

BETTER LAWN -- HARVESTS

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"SUPPLEMENT" STORIES READIED

Members will recall that the Board of Trustees voted at the Annual Meeting to participate in the 1975 "Lawns and Gardens Newspaper Supplement", jointly sponsored by the National Arborists Association, the National Swimming Pool Institute, and the American Association of Nurserymen. The American Association of Nurserymen is assuming responsibility for production, the assignment being handled by a public relations house in the same building with the AAN, Paul Dawson and Friends, Inc. Mike Wolfe of the AAN writes, "This is going to be a good one, and all of us here at the AAN are delighted to be represented in it with you."

The Institute's allowance is about 20 pages of typewritten copy (with the elite type used at the Marysville office). Up to a half dozen photographs will also be permitted, with appropriate captions. Target date for having the manuscript in hand at the AAN headquarters in Washington was set at October 1. During September the text relating to lawns was completed, along the lines successful in our own press mailings (i.e. a combination of short "interest catchers" and lengthier articles). The final assemblage included 26 titles, covering primarily new lawngrass varieties and the advantages of quality lawnseed, with mention of lawn fertilization and weed control (using slow-release lawn foods and synergistic herbicide combinations).

THE 1974 GROWING SEASON

We can look back on one of the always "unusual" growing seasons during 1974, on the Institute grounds. 1974 opened on a wet note, following two years of abundant rainfall (working to the advantage of bentgrasses, which had begun to invade bluegrass plantings). Grass looked great, but in many cases this was superficial and overshadowed "soft living" weaknesses. Then came an essentially rainless July-August. The change was sudden, severe, and trying for the grasses. There were no losses on the irrigated plots, but this summer was very damaging to fine fescues on the unirrigated section. Much fescue that had been thriving for years killed out in patches, and appears unlikely to revive into a uniformly fine stand. Bluegrasses and perennial ryegrasses (although often completely brown) revived with return of rain and cooler weather. In fact the dry weather seems to have been "tonic" to autumn growth. There has been no particular incidence of disease during the summer on the Marysville grasses, as was noted so abundantly (particularly dollar spot) on the Ohio State University test grounds in Columbus. We were especially pleased by the "good show" that the perennial ryegrasses put on under stress. They seemed to hold their color during summer better than did the bluegrasses and fescues in unirrigated sections.

OFFICE STAFF CHANGE SCHEDULED

Mrs. Lynda Rudeen will be phasing out her association as secretary and office manager for the Institute in Marysville during October. Lynda will begin raising a family towards the end of the year, in which we wish her every success. Mrs. Jane Ebright is scheduled to phase into the operations during October, and will assume full-time responsibilities beginning in November.

QUARTERLY MAGAZINE STORIES

The following is a list of stories prepared, published, or reprinted during the past quarter:

American Cemetery	"New Lawngrass Varieties Are Less Disease-Prone"
Am. Hort. Soc.	
"News & Views"	Literature offer
Cappers Weekly	"The New Look to Lawns"
Flower & Garden	"Starting a New Lawn/Improving an Old Lawn"
Gardener's Catalogue	Reprint of Resort Management story -- "Spring Lawn Preparation"
Garden Writers Bulletin	"Lawn Care, Month by Month"
Grounds Maintenance	Literature offer
Hardware Retailing	"New Varieties Change Lawn Care Outlook"
Horticulture	"What's Shaping Up for Lawns in '75"
Hortus III	Lawn Section revision
Iowa Golf Course Supt.	
Reporter	"Turfgrass Varieties for Fall Seeding"
Mass. Turf Bulletin	Comments on Lawngrass
Parks & Recreation	"Maxi and Mini Turfs"
Seedsmen's Digest	"New Varieties for Fine Turf"
TIE	Ecology and Agriculture
Weeds Trees & Tuf	"Cool-Weather Weed Control"

AUTUMN PRESS KIT SENT OUT

On or about July 26, the Institute's annual autumn press kit was mailed out to select newspapers and editors nationwide. This is mainly for late August-September usage, with garden columnists generally wanting a four to six week advance period for completing their layouts. Mishaps during production delayed issuance about 10 days beyond intended schedule.

The kit contained 18 pages of medium to short items (two or more of which can be combined to create lengthier coverage), covering letter, and four back-up reprints ("Great Lawngrass Revival," "The Lawngrass Explosion," "Tailored Turf Care," and "Autumn is for Lawn Care."). The custom stories emphasized autumn activities, opening with "Autumn is Great for Seeding Lawns."

AUTUMN TV APPEARANCE

Dr. Schery continued his series of television appearances over station WEWS, Cleveland, on "The Morning Exchange" hour. The August 28 appearance was devoted chiefly to timely seeding of lawns, their fertilization and weed control. The format for the program includes listeners telephoning in questions during the latter half of the hour. As in the past, the switchboards were jammed with incoming calls, attesting to the high interest in lawns in northern Ohio. Also, as on a previous occasion, "The Morning Exchange" kindly mentioned availability of reprints on seeding and new cultivars for any listener sending in a self-addressed, stamped envelope. Within the following few days some 400-odd requests were received. "The Morning Exchange" hour is 8-9 a.m. and is said to be the most popular morning TV program in the Cleveland area.

GARDEN WRITERS-BOTANICAL GARDEN MEETING

Dr. Schery attended a portion of the joint regional meeting of the American Association of Botanical Gardens and Arboreta and the Garden Writers Association of America, held at Kingwood Center, July 31-August 2. This provided opportunity for discussion with Miss Watson of Hercules concerning possible expansion of Institute efforts, and for meeting with other officers and delegates of the associations.

GARDEN WRITERS-BOTANICAL GARDEN MEETING (Continued)

Of most interest to the Institute was the Thursday program, opened by Charles Johnson (Grand Rapids Press) who reviewed writing for newspapers. He cited some of the ways to tie into matters of local interest, which whets the appetite of the editor and increases chances of story acceptance.

