

BETTER LAWN - - HARVESTS

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991 WEST FIFTH STREET
MARYSVILLE, OHIO 43040
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ANNUAL MEETING ELECTS NEW TRUSTEES

The slate of nominees presented by nominating committee chairman Jim Carnes at the annual meeting was elected unanimously. Trustees elected for the 1977-78 fiscal year were:

Ross Allmon - Hercules, Inc., Wilmington, Delaware
Dick Bailey - Merion Bluegrass Association, Hubbard, Oregon
Bob Buker - FFR Cooperative, W. Lafayette, Indiana
Jim Carnes - International Seeds, Inc., Halsey, Oregon
Gabe Eros - OSECO Limited, Brampton, Ontario, Canada
James Jenks - Jenks-White Seed Co., Salem, Oregon
Robert Lierman - Highland Bent Commission, Silverton, Oregon
Bob Peterson - E. F. Burlingham & Sons, Forest Grove, Oregon
Norm Rothwell - Norm Rothwell Seeds, Lindsay, Ontario, Canada
Bob Wetsel - Wetsel Seed Co., Harrisonburg, Virginia
Kent Wiley - Pickseed West, Inc., Tangent, Oregon
John Zajac - Garfield Williamson, Jersey City, New Jersey

The by-laws call for appointment by the executive committee of seven additional trustees. Appointed to fill out the Board, were:

Alan Hick, Northrup, King & Co., Tangent, Oregon
Doyle Jacklin - Jacklin Seed Div., Vaughan-Jacklin, Spokane, Washington
Peter Loft - Loft's Pedigreed Seed, Bound Brook, New Jersey
Ed Mangelsdorf - Mangelsdorf Seed, St. Louis, Missouri
Gordon Miller - Stanford Seed Co., Plymouth Meeting, Pennsylvania
Robert Russell - J. & L. Adikes, Jamaica, New York
E. R. Townsend - Whitney-Dickinson Seed Co., Buffalo, New York

OFFICERS RE-ELECTED

The new Board of Trustees assuming office at the annual meeting in Louisville re-elected for the 1977-78 fiscal year the same officers who have served so ably the year past. They are:

President - Doyle Jacklin
Vice President - Gordon Miller
Secretary-Treasurer - Robert Russell

In addition to the officers, who are automatically members of the executive committee, the Board of Trustees chose: Ross Allmon, Jim Carnes, and Alan Hick to be members of the new executive committee for the fiscal year.

NEW VARIETY REVIEW BOARD APPOINTEES

At the annual meeting President Doyle Jacklin make the following appointments to the Variety Review Board.

Howard Kaerwer - Northrup, King & Co.
Peter Loft - Loft's Pedigreed Seed, Inc.
William Myer - Turf-Seed, Inc.
Gerald Pepin - International Seeds, Chairman

The Variety Review Board is made up of these four representatives, plus Director Robert W. Schery ex officio. Of the four appointees three are to be technical representatives (Kaerwer, Myer, Pepin) and one a commercial representative (Loft). We look forward to an effective program of cultivar selection by the Variety Review Board for the fiscal year up-coming.

ALLMON TO HEAD PRODUCT REVIEW BOARD

At the annual meeting at Louisville, President Jacklin appointed Ross Allmon, Hercules Chemical Co., as chairman of the Product Review Board for the coming fiscal year. The Product Review Board is concerned with "acceptances" of products other than seed (seed being handled by the Variety Review Board).

PRESIDENT'S COMMENTS, ANNUAL MEETING

Although the primary feature of the general membership meeting has always been Dr. Schery's comprehensive and interesting report of Institute activities, today's meeting may seem somewhat official and parliamentarily boring because of lengthy by-law discussions. Changes are necessary, however, since we are definitely a growing and changing organization. With an outdated and somewhat haphazard membership structure, we must continue to keep our administrative house in order. As indicated during past years, we feel a need for more sponsoring members, to match our growing backbone proprietary members. With our membership structure spelled out, I hope we can continue to attract new supporting members, and that they will see fit to enter their lawn care products in the Institute's Seal of Approval program.

I would be remiss if I indicated to you that everything has gone smoothly for the Lawn Institute this past year. We have had, and continue to experience certain problems. For example, the Merion Bluegrass Association which has always been a staunch moral and financial supporter in the past has phased down its contribution due to the decrease in activity and income to the Merion Association, and may have to reduce their contributions even more in the future. If and when the new Merion variety is introduced, I am sure that we can look forward, however, to increased financial support. The Highland Bentgrass Commission is also having to phase down its contributions due to a recent decrease in production and demand for this item.

Your board and executive committee has received courteous inquiry as to whether certain proprietary varieties which are contributing a great deal of money toward Institute support, in comparison with smaller contributions from newer or other varieties, receive fair and compensating mention in the Lawn Institute's promotional program. This is a delicate and somewhat difficult question to answer and one which the Board and Executive committee will continue to monitor together with Dr. Schery. The basic answer, however, comes back to the irrefutable fact of national acceptance by garden writers, editors,

Continued

PRESIDENT'S COMMENTS, ANNUAL MEETING - Continued

and radio and TV personnel for the Lawn Institute releases. The actual dollar and cents cost a company would have to expend to procure similar paid advertising would run at least double this for larger member contributors, and in some cases with newer or smaller variety contributors this amount might approach triple or quadruple levels.

With the rapid development of improved varieties, the Institute must now begin to review its list of Variety Review Board approved varieties. If a variety has out-lived its usefulness or does not offer improved performance to the consumer compared to newer introductions, then we are doing a disservice both to the Institute and to the consumer by continuing to recommend its use. With this in mind, I would charge Dr. Pepin's Variety Review Board to put into force the "Review Program" proposed last year, in order to guarantee that the Institute list of varieties be current and up-to-date in performance and recommendation.

Yes, we are experiencing growing pains but these are small compared to the continued successes which occurred last year and which we expect to continue in the future. Your Institute is a very viable and changing association and one which you can be assured will continue to prove a worthy investment for all of us in its role of promoting good turf. Again, our very proud thanks to Dr. Schery and we all look forward to an even more successful year in 1977 and 1978.

BY-LAW CHANGES VOTED

A number of changes were voted to the by-laws, at the annual meeting in Louisville, June 28. Many of are a minor nature, for clarification and up-dating. The membership vote is for the guidance of the Board of Trustees, which must further act upon the matter.

A few highlights were: assigning bentgrasses the same conditions as apply to blue-grasses, fescues and perennial ryegrasses; establishing a new dues structure for supporting membership; creating a one-time "fee" rather than an assessment on poundage for Seal of Approval usage, and restricting this to cultivars approved by the Variety Review Board.

Of considerable discussion was category II in the outline submitted by President Jacklin, relating to Sponsoring Membership. This item called for a single fixed contribution, but Mr. Allmon suggested that flexible categories be created, probably related to a percentage of sales (or some other indication of the size and capability of the member). Mr. Newsom (who moved the proposal) included Mr. Allmon's suggestion as part of his motion, which was passed without dissent.

STORY TO BE RE-USED

A letter from the editor of the American Rose Society indicates that the story about the multiflora rose done for Horticulture magazine, would be included in the American Rose Annual. Mrs. Fowler adds, "It is an excellent article, and I congratulate you on it".

AUTUMN LAWN COVERAGE PENDING

Money Magazine (Time and Life, Rockefeller Center) will review autumn lawn seeding in its August issue. Patrick Mahoney of the magazine discussed the subject at considerable length by telephone. He was sent supporting literature concerning what is a good choice of seed, the best species to plant, and a listing of select cultivars.

DIRECTOR'S ANNUAL REPORT

Fiscal 1976-77

The Lawn Institute program for the year continued to capitalize upon proven strengths that mainly involve an excellent working franchise with garden columnists and editors nationally. Thus seasonal press mailings, and completion of stories for various magazines and journals, continue to be the backbone of the Institute program. During the fiscal year an increased emphasis on communication with the consumer proved quite successful, while still representing little cost to the Institute (other than staff time). This consists of offering "leaflets" about lawn cultivars and their care to anyone sending in a self-addressed stamped envelope. Such offers are slipped into various stories, which editors have kindly let stand when printing the text, or may be given over the air during Dr. Schery's seasonal television appearances. The result has been a consistent trickle of requests, most of which can be handled with mere stuffing of reprints into an envelope. Of course some inquirers have personal questions which require a dictated answer; we are a cut above even the most prestigious public relations house in competence to answer such inquiry effectively, and so make this added effort to strengthen even more our image of expertise and cooperativeness in the world of gardening communications. Apparently there is some feedback from acting responsibly in this fashion, for increasingly people are recommended to us by important media operations as a source for reliable information. This keeps us somewhat stage-center in the gardening world.

Although our program of communicating thus continues happily unabated, in some respects Institute efforts are becoming increasingly difficult to keep up with the times. For one thing it is ever more difficult for a small office, operating nationally on a budget that last fiscal year spent only about \$12,000 in operational expenses to keep abreast of everything. Since the Houston annual meeting, support has been pretty well restricted to the seed trade, with fewer of the helpful contacts that arise through additional lines of interest. It becomes a question how often one can go to the well with the same story (about lawngrasses), without some novelty of a complementary nature to excite interest. And then there's inflation to cope with: no need to comment further about that!

