

# BETTER LAWN

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BETTER LAWN & TURF INSTITUTE



# Harvests

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## PACIFIC NORTHWEST BLUEGRASS GROWER MEETING

Board member Jim Carnes, President of the Pacific Northwest Bluegrass Association, exhibited his usual fine leadership in arranging a series of grower meetings in Oregon and Washington, just ahead of the Oregon Seed League meetings in December. Invitational sessions were held in Oregon at Woodburn, Halsey, Madras and LaGrande; and at Spokane, Washington, where Arden Jacklin had made local arrangements and was spokesman.

Mr. Carnes varied the discussion to conform with local interests and questions from the audience, but in general opened with background information on the industry and the association, and the obvious need for developing new markets in face of the heavy production sure to come in the years ahead. Services rendered by the new association were reviewed, not the least of which was co-sponsorship of the Lawn Institute.

Dr. Schery followed Mr. Carnes' introductory statements, with an explanation of what the Lawn Institute is and does. It was emphasized that the original midwestern bluegrass industry invested heavily to build a now respected and going organization, and that it was only good business to keep this alive, rather than to have to start anew in the creation of a bluegrass image. A resume of Institute activities, with press clipping and story documentation, was handed out. Also an attractive folder from the Bluegrass Association entitled "Why Throw In With A Bunch Of Bluegrass Growers And Dealers?"

These programs seem to have been very well received, and most growers in the state of Oregon have now heard about the Lawn Institute. Through the leadership of Mr. Carnes and his Board of Directors, we are certain the Pacific Northwest Bluegrass Association will prosper.

## CONFERENCE PROCEEDINGS APPEAR

As we go to press, Proceedings of the Sixth Annual Lawn and Turf Conference, University of Missouri, has just been received. Of the seven papers reported, two are the Lawn Institute's ("Lawn Seed Without Weeds," "Mulches For Seeding"). Other presentations include "Turf Disease Problems in 1965," "Breeding And Developing Turfgrasses," "Budgeting Your Irrigation Needs," "Zoysiagrass - What Is Its Future?" and "What's New In Weed Control."

Dr. Schery opens the seed discussion, "The Lawn Institute has recently scrutinized seed coming to market, for such contamination as it may have." Distinction is made between fine-textured and coarse-kinds, concluding "note that in these routine tests nearly half of the lots of the superior lawn species - the Kentucky bluegrasses, including such varieties as Arboretum, Merion and

Park; the fine fescues, with Chewings, Illahee, Pennlawn and Rainier as noteworthy varieties; and the bentgrasses, of which Highland and Astoria are well-known colonial forms, Penncross and Seaside creeping types - show no contamination with foreign seed at all. It is possible to purchase pure seed, although you won't find it by bargain-basement haggling."

In reviewing mulches, grasses are again named, and the "fine-textured" or "coarse-kind" categorizations affirmed. It is pointed out that the elite fine-textured grasses are worthy of an adequate mulch for a better start, considering the labor invested in their planting. Testing of mulches for highway berms as well as lawns is then detailed.

If any member would like the full resume of a presentation as it appears in the Proceedings, we will be happy to have a photocopy forwarded upon request. Should anyone wish the whole Proceedings, it can be secured at the cost of \$2.00 from the Mailing Room at the University of Missouri, 417 South Fifth Street, Columbia, Missouri.

#### BETTER HOMES & GARDENS PLANS

Better Homes & Gardens asked Dr. Schery to prepare a critique on lawn seed and quality factors in its purchase. The editors ultimately redesigned this in question-answer form. If there are not further changes in plans, the 6½ million readers of BH&G will hear about quality in lawn seed this coming spring through such discussion as:

Question: "What are the best fine-textured grasses?"

Dr. Schery: " - - Included are familiar favorites such as the Kentucky bluegrasses, the fine or red fescues, the bentgrasses - -."

Question: "What are the objections to the coarse kinds - -?"