Johnson was followed by Carlton Lees, VP of the New York Botanical Garden, and President of the Garden Writers Association. His admonition was "Don't let the writing get in the way of the communication." He reviewed several classical examples of what he considered good and poor expression.

The remainder of the morning was devoted to "Formal Education Programs at Botanic Gardens," the presentations having more to do with the training of budding horticulturists than with activities pertinent to the Institute. The afternoon was taken up with tours and demonstrations, and an Ohio State University professor was guest speaker at the evening banquet. The following day dealt with "Youth Education," and included various "workshops." The meetings wound up with a tour of the Ohio Agricultural Research and Development Center at Wooster.

INFORMATION SHEET FOR SOLONS

At the invitation of the American Association of Nurserymen, Dr. Schery was invited to help document a "portfolio" being given congressmen and senators at a luncheon in Washington, D.C. At issue is continued availability of fertilizer for non-farm usage. Certain "bleeding heart" proposals have suggested that all fertilizer be diverted from turf and ornamentals to food production (particularly overseas). Dr. Schery points out that the ecology of food production in underdeveloped parts of the world seldom depends upon fertilizer, but is shaped by economic and social conditions, level of education, and so on. Little is to be gained by lowering American standards in order to supply a smidgen of fertilizer for foreign lands where its usefulness is questionable.

LAWN TEXT FOR HORTUS III

Dr. Walter H. Hodge, Cornell University, is the senior research associate in charge of revision of Hortus II (the revision will be Hortus III). He has invited Dr. Schery to prepare the write-up on "lawn," which includes a regional map and a modern variety listing.

Hortus is the prestigious publication from the Bailey Hortorium, the "Bible" for both professional and amateur horticulturists, who regard it as the final authority in the field. We are pleased that the Institute has been chosen to participate in this effort, recognition of the respect it has achieved in interpretive lawn publicization.

"COMMENTS ON LAWNGRASS" APPEARS

The Massachusetts Turf and Lawn Grass Council picked up, for its fall 1974 Turf Bulletin, a variety of items that had appeared in Seed World (in turn picked up in large part from Institute releases). Although all of these were credited to Dr. Schery and the Lawn Institute, included also were several of the stories provided Seed World by Loft, Jacklin, Adikes, Stanford, Merion Association (and even a quote from Scotts). We are pleased to have this added publicity, reflecting viewpoints of the Institute and prominent seed firms. The story is not being reprinted for distribution to members, however, because, as edited, it is a melange rather than covering a particular topic. If any member wants to see the story, the Marysville office will be pleased to send a photocopy upon request.

STORY FOR THE CEMETERY INDUSTRY

"New Lawngrass Varieties Are Less Disease-Prone" was title for an Institute story appearing in the June issue of American Cemetery. The story has since been reprinted and distributed to the membership. It stresses the improved traits of the newer lawngrasses, primarily disease resistance. It suggests "slow-release" fertilization for effective maintenance, and weed control with such products as Trimec and Trex-San. A table entitled "Improved Lawn Cultivars" rounds out the discussion, listing all of the Lawn Institute's Variety Review Board approvals (thumbnail sketches of each are given). An illustration on the opening page contrasts the attractiveness of fine-textured turf with coarse kind. A nicely reproduced photograph of an improved bluegrass cultivar is carried on the second page, for contrast with weak-tillering common bluegrass pictured on the final page. We are gratified with the attention this article has received judged by correspondence from cemetery people.

SEEDSMEN'S DIGEST STORY

"New Varieties for Fine Turf" is title of an Institute story appearing in the July Seedsmen's Digest. The story is devoted to the new surge in fine turf varieties, and most of it consists of summaries of each of the varieties approved by the Lawn Institute's Variety Review Board. A map depicting regions where northern and southern turfgrasses do well is carried on the first page, along with a photograph the caption of which reads, "Hallmark of the times. Foolproof lawns usually contain a blend of varieties." Other illustrations depict a low-growing grass with a golf ball (suggesting use for fairways), and a contrast of common with improved bluegrass varieties ("The improved bluegrass varieties show the typical squat habit and freedom from disease apparent with common bluegrass . . .") The story has been reprinted and distributed to the membership, and will prove useful for servicing inquiries about newer lawn varieties.

"KEEP-SHEET" PUBLISHED

The August Flower and Garden magazine carried the Institute's revision of the highly successful lawn care "Keep Sheet" used for inquiries through the year, entitled "Starting a New Lawn" (one side of page), and "Improving an Old Lawn" (on the other side). The page is bordered with file-folder outline, and is meant to be kept for reference.

Each page opens with "Preliminaries," then proceeds to discuss preparing the soil-bed, sowing good seed, mulching, and so on. With the established lawn, fertilizing and weed control are emphasized, "gradual-release" ureaform suggested. Variety Review Board cultivars are listed according to species, under the heading "Kinds of Northern Lawngrasses."

HORTICULTURE STORY PREPARED

A story was submitted to Horticulture magazine, entitled "What's Shaping Up for Lawns in '75." We hope to launch the new year with a review of trends that include adoption of new varieties for their several superior virtues, which in turn can make care of the lawn more economical. Tailored fertilizers and pesticides, fit the picture nicely, and combine with new varieties for efficient lawn tending.

STORY SCHEDULED FOR PARKS AND RECREATION

In order to inform park specialists about the advantages of modern turfgrass varieties, arrangements have been made for appearance of the Institute story entitled "Maxi and Mini Turfs" in a future issue of Parks and Recreation magazine. This is the official publication of the National Recreation and Park Association, and enables us to contact a widely influential professional segment.

GARDEN WRITERS STORY REPRINTED

"Lawn Care, Month by Month", an Institute story done for Garden Writers Bulletin, was reprinted during the quarter and sample copies mailed to the membership. The story is a condensed "calendar" of what to do with the lawn from January through December.

IN GARDENER'S CATALOGUE

A telephone call from editors of Gardener's Catalogue, New York, asked for permission to reprint the Institute story done for Resort Management magazine, entitled, "Spring Lawn Preparation." The item will be used in its entirety. This is the story which lists names and addresses of the firms supporting the Institute through proprietaries, coded to the name of the variety in the text. Fertilization and weed control are discussed as sections of the text, with Nitroform cited as an example of long-life fertilizer based on ureaform.