Let's take a look, individually, then, at the several pursuits that were of prime interest to the Institute during the fiscal year. These don't require exploration in great detail, for they follow essentially the pattern of previous years and have been well covered in annual reports over the last decade or so.

PRESS KIT MAILINGS

As members are aware from receiving copies, the Institute is responsible for composition of a spring and an autumn press kit mailed nationally to newspapers, editors and garden columnists. Packed into the now familiar "grassy green" file folder are about 18 pages of text with covering letter, and several supporting reprints. We continue to send such a voluminous package all at once, since production and mailing costs would be prohibitive if the releases were trickled out through several mailings. In the neighborhood of 1,100 kits are produced, most of which go to daily newspapers with a circulation of 50,000 or more (or garden writers for such newspapers), in all of the climatically appropriate states (kits are not sent to southern states, for example). Long ago it became impossible

Continued

Press Kit Mailings - Continued

to meaningfully survey use of these releases through a clipping service (both because of cost, and the difficulty of assigning key words to readers), but indirectly we have evidence of widespread usage (such as from requests for reprints, as was mentioned in introductory comments). Occasionally tear sheets are sent to us by editors and columnists, and we do have some chance of being alerted to the Columbus, Ohio, Dispatch gardening pages, and those of the St. Louis Post Dispatch, on a fairly frequent basis. You will note from the tear sheets being circulated the excellent pick-up of press kit items by these important papers.

Even though postage costs have sky rocketed, we still manage to get these press kits widely circulated at around a \$1.00 per copy, all costs included except staff time and overhead. This is rather remarkable in inflationary times, and we have partly to thank Middleton printing in Columbus, Ohio, which tends to production details. It will be noted that national efforts by PR firms run several-fold our costs, and we need look no farther than the joint "Supplement" in which we participate for comparison. The William C. Pflaum Company, Reston, Virginia, produced the 1977 "Supplement" jointly for four associations (American Association of Nurserymen, The Fertilizer Institute, The Lawn Institute, National Swimming Pool Institute) at around \$1700 per association, for a total of \$6800, and claims to have lost money on the operation. While Pflaum mails more copies than we do, and utilizes newspaper format, still it is apparent that our own press kit is quite a "bargain" by comparison. Frankly, we couldn't do it did we not have the advantage of semi-rural operations with low overhead.

This is not meant as a criticism of the joint "Supplement" (officially entitled Lawns and Gardens). Most of you are familiar with this release, a copy of which was mailed to you earlier in spring. The copy being circulated will refresh your memory. We are especially grateful to the Lawn and Turfgrass Division of the American Seed Trade Association for co-sponsoring our participation in the joint venture, sharing the cost of participation. All text relating to lawns and turfgrasses is prepared by the Lawn Institute in Marysville, and this year we were fortunate in that lawns were given further emphasis in some of the articles submitted by the Fertilizer Institute. All told we gained excellent coverage for a modest fee. Seven illustrations that grace a number of the pages in this "Supplement" are of Lawn Institute origin, taken on the grounds in Marysville. We find photographs of this sort much sought after, and fortunately we have accumulated a reasonable library in past years when shots could be economically taken by a talented local photographer (who now, unfortunately, has relocated in Columbus, and is by no means any longer inexpensive).

We feel that the "Supplement" complements rather than competes with our own press kit issuance. As I have mentioned on many occasions our own kits, although popularly expressed, are meant for the larger journals having available garden editor talent. These editors may not be expert in lawn matters, or even in gardening matters generally, but they are trained writers who prefer to assemble their own pages rather than using "canned" materials. We approach these people professionally, with the attitude that it's great for them to pick out and use any of the materials in the kit, without credit if it is their wont; we offer reliable information about lawngrasses and lawns, and are not seeking to glamorize the Institute name. Sometimes we receive credit (as for the featured articles in the Columbus Dispatch and the Boston Herald), and sometimes our material is recognizable only to those having issued it (as in the St. Louis Post Dispatch garden page just circulated). Either way, we are quite happy.

THE PRINTED WORD

EXAMPLES OF LAWN COVERAGE DURING THE FISCAL YEAR '76-'77

American Nurseryman	In preparation
Better Crops with Plant Food	"Fertilize The Lawn, Also"
Boston Herald	"New England Lawns"
Brooklyn Botanic Garden	"Lawns and Their Tending"
Changing Times	"Still Time To Have A Better Lawn"
Changing Times	"Lawn Logistics"
Christian Science Monitor	Facts about quality of lawnseed, in-house
Club Management	"How Stands Your Grass"
Consumer Survival Kit (Public Brdcast)	"Lawn and Order" editorial criticism
Countryside Books	"Better Lawns"
Flower and Garden	"Lawn Seeding for All Seasons"
Flower and Garden	"Starting A New Lawn"
Good Housekeeping	Information furnished for in-house composition
Grounds Maintenance	"Quality Lawn Seed"
Horticulture	"What Is The Grass"
Horticulture	"The Curious Double Life of Rosa Multi- flora"
Horticulture	"Lawn Ecology"
HortScience	Turf Management Handbook Review
Hortus III	Lawn Chapter
House and Garden	Seasonal advice, in-house composition
Mass. Turf Bulletin	"Lawn Fertilization"
Men's Garden Club of America	"Lawn Seed Keeps Well"
News and Views (Am. Hort. Soc.)	"Fertilize the Lawn"
Park Maintenance	"The Search For Better Lawngrasses"
Prentice-Hall	"Lawn Keeping"
Readers Digest Garden Book	"Lawns"
Real Estate Facts (Nat. Assoc. Realtors)	Information for columns
Third International Turfgrass Conf.	"Evolution of Lawn Cultivars in America"
Weeds, Trees & Turf	"Curious About Cultivars"

Fertilizing, Weeding

Lawn A Boost

Lawngrass Booklet

bluegrass grows slowly and plants from late sown seed off roots and heave during er.

BEFORE THE the soil should be of at least four ir lawn fertilizer, leveled and fine dust partic

If you would like a let citing the better species for Laws, men of the send a 12A DAILY CHRONICLE DeKalb, Illinois, Thursday

Please send to name
address on enclosed envelope
Thank you
Lawngrass Booklet
If you would like a leaflet citing the better species for northern lawns, me tions some of the newer v eties, send a self-address stamped envelope to The Institute, 991 W. Fifth Marysville, Ohio 43040.

Book on Lawn Keeping
Bob Schery's new book Lawn Keeping provides an up-to-date and comprehensive treatise on the structure and care lawns. Ecological factors are in the opening chapter. SEED WORLD

SCHERY AUTHORS PRACTICAL LAWN KEEPING is the title of an cellent new book by Dr. Robert Schery of the Lawn Institute. Th 232-page gold mine of lawn inform tion is published by Prentice-Hall, Inc wood Cliffs, N.J. 07632) and is \$5.95 in the paperback.

Lawngrass Booklet
If you would like a leaflet citing the better lawngrass species for northern lawns, mentioning some of the newer varieties, send a self-addressed, stamped envelope to The Lawn Institute, 991 W. Fifth Street, Marysville, Ohio 43040.

ST. LOUIS POST-DISPATCH

Wed., August 11, 1976

Perennial Rye Coming Through

By Earl Aronson
Of the Associated Press

Even in lawns, fashions and varieties change. Not long ago any rye grass in a seed mixture was scorned. But today there are perennial ryegrasses bred especially for fine turf. Among them are Citation, Derby, Manhattan, NK-200, Pennfine and Yorktown.

What it means is that perennial ryegrass is no longer considered only as a "nursegrass" to be tolerated until varieties mature.

From our friend Dr. Robert W. Schery, director of The Lawn Institute at Marysville, O., comes word that today's perennial ryegrasses generally persist, and the lawn is benefitted. He says the new cultivars are just as handsome as Kentucky bluegrass and in most ways just as serviceable.

Perennial ryegrass's outstanding feature is its ability to start quickly, appearing as a green fuzz in a week of warm, moist weather. Within a few weeks you can have a lawn that looks mature. Not only is it so responsive but it is able to protect risky plantings on a sloping ground. Other benefits related by Schery: It does well under

summer weather. Perennial lawn repairs, healing scars and damaged spots or used to

It be preferred for areas where temperatures below -35 degrees Fahrenheit have proved a problem on Lawn

Regrass should be sown in the fall. This is a customary practice. Starting in the fall, bluegrass should be sown. It is faster than bluegrass, so you mow a little more often. It is like many of the same

Increased concern about conservation and energy cent years has raised the of whether it is best to take over or make use logical advances and materials to keep a lawn at its best. Lawn Keeping, by Robert W. Schery, attempts to strike a happy medium by providing information about how to accomplish good lawn care in the easiest and most practical ways without unnecessary methods. Lawn Keeping is available for \$5.95 from Prentice Hall, Inc., Englewood Cliffs, N.J. 07632.

Golf Superintend

ST. LOUIS POST-DISPATCH

Autumn Lawn

By Irwin and Martha Jones
Dispatch Garden Writers
Dr. Robert W. Schery of Marysville, Ohio, director of the Lawn Institute, says that autumn is the best time to tend the lawn. He recommends introducing new cultivars, eradicating low growing weeds, thinning out underlying thatch, cool weather grasses, such as Kentucky bluegrass, fine fescues, perennial ryegrass and bent grasses, which commonly grown in northern lawns respond to fertilization in the fall.

