

BETTER LAWN - - HARVESTS

Published periodically by
Better Lawn & Turf Institute

Rt. 4, Marysville, Ohio 43040
Phone: (513) 642-1777

Volume 18, No. 4

January, 1972

PROGRESS MADE IN KANSAS CITY MEETING

On November 6, 1971 in conjunction with the "Western" at Kansas City, considerable progress was made towards having the Institute become responsive to the proprietary turfgrass era. Charter meeting of the Variety Review Board was followed by a meeting of the full Institute Board (parent body to which the Variety Review Board is responsible).

The Variety Review Board, consisting of Howard Kaerwer president, Doyle Jacklin, Johnny Thomas and Robert Russell (with Institute president Gordon O. Newton and Director Robert Schery ex officio present but not voting), reviewed the list of varieties submitted as charter participants in the proprietary program. It was reemphasized that not all varieties accepted can be accorded equal mention for all purposes in all areas since several have demonstrated superiority largely for a special purpose or a special location. On the whole, however, the VRB felt that the accepted list of varieties represented most of the best selections currently available, and on the whole are a credit to the seed industry. Three new varieties were temporarily rejected for lack of sufficient history at this point, even though they are obviously promising selections. Those varieties accepted were:

Bluegrasses: Arboretum, Arista, Baron, Fylking, Nugget, Pennstar, Prato, Sydsport

Fine Fescues: Golfrood, Highlight, Jamestown, Ruby

Bentgrasses: Exeter, Holfior, Kingstown, Penncross

Perennial ryegrasses: Compas, Manhattan, NK-100 and Pelo.

In a subsequent meeting following the Institute Board Meeting, the Variety Review Board firmed up its operating procedures, and President Kaerwer anticipated having ready by February a standardized procedure for consideration of additional varieties felt worthy of acceptance for the list as they become commercially available. The VRB anticipated being in ready contact, and meeting several times annually if occasion warrants. It was established that the chairmanship would be on a revolving basis, falling to the scientific representative having greatest seniority, with the commercial representative (Mr. Russell) subject to reappointment on an annual basis.

PROGRESS MADE IN KANSAS CITY MEETING, Continued

Meeting of the full Institute Board followed in mid-afternoon, and after opening formalities the Board discussed the Variety Review Board and the action it had taken. The minutes read, "It was moved, seconded and carried without dissent that the Variety Review Board be declared operative and its report be accepted for consideration."

A good deal of discussion ensued concerning the payment schedule for the proprietaries. A 20 cents per hundred pound rate was unanimously accepted, but the question of minimum contributions for second and subsequent varieties (not completely clear in the prospectus originally sent out) evoked differing opinions. It was generally agreed that the first variety of any kind would carry a \$500 minimum regardless of quantity marketed, and subsequent varieties of the same kind an additional \$100 minimum. An exception would be bentgrasses, in which the first variety carried a \$250 minimum rather than \$500. This assessment schedule was given preliminary acceptance, but following further discussion was referred to the Executive Committee for finalization after determination as to whether there might be withdrawal of some good but little-marketed varieties unless they could be accepted for the lesser minimum as a "second variety" to a primary variety that might be of another species (except for bentgrass). This matter has been held open pending further consideration by participating firms, but in order to get the program rolling on the 1971 crop Mr. Newton sent the following letter to all participants:

"Dear Sir:

"At the November 6 meeting of the Lawn Institute held in Kansas City, we discussed the fact that our original letter on support from proprietary grasses was interpreted in more than one way.

"Some understood that the \$500 registration fee was for each company and others understood it to mean \$500 per variety accepted.

"To clear the air, the Board of Trustees instructed the Executive Committee to study the matter and formulate new terms that would be fair to all and still bring in the needed funds to properly operate The Lawn Institute. Attached is a copy of the new terms as clarified by the Executive Committee.

"For the current year (1971-72) we suggest that the registration fee be paid by January 1, 1972. Payment of the registration fee would be a credit toward later payment of 20 cents per cwt. on sales volume."

Very truly yours,

(Signed)

Gordon O. Newton
President

Enc.