Dr. Schery: " - - don't confuse the tall fescues with the desirable, creeping red fescues such as Chewings, Illahee and Pennlawn."

An example of a quality seed mixture winds up the story, composed of Merion Kentucky bluegrass, Kentucky bluegrass and Pennlawn red fescue, with very little weeds and crop.

#### "WHAT THE LAWN INSTITUTE DOES AND IS"

The above is the title given a condensation prepared to provide a bird's-eye view of the Institute. It was used especially for distribution to prospective members of the Pacific Northwest Bluegrass Association, in the recent tour of growers' meetings. The extensive listing of Institute activities is documented briefly with sample press clippings and story reprints. Because of cost in preparation and mailing, we are not suggesting widespread distribution of this item; nonetheless, copies can be sent upon request if any member wishes to have them. They may be useful where new support or added members are being solicited.

#### UNIVERSITY CALLS FOR LAWN INSTITUTE MATERIALS

"I would like to obtain 40 free copies each of such releases as 'Better Highway Seeding' and 'New Ideas In Roadside Turf' for use in our class on soil and water conservation - -." - Dr. Robert S. Bell, Associate Professor of Agronomy, University of Rhode Island.

"We feel that investigation in some depth of the problems inherent in establishing and maintaining good turf is an essential part of the academic training of our students.

We would like, therefore, to invite you to assist us in terms of a turfgrass seminar on one day during the week of January 31 - -." - George B. Tobey, Jr., Head, Division of Landscape Architecture, The Ohio State University.

#### LAWNS IN SCIENCE AND MECHANICS

Copies of the October Science & Mechanics finally caught up with the Lawn Institute. Under the title "Rebuild Your Lawn This Fall," were used several Better Lawn & Turf Institute photographs (with credit), and apparently a good deal of borrowing from Institute releases. We are gratified that L. Donald Meyers, author, provided a factual, honest account of lawn establishment, and the desirability of undertaking lawn building in autumn. Meyers emphasizes: "Kentucky bluegrass, fescues, bentgrass - grow best during the cooler parts of the year - -." Such grasses are the example for maintenance techniques, such as mowing: "During the fall months, bluegrass and fescues may be cut at 1-1½ inches and bentgrass at ½ inch. - -"

#### JOURNALS COMBINE

Beginning in 1966, the American Recreational Journal, Planning and Civic Comment, and Recreation Magazine are merging with Parks & Recreation as a single publication. Dorothy Donaldson will be editor of the new magazine. The Lawn Institute looks forward to continuing cooperation through the American Institute of Park Executives, and the preparation of custom stories for the new magazine (several of which are currently under consideration).

#### EDUCATIONAL INTEREST

More and more agronomy students are referred to the Lawn Institute by their college instructors for pertinent lawn information. Typical is Henry C. Wetzel, Jr., Delaware Valley College, Doylestown, Pennsylvania, who writes: "I am majoring in agronomy - - worked on a sod farm - - and golf course - - could you send me information related to turf management and turf in general. Also a list of books and articles - - Thank you very much." The Institute gladly furnishes such students with reprints and important references. Of course, we must stop short of writing the term papers!

STORIES PUBLISHED IN QUARTER

During the quarter the stories listed below appeared in the respective magazines.

- "Lawn Renovation" - Seed World
- "Seed Selection Is Important" - Golfdom
- "Good Lawn Seed Sprouts Fast" - Seed World
- "Air Cushion Mowing" - Weeds, Trees & Turf
- "Fertilize Fine Fescues, Bluegrass" - Seed World
- "This Remarkable Kentucky Bluegrass" - Annals of the Missouri Botanical Garden
- "The Migration Of A Plant" - Natural History
- "Lawn Seed And Lawn Weeds" - Seed World
- "The Latest About Lawns" - Horticulture
- "Highland Bentgrass Seed Astronomical" - Seed World

LAWN PUBLICITY BY STATE

These states rated in the order given, according to number of appearances of papers of the state (not necessarily reflecting column inches or length of coverage), as garnered through our limited autumn press clipping pickup (September only). A high percentage of these stories are direct adoption of our press kit materials, or obvious improvisations from it. We are gratified that a number of papers give the Lawn Institute a by-line, even though our publicity program has been so successful that in some locations the Lawn Institute name is undoubtedly "over-worked."

