

BETTER LAWN - - HARVESTS

Published periodically by
Better Lawn and Turf Institute

Office of the Director
Route 4, Kimberdale
Marysville, Ohio 43040

Volume 15, No. 4

January, 1969

FROM THE OFFICERS

President Carnes and the hardworking executive committee in Oregon had hoped to have an announcement on revision of the Institute by-laws and other ongoing plans for this issue of Harvests. These will now have to await April, but all officers and trustees ask that their very best wishes for 1969 be expressed here.

PRESS KIT BEING READIED

Officers have approved budget for the familiar spring press kit, which is being readied in the Marysville office for production and mailing by early February.

OREGON SEED GROWERS LEAGUE

The Oregon Seed Growers League met for its 28th annual convention December 2 - 4. Dr. Schery of the Marysville office was privileged to attend these meetings, appearing on the program with president Carnes. During the convention there was also opportunity to meet with the Oregon Fine Fescue Commission, the Highland Bentgrass Commission, and participate in conferences with the Institute officers, Oregon State University staff and various parties interested in seed production

Typical of convention, arranged by Rex Warren, the excellent program was intelligently diversified and brought to the growers latest research information as well as entertaining banquet and incidental programs. It was apparent this year that foremost in the mind of growers is the problem of field burning, which because of the inclement season was especially objectionable to the public in 1968. There seems little doubt that additional steps will be taken to abate the smoke problem at field burning time, and no doubt there will be increased costs involved as appropriate procedures are developed. It is not surprising, that with this problem foremost in the minds of growers, considerable emphasis was placed on the public relations aspect of seed growing, and upon marketing.

President Carnes called a Better Lawn and Turf Institute breakfast meeting for Tuesday morning, at which time he advanced some of the plans and newer ideas Institute officers have developed. These include possible enlargement of the Board of Trustees, increased classes of membership, and other efforts towards enlisting a broader base of support.

Other portions of the program included review of certification procedures, evaluation of equipment, plans for a 1971 Grasslands Field Day, research reports on field burning and troublesome diseases. The program for the final morning included an excellent panel discussion on seed marketing concepts, that included Institute member Swede Townsend as one of the panelists. Swede gave an excellent presentation reflecting conditions and attitudes in the principle market area for Oregon fine turf seeds.

PRESS KIT RESULTS

Since the Institute budget no longer stretches far enough to include the ever-more-costly hiring of a clipping service for monitoring the use of press kit stories nationally, we cannot provide "column inch" statistics as formerly.

However, it seems likely the press kits are just as much utilized as ever, to judge by sampling available to us. Mrs. Rush, Marysville Office manager and secretary, subscribes to a Columbus, Ohio paper and noted during autumn use of the clippings photocopied as the following page, all from the Institute kit. There were, no doubt, others which escaped notice.

When one newspaper devotes this much space over a period of weeks to material supplied in a single mailing we can feel confident that Institute material is well thought-of by the editors, and husbanded for use through a season without the cost of additional mailings. We should feel proud of results like these.

INCREASED VOCATIONAL INTEREST

We were pleased to send an appropriate listings of Institute literature to the New Jersey Department of Education, in response to the following letter received from its division of vocational education:

"The New Jersey Occupational Research and Development Resource Center is seeking bibliographies concerning vocational education from various agencies, associations, societies, foundations, and institutes. These lists of publications related to training persons for specific occupations or for occupational life in general will be incorporated in a reference work used by vocational educators throughout the country."

STORIES FOR MAGAZINES

Prepared for late spring release was "Seasonal Suggestions for the Lawn" to appear in Flower and Garden. Scheduled for Better Turf and Garden this spring is an item on "The Three Worst Weeds", which emphasizes the value of fine-textured grasses.

STORY IN GROUNDS MAINTENANCE

"Turfgrass Today" is the title of a question-answer page prepared for Grounds Maintenance by the Institute. This appeared in the December issue as part of a fold-out insert entitled Turfgrass Selection Guide, that included also information derived from publications of Institute advisor Vic Youngner of California. Copies of the page are being circulated to members.

Samples from the text: " -- the same famed genera and species proven useful since colonial times, especially the Kentucky bluegrasses, the fine or red fescues and the various bentgrasses." " -- adapted to modern fine-turf demands -- fine-texture for greater attractiveness, long lasting and durable --" "There is still very much a place for the proven, self-reliant turfgrasses such as natural Kentucky bluegrass, -- the care-free Oregon fine fescues and inexpensive bentgrasses such as Highland."

Mod Sod' Providing the Latest Look in Lawns

What's the latest look in sod lawns?
Do you suppose it's that unnatural stuff made of plastic that they play on in the Astroturf? No siree.

THE MOD in sod is an artificial "fine-textured" blend of living grasses, of select variety. Kentucky bluegrass is a chief species from which modern sod varieties have been developed. Bluegrass probably the world's lawn

Fall Recommended Time To Establish New Lawn

By IRWIN and MARTHA JONES
Dispatch Garden Writers

According to Dr. Robert W. Schery, director of the Lawn Institute, fall is the best time of year for establishing a lawn or garden.

Make such a tenacious carpet that Merion was the first of the elite bluegrasses used for sod. *Columbus Dispatch* SUN., AUG. 18, 1968

History
is of bluegrass America's soil her landscapes the finest ground discovered. Tril- are planted each two million seeds to the early 40 mil- velop from seeds in the new grass s the mulch. If clean not available, othe materials may be use

IT IS IMPORTANT
fertilizer b oughly i pho
two or three inches, mixing in a- b
fertilizer. The soil is dry l b
enough to work nicely in au- gr
most n
a micro nutri
the soil more ra

GARDENS

Lawn Bentgrass A Little Different

Care of lawn bentgrasses, of which Highland colonial is the most important variety, is somewhat different than for bluegrasses and fine fescues. The growth habit of bentgrass is low, the stems spreading above ground rather than below. Thus low mowing is not only fitting, but essential to prevent dangling stalks with tufts of leaves.

one-half and one inch. Low mowing calls for frequent mowing, in order not to remove too much green foliage at a time; bentgrass is best mowed at weekly, and most mow the greens every other day.

A closely clipped turf must develop continuously. Hence Highland bentgrass is mowed at least once a week, though at half

HIGHLAND bentgrass is

Fine Texture Key to Class In Mixtures

Not long ago any old grass could be mixed into a blend to become "lawn seed." Not so anymore. To be first class grass must be "fine-textured" today. That's the way the newer labeling groups the species, as "fine-textured" or "coarse-kind." Even the rank amateur can tell whether he is getting classy grass or not, from a glance at the label, according to Dr. Robert W. Schery, director of the Lawn Institute. The chief fine-textured cool-weather grasses are the Kentucky bluegrass, the fine fescue or bentgrass, and the bentgrasses. All come in innumerable varieties. Now one, now another, will perform a bit better, depending upon climate, soil and care. It's reassuring that almost any of the fine-textured types will look well in the

The kind of weather generally experienced in autumn is just great for growing grass, and for its in top lawnseed

Pennicros bentgrasses. Bright crisp nights are soil being dryish mer cultivates into a good seedbed your energy revive languid summer, fl weeds peters out with ing cold.

Do Not Fiddle While Lawn Burns

Do you fiddle while the lawn burns? No need to with the modern lawn fertilizers, especially when used in autumn cool-weather grasses such as Kentucky bluegrass, fine fescue or bentgrass. These lawn

YOU GET a really carpet in autumn, and which will probably not h to be mowed until n spring. So, there's a lot bonus in your bluegrass autumn.