PROGRESS MADE IN KANSAS CITY MEETING, Continued

Following is the attachment to Mr. Newton's letter:

LAWN INSTITUTE SUPPORT FROM PROPRIETARY GRASSES

TERMS FOR PARTICIPATING FIRMS

- I. Each firm will pay a registration fee of \$500 for the first variety of each kind listed with The Lawn Institute.
 - A. If sales of this item exceed 250,000 lbs., the participating firm will pay 20¢ per cwt. on all sales of this variety in excess of 250,000 lbs.
 - B. The fee of \$500 is to be paid annually and is to be paid at the start of a new production year, - (July 1).
- II. For each additional variety* a registration fee of \$100 is to be paid and the 20¢ per cwt. will be paid on all sales in excess of 50,000 lbs. of each additional variety registered.

The registration fee is to be paid annually on July 1.

Example: If you have only 40,000 lbs. sales on a variety approved by The Lawn Institute, the fee of \$100 is only slightly more than the 20¢ per cwt. If you have sales of 60,000 lbs. on a variety approved by The Lawn Institute, you would pay 20¢ per cwt on 10,000 lbs., or \$20 in addition to the original Registration Fee.

- III. The Registration Fee for a proprietary bentgrass will be \$250 if it is a firm's only variety to be submitted for acceptance by The Lawn Institute. Participating firms will pay 20¢ per cwt. on all sales of this variety in excess of 125,000 lbs., with a \$100 minimum for second or subsequent bentgrasses as described above in paragraph II.
- IV. In accordance with Article VII, paragraph 2 of the by-laws of the Institute, payment in the amount of 20¢ per cwt. of clean seed should be made by you quarterly by check drawn to the order of: The Lawn Institute (National Account) and mailed to The First National Bank of Marysville, Att.: Mr. G. E. Dackin, President, Marysville, Ohio 43040.

*Varieties may represent different kinds or species (except bentgrass, which is covered by paragraph III), such that the first variety may be a bluegrass, the several and subsequent ones, fescues, ryegrasses, etc.

For the benefit of guests present, the Institute program was quickly reviewed by Dr. Schery, and informal reports by committee chairmen presented and accepted. The possible use of the Institute Seal of Approval on packaged fertilizers was reviewed, but vice president Osburn's committee checking out such possibilities will not have a firm proposal to submit to the Board at least until mid 1972. The Board voted unanimously to pursue efforts in this direction, whereby the Institute Seal could be correlated for use on fertilizer products as well as seed mixtures.

ON DISPLAY AND IN THE PIPELINE

During the quarter these stories have been printed or reprinted for distribution:

Try Autumn for Lawn Renovation, II; Fertilizer Solutions
The Changing Lawn Scene; Flower and Garden
Anti-Pollution, Ward For Weeds?, III; Fertilizer Solutions
More New Varieties Coming in Lawngrasses; Flower and Garden
Slow-Release Fertilizer For Lawns, I; Fertilizer Solutions
Fescue Facts; Flower and Garden
"Hall-of-Fame"; Seed World

Completed and awaiting publication (some of which will not occur until spring are:

ASTA Supplement series
Lawns on the Upgrade; Resort Management
All-Purpose Fertilizer Suits Roses to a Tea; American Rose
Seed Mixtures For Sod; Sod Growers Association of Michigan
An "Easy-Does-It" Lawn Program; Home Garden
Bluegrass-Bentgrass For Fairways; Golf Superintendent
Turfgrass Trends; American Cemetery
New Trends in Turf Maintenance; American Cemetery
Lawngrass Proprietaries Come of Age; Landscape Industry
Advantages From Lawn Renovation; Landscape Industry; Nursery Business

KEEPING PACE WITH THE TIMES

Mrs. Rush calls attention to a particular sentence buried in the text of a story done for Landscape Industry magazine, which she feels embodies a progressive trend shaping up in the lawnseed industry. It reads, "We can especially look towards improved summer performance what with disease-resistance being bred into the grass rather than having to be controlled by carefully adjusted feeding programs or spray applications." While new turfgrasses are not in all ways at all times superior to unselected kinds, certainly collectively the flood of new releases should prove a credit to the industry not only for disease resistance, but on the whole for denser growth, adaptability to lower mowing, good color, and so on. In our approaches to the landscape people we try to point up this progressive collective effort.