PERSONAL LAWN CHART

E. Dexter Davis, Horticulturist, editor for an informational release in the Northeast entitled "Greener Gardening," included in the September issue a two-page "Personal Lawn Chart". Davis has been in touch with the Institute, receiving reprints to bolster his supply of lawn information. This chart is divided seasonally, and subdivided further according to procedure. A code number for each procedure refers to a discussion and listing of materials on the second page; the user inserts date, quantity and spreader setting for his particular lawn.

IN IOWA GOLF REPORTER

We are grateful to Charles Calhoun, editor of the Iowa Golf Course Superintendents Reporter, for featuring the Institute from time to time. The August issue carried the item "Turfgrass Varieties for Fall Seeding," adapted from literature sent to Calhoun. It mentions Emerald bentgrass as being most promising, extols the new perennial ryegrasses, and cites the "many good bluegrasses" (Variety Review Board "acceptances list" is printed in its entirety). In the July issue Calhoun had given the Institute credit for Emerald bentgrass information, viz. a "new one coming out of Congressional --- similar to Penncross but less vigorous so the problem of thatch should be less. Seed should also be more economical because no three-way cross is required."

WEEDS TREES AND TURF STORY

The Institute item, "Cool Weather Weed Control", was featured in the September issue of Weeds Trees and Turf magazine. The story reported upon experiences in weed control during December on the Institute grounds, utilizing the Trimec combination of herbicides. We have long felt that there are advantages to late season control of broadleaf weeds, with a clean up towards the end of the sprouting period assuring more weed-free turf come spring.

ARTICLE FOR ECOLOGISTS PUBLICATION

"Ecology and Agriculture" is the title of an article Dr. Schery prepared for The Institute of Ecology "report". Concern for esthetics as well as productivity is emphasized.

STORIES SCHEDULED FOR SPECIAL PUBLICATIONS

The Marysville office is attempting to extend Institute information to special publications beyond the gardening field. Among others, invitations were received from Hardware Retailing and Cappers Weekly, to review lawngrasses and their care in the "spring annual" issues. For Cappers Weekly Dr. Schery prepared "The New Look to Lawns" and for Hardware Retailing "New Varieties Change Lawn Care Outlook." When these appear they will probably be reprinted, assuming attractive format and adequate editorial treatment. If members have suggestions as to where similar items might be advantageously placed, please let the Marysville office know.

ANNUAL MEETING ANNOUNCEMENTS APPEARED

At the close of the Annual Meeting in St. Paul, press releases on the new Board of Trustees and new officers were sent to the various trade magazines. We are pleased that these have appeared in the Seed World, Seed Trade News, and Seedsmen's Digest.

BETTER HOMES ADVISES

A staff written article entitled "Starting a Lawn from Seed" was carried in the September Better Homes & Gardens, perhaps reflecting advisories (and custom articles) from the Lawn Institute. The philosophy is good, as reflected in the opening sentence in the second paragraph, "The Lawn you grow is no better than the one you sow . . . Start with high-quality seed that is suited to your area and you can have a great lawn . . . as fine as any that was sodded."

GROUNDS MAINTENANCE OFFERS INSTITUTE LITERATURE

Requests from across the country for Institute literature relating to care and maintenance of athletic fields resulted from an offer in Grounds Maintenance magazine indicating that this information was available from the Institute. While we have no booklets specifically relating to athletic fields, various reprints and a customized letter emphasizing the usefulness of fast-sprouting perennial ryegrasses is sent. For fuller information it is suggested that A Perfect Lawn be consulted, or other books of an authoritative nature.

AMERICAN HORTICULTURAL SOCIETY OFFER

The September, 1974 "News and Views" (newsletter of the American Horticultural Society) suggests that readers consult the Lawn Institute for information on modern lawngrass varieties. Under the heading of "Fall Lawn Care," this suggestion: ". . . send a stamped, self-addressed envelope to the Lawn Institute, . . . for their free list of modern lawngrass varieties." It's good to have support from this prestigious society. The announcement doubtless accounts in part for a steady trickle of requests experienced during September.

STEADY ISSUANCE OF REPRINTS

Because of the offer to send lists of "modern turfgrass varieties" to anyone requesting the same from Marysville, if a self-addressed, stamped envelope is included, we have experienced a steady flow of requests. It is apparent that sudden surges of requests from Northeast Ohio following Dr. Schery's appearances on "The Morning Exchange" television program in Cleveland are due to that activity, but it is not always clear what triggers requests scattered all over the country. The offer of reprints is made in one of the stories in the Institute's press kit, and occasionally is casually mentioned in magazine articles. Apparently trade journals sometimes note these offers, and repeat them for their readership. In any event, this proves an inexpensive and highly satisfactory way of fulfilling Institute objectives.

NEW SEEDINGS COMPLETED

Attempt is made to have small plots growing on the Institute grounds of any grass likely to be proposed for acceptance by the Institute's Variety Review Board. We urge members having proprietary interest in a new variety, to kindly send at least 30 grams of seed to the Institute. This autumn about a dozen new plots (or repeats of unsuccessful spring plantings) were completed, mostly of perennial ryegrasses, but including a few bluegrasses and fescues of particular interest.

IN APPRECIATION

"I want to thank you for your prompt report as liaison representative to the Institute of Ecology . . . thank you again for your dedicated service to the Crop Science Society of America."

R. R. Davis, President
Crop Science Society of America

"In the June 1974 issue of American Cemetery, I read with great interest the excellent article by Dr. Robert W. Schery of the Lawn Institute."

W. Edward Armstrong, President
Thornrose Cemetery Company

IN APPRECIATION (Continued)

"In the June American Cemetery Magazine you mentioned Trimec and Trex-San as good productions for weed control in lawns . . . It was an excellent article, and I want to congratulate you on it."

