

BETTER LAWN -- HARVESTS

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GENERAL:

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TECHNICAL

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QUARTERLY RELEASES

During the quarter the following items were prepared, in press, or reprinted for distribution:

Am. Association of Nurserymen

American Horticulturist

Changing Times

Countryside Books

Flower and Garden

Garden Writers Bulletin

The Gardener

The Gardener

Horticulture

HortScience

HortScience

House Beautiful

Prentice-Hall

Seedsmens Digest

Seed World

Capper's Weekly

THE LAWN AND GARDEN SUPPLEMENT

The 1976 Lawn and Garden Supplement, issued cooperatively by The Lawn Institute, The American Association of Nurserymen, The Fertilizer Institute, The National Arborists Association, and The National Swimming Pool Institute, was mailed by the Pflaum Associates to newspapers and house organs nationally in late February. The Lawn and Turfgrass Division of The American Seed Trade Association helped support The Lawn Institute's participation. This year's issue was twelve pages, one side only, in newspaper format five columns to the page. Nineteen illustrations-with-captions were included, of which six were from the Institute.

The Institute was not too well represented on the first few pages, although having two short items on the first page, and a fairly lengthy perennial ryegrass story on the third page. The fourth page, however, was dominated by three Institute stories and an illustration, and the Institute enjoyed its share of scattered coverage on the remaining pages.

The "Supplement" this year seems to have been more efficiently and attractively handled than last. At this time we have no word from the Pflaum Associates indicating actual coverage, or indications of interest (as reflected in such

lawn section of "Groundcovers"

"Lawn Fertilization"

"Lawn Logistics"

"Lawn Choices For Choice Lawns"

"Starting A New Lawn"

"Don't Discount Pesticides"

"Be Careful About Lawn Weeding"

"Hit Paydirt, When Seeding The Lawn"

"Stopping Lawn Pests"

book review "Turf Management Handbook"

book review "Folk Remedies Low Country"

"Super Grass"

page proof, "Lawn Keeping"

"Natural Grass And Artificial 'Turf'"

"Rally 'Round The Ryegrasses"

"The New Look To Lawns"

THE LAWN AND GARDEN SUPPLEMENT (Continued)

things as requests for illustrations). It is felt that this jointly-sponsored "Supplement" is a useful adjunct to the Institute's own Press Kit, going as it does to a wide range of papers including many that have no gardening editor and merely photocopy prepared columns. Our own Kit is directed more to larger newspapers having gardening editors who prefer to assemble their own material.

CONTENTS OF 1976 LAWN AND GARDEN "SUPPLEMENT"

In this year's Supplement many of the Institute headlines were abbreviated or changed to accomodate space, but the text was retained as supplied. Institute titles included "Fertilizer Advice and Facts Offered by Industry, USDA", "Lawn Repair", "Bentgrass Economy", "New Turf-type Perennial Ryegrasses Excellent Aid for Quick Lawn Repair", "New Lawn Book", "Freezing-Thawing Can Damage New Lawns", "What Kind of Lawngrass Is Best? That Depends, says Lawn Institute", "Spring Lawn Care Tips Listed", "Fertilizer Rate Suggested", "Bluegrass Responds to Length of Day", "Spread of Lawngrasses Varies, Says Report", "Lawnseeds, No Lawnweeds", "New Lawngrasses", "Economical Lawnseed", "Cultivating Lawngrasses", "Border State Grass", "The Greening of the Lawn", "Spray or Upgrade?", "Grass for Acid Soil", "Fescues Better Than Bluegrasses Around Trees", "Water that Wilt", "New Lawn? Add Fertilizer", "Makes Its Own" and "Long Grass, Short Work Is Spring Lawn Recipe".

SEED REMINDERS SENT OUT

Last year the Executive Committee voted to offer seed samples through the Institute, primarily to investigative people who occasionally write in for supplies. During the quarter Mrs. Ebright sent letters to sixty names on the Institute's "literature exchange" list, mainly involving leading research personnel at the colleges and experiment stations throughout the country. Varieties made available for this offering by their proprietors were Adelphi, Arboretum, Arista, Baron, Birka, Bonnieblue, Fylking, Galaxy, Majestic, Nugget, Pennstar, Ram I, Sydsport and Touchdown bluegrasses; Citation, Derby, Diplomat, Manhattan, Pennfine and Yorktown ryegrasses; Highlight, Jamestown and Koket fescues; and Emerald bentgrass.

Although most of these cultivars were already represented in established trials and comparisons, the offering elicited considerable interest (and served as a reminder of the commercial importance of these selections). Requests for some or all of the cultivars were received from: Auburn University (Dr. Dickens), Arizona (Dr. Kneebone), University of California (Dr. Davis), Colorado State University (Dr. Butler), Purdue (Dr. Freeborg), Iowa Lakes Community College (Dr. Everhart), Kansas State University (Dr. Keen), Michigan State University (Dr. Payne), Nebraska (Dr. Shearman), Spokane Community College (Dr. East), Noer Research Foundation (Mr. Wilson).