NEW MEMBERS

Firms joining the Institute recently include the following. We welcome:

Michigan State Seed Co., Grand Ledge, Michigan
Garfield Williamson, Inc., Jersey City, New Jersey
Ontario Seed Cleaners & Dealers Limited, Ontario, Canada
Pickseed West, Inc., Albany, Oregon
Otto Pick & Sons Seeds, Ltd., Ontario, Canada
Gebr. Van Engelen, Vlijmen, Holland
Pittsburgh Chemical Manufacturing Co., Pittsburgh, Pa.

ABOUT INSTITUTE RELEASES

Over 150 reprinted stories are stocked on the Institute shelves, some of them extending back to publication 10 years or more ago. A recent request from a member asked whether the color booklet (published through TFH publications, entitled "Ten Frequent Lawn Problems and What to do About Them") was still extant, perhaps updated. We had to report negatively, but are glad such things have proved worthwhile enough to be remembered. The cost of publishing booklets, especially with color, has always been beyond Institute reach, and the more economical approach of reprinting stories published by others has been our stock-in-trade. Reprints afford an economical means for supplying members with copy (sometimes requested into the several thousands), while a booklet could hardly be justified unless it were generally demanded by many members. The Institute did publish several high-quality booklets in the late 1950's, but found no practical way of getting them distributed to the right readership. Much more effective is the recent tack of offering reprints to those sending in a self-addressed, stamped envelope.

This is pointed out because in recent months several members have written in wondering if quantities of from a few to several hundred copies of "booklets" on a variety of subjects might be had. It is simply not possible under present budget circumstances to develop and stock bulletins of this nature, although we are always happy to send along additional reprints (or have another reprinting made) if members will refer to specific items that have been circulated. There are still available a limited number of the paperback "The Householder's Guide to Outdoor Beauty" (published by Pocketbook), should anyone want a small supply of this 300-plus page book (devoted about half to lawns, and the remainder to home gardening). These could be furnished at 50 cents each, with shipping costs being absorbed. The hard cover The Lawn Book is being revised, and is expected to be available through Macmillan sometime in 1972. Perhaps some day that can be issued in a paperback form that would permit more widespread sales than is possible with a more-expensive hard cover book.

Our apologies to the several members who have written in through winter asking for publications on special topics, which we may not have been able to supply. In most cases there are reprints of stories covering at least some part of the subject area, which can be furnished instead. Don't hesitate to ask for some of the older reprints if they are of interest; we are delighted to utilize them if they are stock-piled, and, if they are not, in most cases a new reprinting (for any sizable quantity) is not costly.

ENCOMIUMS FROM EDISON

George Jecmen, editor of the Edison Garden News has again graciously thanked the Institute for the press kits sent to him: "-- my sincere thanks for the releases I have been receiving from your office from time to time. -- Many times when discussing garden problems with gardeners or fellow club members it has been my privilege to refer to some one or another piece of copy on grasses written by you --".

The Edison Garden News is a 20 to 30 page bulletin issued bi-monthly to club members. The May-June issue carried several Institute stories, including Ureaform, A Novel Slow-Release Lawn Fertilizer; Weed-Free Lawn Seeds; and Grass and Ecology. Credit is given the Institute in each case. The July-August issue carried items on fine fescues, and how lawns slow pollution. In all cases the items are printed verbatim, with bluegrass, fescue and bentgrass names strongly emphasized in opening paragraphs.

CITIZENS FOR A NEW PROSPERITY

A citizens group titled with this heading has approached the Institute and other associations hoping that information concerning it will be reported in association newsletters (since the organization does not have the funds for widespread "shotgun" mailings). The literature received will be on file at the Marysville office should anyone want further information. The group's address is 1627 K Street, N.W., Washington, D. C. 20006. Objectives of the association are, like motherhood, commendable -- to fight for inflation control and "rebuild America's economic muscle". Just how this is to be accomplished, other than through the urging of responsible actions during Phase II, is not entirely clear. Presumably influence in Washington will be directed towards responsible fiscal and economic legislation.

THE WORD SPREADS

"In Handyman Magazine I read an article with the following quotation: 'The Lawn Institute, Route 4, Marysville, Ohio 43040, will furnish a list of modern grass varieties to anyone sending a self-addressed stamped envelope with the request'". -- Vernon N. Keller, San Francisco

"I should appreciate receiving a copy of the reprint about lawn renovation and a seeding outline. This was offered in Seed World, Thank you."
A. B. Winters, Narberth, Pa.