SEEDBED

should be prepared before the n. The soil should to a depth of seven and a high grade law stirred in. surface should be level. mixtures of Kentucky grasses and weeds. s of Madonno soil. should be level. n. narcissi and croc g

Soil Building

For a new lawn, the Lawn Institute recommends cultivating the soil to a depth of two or three inches, mixing in fertilizer. The soil is dry l b enough to work nicely in au- gr most n a micro nutri the soil more ra

Lawn Fescues Grace Sophisticated Homes

By ROBERT W. SCHERY

In this era of sophisticated home surroundings, nothing graces the lawn more than elegant lawn fescues. Among the select varieties are Chewings, Illahee, and Pennlawn cross-bred for disease.

cides often aid against summer "disease".

With all of this going for fine fescue, there is little reason not to include it in the modern lawn. Oregon varieties are excellent companions for bluegrass, and worthy of consideration for any seed blend, shade or sun.

SHADE BLENDS generally have a higher proportion of fine fescue than do seed mixtures for sun.

Fine Fescue, Bluegrass Go Together

One of the strong points favoring Oregon fine fescues in lawns seed blends is their ability to live companionably in the lawn.

are new varieties, as Highlight, equi- igh summer, and l suited for blend- uegrass (as, indeed, fescues are). From hrough spring fine iage is a very dark he sod is firmly re- der foot, yet of deli- ture. And fescues tage well, —

Bluegrass Helps To Aid Soil

ou realize that when nted your bluegrass u were helping im- e soil?

SES ARE among the soil builders. Grass ave abundant fibrous hich penetrate the top new inches of the ground. Each year a goodly portion end their life cycle and are replaced by new roots the next season.

favorites are especially resistant to fertilizer burn in cool weather.

MOST OF the time you can apply even soluble fertilizer double strength with impunity.

As a matter of fact, soluble the soil and fine fescue where it was merely left at the surface.

Both of these excellent lawn grasses should be fertilized in autumn, of course.

fertilizers are especially suitable for cooler weather, since they are immediately available and don't require breakdown in the soil (decomposition is slow when temperatures are low).

through autumn but not summer mowing, and discoloration all help prevent insect damage well, —

IN UNITY THERE IS STRENGTH

The "share" of attention given a particular interest is sometimes a consideration with participating groups. It is only human nature to react in favor of ones own interests, perhaps feel they are "diluted" when other interests are accorded equal attention. But this is not so in a public relations efforts such as the Institute attempts. In fact emphasizing a single grass or position at the expense of others would be a disservice, greatly weakening its publicization. Here's why.

Were the Institute to stress a single grass, for example, its message would be ignored as prejudiced and unrealistic; press releases would not be picked up by newspapers, and stories not accepted by magazines. The Institute would be marked as favoring a single selfish objective, not the greater objective of "quality lawns".

While a particular species or variety is foremost in importance to its grower, recipients of Institute releases couldn't care less. The user's interest is solely in the end result, good turf. Performance counts, but a particular grass only insofar as it augments performance. It is common knowledge that lawn performance comes from many kinds of grasses and varieties matching particular conditions, and they are usually used in blends. Just as a particular grass merits attention only as one component of a lawn program, so also maintenance matters (such as fertilization) must be considered to assure performance and the interest of the consumer.

Combining the strengths of several quality positions provides a much more interesting and plausible image. Indeed, the only claim to consumer attention, "quality lawns", would be useless if fragmented into fits and snatches of special interest. But when these interests combine, and blend into an honest presentation of worth to the user, the message is heeded. While advertising exaggeration is discounted, essentially the same message well blended with others makes for credibility.

OPEN OPPORTUNITY

With the popular gardening magazines turning more to home furnishings and gardening specialties, it is good to have house organs and other sponsored publications dedicated to plain dirt gardening. Thus we were pleased to have a request from the new editor of the Edison Employees' Garden Club News for some help in getting sound information to the approximately 3,000 club members throughout the northern half of Illinois. Reprints were immediately sent, and the spring press kit soon will be; also an offer was made for a custom story if and as appropriate.

Mr. Jecmen, editor, writes that the Commonwealth Edison Company has been very civic minded in encouraging both residential and commercial beautification. He mentions that one reason for the company's decision to "go nuclear" is to lessen the smoke nuisance from power generating stations. In addition to sponsoring the gardening club, the company underwrites its bi-monthly publication and an annual display (Harvests Show) held on the company grounds. Mr. Jecmen adds, " -- to enhance the scope and the quality of the news to my readers, I am seedking out sources for material -- from reputable groups such as yours --"

OHIO ROADSIDE SHORT COURSE

The 27th Short Course on Roadside Development was held October 7 - 11 in Columbus, Ohio, attended this year by representatives from over 40 states and foreign countries. As was mentioned in a previous Harvests, this is the annual meeting for highway landscape architects, and involves 3 days of formal meeting followed by 2 days of tour with exhibits and demonstrations. The American Seed Trade Association contributes to sponsorship of some of the expenses on the tour. Dr. Schery discussed "Evaluation of Turfgrasses for Roadsides" on the Wednesday afternoon program, and represented the Institute at the Tuesday and Wednesday banquets. The Institute furnished 3 reprints for inclusion in the tote bags given attendees (Turfgrass, America's Growing-est Crop; Lest Hunger Haunt Your Lawn; In Praise of Unpampered Turf).

Much of the program at this conference has to do with design of the highway, perhaps of limited interest to members. We won't cite the papers in detail, for eventually they will appear in the Proceedings of the conference. It may interest members, however, to note that highway landscaping is becoming more "professionalized", with its own technical experts involved in research with and evaluation of procedures of peculiar interest to roadside plantings. Not many years ago almost all such information was "borrowed" from agricultural, horticultural, and engineering sources. Just as we have seen the golf course superintendent come "of age", so seems to be the case with the roadside landscape architect. He is now gaining acceptance in the planning of the highway and its maintenance, whereas formerly his job was mainly to "pretty up" whatever mess construction left. We can expect, increasingly, seed mixtures specified by a local landscape architect, to match local conditions, rather than the customary state-wide specifications from a manual.

The earlier sections at the 27th Short Course were concerned with "Environmental Quality": Panel discussions and papers dealt chiefly with beautification, with specific examples taken from highways now being opened to the public. This should set the stage for greater use of quality turfgrasses, for as Dr. Schery said in his presentation the trend and the public demand augers well for the roadside becoming "more like a lawn and less like a hayfield".

Representatives of the Bureau of Public Roads (Washington, D.C.) and the large eastern states gave most of the papers on Wednesday morning. In this rapidly urbanizing part of the country concepts are changing rapidly. Federal money is now available for "total environment" improvement along or near a highway; heretofore this would not have been considered an appropriate expenditure of highway money. This is increasing use of space over the highway for high-rise dwellings to take care of the people displaced by construction of the highway; and in association with this parks, playgrounds, and landscaped areas appropriate for "total living". Obviously, this is a situation calling for fine-textured grasses rather than the coarse field grasses often sowed to highway berms in rural areas. Another emerging concept is large "transportation corridors" perhaps a quarter of a mile wide, extending between urbanized centers. This again involves planning of the total environment, with regulation of practices that mar the beauty. It would seem that turf areas within such intensively managed corridors should certainly be of lawn quality.

"Ecology", long a stepchild among biological disciplines, is becoming all the rage these days. Paper after paper related to matching environment to human needs, and better understanding the ecology of the roadside.

OHIO ROADSIDE SHORT COURSE (Continued)

With such ferment taking place in the highway landscaping field, the lawnseed industry should find a receptive audience for information relating to grass varieties well adapted to particular situations or kinds of use. There seems to be an increasing tendency to let native vegetation eventually colonize the berm (self-seeded trees and shrubs, for example), making the roadside environment a changing one rather than static; but all authorities seem to agree upon the necessity of first seeding grass to the newly structured road, to control erosion, enhance beautification, and develop suitable ecological conditions for eventual appearance of ornamentals. Several papers dealt with what types of plants might be suitable, many of them not yet domesticated from the wild.

