading to eutrophication, comparison of leachates and runoffs from fertilized compared to unfertilized soil, the effect of ozone on plants, and several book reviews in the environmental field.

ILLUSTRATIONS FURNISHED

A lawn book being prepared for national distribution through the editorial offices of Yard and Fruit, Nashville, Tennessee, requested a few pertinent illustrations from the Institute. These were sent to Ms. Linda Gray, who is apparently editing the manuscript.

INQUIRY FROM LINCOLN UNIVERSITY

Professor Enlow, teaching horticulture at Lincoln University, has requested Institute materials for use in his landscaping classes. Several hours are devoted to lawns and lawn care. A series of appropriate reprints have been sent to Professor Enlow.

OHIO TURFGRASS FOUNDATION SESSIONS

On March 26, Dr. Schery attended a legislative committee meeting of the Ohio Turfgrass Foundation. Suggestions had been advanced that legislation should be sought condemning "weedy" components in lawnseed mixtures, particularly tall fescue. The Institute position was that this is a matter for education, not legislation (which might open up a Pandora's box of bureaucratic rulings). The committee accepted this reasoning, and chose to take steps to acquaint the public with the disadvantage of coarse grasses both carried in seed and as a component in mixtures.

H.U.D. REQUESTS INFORMATION

Donald Fairman, H.U.D., Washington, telephoned the Institute for up-to-date recommendations for seed mixtures suited to various regions. This is to be used in preparing H.U.D. "Minimum Standards." We were pleased to advance Institute suggestions for modern lawn varieties, and immediately forwarded supporting literature (particularly recent reprints) to Mr. Fairman.

TURFGRASS STORIES FACILITATED

Although not under direct Institute authorship, we have been pleased this spring to facilitate publication of turf variety stories for Weeds Trees and Turf and Seed World magazines. "Velvet Bentgrass -- The Putter's Delight," with authorship credited to Richard Hurley of the University of Rhode Island appeared in Weeds Trees and Turf. Mr. Hurley has been an assistant to Dr. Skogley, and was responsible for the data presented as well as supplying illustrations. The Seed World item, still in press, will feature a new variety being submitted for acceptance to the Institute's Variety Review Board.

REQUEST FOR MATERIALS

Professor John Cunningham of the California State University asked for literature to be used for a faculty library and for environmental studies. Professor Cunningham received a full measure of Institute reprints.

GOOD STORY MILEAGE

Although the story in Flower and Garden magazine entitled "Keeping Up with New Lawngrass Varieties," was published last quarter, additional reprinting and circulation gave added mileage to this well-received review of new cultivars. It also was one of the back-up stories in the spring press kit. This is the item that begins, "New lawngrass varieties are appearing at such a pace these days that it is difficult to keep up. Many recent bluegrass, fine fescue, bentgrass and perennial ryegrass cultivars are now reaching market. All are meritorious - - -."

TECHNICAL SECTIONWEED SCIENCE SOCIETY

The Weed Science Society of America held its 1973 annual meeting in Atlanta February 5-8. The Institute presentation at these meetings is reviewed separately, as are papers presented that may be of interest to members from a technical standpoint. An overview of the society and its objectives may be of interest, however.

Judging from the general opening sessions, the society is concerned with several matters. Apparently it feels the need for greater political heft (through increase in membership), and is concerned by the present maze of governmental restrictions as well as the anti-pesticide reactions. The society seems to recognize the need for talking to the world in a broadly popular way, rather than simply having professionals talk to one another through technical papers.

Several of the opening papers were "courtesy" presentations by Washington, D. C. administrators. Phil Campbell, Undersecretary of the USDA, spoke in generalities about the agricultural situation and "all that Washington was doing" for everybody. David Dominick, of EPA, was more specific; after a late arrival that held up the sessions he indicated fantastic economic strength in America's fertile agricultural lands, and emphasized crop exports (important these days to partially offset deficit expenditures in other areas). He recognized herbicides as the leading type of pesticide, but feels that weed control has lacked the scholarly attention commensurate with its importance. He feels that declining agricultural acreage is cause for concern, and professes interest in "building bridges" between the EPA and the Weed Science Society.