ARTIFICIAL TURF CONTROVERSY

Western Landscaping News continues to carry information on artificial turf, stimulated by a front page story in the November issue. In December "Viewpoints on the Controversy" permitted outside comments and rebuttle by manufacturers of artificial turf. Tom Harmon felt that artificial turf was unsuited to football running and comments, "Personally I can't understand how so many men involved in athletics were 'sold' a bill of goods on a product that was hardly tested before it was installed." Representatives of artificial turf manufacturing firms countered with data supporting the many instances in which artificial turf has proved desirable.

STORY APPEARS

The Institute item, Lawnseed or Sod, appeared in the October 8 issue of Seed World. The story states, "The chief concern --- is not whether you choose seed or sod, but the quality of the grasses you select. There are many excellent new varieties of Kentucky bluegrasses, fine fescues, bent-grasses and perennial ryegrasses ---".

NEW EMERSON BOOK ON LAWNS

Franklynn Peterson, President of Sharon Communications, has written for information in preparation of a lawn mower "handbook" for Emerson Books, Inc. Peterson says, "It's scope has expanded so greatly that its title very soon will also", so it's evidently more broadly based than just about mowing. Background literature and answers to the questions advanced were sent Mr. Peterson.

ARTIFICIAL TURF REVIEWED

Dr. William Daniel has mailed a resume of the Moss congressional hearings on artificial turf, in which football players and others criticized it as being considerably more hazardous than natural grass. Daniels is looking for a scheme whereby the all-weather playability of artificial turf is incorporated into a grass growing system. The system developed at Purdue (termed PAT, for Prescription Athletic Turf) involves an elaborate scheme whereby a plastic barrier is laid beneath an artificial rooting medium. Then centrifugal and vacuum pumps "suck" moisture from the porous root zone in the event of rain. Daniels goes further, and suggests heating cables, plastic surface coverings, etc., to more or less "completely control the weather", somewhat like what has been tried in Sweden. Daniels feels that if some such technical regulation of grass growing is not undertaken, that enthusiasm will regenerate for the artificial playing surfaces.

It would seem that the big question about the PAT system is whether so artificial an operation can be properly and permanently maintained, especially in view of the technical demands on turf custodians whose competence varies considerably. An attempt at controlled-environment grass growing at the St. Louis stadium, with Purdue as consultant, failed, and artificial turf was later installed. With the PAT system, it seems there are opportunities for inadequacies in attention to defeat the purpose. One wonders, too, what happens when burly athletes churn divots out of a sod growing on a medium that is preponderantly sand? The PAT system may be a prescription for growing turf only where custodianship is highly talented, and funds are ample!

IN SEED WORLD

The September 24 issue of Seed World carried the Institute story Lawn Weeds a Symptom, Not the Cause. The text states, "Today's fine turfgrasses not only look good but they do quite a job fighting weeds --- low growing bluegrasses such as Pennstar, Fylking and Baron thrive when mowed only an inch tall. Like Merion, Nassau and Sodco they are selected for their tolerance to familiar lawn diseases --- fine fescues such as Highlight and Jamestown join old favorites such as Pennlawn in being disease resistant, dense, and so competitive that weeds face exclusion ---".

ASTA APPRECIATION

Robert J. Falasca, American Seed Trade Association, thanks the Institute: --- "Thank you for your kind cooperation again this year in preparing articles and photos for our 1972 Lawn and Garden Newspaper Supplement. For your information we have used all of your articles."

INCREASING MARKET

An editorial by Emmet Hoffman, Garden Supply Merchandiser, points up that within the last decade there has been a 22 percent increase in homes, double that of population increase, to a total of more than 41 million. In spite of recent increases in apartment and mobile home units, Hoffman states that 63 percent of the more than 63 million housing units were owned by the occupants, and although there are varying preference trends that must be watched in toto, this constitutes a rapidly growing market for lawn and garden supplies.

PRESS KIT IN PREPARATION

Basic work on the press kit has been completed, and production operations are underway for release sometime in February. New turfgrasses will receive generous attention in the mailing, and will be worked into the text wherever possible in items dealing with the environment, renovation, lawn fertilization, and trends of the time. With more than two dozen press kits having been released through the years, some repetition of subject material is inevitable (such as stories on the fundamentals on seeding and lawn care). In order to afford a little change of pace we are including this year a few items a bit lengthier than in the past (consequently reducing somewhat the number of "shorts"). In a sense this caters more to the serious garden columnist than the editor who indiscriminately inserts "shorts" as fillers. The hope is to draw attention to and provide background on modern lawngrass cultivars which the columnists and horticulturalists can utilize not only as released, but as a source of information for creative writing.