SEASONAL PRESS KIT OUT

"All systems were go" for the Institute's Press Kit in early February, sent to selected garden writers, editors and newspapers nationally. Members were sent a reference copy. It is surprising how the small notice included, offering reprints for anyone sending in a stamped, self-addressed envelope, brings continuing requests from all over the country.

VARIETY REVIEW BOARD ACCEPTANCE

During the quarter the Variety Review Board of the Institute voted acceptance to Game perennial ryegrass. We welcome Willamette Seed into the Institute's family of sponsoring firms.

"KEEP SHEET" UP-DATED

The so-called "Keep Sheet" (designed for clipping out as a permanent reference) which Dr. Schery had done for Flower and Garden Magazine on two occasions previously, is being revised and updated for the summer of 1976. This highly epitomized article on lawn seeding and lawn maintenance has been one of the handiest reprints used by the Marysville office for answering inquiry and as an envelope stuffer. The revised issue cites the latest of the new VRB cultivars, and reflects current concern about increased costs of maintenance and environmental influences.

CHANGING TIMES CONSULTS INSTITUTE

Margery Crane, an editor for Changing Times Magazine, called Dr. Schery wondering if 1976 was not occasion for an updating of the lawn item developed for the magazine in 1973. Particularly of interest would be any changes of emphasis, including attitudes about the environment, restrictions on pesticides, and, of course, new varieties. Although the magazine is to use "staff-written" articles, Dr. Schery provided six pages of typed text from which Miss Crane might develop her story. The magazine has always been quite generous in acknowledging the Institute and its publications, and we look forward to as helpful cooperative effort in 1976 as in 1973.

STORY IN HOUSE BEAUTIFUL

We were very pleased that the April issue of House Beautiful magazine carried Dr. Schery's write-up on "Super Grass", which emphasizes the many advantages of the new lawnglass cultivars, the appropriateness of lawn care with help of products like gradual-release fertilizer and Trimec. The story winds up explaining why there should be no guilt feelings over the use of fertilizer for home gardening, even though there may be spot shortages of food world-wide (which fertilizer can do nothing to correct). This issue of the magazine was slanted toward gardening (even though its big interest remains home furnishings), with articles on pruning, vegetable growing, and seasonal needs, as well as the item on lawns. Reprints are being circulated.

STORY APPEARS IN CAPPER'S WEEKLY

The March 9 issue of Capper's Weekly carried the Institute story, "The New Look To Lawns". This story had been in the hands of the editors for many months, but fortunately was of a nature not to be outdated (except for failure of a few of the most recent Variety Review Board acceptances to appear with the list of varieties). Since the story duplicates other releases, we are not reprinting for general distribution, although the editors give permission for this. We are pleased to have the story finally appear in Capper's Weekly.

NEWSDAY INTEREST

Ms. Dee Wedemeyer, Newsday Magazine, called the Institute January 7, inquiring of Dr. Schery about facts for a feature story involving lawns. A group of reprints and Press Kit items was sent to Newsday, to back up the telephoned information.

LITERATURE SENT UNIVERSITY OF MISSOURI

At the request of John G. Grandis, Mrs. Ebright furnished numerous reprints from which to make a selection, for the University Extension Division, Office of Conferences & Short Courses.

CALL FROM TIME

Janet Cripps, Time, Inc. called the Institute in search of background information primarily for irrigated lawns. While we could not supply this specific data on sprinkler installations, we did send Ms. Cripps a generous supply of reprints and references, in which she expressed interest. A possibility always exists for favorable publicity on modern lawngrass varieties.

IN THE GARDENER

"Hit Paydirt When Seeding The Lawn" appeared in the January-February issue of The Gardener, publication of The Men's Garden Clubs of America. This is a brief story highlighting techniques for seeding a new lawn, or for renovating an old one. In the reprinting, a list of Variety Review Board cultivars was included. Sample reprints were mailed to members, and are available on request.

TV APPEARANCES CONTINUE

Dr. Schery appeared on the "Morning Exchange" TV program out of Cleveland, March 31, continuing the series of seasonal appearances through station WEWS initiated several years ago in response to a press kit mailing. The series of steps appropriate for seeding a new lawn or patching an old were talked about and depicted by color slides, before the usual practice of fielding questions telephoned in by the audience. As has always been the case, the switchboard was jammed with inquiries, attesting to the high interest in lawns and gardening in the Cleveland area (and even distant counties which pick up the channel). Three reprints were offered for addressed, stamped envelope.

LAWN STORIES SUPPLIED

Three short items were sent to magazines in early January. "Stopping Lawn Pests" went to Flower and Garden, "Be Careful About Lawn Weeding", to The Gardener, and "Don't Discount Pesticides" to the Garden Writers Bulletin. One-page presentations should suit these publications well.