6 Army Times MARCH 21, 1977

Gardening Qu

Attached is an interesting article by Dr. Robert Schery in his very thorough new book "A Perfect Lawn the Easy Way".

Sunday, April 5, 1977

Press Kit Mailings - Continued

But the "Supplement" has volume chiefly in mind, and is sent to many "off-beat" weeklys, house organs, and smaller newspapers (as well as to the more prominent papers we try to serve). About three times as many units are distributed as with our press kits, of course printed up in newspaper-size format for ready photocopy printing by smaller publications not enjoying custom assemblage by a garden editor. This reaches an audience generally beyond Institute grasp, with the costs helpfully shared by others. I might add that sharing space is not necessarily dilution; articles on other facets of gardening may draw attention and interest, with lawn articles sort of "riding on the coattails" of the larger interest. I don't know how often we gain space this way, but alluding back to my introductory remarks it is sometimes difficult to command attention for lawnseed and lawn tending repetitiously advanced.

I have not been able to secure from Pflaum this year any figures on total mailings, indicated usage, and especially on request for photographs (a key indicator). I suppose he did not want to devote any more time to what he felt was a money-losing proposition. Another year (and Pflaum will be wanting to have our decision on willingness to participate very soon) costs of this joint participation will undoubtedly be higher, but it still represents a cooperative venture with appeal, that broadens coverage and adds impact in areas we are not able to economically service in similar fashion.

We did gain some free participation this year from the Metro Newspaper Services, which used an Institute prepared story and photograph. The service goes to 4000 daily and weekly papers nationally, and is broadcast as well over the Metro Communications Network. Metro is supported by advertising by commercial firms.

MAGAZINE STORIES AND BOOKS

You all receive regular mailings of stories felt worthy of reprinting, and notification in our quarterly newsletter, Harvests, of various appearances. Over 30 titles were printed during the fiscal year, and you need only glance at the cumulative coverage being circulated to know how impressive has been this avenue of information release through the years (250 reprinted titles, with innumerable others not included). The volume speaks for itself, and you are aware that these stories have value not only for magazine readership, but as informational releases in form of reprints costing the Institute nothing for composition and typesetting. The cost of 1,000 reprints generally runs between \$25-\$75, depending upon length, photographs, and intricacy. To have a similar number of our own leaflets printed attractively might cost 10 times this much. The investment is not so great but that obsolescence can be taken in stride, - and obsolescence is a factor with us what with changing representation on our Variety Review Board acceptance list of cultivars.

In short, the reprinted story gives us a great deal of flexibility at minimal cost, useful not only for initial appearance in the magazine, but as a mailing piece, a handout at appearances, authoritative back-up in press kits, and as an inexpensive offering whenever anyone wants an informational leaflet (members, educators, horticultural societies, etc.).

When this report is reproduced in the mid-year Harvests, a table of titles will be included. Today, we merely circulate a sampling of reprints for the fiscal year; and a cumulative sampling headed by a photocopy of our master listing kept on file in Marysville. If any of the reprints fit your promotional needs, please inquire about supplies. If we still have the titles on the shelf, no better use can be made.

Magazine Stories and Books - Continued

of them than to have them distributed. We are never able to foretell exactly how many reprints will be called for, and with some items we still have hundreds of leaflets in storage at Marysville, which we will gladly make available at no cost to members.

Perhaps even more significant than the magazine stories is the appearance of Institute information in the books and encyclopedic advisories which will be a font of information for garden writers, students, and an oncoming generation through the years. Everyone attending the annual meeting last year was provided an advance copy of Lawn Keeping (Prentice Hall, Englewood Cliffs, N.J.), sequential to the Lawn Book and A Perfect Lawn. A copy of the Countryside Book, Better Lawns, was mailed to all members earlier in the year. Better Lawns reflects Institute interests to the point of including a Variety Review Board selection list; but because of the uncertain commercial nature Dr. Schery withheld authorship identification. As matters turned out, there is nothing to be ashamed of in the presentation, and the book makes an excellent reading rack offering that can be seen in garden centers throughout the country. Another encyclopedic-type coverage that appeared during the fiscal year was, "Lawns and Their Tending," from the Brooklyn Botanic Garden Gardening Guide. But I suppose nothing quite equals the appearance, finally, of Hortus III. Hortus III, produced after years of effort by botanical experts at the Bailey Hortorium of Cornell University, with guest expert assistance, is the "bible" of the horticultural world, especially consulted by garden writers. While I was not happy with the way the editors ignored recognized forms of spelling in presentation of turfgrass common names, which were correct in the manuscript Dr. Schery sent to Cornell, but changed there, we are nonetheless very pleased to have sound, understandably expressed information about lawns appear in Hortus III. This will be an informational source important for many, many years. The volume is 1290 pages, weighs nearly 8 pounds, and costs about \$100 list price; thus no attempt is made to circulate a copy at this meeting. But we do want to make you aware of its long-awaited appearance.

OTHER ACTIVITIES

Harvests - The quarterly newsletter, Harvests, brings you up-to-date on Lawn Institute happenings, almost to the extent that you need no year-end report such as this. During the year 73 pages highlighting activities, and reporting upon published research, reached members. Harvests is still mimeographed at the staff office, produced and mailed by Mrs. Diana Scheiderer, secretary and office manager. Sample copies are here on exhibit. About half of the coverage relates to "general" news and comments that we feel are noteworthy; half to a "technical" section that epitomizes research reported in the technical journals, at conferences, on personal visits, and suchlike. Also, reviews of new books are occasionally given, when these have particular pertinency to the Institute.

The technical section is time-consuming to compile, - indeed, it is impossible to keep up with all of the literature, - but we do feel it worthwhile to remain up-to-date and in contact with research that bears upon lawns and lawngrasses. It is also a handy means for members not deeply enough interested in the details to consult the original publication, to gain something of a birds-eye view of what is going on in the field.

TV-Radio - Highlights among appearances of the Director this year were the usual television broadcasts over WEWS in Cleveland, the "Morning Exchange" program.

TV-Radio - Continued - These appearances result in a great deal of viewer interest, such that the switchboards are jammed in response to the offer to answer questions. The station kindly allows an offer of free reprints to be made (for a self-addressed stamped envelope), which typically results in a flood of correspondence for the week or so following an appearance. Also, during the year, Dr. Schery was banquet speaker for the Ohio Seed Dealers annual convention, and was featured speaker at the Ontario (Canada) Sod Growers annual meeting (upon invitation of trustee Norman Rothwell). Requests to speak at local meetings in Ohio are generally honored (a symposium was scheduled this spring for the Dayton Park District in August), and radio presentations were taped with John Bradshaw when in Toronto.

Cooperative Activities - We are pleased to continue maintaining contact with, and answering inquiry from, syndicated columnists and authors active nationally. In particular we enjoy pleasant relationships with Earl Aronson, of Associated Press, who often credits the Institute in his column. We supplied numerous photographs and background materials this year for Alan Swenson, for this up-coming Gardeners Almanac. Editorial help was given Dr. Daniels relative to his forthcoming book, and two books were reviewed for the American Society of Horticultural Science.

Vocational and Classroom Assistance - Reprints and instructional materials have been supplied several universities, high schools, fairs, and educational programs of commercial representatives (e.g. Sears, Rollins, etc.). Dr. Duff, Rhode Island, used 70 copies of Institute reprints in his classroom, and numerous reprints were sent Dr. Krikorian, the State University of New York, Stony Brook. Other materials for the classroom went to Cornell University, Ricks College (Idaho), the University of Missouri, and several other locations.

Visits and Contacts - With professional interest centered on the turfgrass division of the Crop Science Society (Agronomy Society), Dr. Schery tries to attend the annual meetings of that society. Last year's meeting was held in Houston, Texas, with chance to visit technical facilities in the area. The Institute tries to keep in touch with various research centers, and during the fiscal year Dr. Schery had opportunity to visit Rutgers, Penn State, University of Missouri, Michigan State University, and of course Ohio State University. The Third International Turfgrass Conference will be held in Munich, Germany, in July, providing excellent chance to mingle with top turfgrass researchers internationally (a pre-meeting tour to research establishments has been oversubscribed). Dr. Schery has been appointed an associate editor for review and compilation of papers presented in Munich; publication of the Proceedings is anticipated to be about one year away.

Reprint exchange has been continued with leading turfgrass specialists nationally, and to the extent possible turfgrass conferences are reviewed. A particular highlight of the year was chance to visit with the Hercules people in Wilmington, Delaware, - especially with Doris Watson and trustee Ross Allmon. Ms. Watson also attended a "Scotts invitational" tour for garden writers in Marysville, where it was possible to visit with her and several other guests.

International Relations - Dr. Schery spoke to the combined faculty at the University of Delhi, India, discussing the development of the lawn products industry in the United States. Most international activities, however, are by correspondence. During the year, overseas inquiry or literature exchange was conducted with Australia, France, Hungary, Sweden, University of Hawaii, University of Gottingen (W. Germany), and with several centers in South America and southern Africa.