HIGHLAND BENTGRASS BOOST

We are pleased that the extensive new advertising program of Mallinckrodt Chemical Company should provide a boost for Highland bentgrass use on golf fairways. The ads will be appearing during the first quarter in golf publications. Arrangements have been made with Marvin Scobee, Indianapolis, to accept calls detailing how he eliminated *Poa annua* and established Highland bentgrass on the Highland Golf and Country Club in Indianapolis. Part of the text reads: "A week after the PO-SAN application, I drill-seeded all fairways to Highland bentgrass. Result? Astounding. -- And the bent, well fertilized, 'came on like gang-busters' -- filling in quickly as the *Poa* retreated. -- I'm rapidly approaching 100 percent bent fairways -- 350 mighty pleased club members and officials."

TREND IN INSTITUTE STORY RELEASES

A new approach is being followed in much material released by the Institute. With so many new lawngrass varieties becoming available, it seems insufficient to talk only about kinds of grass and leave the reader to fend for himself among the numerous varietal designations. Rather the Institute tries to familiarize the reader with the better varieties and new names (as approved by the newly created Variety Review Board). There has not been opportunity yet to judge public response, but editorial acceptance of the tack seems gratifying, with magazine editors showing willingness to include inserts listing varieties as part of informational stories.

FESCUE STORY

The Institute item, Fescues For Low Maintenance Landscaping, appeared in the November 12 issue of *Seed World*. The story points out that the fescue name is less familiar than some other lawngrasses, "but fescues have much going for them as a lawngrass". The widely planted cultivars are cited.

INSTITUTE OF ECOLOGY

The newly created Institute of Ecology conducted a workshop at the University of Wisconsin during October, and will have a report shortly on the recommendations. These are summarized in the December issue of the bulletin of the Ecological Society of America.

The "major findings" relate to almost all aspects of ecology, and deal heavily with pollution and recommendations for pollution control. Some recommendations will draw fire as being too theoretical and impractical, but the general thrust of the program -- the preservation of the environment and the future of mankind -- will be sympathetically received.

There should be excellent opportunity for industries involved in beautification and land use to tie in with this program. Under "Ecosystems For Human Benefit", item 7-f offers a platform seedsmen can embrace wholeheartedly, viz. "Aesthetic aspects of diversity remain essential to man. Many pleasures of life and opportunities for individual human enrichment cannot exist without a varied and lovely landscape." Lawn products should be quite in the center of things in the years ahead.

GREEN THUMB MENTION

George Abraham wrote to the Institute concerning new grass varieties, and quotes Dr. Schery's reply in part (with credit to the Institute) in his syndicated "The Green Thumb" column. -- "there is some advantage to all these new grasses. Before they are accepted for release to the public they have to prove themselves reasonably disease-resistant -- also, most of them are denser under low mowing than the traditional bluegrasses, thus help fight weeds --".

FESCUE STORY APPEARS

The Turf Bulletin of the Massachusetts Turf and Lawngrass Council carried in its Fall, 1971, issue the Institute story, Fescues Are Shady Characters. The story opens, "The fine fescues that come from Oregon in such elite varieties as Chewings, Illahee, Highlight and Pennlawn, ---".

OHIO UNIVERSITY LAWN PROGRAM

An evening relating lawns and lawn keeping to outdoors and the environment is scheduled at the Chillicothe campus of Ohio University for February 3. Dr. Schery will spend the evening with adult education groups reviewing this subject, and offering Institute literature as a reminder of rewarding lawn and garden activities.

AN APPRECIATION

"Thanks, Bob ... for the quick action on the story. A quick reading indicates that it is just what I asked for ---".

Allen J. Fagans, VP & Ed., Resort Management

"THE LAWN BOOK" REVISION

Revision of The Lawn Book is now definitely scheduled, manuscript for the updated and expanded issue having been accepted by the publisher, Macmillan, as the year 1971 ended. Dr. Schery met with senior editor Schrader in New York on January 6 to review plans and illustrations.