ILLUSTRATION FURNISHED

A photograph depicting a "turfgrass management technician" was furnished Visual Education Corporation, Princeton, N.J., which is producing a twelve volume encyclopedia reference for high school and college students. We are pleased to assist in emphasizing turfgrass, for The Career Information Center.

ENCYCLOPEDIA OF OHIO ASSOCIATIONS

The Institute has received a questionnaire from the editors of the Encyclopedia Of Ohio Associations, for probable listing and description in this encyclopedia now being compiled. The authors believe, "It will provide a comprehensive information source for libraries, businesses, citizens' groups, governmental offices and associations themselves.". The co-editors are faculty members of Ohio State University Libraries.

REPRINTS FURNISHED HOSPITAL

The Milford-Whitinsville Regional Hospital, Milford, Mass., wrote asking for informational leaflets that might prove interesting and helpful to patients. Three hundred copies were wanted. Mrs. Ebright forwarded two reprints as examples of the type of things the Institute might furnish, and received this reply, "Both are excellent. Could I have one hundred and fifty of each?". Of course we complied with the request immediately.

TURF MANAGEMENT HANDBOOK

The second edition of Howard B. Sprague's Turf Management Handbook (The Interstate Printers and Publishers, Danville, Illinois), has just been published. Dr. Schery was asked by the American Society for Horticultural Science to review the book for HortScience, publication of the Society. The book is a handy 9x6 size, hard-cover, and lists for \$11.25.

The book would seem most appropriate for professional turf managers lacking college training, and is neither a teaching text nor enthusiastically informative for the home gardener. Information contained is sound, although perhaps more with Appalachian Mountain (acid soil) conditions in mind than the rest of the country. An elaborate table of contents, and an adequate index, should make the volume useful as a reference.

Sprague is a bit out of touch with the recent turfgrass happenings, not having adopted some of the latest modes of expression, nor recognized a number of the recent developments (e.g. "turf-type" perennial ryegrasses, chemicals used for renovation, choice of disease-resistant cultivars to thwart lawn disease, etc.). A need exists for an informational book designed for turfgrass managers not directly trained in this subject area and Turf Management Handbook should suffice for basic information. It is unfortunate that the style (and illustrations) lack a fresh and lively approach.

BEARD BOOK

Dr. Beard's magazine-format "book", How To Have A Beautiful Lawn, first published a year ago, is receiving new general promotion by Intertec Publishing, Kansas City. Along with a review copy we received an offer of \$1.48 each in lots of twelve or more (suggested retail \$2.95). As publications go these days, "the price is right".

The book is very well done, with abundant art work and liberal use of color photography. Of course Dr. Beard, now at Texas A & M, is a recognized authority with wide experience. This 112 page presentation should prove suited to the non-specialist, who would find Beard's teaching text (Turfgrass: Science And Culture) far too ponderous and detailed for easy reading or consultation.

The book is cleanly and logically organized, and should prove valuable for practical turfgrass managers. It very much resembles a single issue of a magazine such as HortScience or Weeds, Trees and Turf. It is one of a "how to" series being developed by Intertec, which includes other titles such as How To Fix Your Lawn Mower, How To Care For Shade And Ornamental Trees, How To Control Lawn Diseases And Pests, and no doubt additional titles are in the offing.

GOLF COURSE CHANGES

The Society of Golf Course Architects voiced these views at a recent meeting, reported in the January Western Landscaping News. Courses will probably become shortened somewhat, and be designed for the average player rather than the professional. They will be designed for maximum mechanical care, with minimal labor input. Green size may be reduced, with wider collars and sand traps to accommodate mechanized equipment better. Better community realization of the environmental advantages golf courses lend can be expected. Along with improved equipment, new, specialized turfgrass varieties are anticipated.

YET ANOTHER LAWN BOOK

Macmillan recently sent a review copy of Paul Voykin's new book, Ask The Lawn Expert, due for publication at the end of April. This is an opus of about two hundred and fifty pages, with attractive color dust-jacket, but no illustrations or ornamentation within. Suggested list price is \$9.95, perhaps a bit high considering the "inexpensive" look to the volume.

Voykin is his usual exuberant self, the text having a carefree, highly conversational style. Interjected are such observations as how to make a mint julep, and sometimes the author gets a little careless about his facts (such as placing Lexington, Kentucky just across the river from Cincinnati, contributing to the sewage problem there).

While the book is divided into a logical sequence of chapters dealing with various aspects of lawn care (fertilizing, mowing, watering, etc.) the organization and absence of sub-chapters is such as to make it difficult to locate information other than through the index. Jumping in the middle of chapters into a question-answer type format adds to the "confusion".

The newer lawngrass varieties fare reasonably well at Voykin's hands, although understandably those about which information had accumulated at time the book was written receive the lion's share. Receiving at least a half page discussion are Merion, Adelphi, Fylking, Pennstar, A-20, Nugget, Sodco, Windsor and Baron. Other new varieties are mentioned, and common Kentucky bluegrass receives its share of adulation.