Business Inquiry and Office Routine - Much of the staff time is spent in responding to letters and to innumerable telephone calls. While much of this seems of doubtful value, it is all part of the "game" in being publically exposed. Nonetheless, it is gratifying when one can be helpful, such as is solving problems for homeowners. Less rewarding are the constant requests from public relations houses (mostly in New York) wanting market statistics on just about anything and everything. But sandwiched among such calls are occasional chances to communicate with important correspondents, - editors, staff writers, and influential business executives.

Much of our correspondence is devoted to calming the fears of worried lawnspeople. They hear distorted cautions about fertilizer usage, pesticides, weeds and whatnot. It's no little task these days to counter the negativism gnawing at the gardening psyche. Occasionally we submit "letters to the editor", trying to neutralize published reports on such things as how "wasteful" is the custom of having a lawn. Well-meaning "ivory tower" writers seem to have guilt feelings about "non-productive" use of resources that they'd like to see adopted generally. They shudder (at least on the printed page) at our lawn-growing efforts while people starve in distant lands and energy grows more scarce!

Miscellaneous - We are very pleased with the many commendatory reviews that Lawn Keeping has received. It should have considerable influence, not only with the gardening fraternity, but as a teaching text (especially for vocational type college courses).

Seed kindly furnished last year by members has been offered for distribution, for trial plantings chiefly at research centers.

In spite of limited manpower, we have tried to keep the demonstration grounds up to par, although nature has not been too helpful this year. The grounds are essential to the Institute program for photographs, for gaining familiarity with the new cultivars, and for showing visitors around.

* * * * *

Mrs. Scheiderer joins me in thanking the officers and the members for their fine cooperation during the year. Without this it would be impossible for our limited staff to serve the industry adequately. We are especially indebted to Secretary-Treasurer Russell for the detailed work that relates to auditing and tax accounting, and to President Doyle Jacklin who is always pleasant and helpful in spite of heavy demands on his time from his own business. Dr. Pepin and the Variety Review Board have carried on gallantly, in what must be a distressingly tedious task of getting all reports together from widely scattered experts, all overburdened with their own duties.

And we thank you one and all for taking time from your busy convention schedule, to be present for this meeting today. This report covers some of the highlights of the year, but if you want further information in greater depth, I will, of course, be more than happy to try to field your questions. Thank you, and all of our supporters, for another successful year on the records for the Better Lawn and Turf Institute.

Dr. Robert W. Schery, Director

Diana Scheiderer, Secretary

CONSUMER SURVIVAL KIT

A note of thanks from Francia Faust Johannson, Consumer Survival Kit, aired by 240 public broadcasting service television stations across the nation, reads in part: "Now that the last program is on tape and the last publication in print, there's time to express a very special thank you to those who have been extremely instrumental in the success of the series. The time you spent in discussion with our staff and in checking the script is appreciated by everyone - -".

At the same time Ms. Johannson notes, "We are always open to suggestions for the 1978 series from people like you." You will recall that Lawn Care was one of 26 titles for the 1977 series, for which guidance was asked of The Institute. The same series used this spring will be replayed in the same order for autumn, so that Lawn Care will receive double exposure. Perhaps CSK can be persuaded to expand about lawn varieties in 1978?

For those of you not familiar with the Consumer Survival Kit's operations, top talent is used in preparing the television skits, which are well done. The producers profess, "The use of lighthearted skits to highlight consumer problems and solutions eases the impact of the anger and futility many citizens experience everyday. - - - The cornerstone of each program, however, is meticulous research which assures that the information presented is accurate and objective". The Institute is happy to have made positive inputs for the 1977 series, partly overcoming negativism implicit in the original write-up.

Realizing that TV viewers cannot take notes copiously, CSK backs up the program with a publication offered for \$1. Three quarter of a million of these were sent out. They often serve as discussion texts for school studies. Among the references cited in the lawn care production (Lawn and Order) are three of Dr. Schery's books about lawns, and an encyclopedia for which he composed the section on lawns.

INTERNATIONAL TURFGRASS CONFERENCE PRESENTATION

Oral presentations for the Third International Turfgrass Conference will be restricted to 10 minutes only, but a lengthier written report is allowed for the Proceedings, the Proceedings will be published by several cooperating agronomic societies in the United States. Dr. Schery presents "Evolution of Improved Lawngrasses in America", and has sent to editor Beard eleven typed pages of text, with one figure and three photos, for consideration in the Proceedings. Coverage considers the ecotypic condition of naturalized Kentucky bluegrass in North America, the "Merion" breakthrough, pioneering work of Arden Jacklin in establishing Merion commercially, emergence of the proprietary cultivar era, the rush of European firms into development of proprietary cultivars (followed by America once protective legislation was enacted), and the advantages to all concerned that this "revolution" has wrought (today it is possible for the average homeowner to have a lawn superior to anything available a generation ago).

NEGATIVE PUBLICITY FOR ARTIFICIAL TURF

We are indebted to Jack Welch, Northrup King, for sending us a clipping from the Minneapolis Tribune that pictures rolls of artificial turf being lifted and offered for sale at the University of Minnesota's Memorial Stadium football field. The University hoped to salvage as much as \$50,000 from the sale of this carpeting, before replacing the artificial surface with live grass.

SIGN OF THE TIMES

An Association (International Association For Education, Development and Distribution of Lesser Known Food Plants and Trees) makes this comment in a "letter to the editor" appearing in the June Horticulture: "The Association is also interested in encouraging the homeowner to use some of his unproductive lawn area for garden. Lawns, though beautiful, are heavy users of our scarce energy. The gardens that could replace them use less energy - and water - and can be very productive."

A letter contesting these conclusions was sent Executive Director Paul W. Jackson, with a copy to the editor of the magazine. It reads (in part): "While I have no quarrel with any gardener utilizing as much of his land as he can comfortably maintain in garden, your statement leads me to feel you have not had a great deal of experience in practical maintenance. Particularly if human energy is involved, the weeding, watering and pest control of a garden is far more onerous than is the highly technologized system of lawn tending."

Even if your definition of energy includes only that secured from fossil fuels, your statement is not correct under many circumstances. There are numerous grass cultivars which need only a minimum of attention, and survive with little or no fertilization or weed control. Their mowing can be accomplished with human energy if you choose (no more wastefully expended by pushing a lawnmower than in hoeing weeds in a garden). And as for water, in most parts of the country (arid parts of California are a bit different) lawns can survive quite well without any irrigation; they may turn brown temporarily, but they survive.

You may be interested in anecdote about a recent visit with the President of the University of Delhi, India. In somewhat the same vein as your letter, I was "apologizing" in a way for the considerable attention given non-food producing land in America, during a presentation to the faculty. He took issue, asking, "Do you think we in India are not concerned with 'gardening for the soul'". He went on to explain that even in overcrowded India esthetics are just as important to human well-being as is food production.

If we were to follow your thesis, flower beds, shrub plantings, and landscaping in general could be dispensed with as well as lawns; in most cases they are equally "unproductive". However, I find most homeowners carrying on a bit more gardening than they can do really well, with the garden gradually becoming poorly attended as the season progresses; it is much more a problem in that sense than would be mechanized maintenance of a lawn.

Keep in mind, too, that soil is improved by growing grass on it, while clean cultivation encourages soil deterioration. On our soils in this part of Ohio gardening is quite rewarding on ground recently in grass, but after a few years must be returned to grass unless you want to struggle with a brick-hard medium that can hardly be cultivated. Laterization of tropical soils is even more of a problem, sometimes requiring a hundred years or more to recover suitable structure.

There is no reason why an association such as yours should single out lawns as a particularly wasteful example of the American life style. Surely, when the need for more food arises, ground now in lawns will give way to more "gardens" for those willing to practice gardening. In the meanwhile we had better let grass

Continued -

SIGN OF THE TIMES - Continued

do for civilization what few other plant families can, by way of maintaining attractive, useful (soil protecting), easily managed ground cover. What little energy goes into lawn maintenance is not transferable to food production where people are actually starving (the problem there is much more broadly ecological, socioeconomically influenced).

I'm certainly in favor of your objectives, but feel that arguments for your activities should relate to their inherent merits and not to imaginary excess wastage in other sectors for which you have little or no documentation.

PUBLICITY COURTESY ARONSON

Peter Zuelzer kindly sent in a clipping (from, of all places, the St. Petersburg Times) in which the Institute is quoted, in an Earl Aronson column entitled "Growing Grass Easier With Improved Seed". We are grateful to Earl, who composes his columns in Albany, N.Y. and distributes them through the Associated Press, for providing this publicity.

Earl quotes the Lawn Institute, and comments "a big help in extending the lawn seeding season has been new turf-type perennial ryegrasses such as Citation, Derby, Game, Manhattan, NK-200, Pennfine and Yorktown". Other points of advice are given for starting lawns that will help bring success even in less-than-desirable seasons.

REQUEST FROM CORNELL

Institute literature was sent to the Cornell University Agricultural Experiment Station at Riverhead, N.Y., upon request of Mr. Chu, Research Supply Specialist.