ANOTHER "BULLETIN BOARD" STORY

We are pleased that Hall-of-Fame Lawngresses, with Institute credit and authorship, appeared as a Bulletin Board Suggestion in the December 10 Seed World magazine. Merion bluegrass, Pennlawn fescue and Tifton bermuda hybrids were some early "greats". The story cites recent developments, and states "among the new Kentucky bluegrasses about which you are now hearing are Baron, Fylking, Adelphi, Pennstar, Prato ---". Leading fine fescues, Highland bentgrass and perennial ryegrasses are also cited.

GRASS IMPROVED BY SULFUR

The Sulfur Institute Journal reports that, "quality, color and density of Meyer zoysia, Tiflawn bermuda and ryegrass turf were improved when sulfur was added to the nitrogen fertilizer." The tests were in Mississippi, and indicate that the atmosphere does not supply sufficient sulfur in precipitation to meet turf needs in the area.

THANKS FROM CHRONICLE GUIDANCE

"Thank you very much for your assistance in the preparation of the brief, Landscape Gardener. [acknowledgement is given the Institute in the brief] --- Mrs. Virginia Cornwell,"

PRESS KIT EXPANDED, HARVESTS "SQUEEZED"

With a lot of "chatter" about the new proprietary grass names this year, press kit length has crept beyond the usual score or so pages. But we're cutting back a bit on Harvests this time in "partial compensation". Also you will notice we are using heavier paper to allow text on both sides of the page.

"UNUSUAL" YEAR

Although there is something distinctive about every growing season, the winter of 1971-2 showed grass actively growing at the Institute grounds into January for the first time since Institute establishment in Marysville. Unusually mild and amply moist weather prevailed from October and except for occasional crisp interludes that usually lasted only a few days. Normally by December grass foliage is scorched (unless protected by a snow blanket), but this winter much turf ended the year almost as green as it was in autumn. Bluegrasses have been outstanding, but even colonial bentgrasses have not entered their typical winter dormancy. Compared to the previous winter, when there was severe winterkill (an "open" winter), 1971-2 has been very benign into January and not much of a test for winter hardiness.

30th SHORT COURSE ON ROADSIDE DEVELOPMENT

The 30th convening of roadside landscape architects occurred October 4-8, 1971 at Columbus, Ohio, the "Annual Short Course on Roadside Development" co-sponsored by the Ohio Department of Highways and Ohio State University Department of Landscape Architecture. The meetings followed the customary pattern of three days of presentations and social functions, followed by two days of field tour to highway installations.

Of the papers presented, those on Wednesday, October 6 were closest to Institute interests. In fact in the opening remarks the Institute was cited by Dr. Whitt of the USDA, talking on "Environmental Benefits of Vegetation". Dr. Eliot Roberts, Rhode Island, Institute Advisor, was scheduled to speak on "Roadside Research From Rhode Island", but deferred to Dr. Robert Wakefield who gave the presentation. Highlights of Bob Wakefield's slide talk included mention of the "official" Rhode Island seeding specifications (60 percent fine fescue, 25 percent bluegrass, 5 percent bentgrass and 10 percent perennial ryegrass for general use; an inclusion of 10 percent birdsfoot trefoil in place of some of the bluegrass for non-mowed slopes). He recommends this mixture as being well adapted to the thin, acid, damp soils throughout the northeastern United States. He advocates heavy usage of fertilizer at time of seeding to build up reserves within the soil, recommending particularly the use of slow-release nitrogen sources such as ureaform. Because budgets seldom allow maintenance fertilization, the emphasis is on the heavy initial application amounting to at least 2 lbs. of nitrogen and phosphorus to each thousand square feet.

Other presentations dealt with trees and forest growth along the highways, and there was a challenging presentation by the Department of Natural Resources, Ohio, criticizing highway people for condemning agricultural lands in order to save a few dollars for the highway, relegating crop production to the poorer areas. He indicates that this will have to stop, and better land use planning become instigated. Other papers dealt with the moving of trees to highway locations in Minnesota, and fertilizer relationships to grass growth by McVey of Scott Seed Company. Crown vetch evaluation was given by Bill Bangs of Stanford Seed.