In addition to Dr. Schery's presentation on turfgrasses for the roadside, professor Zak of the University of Massachusetts spoke upon establishment and management of roadside vegetation, Dr. Orr of Alabama about ornamental plantings, Dr. Foote of Minnesota upon establishing turf on highway slopes, Mr. Fleig of New Mexico upon the problem of maintaining vegetation in arid environments, and so on. A final paper even looked into the future, anticipating ways in which there may be chemical control of plant form and growth along right-of-ways.

FLORIDA RESEARCH SUMMARY

A progress report was recently issued under authorship of Dr. Horn and Meyers of the University of Florida, on certain continuing experiments in turfgrass research that have been underway since 1962. Winterseeding is discussed only by implication, it being pointed out that wintergrass performed more adequately under high as compared to low fertility. A brief summary of certain conclusions may be of interest to members, especially those with representation in the South.

There is not a great deal of difference in response to differing soil amendments, all of which proved best when used in only modest quantity; anything increasing water availability also improved turf quality.

With bermudagrasses, high (16 lbs. N/M) rates have proven best, with little response from phosphorus and some response from moderate potassium; inorganic sources have generally proved better than organic. Centipede has looked better under (modest) fertilization, but tended to winterkill more and become chlorotic. St. Augustine responded as well to moderate as to high fertility, and in one year suffered far more chinchbug attack on those plots receiving inorganic as compared to organic fertilizer. Zoysia responded well to medium and high fertility, almost invariably inorganic nitrogen proving superior to organic. Young bahia winterkilled when subjected to high fertility.

Sulfate has generally helped Tifway bermuda whether applied as potassium sulfate or as ammonium sulfate. Potassium carbonate has given favorable response.

Response to differing nitrogen sources has been variable with Tifgreen bermuda, with best appearance coming from relatively high and frequent fertilization; response was mostly good no matter the nitrogen source, provided sufficient N became consistently available.

IN GOLF PUBLICATION

We are very pleased to have the Institute story "Bluegrass/Bentgrass Checks Poa Annua" appear in the November-December issue of The Golf Superintendent. The story has been reprinted and distributed to members. It emphasizes that changing conditions and increasing demand for luxuriance on the golf course make for a "climate" conducive to Poa annua that is counterbalanced by the seed industry's development of new selections that can more effectively contest with Poa annua for tee and fairway. Especially useful should be the more open-growing colonial bentgrasses such as Highland and Holfior, and the newer bluegrasses which can be mowed low, such as Sodco, Pennstar, Fyking and others still to be released. Conditions which encourage Poa annua are reviewed, and will persist. Chemical control of the Poa annua is possible, but as the story says, "What can be done to hold the gains? --- The seed industry has now caught up with the problem. There are many excellent new varieties on the market or approaching marketability so that for the first time the turfman has a relatively well stocked larder from which to choose combinations best suited to his conditions." It is also mentioned that, "Leading researchers are coming back to recommending blends or mixtures of grass selections, as some insurance against calamity to a population that is genetically all alike." Natural Kentucky bluegrass, Arboretum, Kenblue and Park are named as genetically diversified varieties, but with the highly bred selections mechanical mixing seems to be needed. It is suggested that a percentage of Oregon fine fescues might also be appropriate, as something of a "nursegrass" to get the stand started. It is concluded, "There are a number of elite, low-growing Kentucky bluegrass varieties now available, to say nothing of fine fescues and bentgrasses. Certainly it seems reasonable that combinations can be found well adapted to the habitat that Poa annua has claimed,-"

IN SEED WORLD

The September 27th Seed World carried the Institute story, "Fall is Lawn Care Time", as its Bulletin Board Suggestion. The natural advantages of autumn seeding are detailed, and the strong points of quality grasses. "Kentucky bluegrass blends usually contain some fine fescues such as Chewings or Pennlawn and serve the all-purpose needs of most lawns."

MAGAZINE USES STORY

We are always pleased to have Catholic Building and Maintenance Magazine develop a story from Institute materials, so trustworthy is the editing. Thus it was pleasant to have "Lawn Care in Autumn and Winter" appear in the September-October, 1968 issue. A small quantity of reprints have been sent to members, as an indication of the effective way in which a magazine itself may assemble a story from several sub-units supplied it, without editorial change of wording.

The story opens with the familiar advice for seeding lawns in autumn. "The Kentucky bluegrasses, Oregon fine fescues and lawn bentgrasses such as Highland are none of them in need of cold weather coddling. -- Autumn is the best time of year for starting those new bluegrass, fine fescue and bentgrass lawns -- these famed turfgrasses should be sowed to a prepared seedbed -- for a new lawn the Lawn Institute recommends cultivating the soil to a depth of 2 or 3 inches, mixing in fertilizer. -- In freezing chamber tests bentgrasses have proved especially hardy, Kentucky bluegrasses and fine fescues, too. They wouldn't be the lawn favorites that they are if prone to winter damage."

LAWN BOOKLET

Volume 14, no. 2 (1968) Plant Food Review was a booklet entitled "Lawn and Turf Fertilization". The Institute feels a personal interest in this issuance, since two of the articles were sent to Dr. Schery for review before publication, and because the inside cover was devoted to seed at the suggestion of the Institute.

Most of the authors are Institute advisors. Dr. Daniel, Purdue, covers "Fertilizing Lawns and Turf in the Midwest"; Dr. Skogley, Rhode Island does the same for the Northeast, Dr. Coleman Ward of Mississippi for the South, and Dr. Youngner of California for the West; Dr. Ferguson of Texas covers golf greens and fairways, Dr. Rieke of Michigan, sod. All of these stories are well edited, and amply illustrated with charts and graphs.

The inside back cover carries "Good Seed, a Must", mostly derived from an article in a 1965 issue of "Agricultural Marketing" in the preparation of which the Lawn Institute had a hand. This item makes the now familiar distinction of "fine-textured" and "coarse-kind" species. The then-prominent varieties are publicized, viz: "One of the basic fine-textured lawngrasses is the common (or natural) Kentucky bluegrass and its varieties, Merion, Park, Newport and Arboretum. It forms a beautiful closely-knit lawn -- creeping red and Chewings fescue provide good companions for the bluegrasses because they germinate and become established faster -- varieties of the creeping red fescue which you might want to look for are Pennlawn, Illahee, Rainier, and Highlight." A very brief final section summarizes purity and germination factors.

NOVEMBER 8 SEED WORLD

The Institute short story, Guard Against Lawn Weeds, was carried as the Bulletin Board Suggestion in the November 8 Seed World. "What with weed seed lying hidden -- lawns even of the best of bluegrasses and the finest of fine fescues exhibit a weed here and there. Because those bluegrasses and fescues grow so thick in autumn the presence of young weeds may not be suspected --" Weed-and-feed products are suggested for autumn use. "In autumn there is almost no danger of burning a bluegrass lawn". Trials at the Lawn Institute showed double strength applications quite satisfactory. "Autumn-applied crabgrass preventers are often used to help check henbit and annual bluegrass in bermudagrass, or annual bluegrass in irrigated Highland bentgrass on golf course fairways and luxury lawns".

WINTERSEEDING STORY APPEARS

The October Seedsmen's Digest carried the Institute story, "Winterseeding: -- Are Seedsmen Missing a Bet?". This was a timely reminder for southern seedsmen to promote the use of fine-textured turfgrasses where southern grasses turn dormant. Sample copies have been reprinted and circulated to the members.

The story recites the many modern demands for a green outdoors, and chides seedsmen about letting the paint spray people color so many lawns across the upper South. The times would seem ripe for winterseeding promotion and sales. The golf superintendent who wants putting quality to match that of the northern bentgrass greens is hungry for appropriate combinations of Kentucky bluegrass, *Poa trivialis*, fine fescue and various bentgrasses. With this kind of a bridgehead to work from, one wonders why sale of luxury turfs is not being pushed harder?"