More directly of concern to membership was the presentation "Herbicides in Public Affairs," by B. E. Day, Director of the Agricultural Experiment Station, University of California. Day stated that weed control technology has gotten far ahead of its human relations. The profession is organized to handle technical problems (of which there are many, including need for new and better herbicides and better ways to use them). But the public has the impression that herbicides are highly toxic and poorly understood by their users. Yet Day feels that the public is not so "uptight" about the matter as are the politicians.

In some cases it is guilt by association, such as the condemning of 2, 4, 5-T because it was used for chemical warfare in Viet Nam. Day also feels that people harbor a vague sense of "unfairness" when plants or animals are killed by chemical means, and are offended by any pesticides or foreign material found in food.

Day says that the profession is not doing a good job in countering the fear food faddists have of pesticides. Even though there is ample evidence that pesticides cause no diminution in the quality of food, the fear is very real to these people. He believes that even worse are what he calls "ecobigots," - - technically accredited people who gain publicity by prophecying doomsday. They thrive on a gullible press, although the press is now "wising up" about such matters.

(Continued)

WEED SCIENCE SOCIETY (Continued)

Day feels that there is great need to get honest information across at all levels of communication. Above all, means must be found to solve the problem of increasingly complex and confusing government regulation. He feels that "general practitioners" are needed, - - respected and technically understanding advisors who could make recommendations without themselves being suspect of private interests (spraymen and companies offering service are at this point about the only sources for practical information).

RESUME OF WEED SOCIETY PAPERS

Following is a review of presentations given at the 1973 meeting of the Weed Science Society of America which may be of interest because of applicability to turfgrass growing. Nearly two hundred papers were presented, summarized in the full "Abstracts." An effort was made this year to build interest in turfgrass herbicidal work, and most of the papers reviewed here were presented to Section II, "Horticultural and Turf Crops."

Glyphosate (a Monsanto experimental) is receiving considerable attention. Although sometimes erratic, glyphosate shows promise as a translocated grass and weed control in turfgrass renovation. In Florida two pounds per acre gave as good bermudagrass control as does Dalapon at four times this rate. Control of torpedograss, a serious pest in Florida, was excellent. General effectiveness against grasses gives promise of using glyphosate for the weeding of ornamentals, many of which are resistant to its action.

Texas research indicates the effectiveness of ultra-high frequency electromagnetics for weed control (seed and living parts) in the soil. Nothing practical yet, but tests are underway with machines designed to travel down field rows.

Great interest was shown in both yellow and purple nutsedge control, the number of papers amounting almost to a symposium. Data was developed on temperature effects, temperature influence on fumigation, control through multiple cropping, and influence on various herbicides. A broad investigation of nutsedge distribution by Stoller, Illinois, indicates that purple nutsedge ("the world's worst weed") is limited in distribution north of the southern-most states by lethal winter temperatures. Geographically, yellow nutsedge is by far the more widespread species, but even it appears to be limited by cold weather in a small area centering on North Dakota.

Research in Virginia proved that bromacil was more severe on orchardgrass than on Merion Kentucky bluegrass. Chemical explanations for bluegrass tolerance are advanced.

The effectiveness of Tifway bermudagrass sprigging was investigated in Georgia; coverage was increased by higher sprigging rates, use of DCPA pre-emergence weed control, and applications of nitrogen. Combination and sequential treatments (including various herbicides) were quite helpful.

(Continued)

RESUME OF WEED SOCIETY PAPERS (Continued)

Influence of herbicides on the rooting of transplanted Kentucky bluegrass sod was investigated both in Rhode Island and Virginia. All herbicides reduced rooting, although at normal rates this was considerably less severe than when rates were doubled. Silvex caused most trouble in Rhode Island; in Virginia all pre-emergence crabgrass remedies reduced bluegrass rooting as much as 50 percent (although variations occurred depending upon species of grasses and season). Triple rates of bensulide and terbutol caused 100 percent non-rooting in Virginia, and even normal rates reduced it by 60 percent.