This is the sort of book a homeowner can skim through quite easily in an hour, gaining a general impression of what are the "good" and "bad" things to do about his lawn. The light style sometimes borders on flippancy, and might become a little tiresome if one is searching seriously for information (in which instance a well organized, thoroughly illustrated production such as Beard's How To Have A Beautiful Lawn, reviewed elsewhere, would be far preferable). Ask The Lawn Expert does not duplicate other, more informative books, however, and adds to the current "excitement" about lawns and their care.

TALK TO GARDENING GROUP

The Director of Glen Helen, Antioch College writes, "The people of Xenia so enjoyed your presentation last year that they asked ---- if you would be willing to do a return engagement----". This from the Green County Landscape Committee, sponsoring another "Spring Garden Fair and Market". The idea originated in 1975 in the aftermath of tornados that required "rebuilding" of much of Xenia.

INDEXING COMPLETED

Final steps were taken during the quarter to wind-up publication of Lawn Keeping, expected out during the second quarter through Prentice-Hall. With page proof in hand, indexing was completed in early March, hoping that the publisher can still issue this book in time to profit from spring interest.

AGRONOMY-ECOLOGY NEWSLETTERS

Dr. Schery, as Crop Science Society liaison representative to TIE (The Institute of Ecology), prepared write-ups for the newsletters of the respective organizations, helping to identify The Lawn Institute as concerned with the environment and the serious side of world problems.

TECHNICAL SECTION

ILLINOIS RESEARCH

A summary of 1975 turfgrass research at the University of Illinois has been issued, marked "not for publication". Dr. Turgeon is principally involved with the program. He and other members in the department are to be congratulated on what has become in just a few years one of the most extensive and innovative programs in the country. A glimpse of the investigations under way follows:

Certain herbicides, principally arsenate and bandane, have definitely been proven to induce thatch and to cause soil deterioration through detrimental effect of the ecosystem. Herbicides that induce thatch seem not to inhibit [abundance of] soil bacteria, but do seem to have some influence on enzyme release (which may encourage thatch decomposition).

Sources of nitrogen applied to a Pennstar-Fylking-Prato planting confirmed that high levels of fertility help prevent dollarspot; urea did best, ureaform poorest. Fertilization in autumn was especially advantageous to this blend. Bluegrass quality is closely linked to disease; disease-resistant cultivars are quite an advantage, as is higher mowing and moderate fertilization.

The use of perennial ryegrass (usually resistant to Fusarium) in combination with Kentucky bluegrass (most cultivars of which become susceptible to Fusarium) is being looked into. Likewise, nutsedge invasion of bluegrass seems to coincide with anything putting stress on the bluegrass (disease, low-mowing, insufficient fertilization, etc.). Adaptability to shade has not proven very good with any of the bluegrasses, fescues, or perennial ryegrasses tested, with Sydsport and Glade showing best ratings among bluegrasses, Manhattan ryegrass being about equivalent (fine-leaf fescues failed).

Clippings seem to spread Fusarium blight. Collected clippings are being looked at for their value in animal feed (Adelphi, Baron, Majestic and Pennstar had the highest lutein content among bluegrasses, Pennfine among the ryegrasses). Protein content varies somewhat, and is related partly to season, level of fertility and mowing schedule.

Growth retardants applied to tall fescue have effectively repressed seedhead formation (and at certain times of year restrain growth), but performance is erratic. Herbicides in irrigation water can cause turfgrass injury, especially dichlobenil and simazine. With algae often being chemically controlled in water reservoirs (on golf courses), the danger when this water is used to irrigate turf is obvious. Biodethatch has been ineffective in reducing thatch buildup.

Many crabgrass preventers do a good job, but all things considered nothing new seems to have surpassed Dacthal. Glyphosate is proving helpful in renovation. Fungicides are being compared, and the systemics have proven effective in controlling Fusarium blight. A number of insecticides, including experimentals, seem useful for soil grub control (especially Furadan).

Sod from which the soil was washed away is just as effective for sodding as is the traditional type if it is not under stress (i.e. if it can be kept thoroughly moist). Such sod, and traditional sod if thoroughly soaked, shows less tensile strength (i.e. pulls apart easier).

ILLINOIS REPORT (Continued)

Bluegrass cultivars (and mixtures) are evaluated, results of which are reviewed in discussion of the Missouri Turfgrass Conference as presented by Dr. Turgeon. Fine fescues are not particularly satisfactory in Illinois because of summer difficulties, though Koket, followed closely by Jamestown rated among the best (slightly better than Pennlawn). Among creeping bent-grasses Emerald has looked good, although slightly behind Penncross in the ratings, but well ahead of Seaside. Washington, Old Orchard and a few others have shown Siduron phytotoxicity. Among the perennial ryegrasses, Manhattan and Pennfine have rated best, Manhattan especially early in the season, Pennfine later in the season; this suggests a blend of the two varieties.