Warren A. Reeder, Jr.
Oak Hill Cemetery

LIBRARY REQUESTS

One of the services for which the Institute is called upon from time to time is furnishing literature to libraries. A September 25 request, such as was received from the Smithtown Library, New York, is typical:

"We would greatly appreciate having . . . information on your Institute, publications list, single copies of free publications. Thank you."

EARL ARONSON OBLIGES

Again we are indebted to Earl Aronson, writing for Associated Press newsfeatures, for mention and credit in his nationally released column. He opens, "Once again we turn to our expert Bob Schery, to tell you that except in the far South the most cherished lawngrasses . . . Kentucky bluegrasses, fine fescues, and bentgrasses, principally . . . start and grow best in autumn." The story goes on with instructions for establishing the lawn, and giving it the care it requires.

LAWN STORY TO APPEAR

"Lawn Ecology -- in the Dooryard" is title for a story to appear in the Journal of the New York Botanical Garden, probably in February, 1975. Several photographs have been supplied to editor Mary O'Brien from which to choose illustrations.

The story is more technical than is generally supplied the popular gardening press, and will reach a semi-professional audience of dedicated horticulturists through this journal.

The story attempts to relate the fundamentals of lawn care to ecological principles. Why certain procedures are good for the lawn, and others not-so-good, depend upon how well they fit the prevailing ecosystem. These principles apply to the harmonious growing of any crop.

The article should make lawn ecology seem less abstruse, alerting lawnsmen that choices are available whereby having a good lawn is easier if decisions concerning its care are thoughtfully made. With shortages imminent, working with rather than forcing nature has advantages.

INVOICES MAILED

Secretary-Treasurer Russell has mailed out the quarterly invoices for proprietary support. He hopes that these will receive prompt attention from members.

TECHNICAL SECTION

OHIO TURFGRASS FIELD DAY

Ohio State University with various cooperating groups conducted the annual turfgrass "Field Day" August 8. Ten "stops" were prepared, each with a research specialist to explain the activity. Weather had been dry in Ohio, but the turfgrass area was irrigated. Under prevailing circumstances cultivar performance was similar, almost all varieties and mixtures being satisfactory. Dollar spot disease was fairly prevalent on the grounds, but not obvious at the varietal comparisons.

Stops 1 and 2 involved water infiltration studies, and investigation of nematodes. Six genera of nematodes have been found to occur quite frequently in Ohio soils, but no fully effective means for their control has yet been developed.

Stop 3 demonstrated weed control in young turf (perennial ryegrass and bluegrass plantings). Basagran (bentazon) was somewhat helpful, but especially noted for selective control of nutsedge in older turf. Basagran has been so registered for soybeans, but turf registration may be year or two away. Bromoxynil helps eliminate broadleaf weeds in seedling turf, and 2,4-D with more mature seedlings. Stop 4 was devoted to information about a new turf grub (Ataenius), that has become quite a problem on certain Cincinnati golf courses.

Stop 5 evaluated bluegrass blends. The plantings were made some years ago, involving chiefly combinations of Fylking, Pennstar, Prato, Merion, Windsor, and Kenblue. All looked good at time of exhibit, and the average ratings ("general appearance" for 1972-1973) did not vary greatly (ranging from a low score of 6.5 to a high score of 7.5). In general, combinations that included varieties susceptible to leaf-spot performed more poorly than those with resistant selections.

Stop 6 reviewed nitrogen fertilization, especially the efficacy of winter feedings. Nothing unexpected has shown up, and performance is generally related to rate of fertilization. No winter loss occurred during the years of this experiment due to heavy feeding. Light fertilization generally allows greater entry of weeds because of reduced turf density. Dollar spot disease was less evident on Merion Kentucky bluegrass at higher fertilization rates compared to lower (an April feeding was said to help restrain dollar spot, although at time of observation dollar spot was about equally as prevalent on April plots as others having an equivalent fertilization rate).

A lengthy series of treatments with both Merion bluegrass and Seaside bentgrass compared slow-release fertilization at differing rates and timing, in comparison with a few conventional fertilizers. Again, visual results varied little, the more recent and heavier the feeding (no matter the source) the darker color the grass. In the printed ratings IBDU (coarse) at 6 pounds per 1,000 square feet, applied in April, June, July, and September, scored highest, followed closely by UF, also at 6 pounds, this applied in April. The same IBDU application, and 6 pounds of UF applied in September, had the best scores for disease tolerance. Poorest scoring was IBDU and UF at the 2 pound rate in April, the scores in general improving as the rate was increased to 4 and 6 pounds (no matter the timing of the application). Highest scoring on bentgrass was UF at 12 pounds, applied in April, May, June, July, August, and September; closely followed by 8 pounds of UF all in April; and soluble nitrogen materials applied almost monthly during the growing season. Here, too, very little difference was noted between the "best" and the "poorest."

Stop 7 involved Kentucky bluegrass and bentgrass cultivars. All of the bluegrasses looked very good at this time, the coded selection (NJE-p-56) perhaps being the best and the darkest green (but many of the newer varieties had not been planted

OHIO TURFGRASS FIELD DAY (Continued)

in this demonstration area). Nugget and Sydsport were said to have been badly hurt by dollar spot earlier in the year but were recovering nicely; at Wooster Fylking and Nugget had both been badly damaged by Fusarium. In the printed rating sheet, NJE-P-56 was "tops", followed by Adelphi, Sodco, and numerous others not greatly different. Lowest ranking were several common types (including Windsor and Newport).

Among the bentgrasses, all the colonial sorts are at a disadvantage because they are mowed low in keeping with creeping bentgrass maintenance. Highest rating creeping bentgrasses were Evansville, Congressional, and Twin Orchards; with Toronto and Nimisila very close. Among colonial bentgrasses Exeter ranked slightly ahead of Highland, which was followed by Holfior and Astoria.