REPRINTS SENT

The first batch of self-addressed stamped envelopes from WEWS, in response to Dr. Schery's television appearance two weeks previously, was received April 15. There were about 70 inquiries in the batch. Several respondents had specific questions, which were answered to the extent possible by correspondence. All parties received two reprints ("Lawns and Their Tending", "Curious About Cultivars").

STORY COMPLEMENTED

Dr. A.D. Krikorian, State University of New York at Stony Brook, writes, "I have recently read your excellent article on 'What Is The Grass?'. I teach a large course - - and would be very pleased if I could have access to a copy of the illustrations - - - needless to say, full credit would be given - - -. There is no question that your article covers 'what matters' succinctly and elegantly." We are grateful for these kind words from Stony Brook. Dr. Krikorian is a candidate for the presidency of the Society for Economic Botany.

STORY COMPLETED

A story about New England lawns was prepared by Dr. Schery, as "guest columnist" for the Home Flashline Design section of the Boston Herald. The story has a spring flavor, and was used in mid-April.

GOOD HOUSEKEEPING PLANS COVERAGE

Norman Rollins, Good Housekeeping, N.Y., telephoned the Institute wanting help in preparation of an autumn lawn advisory for late summer. It is good to have the Institute's viewpoint reflected in so influential a publication as Good Housekeeping.

FROM OVERSEAS

We have this word from Hazan International, economic engineering consultants, Paris, France. "One of our clients - - - has several hundred [outlets] covering most of France. - - - fairly high level sales staff - - - etc. - - - wishes to diversify into new services - - - which could use know-how or capabilities. These could range from horticulture to real estate management. - - -" Mr. Hazan wanted suggestions as to what might be successful interprises, and names of Institute members who might like to enter into cooperative agreement. Names of proprietary members were sent, and if anyone has special interest they could write to J. Hazan, Hazan International, 38, Rue De Moscou, 75008 Paris (France).

PRESENTATION PLAN

The Dayton Montgomery County Park District has asked Dr. Schery to discuss lawns and turfgrass in mid-August. The symposium is to be held at the Cox Arboretum on Saturday morning August 20.

FAVORABLE MENTION

The American Horticultural Society's "News Views", May, speaks kindly of the Lawn Keeping book. The opening sentence of the review reads, "Low mowing is to the lawn what overgrazing is to the range, says Dr. Robert W. Schery, Director, the Lawn Institute, in his very good book, Lawn Keeping - - -". In the discussion of mowing, which is enlarged upon in the review, colonial, creeping and velvet bentgrass varieties are cited by name.

HORTICULTURE STORY

A story about the multiflora rose, by Dr. Schery, appeared in the June issue of Horticulture magazine. This offers a change of pace from the usual lawn stories, and relates to naturalistic plantings. Some of the same herbicides used to control weeds in lawns also serve to restrain multiflora rose volunteering where it is not wanted.

REPRINTS DISTRIBUTED

Dr. Schery attended the May 4 meeting of the Columbus Rose Club, meeting at Slemmons Garden Center.

The reprints "Lawn and Their Tending", and "Curious About Cultivars" were distributed at each place setting, with leftover supplies given manager Bratton for utilization at the Garden Center. Many of the area's leading gardeners are members of this club.

AN APPRECIATION

"Your article on lawn care in the Herald-American was most informative and enjoyable. Good work!", - - - Vytas Durickas, Newton, Mass.

LANDSCAPING BOOK

Nelva Weber, author of a Bobbs-Merrill book entitled How To Plan Your Own Home Landscape, had a review copy sent to the Institute. It is an understandably written book, with a wealth of pictures. As is so often the case, the pictures and considerations relate to larger properties and wealthy people, although the principles can be applicable to the smaller property, too.

Mrs. Weber does not endeavor to give instructions on lawn planting and care, being concerned chiefly with design. Her chapter 7 "Lawns" provides helpful advice on positioning and shaping of the lawn area. In fact, throughout the book, lawns are integral to the landscaping, and are frequently referred to even when not the point of emphasis.

A final chapter, "Suggestions for Minimum Maintenance", provides many helpful ideas for saving labor. We all recognize such things as the mowing advantage of long-sweeping curves rather than sharp angles and boxed-in areas, but it is nice to have such things specifically pointed out in an expert fashion, such as in chapter 18.

This is a very nice landscaping book, worthy of having on the shelf for consultation. Since landscaping is so highly personal the book is much more interesting as a source of ideas for one's own property than for reading through; that is, the book seems more useful for reference and suggestions than as a "story" unto itself.

MARCH GROUND MAINTENANCE

The March issue of Ground Maintenance magazine should please members, many of whom advertise in the publication. Several articles had to do with turfgrass.

Jim Beard wrote on "Recognizing Winter Damage to Turf". Beard methodically explores differing causes for damage, most of which are only incidentally related to temperature. Growing conditions and variety can have considerable influence, not entirely recognized in Beard's ranking according to "Low Temperature Hardiness." Except with newly planted seedlings that heave in winter, I don't recall ever losing bluegrass to cold on the Institute grounds. And with red fescue naturalized well into Canada and Alaska one might question ranking it as having only "medium" hardiness? Testing grasses in a cold chamber is a bit different than under natural conditions.

Al Turgeon, Illinois gives a well-rounded introductory discussion on non-selective weed control. He recognizes that ecological factors influence which grass (or weed) will be best adapted to the local conditions (heavy irrigation, compacted soil, etc.), and advises that the faulty condition be corrected for permanent success in sowing a wanted grass anew (that has failed there previously).

Donald Elkins, Southern Illinois, reviews growth retardants. Almost invariably a chemical that represses foliage production also represses root growth. He is rather negative about the present coterie of retardants that are available.

The issue winds up with a "Guide to 1977 Horticultural Chemicals", which is handy to have considering the plethora of chemical names erupting among fungicides, herbicides, fumigants, and other turf-related products.

REPRINT REQUEST FROM AFAR

Requests for reprints of "What Is The Grass?", from Horticulture magazine, have been received from various parts of the world. Interestingly, during the quarter a request came from behind the Iron Curtain, from Bagi Be'la, Kecskemet, Hungary.

LAWN BOOK COMPLIMENTED

The March issue of Plants and Gardens (Brooklyn Botanic Garden) entitled "The Years Highlights in Gardening and Horticulture" has this to say about Lawn Keeping. "Concise, down-to-earth, authoritative advice is given by one of America's leading students of turf. - - - The author brings us nicely up-to-date on varieties."

THE NAVY SAYS

"How lucky you were to be listed in the Consumer Corner of the Navy Times Newspaper, I am sure you have already had more than enough requests for your booklet that explains the best lawngrass species for northern lawns; but would you please send me one too." - R. G. Bowersox, Bedford, Indiana. Not only did we crack the Navy Times, but the Army Times as well.

SEARS TO ENTER THE LAWN SERVICE FIELD

The Institute recently had a call from Sears, Chicago, concerning literature that might be available for educating a field force that will perform lawn services similar to those of Chem-Lawn Inc. It was not possible to get details of the program over the telephone, and this service may tie in with certain seed offerings (which President Jacklin has tried to promote interest in Institute participation). In the Sears program apparently the first treatment of the year is dry, later ones at least largely spray programs. It was indicated that Sears lawn program is entirely independent of their gardening department activities.

INSTITUTE TO EXERCISE EDITORIAL FUNCTIONS

Dr. Schery has been asked by Dr. Beard of the Agronomy Society, to serve as associate editor for the Third International Turfgrass Conference Proceedings. Duties of the associate editors are to send out manuscripts for review, and then make a recommendation on each paper assigned. Beard adds, "In some cases, the associate editors may have to personally rewrite some papers by foreign authors in order to make them more acceptable in terms of proper English usage."

HORTUS THIRD RECEIVED

After much delay, the Institute's copy of Hortus Third, the Horticulturist's "Bible", was received in early June. Dr. Schery and the Institute had been called upon to prepare the section on lawns for this prestigious encyclopedia. As it has appeared in press the information presented is quite correct, but irritating editorial changes have been made in accepted turfgrass nomenclature (as specified by the Turfgrass Division of the Agronomy Society). Thus bentgrass is written as bent grass; seedbed as seed bed; capitalization used where lower case is preferred; etc. Nevertheless it is advantageous to the Institute to have participated in this monumental composition, and to be cited among collaborators.

TECHNICAL SECTION

SMITHSONIAN MAGAZINE CONSIDERS LAWNS

An interesting "ecological" study of lawns appeared in the April issue of the Smithsonian magazine, by John H. Falk, Associate Director for Education Programs at the Smithsonian Chesapeake Bay Center for Environmental Studies. A more formally presented study by Falk, when he lived in California, was reviewed in Harveys Vol. 23, No. 2, July 1976, Pg. 14. The title of the new item is "The Life Forms That Flourish In Suburban Lawns". Some of the points made may be of interest.

Falk refers to mankind's heritage of open savannah (where men presumably first "came out of the trees" in Africa), and believes people have ingrained in their psyche a desire to live in fairly open (grassy) habitat with enough trees to provide diversity and "protection". Thus the great interest in lawns, one not likely to disappear even if economic conditions turn stringent and costs for "wasteful" lawn tending rise.