MISSOURI TURFGRASS CONFERENCE

The Proceedings on the November, 1975, Missouri Lawn And Turf Conference was recently received. Missouri reports are of a special interest in that they represent something of a southern and western limit to use of lawn cultivars common in the Northeast. Many of the papers presented deal with golf course problems, but members may be interested in reports by Turgeon (Illinois) and Dunn (Missouri) concerning lawngrass varieties. Dr. Thorne, Vaughan-Jacklin, provided an informative discussion on the practicalities of producing new cultivars and the role the seed producer plays.

Dr. Dunn mentions the untypical performance in Missouri compared to more northerly locations. In particular he singled out Nugget as being a disappointment. For the six year period 1970-75, rated for "average quality", the best bluegrass was A-20, followed by Fylking, Sodco, Sydsport, Bonnieblue, Prato, Pennstar, Galaxy, Merion, Majestic, Adelphi, Nugget and Arista, among "Institute Varieties". On the whole, however, the rating differences are fairly small and frequently not significant. Comparisons that included more recent varieties (1972 planting) showed NJ P-59 to have the best rating, followed closely by Glade, Monopoly, Windsor, Plush, Touchdown, Enmundi, Vantage, Parade, Pennstar, Baron, Kenblue, Sodco, Adelphi, Majestic, Galaxy, Park, Fylking, Bonnieblue, Sydsport and Nugget in that order, among representative examples. In extreme southwestern Missouri, Brunswick, Plush, Park, Enmundi, Glade, Galaxy, Kenblue, Baron, Merion, Nugget, Adelphi, Sodco, Bonnieblue, Fylking, Pennstar, Majestic, Parade, Sydsport, ranked in this order. In extreme southeastern Missouri, Variety Review Board cultivars ranked in this order: Sydsport, Adelphi, Plush, Sodco, Baron, Glade, Merion, Galaxy, Fylking, Touchdown, Nugget, Pennstar, Bonnieblue, and Majestic.

For Illinois, Dr. Turgeon rates varieties independently for several characteristics, for three diseases, thatch, spring color, and "quality" on three different summer and autumn dates, so it is thus difficult to make comparisons. Averaging "quality" for the three dates sodco rated first, with Plush only slightly behind, followed by Majestic, Bonnieblue, Galaxy, Adelphi, Merion, Baron, Touchdown, Glade, Pennstar, Sydsport, Fylking and Nugget. Nugget suffered late season decline, but Sodco improved as the season advanced. A Fylking-Pennfine mixture performed very well, rating almost as highly as Sodco and Plush.

TEST RESULTS FROM WASHINGTON

"Turf Variety Evaluations", April, 1975, were received from Dr. Brauen and his co-authors at the Western Washington Research and Extension Center, Puyallup. Testing there is quite extensive, not only for the number of varieties included, but in the differing types of care given (bluegrass mowed at both 3/4 inch and 1 1/2 inch, fescue 3/4 inch, ryegrass 1 inch, for example). Mowing is twice weekly during the season, and about 4 1/2 lbs. of nitrogen are provided bluegrass and fescue annually (8 lbs for perennial ryegrass).

Eight different ratings are tabulated for each cultivar. Perhaps "turf quality" in winter, and "general appearance" in summer would best reflect overall performance (although there are winter and summer color ratings, density ratings, texture ratings, and ratings for incidence of two different diseases.).

Seventy five red and chewings fescues are compared. Only Highlight among Variety Review Board acceptance falls in the top ten percent for turf quality in winter, although Koket and Jamestown have respectable scores better than average; Ruby rates rather poorly, but better than Pennlawn. As to general appearance in summer several non-Institute cultivars (e.g. Menuet) rate most highly, but Jamestown, Koket and Highlight all score above average, with Ruby again lower on the scale.

Bluegrass "mowed short", finds Sydsport, Bonnieblue and Galaxy among the better cultivars for winter turf quality, with Baron and Nugget not far behind, followed a little more distantly by Majestic, Fylking, Glade, Adelphi, Merion and Prato. As to general appearance in summer Bonnieblue led the list, followed closely by Sydsport, Majestic, Nugget, Glade, Galaxy, Adelphi, Pennstar, Sodco and Arista; Prato rated rather low. About sixty cultivars were compared.

Under tall mowing (1 1/2") Baron and Galaxy headed the list of Institute cultivars, for winter turf quality being among the best of the 118 entries. They were followed by Sodco, Bonnieblue, Sydsport, Majestic, Glade, Adelphi, and Merion; intermediate were Arista and Arboretum; Kenblue, Nugget and Fylking were slightly lower in the ratings. Sydsport had the highest rating of all cultivars in the test for general appearance in summer. Merion and Baron, among Institute cultivars, were only slightly behind, followed by Glade, Adelphi, Bonnieblue, Majestic, Sodco, Arboretum and Galaxy.

Fifty five ryegrass rankings, showed Manhattan far out in front, both for winter turf quality and summer general appearance. Pennfine was a close second in summer, but did not rate well for winter quality. NK-200 was acceptable both summer and winter with Compas, Game and NK-100 a bit lower in the rankings.