Iowa	70
New Jersey	64
Ohio	47
New York	34
Michigan	29
Minnesota	28
Illinois	25
Nebraska	23
Wisconsin	23
Indiana	21

REPRINT REQUEST FROM CANADA

"Dear Dr. Schery: Have you a reprint of 'This Remarkable Kentucky Bluegrass' available? I would like very much to have this and also other of your papers - - ." - William Dore, Canada Department of Agriculture

INSTITUTE LISTED IN PARK DIRECTORY

We have word from H. Klein, Secretary, Alpine Outdoor Recreation Resources Limited, Vancouver, B. C., that the American Institute of Park Executives has included the Lawn Institute in its current Directory of National Organizations with Park and Recreation Interests. Background information on the Institute and its publications was sent to Mr. Klein.

### SOME SAMPLE HEADLINES

Good Headlines are the best "advertising" our promotional lawn articles can receive. Here are a few to indicate that we often succeed in getting the idea across. These are from press clippings picked up as relating to the autumn press kit. Many carry Institute identification, and all head stories from the kit.

"Fertilize Fescues, Bluegrass" (Battle Creek, Michigan); "Fescues Excellent In Blends" (Pontiac, Michigan); "Bargain-Type Lawn Mixture Is Often No Bargain" (Jersey City, New Jersey); "Fescue Findings" (Cincinnati, Ohio); "Bluegrass Bounty" (Newark, New Jersey); "Check Lawn Seeds For Fine Texture" (Albany, New York); "Highland Bent Is Produced In Section Of West" (Pontiac, Michigan); "Fertilize Bluegrass, Fine Fescues" (Traverse City, Michigan); "Good Lawn Deserves Care" (Jackson, Mississippi); "Park Bluegrass For Late Seeding" (Bangor, Maine); "Autumn Is Best Time For Planting Lawns" (Willoughby, Ohio); "Fertilize Fine Fescues, Bluegrass" (Muscatine, Iowa); "Bluegrass Planting Time Here" (Jersey City, New Jersey); "Thicken Turf In Autumn's Cool Weather" (Asbury Park, New Jersey); "Drought-Damaged Lawn Needs Fall Repair Job" (Lansing, Michigan); "Best Lawns Sown Now" (Huntington, West Virginia); "High Highland" (Bangor, Maine); "Buying Grass Seed" (Emden, Illinois); "Top Lawn-grasses Need Little Mowing" (Trenton, New Jersey); "In Buying Lawn Seed Bargains May Be Costly" (Providence, Rhode Island); "Use Good Lawn Seed For Autumn Planting" (Rome, New York); "Kentucky Bluegrass Is Perennial" (Jersey City, New Jersey); "Highland For Nooks" (Trenton, New Jersey); "Thin Lawns Need Fall Bolstering" (Kalamazoo, Michigan); "Bluegrasses Relish Rains Of Autumn" (Pontiac, Michigan); "Fescue Findings" (Trenton, New Jersey); "Bolster Dried Lawn Now, Thicken Turf In Autumn" (Boston, Massachusetts); "Best Bluegrass" (Boston, Massachusetts); "Don't Look For A Bargain When Buying Grass Seed" (Trenton, New Jersey); "Bluegrasses Are Best For Lawn" (Pomona, California); "Fescue Findings" (South Bend, Indiana); "Autumn's Best For Renovating An Old Lawn" (Cincinnati, Ohio); "Use Best Grass" (Willoughby, Ohio); "Time To Plant Bluegrass" (Traverse City, Michigan); "Mow Bluegrass Fescue Tall" (Bangor, Maine); "Fine-Textured Seed Will Thicken Lawn" (Lockport, New York); "Highland Grass Is Widely Used" (Boston, Massachusetts); "Many Kinds Of Fescues May Confuse Gardener" (Portland, Maine); "Kentucky Bluegrass Of Ancient Lineage" (Bangor, Maine); "Best Lawngrasses" (Newark, New Jersey); "Try These Steps For Winter Turf" (Tyler, Texas); "Use Good Seed To Repair Lawn" (Portland, Maine); "Park Bluegrass" (Fargo, North Dakota); "Grass Accents Landscaping Of The Yard" (Kenosha, Wisconsin); "Bluegrasses Relish Rains Of Autumn" (Livonia, Michigan); "Want A Winter Lawn? Prepare To Winterseed" (Orangeburg, South Carolina); "Bluegrass Seed Needs Air, Sun To Germinate" (Baltimore, Maryland); "Fall Fertilizing Aids In Lawn Care; Bluegrass Grows Late" (Auburn, Nebraska); "Expert Advice For Bluegrass Lawn Planting" (Silver City, New Mexico); "Cheap Seed Yields Disappointing Lawn" (High Bridge, New Jersey); "Use The Best Seed For New Lawns" (Middletown, New Jersey).