Ryegrasses and fescues were reviewed at Stop 9. The speaker indicated that only Pennfine and Manhattan were "worth considering", but Manhattan was suffering rather heavily from dollar spot on this occasion, and Pennfine looked better. In the rating sheets distributed Pennfine ranked first, followed closely by Manhattan, with the remaining cultivars appreciably inferior. The ryegrasses are mowed at 2 inches twice weekly, and receive 4 pounds of nitrogen annually.

Fine fescues on the whole do rather poorly in Central Ohio compared to bluegrass and perennial ryegrass. None looked appreciably better than others on the main range, but the rating sheets for the years 1971-73 showed Erika to score highest, with Oasis a distant second, and most other named varieties even poorer, no better than Pennlawn and other public cultivars. In the second range, Cascade averaged highest, with Highlight only slightly behind, followed by Erika and other familiar varieties (Golfrood and Ruby rating lowest). Among tall fescues, Kentucky-31 scored best, slightly ahead of Kenwell, Fawn, and Alta. Meadow fescues looked better on exhibit, but it was said that they thin out and lose ground to invading bluegrass too readily to be recommended.

Various fungicides were tested for their ability to control leafspot on Kentucky bluegrass, many of them being quite ineffective. However, Actidione TGF at 1 ounce, Daconil 2787 at 4 ounces, Dyrene at 4 ounces, and Daconil 6F at 1/4 pint all provided some statistically significant disease control (judged by the number of spots per 100 leaves). Stripe smut attack was not sufficient to provide meaningful ratings for control of this disease.

In the shade studies, surprisingly fine fescue was poorest of all species under test. Probably best were several bluegrasses (A-34 had top rating, followed by Pennstar, Kenblue, and Fylking). Astoria bentgrass rated fairly well, although it looked poor at the time. Perennial ryegrasses rated poor to intermediate, not so good as the bluegrasses. Special shade grasses such as Poa trivialis and Woods bluegrasses were failures.

Photographs were taken of representative plots, and will be useful for presentations and review.

TURF ANNUAL APPEARS

Park Maintenance "Turf Research & Irrigation Annual" appeared as the July issue. As last year the research reports were edited by Erik Madisen rather than by a guest editor. Chief respondents were from Michigan State University and several southern locations.

Rutgers University people reported that among the turf-type perennial ryegrasses Citation, Pennfine, and Yorktown III showed best resistance to brown patch disease; Yorktown I and Manhattan to Helminthosporium. Eton, Citation, Pennfine, NK-200, Yorktown and Manhattan rated well in mowing quality. Among bluegrasses Vantage and Glade showed resistance to Fusarium blight.

TURF ANNUAL APPEARS (Continued)

In Michigan systemic fungicides were quite effective, especially when used at regular intervals (rather than just "when needed"). Of the non-mecurial contact fungicides for snowmold control (on Pennncross creeping bentgrass), only Tersan SP and Triarimol were satisfactory.

At Rutgers, differential response to arsenate in the soil showed up among bluegrass varieties. Those with above average tolerance included Merion, Windsor, Victa, Baron, Sodco, and Glade.

In Texas, two pounds of slow-release nitrogen per 1,000 square feet monthly proved ideal for golf green fertilization; soluble nitrogen was not satisfactory, causing erratic growth and leaching loss. Half or less as much nitrogen was required for st. augustinegrass. Slow-release nitrogen, used at 12 pounds per 1,000 square feet annually provided excellent bentgrass performance.

In Ohio turf density was increased by winter fertilization most, with several cool season grasses. Sulphuric acid in the irrigation water helped prevent iron chlorosis with bermudagrass grown on alkaline soil in Arizona. In South Carolina many of the improved bluegrass cultivars did quite well in the Piedmont, Nugget and Fylking being exceptions (Baron, Adelphi, Sodco, and others are cited as being especially good).

Several st. augustine cultivars have proven resistant to chinchbug in Florida, including Floratam. With susceptible strains some insecticides are effective in preventing chinchbug damage, others not. Sod webworm control is similar, with Roselawn the most resistant of the varieties.

Pennfine perennial ryegrass and Jamestown fine fescue were superior for golf green overseeding in South Carolina. In California taller mowed bluegrass-ryegrass remained cooler than did the shorter clipped turf. Early season dethatching (February 22) gave quicker spring green-up with bermudagrass in Oklahoma, than did later (March 14) or turf that was not dethatched.

Annual bluegrass did best (in competition with Merion), in Michigan mowed at about an inch. Selection of superior fescues continues at Michigan State University. "Appearance ratings" for the four years 1969-72 at Michigan State ranked bluegrass cultivars in this order: Nugget, Adelphi, Sodco, Baron, Bonnieblue, Merion, Pennstar, Fylking, South Dakota common. Causes of winter injury in Michigan were reviewed, and precautionary management cited (six measures to take).

In South Carolina several pre-emergence herbicides (Kerb, Betasan, and a coded product) used about two months prior to overseeding gave excellent results (restraint of Poa annua, increase of the overseeding); Dacthal was erratic, and arsenate was ineffective. Good post-emergence control was obtained with paraquat, Phytar, and Kerb (but with Kerb not until six weeks after application); paraquat and Phytar controlled other winter annual species besides Poa annua, while Kerb did not.

CALIFORNIA PROCEEDINGS

The University of California, Davis, issued its California Golf Course Superintendents Institute "Proceedings 1974" in August. The theme this year was "Grass Pests and Golf Course Management." The Proceedings include papers presented during the spring "Institute," chiefly by the professional staff of the university. On the whole, the information is excellent, and achieves the objective of Director Davis for "an in depth review of all phases of pest control and management." This is one of five symposiums being undertaken, and is noteworthy for its breadth of view that includes practical and environmental concerns as well as the technology of turf care.

CALIFORNIA PROCEEDINGS (Continued)

Harvey opened the sessions asking "What sort of a world do we want?", what are the priorities, and what costs are tenable? Eventually population problems and ecology considerations surface in his presentation.