MIXTURES MAKE GOOD SOD

Hurley and Skogley, Rhode Island, report in the January-February '75 Agronomy Journal, on bluegrass-fine fescue blends and mixtures for sod quality. Harvested sod handled well with as much as two thirds fescue by weight in the seeding mixture. Jamestown and Highlight fescues produce significantly more tillers than Pennlawn, and were better able to compete with Merion bluegrass. All combinations provided exceptable turf quality, though Baron, Pennstar and Baron-Pennstar, Merion-Baron blends provided the highest quality turf in ratings given.

OHIO TURFGRASS CONFERENCE PROCEEDINGS

The Proceedings for the December, 1975 Ohio Turfgrass Conference was recently received from Ohio State University. The conference itself was reported upon in an earlier Harvests. From the seedsmen's viewpoint, perhaps the most significant presentation was that of Dr. Fred Ledebor on "Evaluation and Recommendations of Kentucky Bluegrass and Perennial Ryegrass". Dr. Ledebor reviewed the recent history of proprietary variety development, both in the United States and in Europe. As to perennial ryegrasses, Dr. Ledebor believes, "--- it has become increasingly clear that really only those varieties derived from domestic fine-textured germplasm are capable of producing a durable and attractive sward for any length of time." He cites Manhattan and Pennfine as outstanding, as are derivatives from this same general breeding line (Citation, Yorktown, Diplomat, Birdie, Derby, Omega, NK-200, etc.). With Kentucky bluegrasses he advocates, "Don't put all your eggs into one basket", preferring blends.

Other papers deal with bentgrass, equipment, adaptation of Poa annua, fairway management, proper use of fungicides, damage from pesticides, analysis of UF and IBDU, cemetery care, thatch and its control, pesticide restrictions, golf course personnel, and newly observed problems (species of Pythium, Ataenius beetle control). Few of these relate directly to lawn seed. O.S.U. pathologists have determined that only a couple of species of Pythium are really troublesome to turf (using Pennlawn fescue as test variety), especially P. aphanidermatum. Infection seems to be through the root system more than through the foliage, bringing into question the common practice of utilizing a foliage contact fungicide for treatment rather than soil drenches and systemic fungicides. The new Ataenius beetle-grub problem, first noticed near Cincinnati, is now being found in many states, and threatens to become of national scope. Ataenius has achieved resistance to chlorinated hydrocarbon insecticides, but does seem susceptible to a couple of experimental materials, and approved pesticides such as diazinon and chlorpyrifos if these are aided in penetrating the thatch such as through use of a wetting agent.

BLUEGRASS GROWTH EXPLORED

A study by Youngner, Nudge and Ackerson, California, on "Growth of Kentucky Bluegrass Leaves and Tillers with and without Defoliation" is published in the Jan.-Feb. Crop Science. Three cultivars of Kentucky bluegrass (Merion, Newport, Windsor) were grown under controlled conditions with response noted to leafblade removal and other manipulations. Leaf and tiller production proceeded at constant rate with each cultivar, with the first leaf senescing by the time the fifth leaf emerged. Removal of leaf blades did not affect the rate of emergence, but it did reduce tiller formation on both Newport and Windsor (but not on Merion). Carbon dioxide readings showed that Merion had a higher rate of net photosynthesis than did the other cultivars, tending to explain the more consistent tiller production under defoliation. It was shown that Merion leaf sheaths contributed much more to photosynthetic activity than was the case with the other cultivars. This suggests that it should be possible to breed bluegrass cultivars with higher rates of leaf and tiller emergence (thus greater tolerance to mowing), by selection of genotypes having high leaf sheath photosynthesis. Merion showed approximately a forty percent greater rate of photosynthesis from the leaf sheath than did Newport.

MASSACHUSETTS GRASS RATINGS

The "Winter 1975" issue of The Massachusetts Turf and Lawngrass Council Turf Bulletin included variety comparisons at the University of Massachusetts through 1975. Of greatest interest to members will be the bluegrasses, perennial ryegrasses and fine fescues.

Bluegrass varieties two years old mowed 3/4 inch, had a high-rating cluster of Victa, Merion, Nugget, Parade, Baron, Adelphi, Pennstar and Fylking; the only poor ratings were common types, especially Park and Delta.

At a 1 1/2 inch mowing height even less difference seemed to prevail between the best and the worst, those varieties rating near the top being Victa, Parade, Merion, Adelphi, and Baron; poorest were Olymprisp, Delta, and Park.

Color and disease ratings showed most varieties to be rather similar. Tops for "color" were Park and Parade; only Continental suffered greatly from gray snowmold; Park, Arista, Delta and Olymprisp were the only varieties rather strongly afflicted with leafspot; Nugget was the only variety severely stricken by dollarspot, although Sydsport and Pennstar suffered moderate infection.