### WHICH STATE LISTENS?

It is always intriguing to tally results from our press kits, by state. Judging only from stories having our by-line or unchanged from the press kit, here is the ranking for this autumn.

First came Michigan, with 18 usages. Then New Jersey with 15, Ohio with 14, Maine with 14 (11 of them by the Bangor News, the other 3 by the Portland Telegram); and then closely grouped, Wisconsin, Massachusetts, Indiana, North Dakota (entirely in the Fargo Morning Forum), New York, West Virginia and a scattering of more westerly states.

#### HIGHLAND BENTGRASS COMMISSION MEETS

A delightful early December luncheon meeting was held by the Highland Bentgrass Commission in Salem, Oregon. A number of guests were present, including several members of the Oregon State University staff. Dr. Schery of the Lawn Institute was privileged to be present, and discuss with the Commission bentgrass possibilities in the East. At a subsequent meeting with President McElhaney and his public relations committee, ways were discussed for implementing the domestic promotional program for Highland bentgrass. It is felt that Highland has an important part to play in golf course fairways establishment all across the nation, for meticulously tended small lawns (especially in humid areas), and for highway seeding where mowing constitutes an appreciable maintenance cost. There is evidence from plantings on the Lawn Institute test grounds, that Highland is not an aggressive invader of lawn turfgrasses in that area, and that there need not be the concern sometimes expressed about including Highland in certain blends. Indeed, there should be an appreciable market for blends that include some representation of fescue and bluegrass in bentgrass (rather than vice versa). It is hoped to explore this further during the coming year.

#### COMPLIMENTS APPRECIATED

Mr. William Cromer, of Beachley-Hardy Seed Company, formally represented the American Seed Trade Association at the Ohio Roadside Short Course. We are most appreciative that Bill sent along a carbon of his report to Mr. Kenneth Beachley, Chairman of the Farm Field Seed Division. In part it reads: "Dr. Robert Schery participated in the Wednesday program with the topic 'How To Get A Good Buy On Good Seed For Roadside Seeding.' In my opinion, this is the best prepared non-technical paper on purchasing seed. It should have relieved the fears that anyone might have as a purchaser of highway seeds."

#### "LAWN RENOVATION" IN SEED WORLD

Seed World Magazine carried the Institute story on lawn renovation, in its October issue. Emphasized were the fine-textured grasses, for upgrading a lawn through autumn renovation.