The effects of repeated applications of pre-emergence herbicides was studied in Michigan. Nearly all products caused some adverse affects on at least some of the turfgrasses, especially during summer stress periods. Bandane was most consistently injurious, causing poor rooting, increased stripe smut, etc.

Purdue University is concerned with means for detecting "useful" content of arsenic in soils, relevant to the calcium arsenate program for *Poa annua* control (particularly on golf courses). The techniques are enumerated. In another section a paper stressed the toxicity of arsenic in the soil, and noted that residues picked up in edible portions of vegetables often exceeded the allowable levels (suggesting caution in the arsenical doctoring of soils).

The control of *Poa annua*, particularly in golf greens, was subject for a series of papers from various research centers. Ledebor, South Carolina, has determined how far ahead of wintergrass seedling pre-emergence *Poa annua* control with Kerb, benefin, and bensulide need be practiced. He feels that pre-emergence treatment should be made at least three weeks before overseeding. Kerb gave excellent *Poa annua* control, as did benefin. Dickens, Alabama, experienced good selective control of annual bluegrass with various pre-emergence herbicides, although experiencing slight injury to some of the winter-seeded grasses (which varied according to cultivar). In North Carolina, bensulide, nitratin and terbutol gave 75 to 100 percent control of annual bluegrass, with results from benefin and DCPA variable from place to place and year to year. Highland bentgrass was the wintergrass most affected by the herbicides, annual ryegrass the least (fescues and *Poa trivialis* intermediate).

In the Thursday "Poa annua symposium," Duich, Pennsylvania, reviewed his research of several years, involving chiefly the use of bensulide (early proven the best of the pre-emergents under Penn State conditions). Bensulide has been applied at rates so high as 45 pounds per acre twice annually, with only slight injury to bentgrass. The 15 pound rate of bensulide is generally recommended, and rates less than 10 pounds permit annual bluegrass to come back rather markedly. Typical untreated "greens" can be expected to have nearly 50 percent *Poa annua*; however, untreated Pennncross is invaded at most 3 or 4 percent. Treatment of less vigorous bentgrasses with 15 pounds of bensulide annually in autumn reduced *Poa annua* incidence to that which is about normal for Pennncross. However, it has been noticed that bentgrass rooting depth may be reduced as much as 40 percent with use of the herbicide.

(Continued)

RESUME OF WEED SOCIETY PAPERS (Continued)

Ledeboer pointed out that most varieties of wintergrass lose vital amounts of green leaf because of low cutting. He is "high" on some of the new ryegrasses, such as Pennfine, and some of the fescues (such as Jamestown), because the short sheath better preserves the green leaf blade against clipping loss. He recommends lighter sowings of low-growing cultivars, so that individual plants spread and tiller to make a more durable winter turf (as contrasted with the easily lost, heavily decapitated annual ryegrass). He spoke of the usefulness of Kerb in causing all cool-season grasses to fade away gradually at transition.

Callahan, Tennessee, is very leary about the use of pre-emergence herbicides. He advocates exhaustion of all cultural means for controlling *Poa annua* before using chemicals. In Tennessee meaningful rates of almost any of the conventional pre-emergence materials has caused side effects, if not direct damage. Some of the "hot" products, such as bandane and terbutol, have burned out the permanent grasses. But even some of the milder treatments have so "weakened" the permanent grass that disease (or other ills) take their toll. Rooting of bentgrasses treated with *Poa annua* controls has been severely limited through the use of pre-emergence chemicals.

ORGANIC PRODUCTION

An investigation by Reader and Stewart, in southeastern Manitoba, reported in the "Autumn 1972" Ecology, bears upon two matters much talked about with respect to turfgrass, - oxygen production, and thatch formation. These studies were on peats, but the principles involved should apply to any vegetation in this climatic zone. Measurement of the annual increment remaining after decomposition showed average biomass accumulation of less than 10 percent. By implication more than 90 percent of the oxygen produced by vegetation would be consumed within the same year for decomposition, and similarly 90 percent of the thatch accumulation could normally be expected to decompose.