Falk estimates that there are 20 million acres of lawn in the United States, with more being created every day. In spite of this importance, lawns have been little studied from an ecological viewpoint. He points out the diverse assemblage of life forms in a lawn, including many grasses, weeds, insects, "worms", birds, etc. On his California lawn Falk endeavored to calculate during a year total inputs and outputs, involving all life forms, as was indicated in our previous report.

One of Falk's surprises was how productive a lawn is as a plant community, - more so than prairie or forest of comparable size. Mowing at two inches removed only 3% of the new grass growth, leaving plenty of tissue for trapping the sun's energy. Mowing channels it into vegetative growth rather than flower and fruit (incipient seedheads are removed by mowing).

Birds extracted 500 kilocalories of food, 87% consisting of insects. This is 20-40 times more than from natural grassland. In large measure this is because so much of an urban area is paved over, the bird population having to concentrate on the small snatches of food producing territory available.

Energy expenditure in mowing was about 10% of the total energy trapped by the lawn from sunlight. During the year Falk calculates that more than 22 million kilocalories of energy were expended on his small lawn, mainly for irrigation and gasoline for the mower. Physical labor represented only 2.5%. More mineral nutrients were lost than were added (by two fertilizations with cow manure), so that his lawn was running a small "deficit". The energy expended on the lawn was more than twice what would be required for the same area in a crop such as corn or tobacco.

NITRITE ACCUMULATION

Klepper, Nebraska, reporting in the November issue of Weed Science finds that a number of herbicides (including 2,4-D and dicamba, frequently used on lawns) cause nitrite accumulation in the dark much more so than in the light. Unreduced nitrite can be toxic, and the effect is similar to that from photosynthetic inhibitors in the light.

CALIFORNIA TURFGRASS RATINGS

California Turfgrass Culture issued a "Progress Report" on performance of perennial ryegrass and bluegrass varieties at the Southcoast Field Station, in the winter 1977 issue.

A dozen perennial ryegrass varieties were compared for 1976. In average ratings Derby led by a fair margin, followed by Diplomat, Pennfine and Manhattan rather closely bunched. Yorktown, Clipper and Citation were intermediate, but ahead of common and Lamora. In most cases the ryegrass started out strong in the winter of 1975-76, tapering off during the season. The higher ratings for Derby, Pennfine and Diplomat were largely due to less tailing off during the growing season than with most other varieties.

Not a great deal of difference was noted between the better varieties and smog tolerance, all being better than common. Diplomat, followed by Citation, Yorktown and Derby mowed most neatly, but all of the improved varieties were far superior to common. Yorktown was most attacked by rust, followed by Derby, Manhattan and Citation, with little rust on the remaining varieties.

Bluegrass varieties were judged by the severity of Fusarium roseum attack. Interestingly, in almost all cases the Fusarium attack was greater when herbicides had been used (apparently the grass is "stressed" by herbicide application, making it more susceptible to the "disease"). Touchdown showed no Fusarium, and among "Institute varieties" Enmundi, Bonnieblue, Majestic, Adelphi, Glade, Merion, and Baron it was inconsequential (except Glade was rather badly attacked if treated with herbicide.) Nugget and Fylking were moderately hit by Fusarium even without herbicide treatment, and severely afflicted with herbicides (as was Sydsport).

OHIO TURFGRASS RESEARCH

The April Newsletter from the Ohio Turfgrass Foundation reviews turfgrass research underway at Ohio State University. Certain items may be of particular interest to members.

In cultivar evaluations at Columbus, Adelphi and Merion are included in the group showing highest quality although Plush, Majestic, Galaxy, Glade, and Baron (not under observation so long) are said to have "outstanding potential". Highlight is among the leading fescues, Pennfine and Manhattan superior among the perennial ryegrasses (many other cultivars have not been under observation long enough to be rated). Emerald creeping bentgrass "continues to do well", although slower to establish than Penncross.

In the shade a rough bluegrass (Polis) gave highest quality. Merion and Victa bluegrasses were the most strongly infected by powdery mildew.

Research continues on dry spot of golf greens, weed control, thatch (the biological controls have not proven helpful so far), slow-release nitrogen, bluegrass seed size, winter fertilization, etc.

At the Wooster experiment station (northern Ohio) the leading cultivars among 24 entries planted in 1972 are: Touchdown, Bonnieblue, Adelphi, Glade and Merion.

Continued -

OHIO TURFGRASS RESEARCH - Continued

Pathologists have been zeroing in on Pythium blight, and find various species producing characteristic symptoms. Many Pythium species cause root rot without blemishing foliage, and new standards for determining harm from Pythium may be needed. Several promising experimental fungicides are being tested, both for Pythium and Dollarspot.

V P I INFORMATION

Virginia Polytechnic Institute and State University began issuing "Tech Turf Topics" in May, as a new informational release from the Cooperative Extension Service. The reviews are popularly expressed, and of a general, summarizing nature.

Shoulders reviewed "Nitrogen - Key to Turfgrass Management". He emphasizes that 75% or more of nitrogen fertilization should be in autumn under Virginia conditions. This increases grass root growth and build up of food reserves, for a good spring start. Nitrogen feeding in early spring exhausts reserves in a forced flush of foliage. He suggests 2-6 pounds of nitrogen per 1,000 sq. ft. for lawns. Shoulders says, "Nitrogen use is a most significant factor in successful turf management."

Couch reviewed Helminthosporium diseases. Six different species are involved, but H. vagans (which he terms "Melting-Out" is perhaps most important for Kentucky bluegrass, appearing chiefly in the cool, moist weather of early spring. H. sorokinianum attacks other species as well as bluegrass in warm wet weather and "can be confused with Melting-Out" (he calls this "Leaf Spot"). Couch feels that H. sorokinianum is often misdiagnosed as Pythium blight or Rhizoctonia brown patch; a field diagnosis needs confirmation by laboratory tests to be certain. There is little here to unravel the confusion about Helminthosporium as perceived in the lawn.

Schmidt discusses irrigation, which he assumes to be almost universal these days. He notes that differing soils side-by-side with the same rainfall may be dry enough to prevent forest (in favor of grass) or support trees. He advocates limited, frequent irrigation as being more economical than heavy, infrequent watering (which presumably results in greater evaporation loss). The presentation is more of theoretical than practical interest.

Hall discusses bermudagrasses in Virginia, several of which suffered considerable loss this last severe winter. Tifgreen was badly damaged, with Tifway, Tufcote and Tifdwarf intermediate; Midiron was most resistant, and survives well even in northern Virginia. Midiron and Tifgreen showed earliest "green-up" in spring. Tufcote is experiencing considerable "spring dead spot". Generous potassium fertilization aids winter hardiness.

TIME OF DAY AFFECTS HERBICIDES

Research by Doran and Anderson, Minnesota, reported in the November issue of Weed Science, notes that bentazon (sometimes recommended for elimination of nutsedge in turf) is markedly more effective at certain times of day than at others. At least with the weeds tested, bentazon was much more effective around mid-day than in late evening, night, or early morning. If with bentazon, could not similar discrepancies ineffectiveness-related-to-timing occur with other herbicides?

OHIO TURFGRASS PROCEEDINGS

An earlier Harvests carried a resume of the December 1976 Ohio Turfgrass Conference, from notes taken in attendance. The formal "Proceedings" of the conference was issued in mid-May. Compared to earlier conferences, this one perhaps lacked a broad sweep of general information generally useful. Much, of course, was slanted towards golf course interests. The opening paper, by Michael Hurdzan, was a historical resume of golf. Wilkinson, Chem-Lawn, reviewed putative cause for dry spots on sand putting greens, an investigation under his guidance when he was at Ohio State.

Waddington, Penn State, presents one of the most lucidly organized papers in the Proceedings, dealing with "Fertilization Practices on Sand Greens". The review is of general usefulness in that it compares nutrient qualities of sand with soil, deals with cation exchange capacity, and covers generally background information needed for intelligent fertilization practices.

Smith, Ohio State, discusses trees (mainly for golf courses), and Larsen provides an assortment of observations about disease research in Ohio. Couch, Virginia talked about disease generalities, and Niemczyk once again reviewed the Ataenius grub problem that he has repeatedly brought to the attention of turfgrass managers. Couch, in another presentation, diagnosed Fusarium blight, and Miller, Ohio, talked about the increasing importance of the billbug.

Evans, Velsicol, took umbrage with government regulation with respect to the chlordane situation. Christians, Ohio, reviewed seed count of lawn cultivars, a topic also presented to the agronomy meetings last autumn, previously reported in Harvests (the information of advantage in several Institute releases).

A spate of papers deals with golf green construction. Waddington, in a second paper speaks about "Nitrogen Sources for the Lawn Service Industry", again with information of general value to whomever is undertaking turfgrass fertilization. Various types of nitrogenous fertilizer materials are described, helpful in understanding their capabilities.

Other papers on safety, use of dry-granular materials, and helpfulness of wetting agents in grub control, round out the proceedings.

FEARS ABOUT HERBICIDES

Davis et al, Alabama, report in the November issue of Weed Science on the effects of several herbicides on the soil biota. One was MSMA, a frequently used post-emergence crabgrass killer for lawns. Fortunately, among the products tested, MSMA had little or no detrimental effects.