#### TEXAS TALK

As a portion of his presentation to a plant society convention in Texas, W. G. Scheibe, Superintendent of Parks, had these statistics to offer. Four billion dollars spent on beautification in 1965. One billion of this for seed and other plant materials. Fourteen million acres of lawn area in the United States "and every time one million housing units are developed there

is 100,000 acres left for lawns and beautification." In Texas homeowners spend \$200,000,000 annually in the maintenance of home lawns. Fifteen million spent on golf course maintenance. Forty-two million gardeners in the United States, of which two million belong to a garden club or plant society. These excerpts appeared in the September Gardeners' Forum of the American Horticultural Society.

#### NORTHWEST CHEWINGS AND CREEPING RED FESCUE ASSOCIATION MEETS

Under the chairmanship of Homer Case, Alicel, Ernest Kirsch, Union County Extension Agent, secretary, the above association met during the Oregon Seed League meetings.

Dr. Rod Frakes, of Oregon State University, opened with an elucidation of the breeding program now being carried on. Many fescue segregates have been isolated, but it is still too early to know whether any have the "stuff" to become good commercial varieties, or to contribute to the genetics of eventual commercial types. Slides indicated that a masterful set of plots were now on hand in Oregon.

Bob Peterson, of Burlingham, reported at length on foreign markets, especially Europe where he had made recent visits.

Amos Funrue, speaking for the Chewings Fescue and Creeping Red Fescue Commission, offered an interesting summary of that body's activities. As part of his summary Mr. Funrue quoted from the report prepared by the Lawn Institute for the charter issue of Grounds Maintenance magazine.

Dr. Schery spoke briefly on domestic market development. He pointed out that Institute efforts were directed not only to gaining additional publicity, but in preventing unfortunate issuances as well. One such case was the modification of statements in the soon-to-be-released Advances in Agronomy. Promising new markets would seem to lie ahead in roadside seeding; gradual increases in winterseeding; and in compounding with other grasses in lawn seed mixtures (especially if new varieties can be developed that are long-lasting in the southern portions of the bluegrass belt).

The meeting terminated with Del Sandner reviewing briefly a recent seed certification conference, election of new officers, and other business of the association.

#### LAWN STORY

"How To Keep Your Lawn Loyal" appeared in the August Popular Mechanics. This is a comprehensive review (covering nearly ten pages). A good deal of the information was gained from USDA sources.

One section, "Tips On Buying Seed," will be of especial interest to members.

It is advised "Most of the bluegrasses mix well together, and a bluegrass-red fescue mix is good for shady areas and sandy soils. Often mixtures are superior in disease resistant to a single variety."

Maps and some of the charts were hashed-over old copy from government bulletins, although weed control and lawn disease recommendations were reasonably updated to the newer chemicals. Much of the advice is uninspiring and pendantic, though basically sound. Nevertheless, such a story in so widely a read publication, adds to the excellent publicity lawns and lawn problems are receiving of late.

#### UNION PACIFIC MOVIE EXCELLENT

Through the courtesy of Joe Jarvis, a copy of the new movie, "Miracle Of Grass," was loaned to the Lawn Institute by Union Pacific. This movie is one of the best of its type. The range of interest is broad, extending from homeowners (both children and adults), through institutional and park grounds, to golf courses. The color photography is excellent. No attempt is made to dwell at length on any phase of lawn tending or seed production, which probably adds to the interest but detracts a bit from its instructional value. There is excellent mention, both direct and implied, of quality turfgrasses. Techniques (and scenery) reflect more the West Coast than the East. All in all, the movie provides an excellent interlude of a "non-commercial" nature, suitable for garden clubs, civic groups and similar audiences. We wish Union Pacific the greatest success in wide usage of this film.

It is hoped that the Union Pacific "Miracle Of Grass" will help fill the gap left by gradual retirement of the Institute's "Bluegrass Beauty" (for reasons of economy rather than lack of audience interest).

#### PRESS KIT INFLUENCE

It has been unusually difficult this autumn to distinguish where the Lawn Institute press kits leave off and various state experts begin to be quoted. As has been noted before, lawns are becoming a sufficiently important phase of "agriculture," that state universities and Extension departments more and more like to be "in the act." This cannot help but further publicize lawns and good lawn seed, especially when we see so many states releasing information which if not patterned directly after the Lawn Institute press kit, at least reflects in large measure the thoughts the Institute has placed.