An interesting experience in New England was reported by a representative of the Corps of Engineers, Waltham, Massachusetts, in reseeding exposed cuts and fills by helicopter. The cost of the helicopter service was as much as the cost of the materials, but was still more economical than trying to cover this rugged mountain terrain by conventional means (previous attempts have been unsuccessful in establishing vegetation). The seed mixture employed was essentially the "Rhode Island recommendations" mentioned above (primarily fine fescue, backed with some bluegrass, perennial ryegrass, colonial bentgrass and birdsfoot trefoil). Because of the very poor soil in rocky New England, 700 lbs. per acre of ureaform nitrogen, and 500 lbs. of superphosphate, were applied at the time of seeding. This was followed up with a lighter "booster" application after six months. The effort was highly successful in establishing cover where none could be obtained before.

Other talks dealt with need for cooperation and public relations in roadside landscape work, and Dr. E. K. Alban of Ohio State mentioned "New Findings in Weed Control" (mainly restrictions today; Alban feels that in this era of environmental concern that special precautions must be taken for safety; he advocates especially the use of invert emulsions or other spray "safeners" when using herbicides). The highway related to its environment, the designing of trails within the highway right-of-way, and air pollution as it relates to people were other topics rounding out the day's discussions.

POTASSIUM ADVANTAGES TO TURF

The autumn, 1971 issue of Better Crops With Plant Food reports some interesting findings that are being uncovered with respect to potassium usefulness to the plant. In addition to the already familiar effect of potassium in increasing hardiness and in partial disease prevention, research now indicates that potassium may have a direct influence on the opening-closing of the stomata (breathing pores) of plant leaves. In other words, adequacy of gas exchange (whereby the plant picks up vital carbon dioxide) relates to a sufficiency of potassium in the leaf.

Soil tests made at the University of New Hampshire during 1970, related to turf growing, were summarized. In 270 soil tests, 77 percent were low for potassium, only 11 percent low for phosphorus. Almost all soils tested acid, some markedly so. The survey led to the conclusion that more potassium would be appropriate, and university recommendations now suggest half as much potassium as nitrogen. One golf course is reported to have used supplementary potassium applications, resulting in more even growth, better color, reduced disease and lessened winter damage.

IRRIGATION CONFERENCE

The Proceedings of the 9th annual Turfgrass Sprinkler Irrigation Conference, held in California during June, was issued in October. Most of the Proceedings is devoted to the engineering of irrigation systems, more of interest to our members in arid parts of the country than generally. The movement towards more elaborate schemes continues, including perched water table systems (such as have been a point of investigation for some years at Purdue University), and the injection of fertilizer nutrients into the irrigation water. A panel discussion related to the latter, touching upon pollution effects of fertilizer injection systems, and nutritional requirements of grass.

The last named, by Paul Rieke, Michigan State University, falls closest to Institute interests. Rieke discusses the conventional reasons for fertilizing turfgrass, and relates fertilization to management practices. A table suggests the maximum and minimum rates of nitrogen various turf species should have, and pounds per M (ranging from a minimum of 8 to a maximum of 20 for creeping bentgrass, to a minimum of 2 with a maximum of 6 for colonial bentgrass and fine fescue).

DANDELION STUDY

Dr. O. T. Solbrig, Harvard, discusses The Population Biology of Dandelions in the November-December issue of the American Scientist. Because of its importance as a lawn weed, this study of dandelion fundamentals may be of interest. Sources of dandelions were secured from all over the world, and compared for population characteristics. Apomixis is apparently more certain in dandelion than in bluegrass, so that a population of uniform characteristics can be secured from seeds of a given plant. Depending upon place and habitat, it was shown that some dandelion populations are more aggressive than others, and that some "specialize" in the early production of many seeds while others produce fewer seeds later. Under mowed, lawn conditions, there would, of course, be advantage to early production of abundant seed and low rosette growth.