CONTROL-RELEASE MECHANISM

Interest has been widespread in controlled-release fertilizers and pesticides. R. L. Collins, University of Texas, spoke about this as a way of minimizing ecological impact of pesticides, at the Weed Science Society meetings in Atlanta. His press release on the subject showed that diffusion from granules has at best 22 percent efficiency, encapsulation 38 percent efficiency, but water-degradable polymers and other difficultly soluble substances can have efficiencies from 50 to 70 percent. An elaborate equation is involved for making the efficiency ratings.

"CHEMICAL" IDENTIFICATION OF BENTGRASS AND BLUEGRASS

Research by Wilkinson and Beard on electrophoretic identification of bentgrass and bluegrass cultivars is reported in the November-December Crop Science. Details of the method are given. The authors conclude that it is possible to distinguish creeping bentgrass cultivars by protein electrophoresis, but that bluegrass cultivar identification is not so clearcut (some varieties show characteristic banding while others don't, and some can only be placed into general groupings).

MASSACHUSETTS TURFGRASS CONFERENCE

The Institute participated in the 1973 Turfgrass Conference, sponsored by the State Cooperative Extension Service and other organizations. Dr. Schery presented a paper on "Perspectives on Lawn Making and Keeping," review of which is given elsewhere (reprinting of the full text is likely after publication).

The Conference was well attended, with approximately 1,000 registrants. Golf course interest still predominates, but there is increasing enthusiasm from general turf maintenance quarters. The majority of the presentations, however, have to do with golfing turf and course management.

The opening paper was innovative for a turf conference, - - comparison of artificial and natural turf from a coach's viewpoint (analysis of physical forces involved), by Dr. Stanley Plagenhoef, the University of Massachusetts. His conclusions boil down to "what do you want?" Synthetic surfaces provide faster performance and greater consistency, but less shock absorption and a tendency to overheat. In his tests serious injury was seldom related to the type of turf (brutal play causes injury on whatever turf), but there is increasing incidence of the "burn" on artificial turf. Compromise must be reached, depending upon kind of sport, the coaching attitude, the level of athletic ability, and so on. An interesting sidelight was mention of a \$400,000 expenditure at Dartmouth College for a synthetic surface indoors, which was then found not to fulfill fire law requirements so that only 100 spectators can be admitted.

Other first day presentations involved golf superintendents, who discussed drainage matters and the relieving of standing water through the use of slit trenches (with plastic tile at the base); renovation of fairways using arsenite "scorched-earth" techniques (subsequent seeding in this case being 60 percent Astoria bent and 40 percent Seaside bent); conversion of fairways to Kentucky bluegrass rather than bent with a Roger's scarifier (differing varieties are being introduced including Fylking, Baron, and others still to come). Superintendent Rewinski (Long Island) was very emphatic about the need to limit irrigation in order to sustain Kentucky bluegrass in competition with *Poa annua*. Some years he has used only half the amount of irrigation water that other courses used and attributes his success with Kentucky bluegrasses to this less-opulent irrigation program.

A number of papers on the second day dealt with golf course management and problems. A perceptive review of weed control in turfgrass areas was provided by Professor Jagschitz from the University of Rhode Island. Other presentations dealt with stadium maintenance, highway turfgrass, cemetery maintenance, and landscaping operations. A distinguished visitor was F. W. Hawtree, a British golf course architect speaking on golf course architecture in Britain.

RYEGRASS SEED DORMANCY

A study by Wiesner and Grade, Oregon, in the November-December Crop Science, reports on ryegrass seed dormancy. Cultivars differed in their degree of dormancy, but dormancy was also affected by growing

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RYEGRASS SEED DORMANCY (Continued)

conditions during seed development, especially temperature. In one case seeds developed at low temperatures were dormant, but those developed at high temperatures were not. Duration of temperature regimes and the time of their onset greatly influenced the degree of dormancy seeds might show.