REPRINT PROVES POPULAR

We are very pleased that the reprinting of the bluegrass history entitled "Migration of a Plant", from the Missouri Botanical Garden Bulletin, as a small folder, has proved so useful to members and Institute supporters. Requests for additional supplies have come in from eight sources, and the item is being distributed to members of the Pacific Northwest Bluegrass Association in an Oregon mailing.

ABOUT SOD PRODUCTION

The October issue of Crops and Soils carries a story about sod production, which seems to center these days in Michigan. On muck soils in Michigan an autumn bluegrass planting usually yields a sod crop by the next summer. The choice of grass seed depends upon the market demand, viz. " -- a mixture of Merion and either Delta or Park bluegrass, on a one to one basis. Michigan State recommends mixtures similar to these, but points out that other bluegrasses are similar to Merion in sunlight and soil requirement and do not require the higher levels of management. In the cooler climates, in shaded areas, or on soils with a high sand content, red fescue or a mixture of red fescue and Kentucky bluegrass is recommended."

STORY IN WEEDS, TREES AND TURF

The November issue of Weeds, Trees and Turf carried the Institute story on "Low-mowed lawngrasses" (title on cover). This story stressed the availability of varieties such as Tifdwarf, Fylking, and other newer varieties for use in close-mowed turf. The lead photograph shows Highland bentgrass and Fylking side by side, noting "At this close clipping the 0217 brand Fylking looks almost as good as the Highland." The story carries a lead subtitle supplied by the editors, "Promising for close-mowed luxury lawns", and opens "In the United States are no more esteemed lawngrasses than the Kentucky bluegrasses and bermudagrasses -- !" By way of example, a history and description of both Tifdwarf bermudagrass and Fylking Kentucky bluegrass are given in some detail. Because of the specialized nature of this story it was not reprinted for general distribution, but it does illustrate again the great appeal that "new" and "different" fine turf varieties have.

LIBRARY REQUESTS LITERATURE

There seems to be increasing interest in printed reference material of a vocational nature. The USDA, as a part of the "Lawn and Garden Week" promotion for next spring, is assembling a file of literature, for offer through the extension service. The Institute has contributed a large assortment of reprints. But also there is occasional request for Institute items from small, local libraries, such as Winchester Community High School in Indiana which asks for spring and autumn press kits.

FOR FLOWER AND GARDEN

Dr. Schery has prepared a brief story due to appear in the March issue of Flower and Garden, stressing that bolster seeding and feeding of the lawn should be done early in spring in order to forestall weeds and other problems in summer. A follow-up story of greater length is scheduled for June, dealing with summer lawn difficulties.

INSTITUTE REVIEWED

The Sunday, October 6 Columbus Dispatch carried a review of the Institute, resulting from the visit of reporter Dan Clancy to the Marysville office. Parts of three columns and a photograph were devoted to the story. Sample quotes from the interview: "People now want more velvety, finer textured lawns", "The industry is presently in the process of developing disease-resistant, fine-textured -- varieties", "Homeowners don't understand maintenance, often going wrong in the use of too much coarse grass instead of the more finely textured varieties". The interview went on to discuss various activities and publications of the Institute, concluding "Lawn Institute members include harvesters, processors and wholesalers of what Dr. Schery describes as fine textured or quality lawn seed --".

PLUG FOR AUTUMN SEEDING

Volume 3, no. 20 of the "Nutro Newsletter" utilized a letter sent from the Lawn Institute in reply to a request from the Columbus office for information about lawn weed problems this autumn. The unusually rainy summer caused an abundance of weedy grasses, both annual (such as crabgrass) and perennial (such as nimblewill). Not much can be done about the situation this late in the year, but it was advised, "This is the time to emphasize basic improvement in the lawn, which comes from feeding the good grass and overseeding with quality fine-textured blends -- small patches of perennial weed grasses/ can be removed by hand -- again a good basic control is fertilization accompanied by scratching in some quality lawnseed."

COVER PICTURE

The October 11 issue of Seed World carried as its cover picture a photograph from the Lawn Institute. Also in the same issue was a "Bulletin Board Suggestion" from the press kit, entitled "Versatile Lawngrasses". The story begins, "Puny under foot, turfgrasses nonetheless outperform man's major crops in many ways. Cotton -- won't sprout and grow until soil is warm. Not so fine fescues, Kentucky bluegrass or Highland bentgrass. In spite of a delicate elegance, they are not weaklings --".

WEED RESIDUES REPRESS CROWN VETCH

An item in the January, 1969 Crops and Soils reviews research done in Alabama and Mississippi showing that various weed residues inhibit establishment of crown vetch in roadside plantings. This is in keeping with findings in recent years that demonstrates the biological antagonism of one species with another. In these tests, water extracts from weeds such as crabgrass sharply lowered germination and vigor of crown vetch; pepperweed reduced germination only to 2% as compared to a normal 95%. Most grasses were not so severely inhibitory, and crimson clover was not so greatly inhibited as was crown vetch, which seems to be unusually sensitive. The toxic residues remained in the soil for more than 10 weeks.

GARDENING COLUMN

In late October, George Abraham who authors the syndicated "Green Thumb" column in many Eastern newspapers, again contacted the Institute for seasonal recommendations about lawns which had experienced crabgrass and other summer problems this year.

PROGRESS ON LAWN AND GARDEN WEEK

A joint trade-USDA committee organizing Lawn and Garden Week for late next March, met for its second working session in Washington, D.C., October 29. Dr. Schery represented the Lawn Institute, and the seed trade is also represented by John Sutherland of the ASTA, as well as having ties through other associations.

Chief accomplishments of the meeting were to further define near-term action. The USDA is sending general press releases and announcements through its facilities listing the various associations (such as the Institute) as a source for information; a letter goes to major gardening publications. The USDA will continue to serve as clearing house for the program, and will accumulate examples of literature to be made available through other sponsors, or upon inquiry by anyone. The Institute is well positioned in this activity by virtue of the large supply of reprints of gardening stories on file.

The American Association of Nurserymen was assigned subcommittee activity to develop an approach to youth. The idea is to make each individual aware of his personal and community surroundings, and feel some responsibility for them. In some cases this will be nothing more than cleaning up trash; in others more sophisticated landscaping and planning. ASTA is pushing for continuance of the "Beautify Your Corner of America" supplement, used for the last two years. Other associations promise support. On the past two occasions the Institute has furnished the lawn items which went into this jointly-sponsored promotion.

The idea of a Lawn and Garden Week has been well received nationally, judged by replies received by Harold Lewis, information director for the USDA. Organizations such as the Garden Writers Association of America and All-American Selections have voted resolutions of commendation. It must be kept in mind, however, that this national effort is mainly to gain publicity for lawn and garden programs, and individual firms will have to tie in with appropriate product offerings, "sales", etc., as suit their individual trade areas. The "week" is designed to awaken interest, and offer information; it is contemplated this will not be a one-time effort, but that it will become an annual event with increasing recognition and sophistication as years pass.

SLIDES SHOWN SHORT COURSE

Dr. Schery showed several slides taken near Lima, Ohio to the Highway Landscape Architects attending the Ohio Short Course October 9. Involved was a 12 year old seeding of 40% bluegrass, 35% Chewings fescue, 15% redtop and 10% ryegrass. After 12 years, receiving only one fertilization in that interval, this was as tight as a sod could be and very attractive. The ryegrass had entirely disappeared, and the bluegrass generally dominated the favorable sites. On slopes where the soil was poor the Chewings fescue predominated on the upper slopes, and redtop below where there was more seepage. It was pointed out that a seeding of this type, made "years before its time", demonstrates graphically that quality species not only make attractive turf, but are durable and economical. Mr. Stevely, under whose auspices this seeding was made, says that this turf requires 25% less mowing than ones of the conventional roadside seeding mixtures containing tall fescue.