Madison followed with a discussion of "Cultural Methods of Pest Control." In his typical provocative fashion Madison recited the progressive "miracles" that have come along since World War II, pointing out how few have lived up to expectations and how new problems erupt. Typical of his conclusions: "We start out in the spring to kill a few dandelions and succeed. By the time fall comes, we find we have also changed large areas of fairways from bentgrass or bluegrass to *Poa annua*." Madison's main thrust is ecological -- that all maintenance activities are related, and that in doing certain things we may predispose turf to unfavorable reactions. Thus herbicidal usage may increase disease, as does over-fertilization. Madison suggests the least possible manipulation needed to achieve adequate results.

Harvey continued with a general discussion of pesticides, including an outline of the various classes of compounds, their hazards, and expected effectiveness. He concludes that "chemicals can offer safe and effective pest control if we use them properly and with care, and if we integrate them with other pest control methods and with the total management program."

The Olkowski team discussed integrated pest control for urban areas, in which natural methods for the long haul are combined with emergency treatments. They stress that problems arise only when a pest becomes unusually abundant (i.e. gets out of hand), and there is no need to fight a pest until it does so threaten. Development of resistance, limiting factors to pest expansion, and various types of biological control are reviewed. The Olkowskis note that sometimes a pesticide application is more damaging than alleviating, as when it kills predators (in the absence of which afflictions erupt).

Subsequent papers deal more with specifics, such as a review of growth regulators (Sachs feels that nothing practical for golf courses has yet come to the fore, and questions the approach being used so far, in which regulators weaken the grass rather than just abbreviating the foliage).

Other papers relate to the mechanics of sprayers and spraying, maintenance of pesticide inventory, workers safety, and so on. Some are specific, about application of pesticides, and conditions influencing their effectiveness. The concept of frequent topdressing (containing all necessary ingredients, including bentgrass seed) is reviewed at length. This gets away from costly aerification and separate pest control measures. Gibeault reviews *Poa annua*, and characterizes both the annual and perennial forms of the species; maintenance procedures are outlined according to whether you want to encourage *Poa annua* or discourage it. Turfgrass diseases are covered, Pythium by Raabe, Fusarium by Endo; Morishita reviews insect control, and Radewald, nematodes; grassy weeds are considered by Gibeault, broadleaf weeds by Elmore, and aquatic weeds by McHenry. A final paper even discusses pests of trees.

All in all this 136 page release is a valuable means for acquainting the reader (or participant) with the leading edge of turfgrass research. It is provocative in that it dares to consider new approaches, and shows an environmental awareness.

PERENNIAL RYEGRASS EVALUATION

Southern California researchers report in the July issue of USGA Green Section Record, on "What About Those Perennial Ryegrasses?". The evaluation involved Manhattan, Pennfine, Lamora, NK-100, NK-200, Pelo, common, and, for one experiment, two coded selections that are not yet commercial.

PERENNIAL RYEGRASS EVALUATION (Continued)

Basic qualities of perennial ryegrass are first discussed. The species is said to have fairly little shade tolerance (about like Kentucky bluegrass), moderate salinity tolerance (better than bluegrass). Light seeding rates produced later stands and an abundance of weeds, but heavy seeding rates seemed an unnecessary expense (i.e. beyond 6 pounds per 1,000 square feet, the rate suggested as generally most suitable). Pennfine rated best in mowing quality, followed by Manhattan, NK-200, and Lamora (at high seeding rates only). Other varieties did less well though not so poorly as common.

When used for overseeding dormant bermudagrass ("wintergrass"), all varieties made good cover the first year. But only Manhattan and Pennfine persisted, and were the only two considered worthwhile in subsequent years. A few gave even less persistent cover (i.e. survival under high temperature stress and competition from the bermudagrass) than did common.

PRE-EMERGENCE HERBICIDES

Michigan research, reported by Turgeon, Beard, Martin, and Meggitt, in the July Weed Science, sheds light on the influence of pre-emergence turf herbicides used repeatedly over the course of eight years. All herbicides controlled weeds adequately, so that judgment expressed about the herbicides reflects influence on grass growth rather than weed control. As the authors state, "Nearly all herbicides caused some effect on one or more of the turfgrasses at some point during the 8-year experiment, especially during mid-summer stress periods."

Bandane was one of the "rouger" herbicides, especially on fine fescue; bensulide also caused more than average "visual injury," especially with bluegrass. Surprisingly, a bandane treatment brought on a serious infestation of stripe smut, and continued use resulted in severe thinning of the turf.

The degree of injury from all herbicides varied from year to year, and serious damage one year might be followed by complete tolerance another. On the whole fescue was more severely injured than bluegrass, and its clipping yields quite reduced. Several herbicides hindered growth and increased summer wilting. They seemed not to influence thatch, however, and in some cases apparently reducing thatch accumulation (because foliage production was reduced by the treatment).

This study, over a lengthy series of years, confirms that pre-emergence crabgrass preventers are effective, but must be used with caution (and can be expected to have mild side effects on grass growth).

ROADSIDE MANUAL ISSUED

ROADSIDE DEVELOPMENT AND EROSION CONTROL, by Huffine and colleagues, was received in July from the Oklahoma Agricultural Experiment Station. This is book-size documentation of experimentation sponsored by the highway department over the last decade. Much of the book is devoted to graphs of test results, which will prove valuable for reference.

As would be expected, techniques vary for differing parts of the state. Of particular interest is the enthusiasm the authors express for weeping lovegrass, Eragrostis curvula, for general usage. The researchers conclude that it is the most widely adapted and easily established grass for Oklahoma highways. Bermudagrass is also favored, but in some locations (especially north slopes) it is not too competitive (and generally needs supplemental fertilization). In fact fertilization is recommended for all plantings to optimize erosion control.

Weed control measures vary. Arsonates (post-emergence) are suggested for sandbur (Cenchrus) control, while dicamba has proven useful against broadleaf weeds at light rates.

BUILT-IN WEED CONTROL?