The authors note in their introduction, "There is increasing concern regarding the possible effects of herbicides on non-target organisms". This is true, and of justifiable concern by environmentalists. The authors further conclude, "There is good evidence of changes in plant susceptibility to disease due to herbicide effects."

Also, there has been and continues to be strong interest in the use of Trichoderma viride as a biological control agent because of its strong competitive interaction with certain soil pathogens." It is thus interesting that all of the herbicides tested stimulated sporulation of T. viride, and to this extent might prove indirectly helpful in "biological control" of disease.

ECOLOGICAL VIEW OF FUSARIUM

Smiley, Cornell, adopts an unconventional viewpoint about Fusarium blight, in his "Reflections - - -" in the May, Weeds, Trees and Turf. He views various Fusaria as an ubiquitous component of the biota, and apt to be identified anytime a turf sample is cultured looking for disease organisms, whether or not the grass is suffering.

He feels that various types of stress on the grass "weaken" it sufficiently that Fusarium can erupt. Indeed, Fusarium is helpful to the extent that it assists in decomposition of thatch, and otherwise manifests its biological role in the soil. The many interrelating influences are so complex that they are almost impossible to regulate; Smiley thinks that the best control of Fusarium (and other diseases) is good management so that the grass suffers the least possible stress. Fungicides are at best a temporary corrective, and can even be detrimental (upsetting natural balances).

Here are a few provocative excerpts from the article: "Fusaria are among the most widely distributed fungi on earth, and they can be isolated from nearly all turfgrasses, soils and thatch, even though the turfgrasses remain healthy. - - - are a normal and necessary component of the soil and thatch microflora. - - - aid in thatch decomposition recycling of nutrients, parasitism of other fungi (including pathogens) and insects, and other desirable phenomena. - - -".

"A manager should not be surprised to find [fusaria] listed among the fungi isolated from healthy or diseased turfgrasses. It should also be recognized that reductions in their numbers through the use of fungicides are very temporary, at best. - - - frequent applications of fungicide - - - in any perennial crop involves a costly and often unnecessary program that is likely to fail after prolonged use. - - -"

Smiley links the importance of Fusarium blight to the widespread usage of Kentucky bluegrass, " - - - which suggests that this host and its cultural and chemical management are more responsible for the disease than is the pathogen. He adds, "Fusarium blight is sometimes favored by the use of pesticides: (1) Which accelerate thatch accumulation by inhibiting the activity of thatch-decomposing microorganisms; (2) Which inhibit nitrification and other mineral transformation processes; (3) Which suppress activities of microorganisms that are antagonistic toward or competitive with the pathogenic fusaria; and (4) Which weaken the plant."

LAWNGRASSES FIT GENERAL PLANT ADAPTATION SCHEME

A report in the February 1977 BioScience by Mulroy and Rundel, California, noted the adaptive characteristics of winter annuals as compared to summer annuals in the Southwest. The generalizations fit lawn plants as well. Summer annuals, for example, are characterized by the C-4 carboxylic pathway, tend to be cauline, with foliage that is more or less entire. Winter annuals tend to have C-3 metabolism; rosette growth and dissected leaves. Obviously, the former are more efficient where hot weather and high light intensity prevail, and fit most southern annual grasses (including crabgrass); southern turfgrasses fit this category too. Only an infrequent fescue and *Poa annua* are listed as winter annual grasses, although of course the conventional perennial species with which the Institute is concerned (bluegrass, fescue, ryegrass, bentgrass) utilize the C-3 pathway. This reflects a better adaptation to lower temperature, reduced light intensity, less demanding productivity rate, and reduced need for efficiency in water use, - obvious adaptations to cooler, more northerly climates.

MORE ON BLUEGRASS SEEDHEAD INDUCTION

Canode (and Perkins) has continued his investigations on bluegrass seed production in the Pullman Washington area. "Floral Induction and Initiation of Kentucky Bluegrass Cultivars" is reported in the March-April Crop Science. The research is more elaborate than Bass's investigations in the 1950's in that individual cultivars are compared (Bass investigated "natural" Kentucky bluegrass, in the era before widespread cultivar development).

As is well recognized, bluegrass must undergo a period of growth under cool, short-day conditions for the major tillers to initiate a seedhead. Under Pullman conditions the "earliest" cultivars did not initiate floral primordia in November, and only a few (barely) before late December. Merion and Newport were the earliest cultivars to initiate floral primordia, about 40% by January 27 (100% not until late February). Adelphi, Nugget, and Arista were also reasonably early but Glade, Cougar and Fylking quite late.

In fact, judged by forcing inflorescences on plants brought into the greenhouse, Fylking was exceedingly late and deficient in seedhead production, even under maximum induction. In general, ability to induce seedheads correlates well, with high seed yields. Baron, Arista, Newport and Cheri (all high seed yielders) also lead in seedhead induction from late January to mid March. Glade and Fylking required a longer inductive period than any of the other cultivars, which may be partially the cause of low seed production.

VOLATILITY IMPORTANT WITH DINITROANILINE HERBICIDES

Eleven dinitroaniline herbicides are reviewed by Parochetti et al, Maryland, in the November issue of Weed Science. Included are some products often used for selective crabgrass control in lawns (particularly benefin, trifluralin). Vapor losses approached 25% in 3 hours, under laboratory conditions with high temperature. The authors make this observation, " - - - absorption of vapors of these dinitroaniline herbicides may, therefore, be a more important mode of entry into plants than absorption from soil solution."

FALLOUT FROM PURE RESEARCH

Serendipity seems to have resulted from pure research at Beltsville, in which it was discovered that low linolenic acid conditions in a plant reduce cold-weather hardiness. Chemicals of the pyridazinone family tend to keep linolenic levels low. Treatment of chickweed resulted in loss of cold hardiness, the weed then being pre-adapted to succumb to winter weather. The chemical affects the physiology of the plant, and is not directly responsible for its demise. Thus the way may be open to a more "natural" way of handling weeds, by making them less well adapted to prevailing weather? The research was reported in BioScience, Feb. 1977.

FERTILIZER HAZARD?

A University of California physical chemist, Harold Johnston, Berkeley, who first investigated the depleting effect of SST aircraft on the protective ozone layer in the atmosphere now believes that nitrous oxide (from denitrification of fertilizer) is even more hazardous, - even more so than the flourocarbons recently banned. It is speculated that 15% of the ozone could be destroyed within a century, which might not only increase skin cancer in human beings but upset the growth of plant life to the extent that more food production is lost than gained by the use of fertilizer! The subject is reviewed briefly in the Feb. 18 issue of Science.

ALLELOPATHY IN OATS, WHY NOT LAWN GRASS?

An article in the May issue of Weed Science, by Fay and Duke, Cornell, notes the especially strong incidence of an allelopathic coumarin (scopoletin) in certain accessions of oats. The exudate materially repressed weed growth in test situations. The authors note the prevalence of allelopathy in many weeds, but also in four different cereals (the grass family) and tobacco. If there is to be built-in weed control in oats (i.e. cultivars rich in scopoletin), why not the same possibility for breeding especially weed-repulsive lawn grasses?

SOD HARVEST STUDY

Darrah and Powell, Maryland report in the March-April Agronomy Journal on "Post-Harvest Heating and Survival of Sod - - -". Most of the research confirms what was thought to prevail, especially as a result of Michigan research. The sod in question was bluegrass-fescue mixture. High temperature that develops in sod is chiefly responsible for its deterioration and survival.

Sod harvested at 28 degrees C "heated" in storage to 39 degrees C. in seventy-two hours. During this period carbohydrates declined from 21.8 percent to 10.7 percent. The longer the storage, the less the survival or revival after planting. Low mowing, reduced nitrogen, and removal of organic materials (clippings) reduced heating and aided survival, although the difference was not always great. However, morning harvest as compared to afternoon resulted in temperature differences as great as 14 degrees C. Greater soil thickness between layers also contributed to lower temperatures.

FERTILIZERS DISCUSSED

Roger Brown, Andersons, reviewed "The Fertilizer Facts and Fictions - - -" in the February issue of Weeds, Trees, and Turf. Brown makes several points not often considered, especially comparing farm fertilizer needs (economy, high phosphorus content, etc.) compared to lawn fertilizers (less emphasis on price, high nitrogen).

Brown points out that mere blending of different ingredients does not result in each fertilizer particle carrying the analysis claimed on the bag; "The larger granules tend to be high in phosphate and the smaller are high in potash. Many times the fines are 100% potash - - - phosphoric acid helps the granulation process - - - the higher the nitrogen and potash - - - the more difficult the ammoniation process." Thus a 25-5-10 is a very difficult fertilizer to manufacture, compared to a 20-10-5! Many physical difficulties can arise with a high-analysis, low-phosphorus product. No wonder that blending operations outnumber ammoniating ones about 25 to 1!

Brown points out that "certain unique forms of nitrogen such as IBDU and sulfur coated urea [and] other trace elements cannot be ammoniated because the heat of the process destroys their slow release and available properties. These important nutrient sources have to be blended with a base product to be available in a complete fertilizer."

WINTER WEED CONTROL IN BERMUDA LAWNS

Johnson, Georgia, reports in the March issue of Weed Science on herbicidal control of winter weeds in bermudagrass. Of the herbicides tested metribuzin was the only one that controlled all weed species consistently with a single application. None of the herbicides injured the permanent bermudagrass. Ten herbicides in combinations were entered in the tests, including the familiar broadleaf controls, bentazon, bromoxynil, paraquat, glyphosate, and other products seldom used on northern turfs.