WEED SCIENCE SOCIETY PRESENTATION

Upon invitation of program organizer Wayne Bingham, Virginia, Dr. Schery presented a paper entitled "Weed Influences on Lawnseed Quality" to the national society at the Atlanta meetings February 5-8. The abstract for this presentation read:

"Random commercial samplings of lawnseed offered for sale in major market areas country-wide were scrutinized for "acceptability" according to standards that more inclusively indicate performance than do the legal labelling requirements. Seed samples were meticulously analyzed by a commercial seed-testing laboratory for noxious weeds, other weeds, and crop seed inclusions, as well as for conventional purity and germination, and (with mixtures) judgment of formulation for the climate where offered.

"Rather few offerings had to be severely criticized for formulation, indicating a vast improvement in commercial responsibility over the condition prevailing only two decades ago. Germination was almost never deficient, and purity claims for the most part were only mildly if at all questionable. Noxious weed inclusions were rarely a problem, as might be expected with legal penalty. Other weeds were for the most part surprisingly infrequent or of types not apt to be troublesome under modern schemes of lawn tending. More serious were crop inclusions, fairly frequently present, sometimes rather abundant on a seed-count basis, and often of species that might prove damaging to best product performance. Ryegrass and field forage species were the chief culprits. On the whole bentgrass and annual bluegrass seemed not too serious a problem."

BENTGRASS STOMATAL DENSITY

Shearman and Beard, Michigan, reported in the November-December Crop Science, on the density and distribution of leaf pores in bentgrass. Velvet bentgrass had least frequent stomatal density, creeping bentgrasses varied greatly according to cultivar, and colonial bentgrasses had greatest stomatal density. Density also varied greatly according to upper or lower leaf surface, and whether the leaf was young or old. It appears that there are some inherent differences in density and position of stomata in bentgrasses, but that these are also influenced by cultural conditions.

ROADSIDE TURFING

The "Final Report" from the state of Nebraska on Roadside Establishment and Use of Turf and Other Ground Covers, has been received. This study is one of the most extensively sponsored in any state, a result of a fifteen year contract by the State Highway Department with the university. Included in the "Final Report" are about 160 pages of text and data covering many aspects of ground cover establishment, in the various climatic zones of the state. We have reviewed interim stages of this research previously in Harveys, and will mention here only highlights of the study.

As has been pointed out previously, data is often of very localized usefulness and more of significance in "pure" testing than for practical establishment of cover. For example, the arbitrary choice of 120 PLS seeds to the square foot in test comparisons results in the totally unrealistic application rate of approximately 2 lbs. of Kentucky bluegrass seed to the acre. Under such light seeding bluegrass is inevitably going to suffer in comparisons with stouter, more aggressive species, at least in the early stages of observation. Considering the costliness of soil preparation and labor, the savings involved in using only 2 lbs. of bluegrass to the acre is illusory, since a seed cost ten times this much would more than pay for itself in quicker, denser cover. Keeping in mind that questionable test procedures of this type do occur throughout the reported data, certain trends and observations are of interest. Drs. Dudeck (now in Florida) and Young are the reporting authors.

Slow-release nitrogen sources are recommended in spite of higher costs, especially for rest areas and medians in metropolitan areas. About four pounds of UF to the 1,000 square feet is suggested, fortified with about a third as much of quickly available nitrogen the first year.

The establishment of cool-season grasses in eastern Nebraska was not greatly affected by either slope or exposure. Kentucky bluegrass and western wheatgrass grew best on north-facing slopes, however, and crown vetch suffered severely on southern ones. The wheatgrasses rated very highly, but all species required fertilization in order to maintain acceptable cover. In western Nebraska, under a decidedly more arid environment, crested wheatgrasses performed best, while crown vetch failed completely.