Not all evidence for this sort of chain reaction can be detailed, especially in view of our limited press clipping pickup. But several midwestern states, especially, seem very much in the forefront of getting releases out. Notable this autumn were Ohio, Illinois and Iowa. There is always good information released in New Jersey, Michigan and Colorado, and Missouri seems picking up in recent months. Members will recall that the Lawn Institute has been asked to send press kits to urban county agents in many of these states, and we feel that our source material is of great help in the preparation of state releases, the stories gaining local authority when attributed to county and state experts.

Let's consider just one excellent example of this autumn. We don't know exactly how much use Ed Cott, Leroy Everson, and others at Iowa State University make of our seasonal press kits, but the information releases to Iowa papers is such that we would have welcomed it directly from Institute sources. One can't tell much difference from what the Institute is saying, and what the



Iowa experts expound: "Seed the lawn with a high quality lawngrass seed mixture containing 90-100% permanent, fine-textured grasses. At least half of the mixture should be composed of one or more strains of bluegrass. The balance can be Creeping Red fescue. - -" And again: "Bluegrass, bentgrass and Creeping Red fescue may be sold under the category fine-textured grasses. Kentucky bluegrass and Creeping Red fescue are recommended as the best fine-leaved perennial grasses for lawns in the Midwest."

Our limited clipping service pickup this autumn corralled 560 column inches of this sort of information in 56 different Iowa papers. This during September, only. We can't help but feel that the Institute influence is being felt in Iowa indirectly, through our constant supplying of the experts there with background information and popularly written releases, including the 13 seasonal press kits sent for distribution to county agents.

#### REPRINT DISTRIBUTION

When conducting a Lawn Seed Seminar at Ohio Wesleyan University, Dr. Schery distributed the following reprints:

"The Curious Case Of Highland Bentgrass," from the New York Botanical Garden Journal

"How To Select The Right Turfgrass," from Weeds, Trees and Turf

"Bluegrass' Grassroots Empire," from Economic Botany

"Lawn Seed, And What's A Weed," from the American Horticultural Magazine

"How To Get A Good Buy On Grass Seed," from Park Maintenance

In addition, the complete Turfgrass Portrait series (of which the first three were Kentucky bluegrass, fine fescues and bentgrass) was made available to students having especial interest, and a few copies of the Southern Turf Newsletter on winterseeding constituted a resume of how the economic use of northern lawn seed is extended.

#### PROLIFIC TURFGRASS ATTENTION

The September-October issue of the Agronomy Journal points up the increasing importance of turfgrass in the field of agronomy. Eight different articles were directly concerned with or had a bearing on fine turf.

Dr. Beard, Institute advisor for Michigan, formalized in print his observations on shade tolerance. He believes that it is the greater likelihood of disease in the shade that is critical for survival there. After three years, a combination of fine fescue, *Poa trivialis* and Kentucky bluegrass showed a greater density than any single species planted alone. Beard concludes: "This suggests that the mixture functions in reducing the severity of disease on a specific grass species." Alone, Kentucky bluegrasses suffered severely from powdery mildew. Red fescue was thinned by leaf spot, but revived strongly the following year when the disease was not so severe. All in all, the discussion is a vote of confidence for existing fine turfgrasses, planted in the shade in mixture (just as seedsmen have been suggesting for lawns).

Conclusions from some of the other articles: Fertilization of prairie grasses helped with greater water utilization only when subsoil moisture reserves were high. California workers find increasing evidence for effective (golf green) renovation by drilling large holes (1 inch in diameter) 6 inches deep, and filling these with properly compounded soil; it's less costly than remaking the whole green. Other California research reported disposition of phosphatic compounds in ryegrass. Kentucky workers found that sod webworms have preferences as to bluegrass strains.