1968 AGRONOMY MEETINGS

The Agronomy Meetings, held this year in New Orleans, are the leading forum for presentation of turfgrass research. Dr. Schery was scheduled to represent the Institute at the meetings, including the ASTA sponsored supper for Agronomy Society officers; unfortunately a cancelled flight one day and plane trouble in St. Louis the next prevented attendance. However, abstracts of the presentations have been received, and a quick review shows what is of current research interest.

Considerable attention is given to specialty turf "soil" nowadays (largely a synthetic medium), for costly swards such as golf greens and athletic fields. Studies of water penetration, oxygen and carbon dioxide levels, water table, etc., under varying conditions, are being investigated, especially at Purdue University, Texas A & M, VPI, Pennsylvania and California. Horn reported that in Florida the usual soil amendments such as vermiculite, fired clay, peat, colloidal phosphate, etc. are not as beneficial as might have been hoped. Schmidt reports that in Virginia more than 50% amendment added to native soil tends to cause droughty conditions and poor turf quality. In Pennsylvania Waddington reports significant changes in infiltration, porosity, etc. from soil modification (at least 40 to 50% of volume required), but little influence from aerification. It appears that soil quality is influenced only by a high proportion of amendment, and the improvement is helpful only under intensive maintenance that includes tailor-made irrigation.

There is always interest in the fertility requirements of grass. Purdue continues to study rate of nitrogen release from various forms of fertilizer; Ohio reports difficulty in getting meaningful soil and plant analysis tests; biological breakdown of the urea-aldehydes is studied at Rutgers; newer forms of the urea-aldehydes were discussed by Hercules representatives; Florida finds most nitrogen sources to give about the same response if used according to their inherent characteristics, and that best response of Tifgreen bermudagrass lie between 26 lbs. N/M and 52 lbs. (too high); Rhode Island finds all northern grasses responding similarly to nitrogen treatments, with better quality at increased fertility levels, late autumn applications being slightly better and promoting earlier spring green-up; Texas A & M reports no disadvantage from high autumn fertility with St. Augustine and Tifgreen bermudagrass provided winter dormancy is not broken by a warm growing period; if dormancy is destroyed by culturing in the greenhouse then high phosphorus-low potassium increases winterkill, high potassium - low phosphorus reduces winterkill on the bermuda.

Turfgrass physiology continues to receive attention. Massachusetts researchers reaffirm the vital role carbohydrate reserves play in carrying cool-season grasses over winter, and for getting them started the next growing season. Watson, of Toro, found that polyethylene covers to protect delicate turf (such as putting greens) have the disadvantage of building excessive heat in late winter, and is suggesting instead a fiberglass blanket, excelsior mat, woodpulp cover or saran shade fabrics, all of them now commercially available and rather easily fixed in place. Youngner, California, reported that salinity reduces topgrowth, but often stimulates rootgrowth, and has little effect on carbohydrate levels, with Santa Ana bermudagrass. Michigan State work shows creeping bentgrass to be the most tolerant of species tested when submerged under water, with Merion and annual bluegrass intermediate, and Pennlawn fine fescue least tolerant; in all cases damage was more severe as water temperatures increased. Cornell research confirmed that constant high temperatures are deleterious to *Poa annua*.

1968 AGRONOMY MEETINGS (Continued)

Sod growing seems less a subject of interest than in recent years, although any finding relevant to turf in general also applies to sod. New Jersey researchers, comparing sod grown on mineral and muck soils, find that thin sod roots more quickly than thick sod, and in one test mineral sod exhibited a rooting advantage over muck sod (although generally the source of sod was more important than the soil upon which grown). In Maryland light nitrogen fertilization was better than heavy nitrogen fertilization for encouraging sod development, and usually 3 applications of nitrogen per year were better than 5; thickness of the sod was of little consequence. At Michigan State a device was developed to measure the strength of sod, and to aid in judging its readiness for market.

There seem to be no strikingly new developments in weed control. In Virginia low rates of Dacthal reduced Poa annual appreciably; so did overseeding with Pennlawn fine fescue and annual ryegrass. At Ohio State University pre-emergence herbicides often reduced bud counts slightly, caused the treated turf to be a darker green color, but had no effect upon sprigged Tifgreen bermudagrass, including increased winterkill.

Goss, Washington, emphasizes the increasing importance of turfgrass, and activities associated with its care. Rutgers researchers reported, as has Funk to the Atlantic Seedsmen's meetings, that bluegrass varieties such as Pennstar and Fylking quickly crowd out Newport when planted in mixtures; Merion, however, generally dominates initially, but later gives way to Fylking and Pennstar as it suffers stripe-smut damage. Also reported from Rutgers are various treatments designed to increase sexuality in the crossing of apomictic bluegrasses. Beltsville workers rate tall fescue as suitable for transition zone turf, but note that when bluegrass is seeded with it that the tall fescue declines over the years in favor of the bluegrass. Bluegrass cultivars compared in California (Riverside) show variable response, but only slight long-term differences.

Several of the Land Use and Management Division papers related to turfgrass. Nebraska researchers found excelsior mat the best mulch for establishing grass stands, although other types were also effective in various degree. The U. S. Army Corps of Engineers reported on use of solid wastes for successful mulching (as well as disposing the waste). Turfgrass evapotranspiration at Reno, Nevada indicated twice weekly irrigation best for bluegrass on a sandy soil, but weekly irrigation sufficient on a loam soil. Dune stabilization in North Carolina was accomplished best with vegetation, beachgrass being the most useful species, best planted during the dormant winter season; fertilization is essential to its rapid establishment.

MORE ABOUT THE NATIONAL LAWN AND GARDEN WEEK

The "Growing With America" symbol of the National Lawn and Garden Week is gaining impetus. Ted Crane, chief of the Special Reports Division, USDA, writes that mats are going out with the All American Rose Selections to over 10,000 newspapers. Woman's Day magazine, The Gardener (Men's Garden Clubs of America) and several other magazines are featuring the item. A question and answer sheet about the week has been drafted, as has a statement of goals. Feature articles will be offered to 400 newspaper and magazine editors in January, including one item on lawns. The National Lawn and Garden Week is March 20 - 26, 1969, and it is none too early to plan your promotional tie-in. If the Institute can be of service in furnishing reprints, let us have your requests.

ATLANTIC SEEDSMEN/ASTA TURFGRASS DIVISION

The meeting of the Atlantic Seedsmen Association and the Lawn and Turfgrass division of the American Seed Trade Association, met as customary in New York City the week of November 4. Most of the packager members of the Institute were in attendance, and Dr. Schery represented the Institute staff. The main value of this conference is coordination of trade efforts through committee and other activities, so that these meetings become the annual focus of attention for consumer trade policy. The initial roundtable discussion was designed this year, with trial lawyers advising, to clarify what constitutes mislabeling and misleading advertising. Authority of control of officials/^{relates} quite specifically to the authorizing legislation, and can be neither more nor less inclusive. Officials have considerable leeway within such legislative authority, but none beyond. Each case must be considered in light of the authorizing legislation of the state, and no estimate was possible for cost of fighting a case because of the varying nature of each case. A list of "troublesome" lawn weeds is being developed, in the hope of making control more uniform and centered about the relatively few serious weeds. This is an activity in which the Institute may be able to aid committee chairman Mock, as an "independent" organization equipped to poll interested consumer segments.