PURDUE FIELD DAY

The Purdue University "Midwest Turf Field Day" was held September 27, 1971, and is reported on by Dr. Daniel in a mimeographed release. Of interest to Institute members may be the rating accorded bluegrasses having been subjected to three severe leafspot episodes during early 1970. Ignoring experimental selections, the ratings were as follows: (the lower the rating number, the greater the leafspot tolerance):

- 1 - Sodco, Pennstar, Sydsport, Nugget
- 2 - Fylking, Merion
- 3 - Primo
- 4 - Prato, Newport
- 5 - Park, Campus
- 6 - Windsor, Geary
- 7 - Kenblu, Cougar, Palouse
- 8 - S. Dakota common
- 9 - Delta

GRASS RETARDATION

Zak and Kaskeski report in the Fall, 1971 Massachusetts Turf Bulletin on experiments with "Maintain" as a growth retardant. Maintain consists of a combination of one pound chloroflurenol and three pounds of maleic hydrazide. The spraying to a highway median was made in late May, and resulted in appreciable reduction in height of the grass as well as in growth yield. The treatment was somewhat more effective on grass that had been mowed, holding this to half the height it would have attained without treatment. Unmowed grass was restrained an equal number of inches, but the percentage of reduction was less because of the taller growth. The treatment also killed dandelions and clover, and retarded several other weeds. The authors felt the treatment was effective in reducing the need for mowing, and would be economically justified.

OCCUPATIONAL BRIEF OUT

The Institute was asked by Chronicle Guidance Publications, to help in preparation of its occupational brief for Landscape Architect. These briefs are used to advise those contemplating a career in the field concerning what to expect in landscape work and career opportunities. The Institute is given acknowledgement. The brief advises, "A wise selection of turf --- is fundamental to an economical and permanently satisfying landscape design. Thus the landscape architect should specify the varieties and blends for the lawn, or specialty turf ---".

NUTSEGE CONTROLLED

Research by Keeley and Thullen, California, reported in Weed Science, Sept., 1971, documents the control of both purple and yellow nutsedge with arsonate chemicals. DSMA and MSMA provided 80 percent or greater control of yellow nutsedge at several different temperatures. There have been many reports of nutsedge control with arsenicals, but rather few documented reports in the literatures such as this.

BLUEGRASS TOLERANCE OF AIR POLLUTION

USDA researchers report upon the tolerance (susceptibility) of Kentucky bluegrass cultivars to air pollution, as determined in the field and in an ozone growth chamber at Beltsville. The paper appears in the charter issue (volume 1, number 1, January - March, 1972) of the Journal of Environmental Quality. The investigation was of bluegrass performance in the Washington D. C. area, where air pollution has injured many crops. Merion, Kenblue, Windsor, Belturf and an experimental (radiated descendent of Merion) were the test cultivars.

In general, pollution damage was less on well fertilized grass. Belturf was the most severely injured of the test varieties by ozone, followed by Windsor, with the experimental least affected. There was some indication that bluegrass can build up a degree of tolerance to air pollution.

CROWN VETCH LEACHATE TOXIC

Studies by McKee et al, reported in the September-October, 1971 Crop Science indicate that what appear to be low molecular phenols extracted from crown vetch cause serious abnormalities in 48 plant species tested, even at extremely light dilutions. Crown vetch leachate was more phytotoxic than that from sweet clover or from red clover, and seems to have a different chemical nature.

SELECTIVE ELIMINATION OF BERMUDAGRASS

Research done in Illinois, reported in the September, 1971 Weed Science, indicates that picloram is lethal to or greatly reduces most varieties of bermudagrass while not injuring bluegrass and fine fescue. This offers promise of a selective means for eliminating bermudagrass from bluegrass turfs in the border states.

TEST OF FESCUE DROUGHT STRESS

Wood and Kingsbury, Vermont, reported in the November-December, 1971 Agronomy Journal on research involving seedlings of several grass species subjected to varying intensity of drought beginning 14 days after planting. The results might be more of significance to range plantings than lawns. From the turfgrass viewpoint there seems not a lot of significance between differing cultivars of fine fescue, the only fine turf species in the test. Ruby and Pennlawn did prove slightly more tolerant of drought, however, than did Boreal or Illahee.

SOIL RESPIRATION IN MISSOURI

Kucera and Kirkham, Missouri, report on soil response under tall grass prairie vegetation in Missouri in the late summer issue of Ecology. Biological activity (represented by carbon dioxide evolution) ranged from nothing in the coldest part of the year to fairly rapid release during summer. The organic matter equivalent was approximately one kilo per square meter, more than twice the expected biomass turnover for the root system during the year. It was calculated that only 40 percent of the indicated soil respiration was due to root metabolism, and 60 percent to microbial processes in organic turnover.