A number of warm-season prairie grasses made acceptable cover in eastern Nebraska if they were fertilized. It was noted that only 12 percent of the seed sown actually produced seedlings. Indiangrass (*Sorghastrum nutans*) and switchgrass (*Panicum virgatum*) had the highest rating for quantity of cover after about six months. Bluestems (*Andropogon*) gave very poor cover. In western Nebraska the warm-season grasses were generally a failure, and the authors state "It is questionable if warm season prairie grasses are adapted to this area." Yet some performed well in central Nebraska, again doing best when fertilized; the authors state "Best - - - were railway sideoats grama and buffalo-grass which produced 90 percent and 85 percent ground cover respectively."

None of the grasses were too satisfactory for roadside rest areas in the western panhandle. "The best cover of only 43 percent was produced by buffalograss." But the authors note "It was observed in this area that where irrigation was provided, Kentucky bluegrass does well on home

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ROADSIDE TURFING (Continued).

lawns and golf courses. Supplemental irrigation on a small scale should be considered for this area ---."

Investigations were undertaken on saltgrass (*Distichlis stricta*), a species found actually to grow better at a salt concentration of $\frac{1}{2}$ percent, and survive even at salt concentrations of 2 percent. The species is suggested as possibly useful where salt is used for deicing highways. Mowing decreased the quality of saltgrass turf.

Different varieties of crown vetch were compared, but no significant differences could be found between them so far as performance was concerned. Nor was any benefit noted from treating seed with fungicides, either of crown vetch or selected grasses.

As would be expected, mulching has considerable benefit. Mulched plots significantly reduced water run-off and increased infiltration. In more humid areas Kentucky bluegrass sod was found to be "extremely effective against water erosion and its use in critical areas where instant cover is required appears justified." Various mulches rated sometimes highly and sometimes not so well. For erosion protection jute netting and excelsior mat were particularly good, while "mulches of wood cellulose, medium paper netting, and latex were unsatisfactory."

Much additional test data is reported in this study, including the performance of a wide array of herbicides, such as for vegetation elimination under guard rails. Most of this is of specialized nature, and the study should be consulted for details. A few illustrations, and a brief bibliography of 37 titles are included at the end of the publication.

ABOUT SEED WEIGHT

Studies by Baker, California, reported in the "Autumn 1972" Ecology, may be of interest for confirming certain generalizations about plant vigor, habitat and seed weight. Nature must reach some compromise between numerical quantity of seed, and size of the individual seeds. Baker finds that to an extent this is adaptive; good growing conditions (providing larger food reserves), and the need for dispersability, are counter-influential. Positive correlation generally exists between weight of seed and rate of growth (as with most lawngrasses, heavier seed provides a more vigorous seedling).

With the native California vegetation, seed weights are greater on the average for plants likely to be exposed to drought risk (the adaptive advantage of seedling vigor encouraging deeper rooting is apparent). However, in coastal communities good dispersal of seed by wind is of top importance (confering advantage to smaller seeds, produced more abundantly).

With shrubs and trees the situation is not so clearcut as with herbs, because of shading and competitive factors (which may not be so directly affected by seed weight). With increasing altitude (i.e. decreasing length of the growing season) average seed weights tends to decline;

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ABOUT SEED WEIGHT (Continued)

apparently this is in response to the decrease in food production imposed by a shorter, more stringent season. Introduced plants respond in this same general way, but seed weight correlations are not quite so pronounced as with the native vegetation.

NEW HERBICIDE DEVELOPMENTS

A sidelight of the Weed Science Society Meetings is an "Evening with Industry," in which new product offerings are revealed and trends reviewed. A few of the topics discussed this year are reviewed briefly.

Destun is a new herbicide from 3-M (formerly code MBR 8251) especially for control of nutsedge but active against many grasses and broadleaf weeds. It is mainly used as a pre-emergent in various crops, but has shown some promise in turf as well. It is said to give post-emergence control on young nutsedge as well as annual grasses.