The second day of the meeting was devoted to official business and formal programs. Dr. W. A. Maclinn of New Jersey spoke upon "Research at the South Jersey Center", and Dr. W. D. Pardee of Cornell upon "New Ideas of Seeding Forages". "Honest vs. Misleading Statements in Merchandising" was covered by Albert Seidman, Chief Attorney of the Federal Trade Commission of New York, who pointed out that in trade, as with morality in general, freedom to act independently also requires the prevention of interference with the freedom of others. A compromise is needed, with some sort of referee to see that established codes are adhered to. This is becoming increasingly difficult, because personal restraints are fading as mass marketing and impersonal dealings grow with the increasing population. We are in an era of automated, "big business", and there is bound to be increasing pressure for consumer protection, possibly even a cabinet post such as a "Department of Consumer Affairs". Industry will have to observe social values, or have social restraints forced upon it, according to Seidman.

The final day's program was under auspices of the Lawnseed Division of the American Seed Trade Association. An appropriation of \$500 was made for the "Your Corner of America" supplement, this year to feature "Lawn and Garden Week". The day before Atlantic Seedsmen's Association had also made a \$100 donation to this supplement along with other grants. Institute ties with this Lawn and Garden Week program are discussed elsewhere in this issue; Dr. Schery serves on the steering committee.

Several resolutions were passed, including recommendation against state certification of seed mixtures; a request to ASTA to recommend to states that perennial ryegrasses to be allowed listing in the fine-textured category; and that the federal seed act be changed to admit perennial ryegrass varieties in the fine-textured category. These actions will be more fully reported in the trade press, and the official minutes of the meetings.

As wrap up to the program Dr. Reed Funk, of Rutgers University, gave a thorough discussion on "Perspectives in Turfgrass Breeding". Dr. Funk pointed out the very extensive activity at Rutgers, that includes a great deal of routine screening as well as technical hybridization. He mentioned that leafspot, sporulating at this time, was a prime consideration in varietal selection. Several of his charts showed that the European varieties of bluegrass in general don't

ATLANTIC SEEDSMEN/ASTA TURFGRASS DIVISION (Continued)

recover well from leafspot disease under a high fertility program. Other graphs exhibited the competitive interreactions among varieties; a "weak" grass such as Newport seldom persisted very long in combination with Merion Fylking, Pennstar or other "strong" varieties. With Merion-Fylking combinations Merion seemed to overwhelm the Fylking from the second to fourth year, after which the Fylking became dominant (probably because Merion suffered setback from stripe smut or other diseases).

QUALITY GRASSES IN NEW YORK

The cooperative Extension Service of New York state, of which the Nassau County office has used Institute materials in some of their releases, has given quality turfgrass species excellent publicity in early October. Included with the mailing was a gigantic postcard showing various kinds of grass in color (as individual plants). *Poa annua* is highly enlarged for identification, and a notation made "This grass is considered a noxious weed". The postcard, entitled "Know Your Grasses" is offered to anyone wishing supplies at 10 cents each, or suitable quantity prices upon inquiry.

The accompanying letter states (in part), "One of the most serious problems this year has been the dying of annual bluegrass. Most people cannot distinguish between annual bluegrass and other desirable lawngrasses". Annual bluegrass is then described and its habits detailed. It is mentioned that the soil can be freed of annual bluegrass by sterilization, but that this is ordinarily too complicated and expensive a job for the average homeowner. The descriptions on the postcard commend Merion and other elite strains of bluegrass, common Kentucky bluegrass ("responds well to good care and fertilizer and forms a dense sod -- recovers quickly"), and red fescues as companions for bluegrass ("adapted to dry, infertile soil, in shade or sun -- preferred varieties are Pennlawn, Illahee, Jamestown, Ruby, Creeping Red and Chewings"). Bentgrasses are listed as requiring intensive care, and perennial ryegrasses as useful in combination with blends of Kentucky bluegrass.

IN GGG

In the autumn issue of Greenhouse Garden Grass, from the Plant Research Institute of Canada Department of Agriculture, W. E. Cordukes evaluates "Tolerance of Various Turfgrasses to Foliar Applications of Road Salt". There has been minor attention to this matter in the United States, roadside studies having been conducted in Iowa and Nebraska, at least. The Cordukes' research involved more precise spraying of the foliage in the greenhouse with known concentrations of salt. A conclusion of interest is, "In general, turfgrasses will withstand and survive considerable salt spray." Two per cent salt solutions applied as much as three times weekly caused only slight damage.

Cordukes notes that Kentucky bluegrass is more tolerant of salt sprays than is annual bluegrass, most bentgrasses and creeping red fescues. Tall fescue and *Norlea* perennial ryegrass were quite tolerant. Among the bluegrass cultivars, Fylking proved slightly more tolerant than common, Merion or Windsor varieties. All grasses seem to recover well no matter the salt treatments when flushed and the soil leached, the plant returned to normal growing conditions.

IN THE SOUTH

Budget and time being what they are, the Institute has had to observe southern turfgrass happenings second hand in recent years. Thus we are always pleased to receive Ray Jensen's "Southern Turf Newsletter". Volume 18 was received this quarter.

The lead story is about spring deadspot in bermudagrass. The cause of this is still not known, and control measures erratic. The "disease" seems to be serious only on turf several years old, and more serious on that which is highly maintained. Apparently the trouble begins in autumn, although the results are not seen until spring. Recolonization of the blemishes by new bermuda is poor. We wonder if winterseeding might not have a place here, and help obscure the spring blemishes for at least the early part of the season?

In other items Jensen recommends Tifton 419 as the best fairway grass; apparently this is being introduced into many fairways throughout the south, including Sea Island, Georgia where the common bermuda is set back with sodium arsenite before interplanting the Tifton 419.

A new program is underway at Lake City, Florida, Junior College, in which a two year course on turfgrass management is being offered to train men technically for maintenance in the landscape and golf course fields. Jensen also reports that a new Shell Chemical product called Akton gives up to six weeks control of sod webworm as compared to only two or three weeks for the more familiar insecticides.

AN EXPANDING NEW SEED USE

A story "Good Turf: Best for Good Skiing", by Institute advisor, Winston Way, Vermont, is a reminder that not all fine turf is around home. With skiing growing so much in popularity no little ground is being devoted to ski slopes. This ground must be protected from erosion, best accomplished with a good sod such as the fine turfgrasses make, while being free of brush and (according to Way) even taller grasses. Way advocates, "Grasses with their supple leaves and dense, compact cover --- . Those in the know about skiing say they want the lowest, densest growth. They wanted/it to have good insulating properties where it will hold the first snow against the earth's heat. Good turf and a thin layer of snow allow earlier skiing ---. Tall grass is forbidden, especially if seed-head stalks top the snow and loop back to catch an unwary ski --."

Way talks about the necessity of fertilization and other maintenance, and recognizes the difficulty of mowing the difficult slopes. He notes, too, that the packed snow on a ski run may be hard on the vegetation beneath it. But certainly bluegrasses, fine fescues, bentgrasses and some of the legumes have proven hardy in similar boreal habitat, and it would seem that an annual bolster seeding with such species could well be advocated as part of the regular maintenance at ski resorts.

MEETING SUMMARY

The September 13 issue of Seed World carried a photograph of Institute officers and two columns of the story about this year's annual meeting held in Oregon. This item had been prepared for Seed World earlier in the summer, shortly after the annual meeting.

ARTIFICIAL GRASS

A surge in publicity was noted this autumn about synthetic grass. Monsanto's "Astroturf" has been publicized for some time, and games played on it at the Astrodome have appeared on television many times. The University of Wisconsin has used the 3M "Tartan Turf" for its outdoor football field, which seemed to hold up well during the televised Wisconsin-Indiana game. Huge spreads of artificial turf were used at the olympic games in Mexico City, televized nationally. Cost figures for such installations, however have been estimated at \$2.00 per sq. ft. or better, certainly a terrific outlay. Such expenditure is generally rationalized as eventually paying for itself in lesser maintenance (we wonder; what happens when this gets filthy and weather-beaten?).