At the 3/4 inch mowing height 2 year turf, Pennfine and Manhattan were markedly ahead of other perennial ryegrass varieties; at the 1 1/2 inch mowing height, Pennfine was first, followed closely by Manhattan, with Springfield (among named varieties) third. Poorest were Lamora, Epic and NK-200, although the differences were not great between varieties.

The fine fescues, two years old, showed Jamestown quite markedly in the lead, followed by Atlanta and Waldorf (tied), Halifax, Scarlett and Banner (tied); poorest were Reptans, Oase, and Ruby.

At the one and one half inch mowing height Jamestown again led strongly, followed by Atlanta, with Halifax and Waldorf tied for third, Barfalla and Banner tied for fifth; Reptans, Agio and Engina were markedly inferior.

INFLUENCE OF WATER, NITROGEN, ON PRAIRIE ECOSYSTEM

Behavior of prairie grasses can be expected to parallel behavior of lawn-grasses. In the study of Lauenroth and Dodd, reported to the Ecological Society, inputs of water favored legumes and warm-season plants (especially forbs), while increased nitrogen reduced legume abundance and substantially influenced cool-season plants (such as northern lawngrasses) the extent depending upon moisture conditions.

WEED GROWTH INFLUENCED BY pH

A study by Buchanan et al, Alabama, entitled "Response By Weeds To Soil pH", appeared in the November 1975 Weed Science. Of weeds often a problem in lawns, crabgrass was little bothered by low pH. Annual bluegrass and buckhorn plantain were slightly disadvantaged. Beggarweed (Desmodium), pigweed (Amaranthus), chickweed (Stellaria), dandelion (Taraxacum) and mustard (Brassica) were severely set back by low pH.

LOW MAINTENANCE TURF REPORT

The January issue of the Ohio Turfgrass Foundation Newsletter carried Dr. Wilkinson's review entitled "Selection of Turfgrass Species For Low Maintenance Areas". This was a formal summary of the Ohio State University experiences during 1975, in which a portion of the plots were left without fertilization and irrigation (reported on previously in Harvests).

Wilkinson emphasizes that under low maintenance very often "common" cultivars outperform the "improved varieties". However, the rating charts show that even the poorest cultivar under a high level management outranks the best under low management. Wilkinson does quote from the Connecticut study, to amplify his observations, viz. "Cultivars performing the best under low management included Belturf, Birka, Campus, Cougar, Geary, Kenblue, Minn-6, Pennstar, A-20 and A-34. Adelphi, Georgetown and Nugget are the worst performers." Wilkinson goes on to comment about tall fescues (which are generally disliked because of their coarse texture).

A series of tables rates thirty-seven Kentucky bluegrass cultivars on the Columbus grounds, twenty-seven fine fescues, and nine tall fescues. The top-rating bluegrass (four year average), considering commercial varieties only, are respectively: Adelphi, Sodco, A-34, A-20, Vantage, Merion, and Nugget; poorest are a group of common types. Under low management, however, top-rating were South Dakota, Belturf, Vantage, Palouse, Geary, Park, Kenblue, etc.; lowest ranking were Nugget, Sydsport, Prato, Fylking, A-34 and Pennstar.

Best rating fine fescue was Erica, with Oasis a fairly distant second followed by Barfalla, Pennlawn and most other cultivars closely grouped. Kentucky 31 remained the top-ranking tall fescue by a small margin.

BLUEGRASS SELECTED FOR BILLBUG RESISTANCE

While bluegrasses have been rather thoroughly screened for disease tolerance, little has been reported about their resistance to insects. One such study, by Kindler and Kinbacher, Nebraska, tested several bluegrass strains for resistance to billbug (Sphenophorus). Billbug has become the most serious insect pest of Kentucky bluegrass in Nebraska. Results are reported in Crop Science, Nov.-Dec. 1975.

Most resistant to billbug were common types of bluegrass (Park, Nebraska common, South Dakota common, Delta). Among elite cultivars Fylking and Prato were little bothered. Merion, A-20, Windsor, Sodco and Nugget were more seriously afflicted.

POLYEMBRYONIC BLUEGRASS FOR DISEASE RESISTANCE

Research at the ARS, Beltsville, reported in the November-December 1975 Crop Science, indicates that selection and separation of plantlets from bluegrass seed containing two or three embryos yields a measure of improved disease resistance. Such selections might be a good source of disease-resistant germplasm. Belturf, Fylking and Cougar bluegrasses were utilized in the study. Variations in ploidy that accompany polyembryony may play a role in the changed disease resistance.

NUTRIENT LEACHING FROM FOLIAGE

N.T. Edwards, Oak Ridge, Tennessee, reports in a paper to the Ecological Society that nutrient transfer (N, P, K, Ca, and Na) is predominantly by canopy leaching in a deciduous forest. Thirty percent of the annual potassium leachate was leached from tree canopy during September alone (just before leaf fall).