A report in the July 22 Science, by researchers from Michigan State and Cornell, deals with biological suppressions of weeds (allelopathy). Cucumbers, in this instance, from all over the world, showed some selections markedly more repressive of competing vegetation than were others, -- in one case 87% effective. The implication is that repression of competing vegetation can be bred into a crop. The same, of course, should be true with lawngrasses, with which it has long been recognized that (to a degree) various species repress others. It is not always clear where allelopathy ends and competition for water and nutrients begins, however.

FUNGUS RESISTANCE

In recent years, with development of special organic fungicides, diseases (including those of turfgrass) have increasingly shown resistance to the fungicide. Drs. Arneson and Polach confirm this, in an article in the April-June "New York's Food and Life Sciences Quarterly." They reason that, compared to former fungicides serving as a protective film, modern systemic (and similar) fungicides attack the fungus life cycle at only one critical point (such as nullification of an enzyme function). It is easier for a fungus to come up with a point mutation surmounting such a block than it would be to develop immunity to a generally toxic protective film typical of older fungicides.

PENN STATE GOLF GREEN SOIL STUDY

"Soil Modification for Turfgrass Areas," Progress Report 337, dated April, 1974, from Pennsylvania State University, was received in July. Authors are Waddington, Zimmerman, Schoop, Kardos, and Duich. The study is especially significant in that it documents results for a decade (since 1963), showing changes and eventual outcome from various soil compoundings, with compaction or not, aerification or not. This is undoubtedly the most thorough study of its kind.

The research verifies that all soil modifications tend to deteriorate through the years (in terms of permeability), especially when compaction is severe. Aerification amendments, such as coarse sand and Turface, were highly effective in providing porosity, but as a rule compounds still in a favorable range after a decade were too porous initially.

The authors conclude, "The physical properties . . . depend on the kind and amount of soil amendments used." Suitable combinations of native soil and amendments (the soil usually no more than 20 percent of the bulk) can be devised, but permeability will generally diminish unless there is little compaction and aerification. The study confirms that the main zone of compaction is in the top two inches, actually more evident in the 1"-2" zone than in the 0"-1" zone.

HERBICIDE HANDBOOK APPEARS

The third edition (1974) of the "Herbicide Handbook", issued by the Weed Science Society of America, has now appeared. It is available for \$5 from Society offices at 425 Illinois Building, 113 North Neil Street, Champaign, Illinois 60820. This indexed handbook is one of the most convenient sources for basic information about a herbicide, showing the structural formulation as well as other pertinent data. Compounds are indexed both by chemical and trade names, with names and addresses of the chemical firms in a separate tabulation.

ETHEPHON ON BLUEGRASS

Purdue researchers, reporting in the November-December, 1973 Crop Science showed that ethephon has peculiar growth influence on Sydsport Kentucky bluegrass. Leaf growth is inhibited, but stem growth exaggerated. Ordinarily ethylene (active component of ethephon) acts as a growth inhibitor.

MORE ABOUT THATCH

J. R. Hall, University of Maryland, discusses thatch in the June Park Maintenance. Lawn thatch formation has received widespread discussion, but little factual "proof" of causes. One interesting point that Hall makes is that "chemical usage can play an important role in thatch development. Seven years of annual tricalcium arsenate and bandane applications . . . have lead to noticeable thatch buildup in experimental plots at the University of Maryland . . . dieldrin and chlordane have produced similar results on thatch buildup in Illinois . . ." Chemical interference with decomposition has always seemed logical, but infrequently proved experimentally.

MORE ON FUSARIUM BLIGHT

Fusarium blight, especially of Merion bluegrass, is one of the more perplexing lawn diseases. Houston Couch, Virginia, discusses the disease in the June Golf Superintendent, one of the series of reviews of various important turfgrass diseases.

Couch believes two species of fungi are involved, and that strains of these may be either pathogenic or not, partly depending upon receptivity of the grass (they are encouraged by high nitrogen, for example). Couch concedes that nematodes may help in spreading infection through the roots, but is apparently lukewarm about the Michigan State thesis that they are integral to the disease.

Though the fungi attack many grasses, he rates bentgrasses as most susceptible, followed by bluegrasses, with fescues third. Couch suggests balanced fertility (low calcium encourages the disease), thatch removal, perhaps nematode control, and properly timed systemic fungicide application. Fusarium blight is one of the more difficult turf diseases, conditions triggering its virulence obscure.

BLUEGRASS WEAR

Drs. Wood and Law report on "Kentucky Bluegrass: How it Tolerates Wear," in the August Golf Superintendent. The research was undertaken in Washington. Overall, Merion best resisted (or recovered from) wear, although occasionally it was exceeded by Nugget and Sodco. On the whole, the ratings of improved varieties were markedly better than "common" types. Differences between improved varieties was not great. Included in the test were: South Dakota common, Delta, Newport, Cougar, Fylking, Pennstar, Windsor, Sodco, Nugget, and Merion.

CALIFORNIA ADVICE

The spring 1974 issue of California Turfgrass Culture, received in August, reviewed subjects reported in an earlier Harvests that had been published elsewhere (USGA Greens Section, etc.). The first of these was "An Evaluation of Perennial Ryegrass Variety Seeding Rates," in which it was determined that 6 lbs/1,000 square feet was generally optimum, and in which Pennfine, Manhattan, and NK-100 stood out for good "cutting quality."

The second item was "An Alternative Method of Greens Management," advanced by Madison et al, in which a frequent light topdressing with sand (containing some bentgrass seed, fertilizer, and perhaps pesticides), is suggested in place of less frequent topdressing accompanied by aerification and other customary procedures.

This issue is rounded out by a discussion of Poa annua, -- whether it should be regarded as a friend or a foe, and based upon this what maintenance practices should be undertaken.

BENTGRASS FOR GOLF COURSES

Dr. Richard Duble, Texas, writing in the March Golf Superintendent, recommends bentgrass alone, or in combination with Tifdwarf bermuda for southern golf greens. He has successfully used siduron, in two applications about four weeks apart, at 13 ounces per /M to control bermuda where he is interested in a near solid stand of bent. Both

BENTGRASS FOR GOLF COURSES (Continued)

Emerald and Penncross bentgrasses have given "excellent" winter-spring-autumn results, and "good" summer performance, but Seaside was less satisfactory. Doble notes that Emerald thatches markedly less than does Penncross. Nine to twelve pounds of nitrogen /M give excellent to satisfactory turf quality, with ureaformaldehyde being used at two pounds/M in February, May, and October (or sewage sludge more frequently at lighter rates).