Artificial grass is invading the golf course world, too. There is an installation in Tennessee, and Holmes reports in the November "Bull Sheet" that the Bushnell, Illinois, golf course has installed artificial grass greens (rather small in size to save cost, and according to Holmes no great shakes in playability). So far the high cost of artificial turf limits its use to such very specialized purposes, so that it represents no great competition to use of conventional grass. Indeed, in the area of golf, new courses are being created so rapidly that even were a number of them to adopt artificial grass greens and tees there would still be increasing demand for greens grass (such as Penncross) and of course for fairways (for which artificial grass is not economically practical).

AGRONOMY POT-POURRI

Research in West Virginia shows that extracts from the roots of forage grasses stimulate the germination and growth of corn. Bromegrass was especially influential.

Research in Virginia, on bluegrass pasture, showed heavy treading to compact the soil and decrease forage-yield.

A New Jersey Kentucky bluegrass pasture was shown to remove less phosphorus than either tall fescue or orchardgrass.

"Fescue foot" continues to be a concern with cattle grazing tall fescue in Missouri, although the toxic principle has still not been identified. In Kansas, winter burning of tall fescue pasture resulted in slightly less animal gain than if the pasture remained unburned.

In West Virginia, Kentucky bluegrass yielded twice as much on north-facing slopes as on south-facing slopes, - 5 tons of forage per acre on the former; one inch deep in the soil under sod maximum temperature on the north slopes reached only 90°, but on the south slopes 143°.

Interseeding of permanent pastures has been studied in South Dakota, desirable grasses being introduced through removal of sod strips about 4 inches wide where seed is planted. All of this accomplished with a modified grassland drill and interseeder; there is no let-up in grazing, since this reduces competition from the old vegetation.

In Oregon seed yields were reduced as much as 72% when autumn burning was not accomplished; burning helps control weeds and disease, makes herbicides and fertilizers more effective, and helps maintain a uniformly vigorous stand.

EAST COAST ADVICE

We like to feel that information sent to the extension people at the University of Delaware was at least in part responsible for information issued by Dr. Mitchell to the press. Sample quotes: " -- ideal time for seeding bluegrass and fescue lawns -- Kentucky bluegrass in most of the high quality lawns -- /varieties characterized/ -- seed mixtures protect lawns against diseases or other problems -- Kentucky bluegrass is adaptable to a variety of growing conditions -- red fescue, a fine-textured grass commonly grown with Kentucky bluegrass. Red fescue tolerates low fertility, partial shade and drought -- is quite adaptable when mixed with bluegrass -- varieties include Pennlawn, Chewings and Illahee -- choose a mixture containing mostly bluegrass and fescue -- avoid seed mixtures that contain tall fescue -- may become a serious pest."

GRASS SEED STORAGE

J. F. Harrington reports in the Nov.-Dec. Agronomy Journal on the storage of grass and legume seeds. The moisture content varies somewhat between species, but all adjust in similar fashion to changing relative humidity. The equilibrium moisture content for fine fescue is given as 10.87 at 45% relative humidity, 8.68 at 30% relative humidity, and 6.51 at 15% relative humidity. Kentucky bluegrass is slightly less at these same levels. Highland Colonial bent runs only slightly more than Kentucky bluegrass. Unhulled bermudagrass is higher than any of these, however. Harrington notes that growing conditions may influence moisture equilibrium; for example oil content, thickness of hulls, and other chemical physiological characteristics may have an influence. Harrington feels that a range of 7 to 8 per cent moisture will maintain adequate viability of seeds under hermetically sealed storage for a period of three years at temperatures at less than 90 degrees F. This corresponds roughly to the equilibrium obtained when seed is kept at a relative humidity below 30 per cent.

WINTERSEEDING IN PALM DESERT

Paul Rowell, now a winter resident of Palm Desert, California, has continued his interest in Oregon grasses and winterseeding. He has been in touch with Mr. Louis Hunt, in charge of the program at College of the Desert. The man previously in charge had taken with him bulletins sent from the Institute at Rowell's suggestion last year, and is presumably persuading winterseeding investigations at Butte Junior College. In any event it was gratifying to have a mid-November letter from Paul Rowell, asking that we send additional literature for Mr. Hunt, who has planted some overseeding plots with fescue and Highland bentgrass Rowell brought him. A half dozen items were sent to Paul, and of course as many more as he can make good use of are available through the Institute.

SEED PRODUCTION RELATED TO TEMPERATURE

Washington researchers report in the Nov.-Dec. 1968 Agronomy Journal concerning the effect of soil temperature on the reproductive processes of Newport Kentucky bluegrass. A lower soil temperature (about 14° C) resulted in lower culm height, fewer spikelets and fertile florets, and less seed production, than did a higher soil temperature (about 22° C). Plants matured about a week earlier at the higher temperature but there was no difference in the number of seedheads.

NITROGEN LEACHING

A study in Nebraska by Herron and others in the September-October Agronomy Journal indicates that very seldom is there any leaching of nitrogen below approximately a 2 yard depth. No doubt results would be different on sandy soil in regions of high rainfall; nevertheless the fear of losing nitrogen in autumn fertilization is so pervading that it is worth noting experimental results to the contrary. On turf at the Lawn Institute we have felt that application of soluble nitrogen in autumn and winter is little lost and of great benefit to the turf, and that fear of feeding lawns in autumn has been exaggerated.

MOISTURE USE

Cohen and Strickling, in the November-December Agronomy Journal, report research on use of soil moisture by bermudagrass, tall fescue and alfalfa. There are implications for performance of lawngrasses, too, which should behave similarly.

All species used essentially the same amount of water, and did not reduce moisture demand until about 2½ inches of water had been used. Moisture demand was less later than early. Ample fertilizer resulted in appreciably greater bermudagrass growth without any extra drain on water. Rain wetting the uppersoil did not decrease absorption of water from throughout the root-zone. The advantages customarily ascribed to deep rooting did not prevail.

SILVEX INJURY TO BENTGRASS

A group of Rutgers researchers report in the winter issue of the Massachusetts Turf and Lawn Grass Council Turf Bulletin on the injury to bentgrasses such as Highland from use of silvex, a familiar broadleaf weed control. Injury from normal rates was not great, was more severe in summer than during cooler weather. The herbicide was better tolerated under low rather than high moisture levels. Root growth was more greatly inhibited at high rates and high pH than at low rates at low pH. Bentgrass was most tolerant of silvex when temperature was cool, photoperiod long and the pH low. Foliage injury was generally mild, even at relatively high rates, and detrimental influence from the herbicide probably relates mostly to root growth restriction.

POTASSIUM MOVEMENT IN THE SOIL

Studies in Georgia, by Boswell and Anderson, reported in the Nov-Dec., 1968 Agronomy Journal, show relatively circumscribed movement of applied potassium in the soil. Even a year and a half after application most potassium applied to fallow soil was only 6 to 12 inches, deep even with above normal rainfall. It is concluded that the normal application of potassium will not leach beyond the rootzone of most field crops planted to these soil types (sandy - clay - loam of the Piedmont, and loamy - sand of the Coastal Plain).

CONTINUING MENTION

The January issue of Home Garden magazine carried as a center spread, a monthly calendar of things to do. Lawns received their share of mention, the advice generally sound. From time to time the Institute has provided stories for this magazine.

FINE GRASSES ON THE ROADSIDE

In previous issues we have mentioned informational programs designed to encourage greater use of fine-textured grasses for roadside seedings. This has been accomplished primarily through appearances at the annual Ohio Short Course on Roadside Development, and by contact work with highway landscape architects in Ohio. It is good to note progress, what with the rest stops particularly being seeded to all fine-textured seed blends. An opportunity for nearby observation is on the newly constructed Marysville bypass-to-Columbus route, seeded to Highland bentgrass (10%), Pennlawn fine fescue (50%) and Kentucky bluegrass (40%).