3-M is also offering a plant-growth regulator, Sustar II-S. Application of 1-2 gallons per acre has given regrowth inhibition and seed-head repression lasting more than 6 weeks on most turfgrasses, both northern and southern (especially suggested for st. augustine, but dichondra has shown tolerance as well).

Grosafe is an ICI American offering of activated charcoal. This is designed to nullify herbicide toxicity, as has been demonstrated by Oregon State University research on field plantings of turfgrass. It is also recommended as a root dip for nursery stock that might be transplanted to soil containing residual amounts of herbicides such as the triazines.

Velsicol has a new growth regulant named Racuze, primarily intended to increase sugar content in sugar cane (the name is the Spanish for sugar spelled backwards), but said to show promise for increasing stolon production in turf. Rates of $\frac{1}{4}$ -1 pound per acre are suggested during active growth periods.

Amchem has further perfected its Lo-drift spray additive (a PVC compound used about $\frac{1}{4}$ pound per acre), primarily for use in aircraft spraying of large acreage and right-of-ways.

An inventor, Eron, discussed a new device for cleaning up pollution in lakes, which permits the addition of chemicals as well as oxygenation of the lake bottom.

Don Johnson, Allied Chemical, Omaha, wound up the evening with a broad review of combined herbicide-fertilizer applications, primarily with field crops in mind rather than home garden use. Apparently, the combination is being much more widely employed now that liquid fertilizers have been gaining ground in certain areas.

TURFGRASS DISEASE EVALUATION AT RHODE ISLAND

Fungicide tests by plant pathologists at the University of Rhode Island were reported on for the year at the end of 1972. As is always the case, weather played a paramount role, and fungicide response is often erratic. A few of the conclusions may be of interest to the members.

The pathologists expressed doubts that disease-resistance in new cultivars will hold up reliably, since the diseases mutate and adapt to the new host. "Indications of potential disease problems with some recently released cultivars have been manifested in the past two seasons at Rhode Island." Both Baron and Fylking bluegrasses showed susceptibility to brownpatch and rust; Manhattan ryegrass was severely damaged by Typhula, red thread, dollarspot and crown rust.

Under the prevailing 1971-72 winter weather, snowmold infection was inconsequential. Nor was brownpatch infection recorded at the experiment station during the summer. The only diseases showing up in substantial quantity were Corticium red thread and dollarspot.

As much as 25% of the Manhattan ryegrass planting was infected by dollarspot at the end of August, but fungicidal treatments with all except one of the fungicides under test effectively controlled infection. Pennncross creeping bentgrass was 12% infected in late September, and again most fungicides effectively controlled the dollarspot.

On the other hand, very few of the fungicides seemed to stop red thread disease on Manhattan ryegrass, the highest incidences of which were about 15% at the end of August.

The findings of this study afford no momentous conclusions, especially in that disease incidences were so light. But it is apparent that even the new "disease resistant" cultivars can be moderately afflicted with disease, for which fungicides are then still a necessary control for perfect turf. This might be considered an argument, too, for advocating seeding mixtures rather than unblended seed.

SOME SUCCESS WITH CONTROLLING ANNUAL BLUEGRASS WITH ENDOTHALL

Research reported by Turgeon et al in the November Weed Science indicate some success in selectively eliminating annual bluegrass from Pennncross bentgrass or Merion Kentucky bluegrass through three applications of endothall at approximately six-tenths pound per acre, two or three applications at approximately from one to two pounds per acre, or one application at approximately four and one-half pounds per acre. A number of variables (such as watering regiment, soil organic matter, strain of annual bluegrass) makes success uncertain.

ARTIFICIAL TURF REVIEWED

Dr. Mecklenburg, Michigan State University, compares artificial with natural turf in the December issue of Golf Superintendent. He refers to reports from other parts of the country relating more to esthetics and durability, while concentrating particularly upon heat problems at the Michigan State football field, and at the Chicago White Sox baseball field (where the infield is artificial grass, the outfield natural).