RHODE ISLAND PATHOLOGY REPORTS

Jackson et al reported in early spring on 1976 fungicide evaluations at the University of Rhode Island. The authors approached their subject with an "ecological viewpoint", noting that disease - - is determined by a complex of interactions involving the grass hosts, the fungal pathogens and the environment". In 1976 most diseases were not a great problem in Rhode Island, except for dollarspot and Helminthosporium.

Twenty four compounds and additional combinations were tested, in most cases their effectiveness not really proven because of the low incidence of disease. Several, such as Fungo, frequently gave readings more serious than the control, indicating, perhaps, that the fungicide imposed some sort of stress upon the grass. For controlling dollarspot on Penncross bentgrass all except Spotrete, Cleary 3336, Fungo, (and a few combinations including one of these), provided effective control for the disease.

Also included were the 1977 disease control recommendations, outlined alphabetically by disease. The options are too numerous to keep in mind, but the mimeographed outline constitutes a handy reference. However, few homeowners would be willing to undertake a spraying program as suggested on 7-14 day intervals through the growing season, but would probably count upon changes of weather or favorable ecological balance (as, indeed, happened with most diseases in Rhode Island during 1976).

TURFGRASS SALT TOLERANCE

The final research report on planting bluegrass, colonial bentgrass, perennial ryegrass and fine fescues into a high salt location in California is given in the spring, 1977 issue of California Turfgrass Culture. The report is by Gibeault et al. The various species were planted at generally recommended rates on the San Leandro Marina Golf Course, and given modest maintenance. The soil tested high for salt and for exchangeable sodium. Under such high salt conditions all fescues and colonial bentgrasses were unsatisfactory, performing less than half as well as they do generally statewide in California. Somewhat surprisingly most perennial ryegrasses did quite well, in keeping with their statewide averages. Bluegrass cultivars varied widely, but generally ranked below statewide performance ratings (although some cultivars were as good as the best of the perennial ryegrasses, Fylking, for example). Merion was a complete failure, and most of the "common types" intermediate. Among the perennial ryegrass cultivars Pelo, Manhattan and NK-100 were tops, and even common perennial ryegrass displayed considerable salt tolerance. This study confirms another instance of the versatility of perennial ryegrass, and adaptability of certain Kentucky bluegrass cultivars (Fylking, especially).

FESCUES QUESTIONED FOR BLUEGRASS MIXTURES

Dr. John Thorne, Washington, writing for Northwest Turfgrass Topics, December 1976, (reprinted in Calif. Turfg. Culture, Spring '77), questions the usefulness of fine fescues blended with bluegrasses. In general the fescues, especially the Chewings sorts, are too aggressive for most bluegrasses to compete with. A mixed turf ends up with a hodge-podge of fescue clumps contrasting with broader bladed bluegrass of a slightly different shade. He questions the usefulness of fescue in a modern turf that is adequately cared for (fertilized, watered as needed, etc.). Of course it is recognized that fescue contributes to dry shaded habitat where bluegrass might not be well adapted.

ADDENDUM - LATE MISCELLANEOUS ITEMS RECEIVED

WEEDS, TREES AND TURF CONSULTS

On several occasions the editorial staff of Weeds, Trees and Turf magazine (Harvest Publishing) has telephoned the Institute for information with which to shape up stories related to grounds maintenance. Sometimes, however, authors seem to be struggling with their assignments. They understand rather little about the field, and seem to expect technical information as well as ideas for creating reader interest, without the Institute having any editorial control over usage. The Institute wishes to be cooperative, but must stop short of being an unpaid "staff member" of the magazine. We can present the Institute case effectively only if a story is composed and finely honed at the Institute. Writers should not expect unlimited help for presentations having little or nothing to do with lawnseed.

CHRISTIAN SCIENCE MONITOR CALLS

A call from Peter Tonge, Christian Science Monitor, Boston, inquired of the Institute what standards should be expected in lawnseed (specifically what limits on crop and weeds). It was pointed out to Mr. Tonge that the kind of weed or crop is more important than the absolute quantity, although, of course, the freer seed is of both crop and weeds the better. However, there is no cause for alarm with modest quantities of off-type seeds under normal circumstances, since most will not persist in a mowed lawn, and most others will be susceptible to easy control with herbicides. It was pointed out to Mr. Tonge that considering the abundance of weed seed already in the soil, that the trivial contents in seed offered by responsible houses is of very little consequence. He had not considered that most weed contamination comes not from the seed sown but from weed seed indigenous in the soil.

MORE REQUESTS FROM LIBRARIES

The June 27 mail brought additional requests for reprints from the Pomona, California Public Library, and the Thomas Nelson Community College of Hampton, Virginia. It is interesting that such organizations find Institute reprints of interest for reference and for teaching.

MOST DISTANT REQUEST OF THE QUARTER?

Dieter Brandes, from Lages, Santa Catorina, Brasil, requesting a reprint of "What is the Grass", wins honors for the most distant request for the quarter.

NEW SLANT ON DISEASE RESISTANCE

Ohm, et al (Purdue), writing in the June-July Crops and Soils, suggest that plant breeders might better look for mild response rather than complete immunity to disease in selecting cultivars. In most cases complete resistance is the result of a single gene, and disease organisms can rather easily mutate to overcome this resistance. However, multi-gene factors that keep the plant growing well in spite of mild disease attack "carry on" year after year with little or no change in resistance, and are not subject to catastrophic attack by a new mutant. The idea has implications for lawn-grass breeders as well as crop specialists.

WINTERSEEDING REPORT

A mailing from Dr. Beard et al, Texas A & M, dated April 1977 (P.R. 3439) was received in late June. It deals with "1976 Winter Overseeding Performance on Dormant Turfs:. The emphasis was on golf green quality and type of maintenance, the base grass being chiefly Tifgreen bermuda. Overseeding species included perennial ryegrass, fine

Continued

WINTERSEEDING REPORT - Continued

fescue, rough bluegrass, some bentgrasses and bluegrass, or combinations of these. Seeding rates are astronomically high compared to the usual usage for lawns in the North (40 pounds per 1,000 sq. ft. for ryegrass, 30 pounds for fescues, etc.).

Among 20 perennial ryegrasses judged for winter performance Citation ranked first, followed quite closely by Manhattan, Pennfine, and Yorktown. Statistically the difference between these cultivars (and those following, - e.g. Derby, Birdie, Omega, NK-200, Diplomat) were not significant.

Rating even higher than the perennial ryegrasses for winter performance (but slower and more difficult to establish), were Sabre rough bluegrass and Dawson Chewings fescue. Considerably down the scale were the bentgrasses, some of the fescues and Park Kentucky bluegrass. Polystands were also tested, of which Medalist 200 ranked highest.

TIME-LIFE CALLS

An example of the changing emphasis about lawns was a call June 30 from Time-Life, N.Y., which is considering a book about "doing things naturally". This was sparked by a Wisconsin court case, in which a homeowner had defeated a city ordinance dictating that lawns (properties) had to be mowed below a certain height.

A lengthy conversation apparently cooled the writer's ardor. She was obviously not familiar with ecological succession, and did not realize that cessation of lawn maintenance would bring more problems than relief. In our climate vacant ground becomes forest, not grassland; an untended lawn would quickly turn first to unsightly weeds, then brush, then trees. Mowing and lawn planting provide a highly mechanized economical means for preventing this, - more satisfactory than trying to control unmowed vegetation by hand, or by continuous use of herbicides. Even if somehow prairie species could be introduced (unlikely in view of highly adapted adventives), fire is usually required to maintain "prairie".

These consequences had not been thought of, a disadvantage in turning composition over to people who may be good writers but who have no firsthand experience with the subject matter. As was reported to the annual meeting, a significant bit of Institute activity is "preventive", counteracting impractical ideas such as doing away with lawns.

NEBRASKA REPORTS

The end of June we received the Proceedings of the Fifteenth Annual Nebraska Turfgrass Conference. Details will be reported more fully in a subsequent Harvests. Of particular interest is evaluation of bluegrass cultivars, by Shearman, et al.

Institute cultivars showing good resistance to Helminthosporium were Adelphi, Baron, Bonnieblue, Fylking, Glade, Majestic, Merion, Nugget, Sydsport, and Touchdown. Moderately resistant were Birka and Plush, while Arista and commons rated poorly.

Common types were quickest to establish, but after 45 days were equaled by Adelphi, Majestic, Touchdown, and others. Resisting winter loss (desiccation) best were Fylking, Nugget, and Baron; Merion, Majestic, Adelphi, Glade, Bonnieblue, Sydsport, Touchdown, Enmundi, and a number of common types suffered severely.

At Mead, Majestic scored the best average, followed by Baron, Bonnieblue, Glade, Sydsport, Fylking, Adelphi and Nugget; Birka, Merion, common and perennial ryegrasses fared less well. Resisting high temperature well were Glade, Baron and Sydsport; Nugget, Birka, Bonnieblue and Adelphi were intermediate; Majestic, Merion and Fylking least resistant.