MASSACHUSETTS RESEARCH

The spring issue of the Massachusetts Turf and Lawngrass Council Turf Bulletin reports on several evaluations through 1975. The research is conducted by staff members at the agronomy department. Many of the results involve coded experimental materials more than commercial products.

A few promising new materials showed up for crabgrass control, but none showing superior performance to old dependables such as Dacthal and Tupersan. Some were phytotoxic.

Growth retardants for bluegrass and fescues were effective in certain ways but not in others, depending upon objectives and conditions of treatment. Ethrel was not particularly phytotoxic, and did reduce vegetative height materially. Several treatments achieved partial seedhead control.

Broadleaf weed control elicited no particular surprises. A combination of herbicides controlled a broader range of weeds than did single products, with none of the newer materials outstandingly better than combinations already on the market.

Emerald creeping bentgrass proved markedly more susceptible to dollarspot than did Seaside. Incidence of the disease was well controlled with cadminate, Fungo, benlate and to a lesser extent with a number of experimentals, some of which proved phytotoxic.

WEED CONTROL IN BERMUDA LAWNS

Research on establishing a bermudagrass (Tifway) lawn are reported by Johnson, Georgia, in the November 1975 Weed Science. The herbicides tested were not phytotoxic to the bermuda, but degree of effectiveness varied. Best results were had with a DCPA treatment at time of grass planting, followed later by two applications of a MSMA-2,4-D mixture. Oxadiazon and pronamide applied twice were also effective, but not so good as the foregoing.

KENTUCKY BLUEGRASS-CANADA BLUEGRASS CROSSING REPORTED

Rutgers researchers report in the November-December 1975 Crop Science on crosses made between Canada bluegrass and several strains of Kentucky bluegrass. Using several Warren "A" lines as female parents, a very high frequency of hybrids resulted. They showed appreciable vigor, but did not produce viable seed. Crosses using Belturf as the female parent exhibited better fertility, with the "triploid" hybrids rather strongly apomictic. They showed some fair turf qualities. Seed of Canada bluegrass X Kentucky bluegrass (Belturf) planted on the Institute grounds in August of 1974 has not yet measured up to straight bluegrass in quality.

ARGUMENT FOR FERTILIZATION

J. E. Pinder, South Carolina, reported to the Ecological Society on the influence from fertilizing an old-field plant community that included perennial grasses. Up to two pounds of nitrogen per acre tremendously influenced the vegetation, doubling its growth. Advantages were with the perennial grasses, at the expense of subordinate species. The author concludes "--- the ability of the perennial grasses to monopolize the community's resources increase with nitrogen enrichment".

REVIEW OF NITROGEN SOURCES

"Nitrogen Sources For Turf Fertilization" is the title that Weeds, Trees and Turf magazine gave to a review reportedly provided by Dr. D. V. Waddington, of Penn. State. The review very closely parallels Dr. Waddington's presentation to the Agronomy Society meetings last October, in Knoxville, Tennessee. Familiar considerations for soluble, slowly-available, natural organic, urea-form, IBDU, plastic-coated, and sulfur-coated urea sources are reviewed. Waddington finds no source adequate for really well-kept turf, applied only once annually. But he indicates that several of the gradual-release products applied twice yearly do the job quite well. Waddington notes a few weeks delay before obtaining response from IBDU, with much dependence upon particle size, and somewhat greater availability in warm temperatures, under acidic conditions, and where water is plentiful. With UF, Waddington states, "Two applications a year in spring and fall give good results. It is usually necessary to supplement with solubles or use higher than normal rates in the first years of use. ---".

HIGH MOWING GIVES WEED CONTROL

Research reported by Dr. Niehaus, Ohio Agricultural Research and Development Center (Research Summary 7), shows remarkably greater weed control when Kentucky bluegrass is mowed at two inches than at one inch. This was essentially regardless of fertilization. In 1973 there was almost no crabgrass at the two inch mowing height, 50% or better at most of the one inch height plots. In 1972 Veronica invasion was 8 to 13% on most one inch plots, almost nil on the two inch cut.

BLUEGRASS APPLAUDED

Steve Cockerham, in his column in the March Western Landscaping News, mentions Dr. Gibeault's report (to a California conference) pointing out that in variety trials throughout California that Kentucky bluegrasses have performed best overall, with perennial ryegrass close behind. Bentgrasses and red fescues were generally less than satisfactory.

WINTER FERTILIZATION SHOWS UP WELL

Observations by Henderlong, Wells and Street, reported in the Ohio Agricultural Research and Development Center Research Summary 79, suggests advantages to winter fertilization. Grass ratings were improved (particularly due to better winter color), and during the four years of tests there were no disadvantages so far as winter survival or disease problems were concerned. It is felt that winter fertilization will perhaps permit a reduced feeding on an annual basis. It certainly seems to restrain mowing needs in spring (compared to spring application of the same amount of fertilizer). The "winter nitrogen fertilization program" as defined in this research involved monthly or bi-monthly applications of soluble nitrogen from October-December.