Mecklenburg notes that evapotranspiration of two gallons of water per hour from living grass utilizes 16,000 Btu, having the same effect as would a 16,000 Btu air conditioner. Surface temperature, air temperature, and thermal radiation are all reduced. The highest surface temperature recorded on artificial turf was 163° F., on August 18; at the same time live turf around the stadium was only 88° F. Growing grass can be as much as 40° F. cooler than turf dried up by drought and not transpiring.

At the Chicago park a temperature difference of 77° F. was measured, comparing the artificial turf of infield with the natural grass of the outfield, only 10 yards apart. The air temperature 3 inches above the surface showed a 9° difference. Not only would the ambient air temperature make a difference to players, but more intense radiation of heat from the artificial surface would occur.

Dr. Mecklenburg counsels against undue removal of plants and their replacement with artificial materials, which tend to create unpleasant "heat islands" in urban areas.

WEIBULL'S "GRAS-TIPS" RECEIVED

The year-end issue of the fine publication, GRAS-TIPS, from Weibull's, Sweden, was received in America in February. Although the text is in Swedish, brief English summaries accompany each of the articles.

Most articles appearing in GRAS-TIPS relate to intensively managed turf, particularly athletic fields. Construction, drainage, and so on receive much attention. One article has to do with grass seed quality, and the same complaints we have in the United States are launched for Sweden concerning the marketing of "cheap" seed mixtures.

Another article indicates that the restrictive Swedish law is now in force on importation of grass varieties, which must have proved themselves for several years in Swedish tests before being admitted to the import list. Other articles discuss green areas, seedling disease, frit fly damage (which promises to become more of a problem), and inhibition of seed germination from hydraulic seeding in combination with fertilizer.

Perhaps of most immediate interest to members were the variety trials reported from Stockholm. Many of the commercial varieties offered in the United States were entered, as well as many experimentals. Considering only the commercial varieties, here are some of the "winners" (ratings were separate for color, density, general impression, and disease resistance).

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WEIBULL'S "GRAS-TIPS" RECEIVED (Continued)

Among the bluegrasses Merion ranked number one in two of the categories, second in the other (ignoring disease resistance). Fylking placed one, two and four; Pennstar two, three and three; Baron, two, four and four. These were the top bluegrasses.

The fescue comparisons were not so comprehensive, and many of the American varieties were not entered. Of those compared, Dawson with a one, one and two; Rolax with a one, two and two; and Polar with a three, three and three were the top three, with Ruby not far behind (four, four and four). Tracenta was far ahead among the colonial bentgrasses. All perennial ryegrasses performed poorly.

CULTIVAR CONSTANCY

Research by Beltsville experts on the Windsor cultivar of Kentucky bluegrass was reported in the November-December Crop Science. The study showed that Windsor was indeed variable rather than constant, with diversified progeny and chromosome numbers ranging from a low of 35 to a high of 150. The variable progeny tended to sort into two groups, large seeds producing mostly pigmented seedlings with about 70 chromosomes, small seeds producing non-pigmented seedlings mostly with 49 chromosomes.

RESORT STORY APPEARS

"Up-Grade Your Lawn" is the title given an Institute story, appearing in the April Resort Management (the national magazine for resort operators). It furthers the attempt to acquaint the public with the many new named cultivars now available. Unfortunately, editor Fagans took it upon himself to list "Samplings of new or outstanding lawngrass" as being available from the Institute; this is not clear, and we anticipate some bother for free seed. (we are always glad to offer free literature upon receipt of a self-addressed, stamped envelope). Fagans gives "current selections" as a boxed insert in Kentucky bluegrass, fine fescue, bentgrass and perennial ryegrass categories. Leading cultivars are named.

APPRECIATION FROM TURF CONFERENCE

"In behalf of the Turf Conference committee and myself, I want to express our appreciation for the very fine job you did for us at the Turf Conference. I have heard many fine comments on your presentation, and it certainly helped make the conference a successful and worthwhile one." -- Joseph Troll, Professor, University of Massachusetts