GROWTH RETARDANTS

The July-August Agronomy Journal carries reports on research done at Carbondale, Illinois, on growth retardants for roadside grass and for fine turf. The general conclusion is that the products are not very promising for fine turf, although they might prove helpful in restraining coarse grasses on the roadside (but even then might intensify weed incidence). Among the difficulties are:

"Pronounced color losses of the grass, serious stand reduction and resulting weed infestations occurred after the use of higher rates of several chemicals. A concurrent herbicide application may be necessary to control weeds in Kentucky bluegrass treated with certain growth retardants -- most experimental and growth retardants tested showed some degree of phytotoxicity on several intensively managed turfgrasses."

It was noted, also, that different varieties (and species) responded differently to given applications, making it difficult to develop product directions for general use.

NEW LAWNGRASSES PROMISED

University of California researchers, and Stan Spaulding (at the Santa Anna station), are enthusiastic about the promise new turfgrass varieties offer southern California, as reported in the July Western Landscaping News. Already a 4-strain dichondra composite is being offered, and there are in the wings promising new zoysias which remain green through winter, and narrow-leaf tall fescues (suggested as the best adapted northern species for southern California). Especially of interest to Institute members will be the recommendation to substitute "turf-type" perennial ryegrasses for annual ryegrass, in winter seedings. Spaulding says that if perennial ryegrass is babied through summer (primarily by frequent, cooling irrigation), that it will probably persist sufficiently so that overseeding may not be necessary (or only light) in the subsequent year. He mentions particularly Pennfine and Manhattan.

PENNSTAR TESTED

Research done in Kansas, reported in the September issue of Weed Science, utilized Pennstar as a test variety (in comparison with common bluegrass), when treated with MSMA and DCPA. Using free amino acids as a criterion, Pennstar was more affected by high temperatures and MSMA than was common bluegrass. Twenty-seven degrees C. (80° F.) was judged the optimum for growth. Both herbicides, used as directed, significantly influenced bluegrass physiology (amino acids).

BLUEGRASSES RATED FOR FUSARIUM

The summer, 1974 issue of California Turfgrass Culture (Riverside), carries the note, " . . . that Kentucky bluegrass varieties differ in their resistance to Fusarium blight. Tentative ratings: very susceptible - Park and Compas; moderately susceptible - common, Windsor, Merion, Baron, and Newport; least susceptible - Cougar, Fylking, Nugget, Pennstar, Prato, and Victa . . ."

DANDELION GERMINATION

A study by USDA researchers reported in the September Weed Science, indicates that both fresh and stored dandelion seeds germinate under a wide range of temperatures, although prolonged storage (especially at sub-freezing temperature) does induce some dormancy. No wonder dandelions continuously reinvade lawns, in spite of 2,4-D treatment!

CROP-WEED COMPETITION

Research reported in the Food and Life Sciences Quarterly, from Cornell University, indicates that with potatoes, at least, there is no interaction between roots of weeds and roots of crop. This is contrary to some of the findings with grass, for example, quackgrass (which can inhibit legumes). It probably represents the situation with the majority of plants grown in association. However, the authors note that the foliage can have tremendous influence, chiefly through crowding and shading of competing weeds. The same reasoning should apply to new, denser turfgrass varieties, and could be a strong "selling point" for their use.

BLUEGRASS BREEDING REPORT

Dr. G. W. Pepin, Chairman of the Institute's Variety Review Board, published conclusions from his Ph.D. research in a co-authored article with Dr. C. R. Funk, in the May-June issue of Crop Science. Valuable insights are given on the breeding behavior of intra-specific Kentucky bluegrass crosses, and on ploidy, gene dominance, etc. In general it is disadvantageous for a cross to have more than 100 chromosomes, so that in hybridizing cultivars with abundant chromosomes it appears better to employ the strain as the male parent (pollen generally represents a reduced gamete) rather than the female parent (apomictic strains generally have unreduced female gametes).

NEW CULTIVARS IN BRITAIN

J. R. Escritt, writing in Parks and Sports Grounds, June issue, comments generally about choice of turfgrass cultivars. Escritt, as director of the famed Bingley Sports Turf Research Institute, carries much influence in Great Britain.

Escritt mentions criticism of not testing new cultivars widely enough in England (although he thinks results at Bingley are indicative); new funding is now available that permits six or more plantings located in different parts of England. He commends new varieties highly. But he adds, "It should be remembered that new cultivars are not necessarily an improvement on existing cultivars, e.g. Highland bent is still very useful indeed, particularly where winter growth and colour are important."

With increasing price of seed, there may be some tendency to use poorer quality. Escritt advises against this: "Usually, however, it would be better to obtain economy by using lower rates of seed of good cultivars and making extraordinary efforts to provide the best possible conditions for growth . . ." He likes the improved perennial ryegrasses for wear on athletic fields. He suggests that as little as 100 pounds of seed per acre can make a good turf if the seedbed is excellent. He advises, where possible, sterilization of the seedbed to give the new cultivars every advantage.

WEeping ALKALI GRASS SEED

An announcement from Dr. Jess Fults, Colorado State University, indicates that a small supply of Puccinellia distans seed, which had accumulated in a developmental program, is for sale (at \$2.50 per pound). Only about 150 pounds was available at the beginning of August. The seed is almost 95% pure, .02% weeds, no crop, and a little over 5% inert; germination 85% (5% dormant).

There has been a limited demand for weeping alkali grass, where soil salt content is high. This occurs naturally in parts of the high plains, but has been artificially created in the East (where heavy salt concentrations are used for clearing ice and snow from highways). Highway berm seeding would seem to be the chief use for this grass in the East.