POA ANNUA NOXIOUS IN FLORIDA

Poa annua has been declared a noxious weed in Florida, and must be listed on the label with an indication of the number of seeds per pound. All seed containing more than 5,000 *poa annua* seeds to the pound is prohibited. The State Laboratory initially proposed that *Poa annua* be totally prohibited, but protest brought the change to the restricted status just mentioned.

BLUEGRASS RHIZOMES AND TILLERS

The tillering and rhizome development of Merion and Windsor Kentucky bluegrass varieties is reported by Ohio researchers in the Nov.-Dec., 1968 *Agronomy Journal*. Rhizomes form without cold treatment, but cold treatment increases tillering at the expense of rhizoming. A long day favors initiation and elongation of rhizomes as compared to a short day. Medium day-length seemed to favor tillering as compared to either a long or short photoperiod.

LAWNS AND TREES

That fertilizing the lawn under trees benefits the tree as well as the grass is supported by international research on crop trees, in which radioactive phosphorus was placed at various depths and spacings to determine most efficient root uptake. Most of the time use was most efficient for fertilizer within the top 4 inches of the soil, a few yards away from the trunk. Thus fertilizing the lawn under a tree canopy can be expected to help the tree as well as the grass, without the laborious digging of holes to place the fertilizer deep in the soil.

FOR THE NAVY

The public works department of U. S. Naval Submarine Base at Groton, Connecticut has requested Institute literature. A complete file of reprints was furnished Mr. W. Celli, superintendent. We hope that the information and recommendations will prove useful to the Department of the Navy.

ADDED RUST PROBLEM?

California turfgrass culture cites stripe rust as a common disease of Kentucky bluegrass in California, with Merion bluegrass particularly susceptible. Infection was also noted on Windsor, Prato, Park, Newport and Fylking. Encouragingly, treatment with the new Uniroyal Plantvax gave reasonable control, with no injury to any of the varieties.

COLORADO CLIPPING

We were pleased to receive from Dale Langford, president of Lawn Specialists Company, Denver, clippings of stories he had placed in the Rocky Mountain News (Denver, Colorado). Included was information obtained through the Institute, and a front page photograph furnished by the Institute.

TURFGRASS ROOTS DEEPLY

Investigations by Dr. Lunt, California, show generous root masses of Tifdwarf bermudagrass (usually mowed at less than $\frac{1}{2}$ inch) extending 6 to 7 feet deep in the soil. This seems an amazing degree of soil penetration for a dwarf variety, and should make it an effective greens grass in arid climates.

FERTILIZATION - IRRIGATION OF LAWNS UNDER TREES

When offering recommendations for fertilization and irrigation of the lawn under trees, keep in mind that studies indicate 3 to 5 times as much water reaching the tree near the trunk ("stemflow") as away from the trunk under spread of the crown. Thus a relative "drought" area can be expected a short distance out from the tree trunk, with less infiltration that would carry soluble nutrients into the soil.

ABOUT WINTERKILL

Canadian research reported in the December Crops and Soils indicates that ice damage to grass is probably due to carbon dioxide poisoning, the carbon dioxide accumulating under the ice and not being replaced by sufficient oxygen diffusion.

SEASONAL HERBICIDE DAMAGE

A study by McCarthy and Scifres, Nebraska, reported in the October Weed Science, notes that grass (smooth bromegrass was the test species) suffered more damage from herbicides in the autumn than the same herbicides applied in the spring. Nitrogen fertilization helped offset the influence of the herbicide.

GRASS ROOTING INHIBITED

Studies by Bingham, Virginia, show that use of the familiar crabgrass herbicide DCPA (Dacthal) inhibited nodal rooting of bermudagrass stolons. This was reported in the October issue of Weed Science.

ABOUT FAIRY RING

Investigations of fairy ring due to the familiar fungus Marasmius oreades were reported to the agronomy meetings by Colorado researchers. Soil samples where the fungus was active showed greatly stimulated mineralization of both nitrogen and carbon, as compared to soil samples where the fungus was not active.

WHAT THEY ARE SAYING:

"I have read with great interest, your article on new grasses in the 'Management' of September, 1968."

T. Michel
Jamaica

"Would you be a good boy and venture a guess on this one? Is it grubs? -- I suggested sow K. bluegrass -- Thanks for your help."

Doc Abraham
The Green Thumb

"I sincerely appreciate your good participation in our Short Course on Roadside Development. Your paper was very well prepared and enthusiastically presented and was one of the highlights of the program."

W. J. Garmhausen
Ohio Department of Highways

"Congratulations upon your appointment to the ad hoc steering committee of Secretary Freeman's Lawn and Garden Week program. I feel this recognition is long overdue and should awaken in some the importance of this form of agriculture."

Dr. Wayne W. Huffine
Oklahoma State University

"I've enjoyed your recent releases -- very pleased with the work that the Institute has been doing -- and commend the perseverance and effectiveness."

N. M. Rothwell
Hogg and Lytle

"I am involved in a research project for a marketing course at the University of Delaware. I would appreciate any assistance your organization could give."

D. W. Hearn, Jr.
Aberdeen, Maryland

" -- it was nice visiting you at the Ohio Short Course. -- Thanks for placing the interesting literature on the buses, as I especially enjoyed the 'Un-pampered Turf' --."

William Cromer
Beachley-Hardy Seed Company

"Thank you very much for your informative question and answer material as additional information -- We would like permission to re-use this question and answer material as additional information in Lawn/Garden/Outdoor Living."

George H. Seferovich
Grounds Maintenance

"The items you sent will be very useful for our files. -- Please send any materials you feel might be useful."

Mrs. Elizabeth Reed
Librarian

"Thank you for the timely article on Poa annua which appeared in our November/December issue of THE GOLF SUPERINTENDENT."

Thomas O'Hara
Managing Editor

WHAT THEY ARE SAYING (Continued)

"I found the article 'Bluegrass/Bentgrass Checks Poa Annua' most interesting and we would like to put it to good use. Please send us as promptly as possible 50 copies --."

Don Klockow, Chief Agronomist
Kellogg Seed Company

"I have read of couple of your 'Turfgrass Portraits'. They are very well written, informative articles."

Russell T. Anderson
Northrup, King and Company

"Thank you for the prompt assistance in sending us the material on grounds maintenance. -- Reading your material always makes me want to go right out and start in on my lawn. I did follow much of your advice this year and the results were well worthwhile."

James C. Cable, Editor
Buildings Magazine

In appreciation: "I would like to take this opportunity to thank you for providing us with photographs for use in our project. As the result of your assistance, we have developed a good file of photographs which has proved helpful in the preparation of the text and lab manual during this phase of our work, and should prove even more helpful in the future."

Edward R. Towers, Director
Industrial Arts Curriculum Project
Ohio State University.

"I was recently introduced to your 'Press Release' letter and found it very interesting and useful in my work with grasses. It was mentioned that copies of these could possibly be received through request for placement on your mailing list."

Kenneth P. Knothe
Dept. of Range Management
Oregon State University

"Could you send me three additional copies each of your 'Turfgrass Portraits' 1 through 9? -- We are finding increasing interest in better grasses in such areas as Latin America, and any additional information you have on hand will be of help to us."

Richard W. Nelson
Jacobsen Manufacturing Company.

"Just wanted you to know I have appreciated all the nice helps you've given me in the past. It's been a joy corresponding with you. Hope we can have many years of friendship. I want 1969 to be the best year for you in health and happiness."

George Abraham
The Green Thumb

"I read in the December issue of Grounds Maintenance that you have a reprint giving thumbnail sketches of the various turfgrass varieties. Please send me ten copies for teaching purposes."

A. E. Dudeck, Professor
University of Nebraska