Beard also reported on bentgrass tolerance to ice cover. A couple of vegetative golf green varieties and Penncross topped the list. Seaside and Astoria were less tolerance Beard concludes: "As a group, the bentgrasses were quite tolerant of extended ice coverage." Finally, of possible theoretical interest, work in Utah indicated that saponins extracted from alfalfa had definite biological effects on seed sprouting and seedling performance of other species (in this case cotton was the test plant).

#### MEN'S GARDEN CLUBS WANT LATEST INFO

Hal Nelson, editor of "The Gardener," official publication of the Men's Garden Clubs of America, asked for an updating on lawn matters for his March-April issue. The Institute was delighted to epitomize recent developments, as well as supply a few photos.

#### LAWNS A NAVY AVOCATION

A recent letter from the Department of the Navy (Bureau of Naval Personnel) asks whether the Lawn Institute might be listed in a pamphlet being developed, of organizations that might be "of avocational interest to (Navy) personnel and their dependents." Lawns are to become one of the leisure-time interests of sailors! Of course we were delighted to supply the Bureau of Naval Personnel with Institute data, including the offering of reprints.

#### HIGHLAND IN THE HEADLINES

The September 10 issue of Seed World carried the story "Highland Bentgrass Seed Astronomical," with credit to the Institute. Members may remember this as one of the more used inclusions in the autumn press kit. It begins "The peppering of dust on your newly shined car has nothing on Highland bentgrass seed sowed on the lawn. Believe it or not, there are around seven million bentgrass seeds - - each of these tiny seeds can become a handsome bentgrass plant - - providing such a bargain requires some doing. It all starts on a limited amount of fine rolling acreage in western Oregon, the only place Highland bentgrass originates. - -", and so on.

#### ASTA-ATLANTIC SEEDSMEN MEETINGS

November 22-23, meetings jointly involving the American Seed Trade Lawn Seed Division, and the Atlantic Seedsmen's Association, were held in New York. The meetings were featured by some excellent outside speakers, as well as customary committee reports and business matters affecting the associations.

Space will not be taken to list committees and individuals reporting, but their gist may be of interest. It was felt that the quest for greater uniformity in state seed laws was not only failing to make progress, but retrogressing. A proposal was approved recommending the freezing of present regulations during a study interval, during which it is hoped committee activity (with control officials) might work out better regulation uniformity.

Two simplified noxious weed seed lists were proposed, one for farm seed, the other for lawn seed. The same preamble would apply to both, mentioning conventional arguments on the inappropriateness of recognizing certain (agricultural) weeds as lawn pests. It is realized there will be considerable give and take on the recommendations, but it is hoped the noxious weed list will never exceed ten. The suggested weeds for lawn seed would include nutsedge, Canada thistle, wild onion-garlic, johnsongrass and velvetgrass. Additionally, for agriculture, bindweed, bedstraw, horse-nettle, and perhaps a few others would be included. The named weeds would be "restricted noxious," not prohibited. It was later pointed out that there are 41 kinds noxious in a single state only, and 9 others that are noxious in only two states.

Considerable emphasis was given both in committee reports and by speakers, to the new government impetus of beautifying America. There may be moneys from government to help retire farm acreage, a boon for seed in landscaping but a proportionally lost market for agricultural seed. Indeed, it seems inevitable that unless new markets are developed overseas, that lower volume is in store for farm seeds short term (reduced acreage and more efficient planting).

The "Standard Seed Specifications" leaflet issued by the Atlantic Seedsmen in the late 1950's was recommended for revision. Not all details of changes and additions were caught, but in addition to separate Kentucky bluegrass and Merion variety listing, a new category is to embrace all "other varieties" of Kentucky bluegrass. The purity figure suggested is 95, germination 75. Canada bluegrass purity would be raised from 80 to 85. Annual ryegrass purity is to be reduced from 98 to 95, and perennial ryegrass will accept mention of newer varieties such as Norlea and NK-100 at its same purity and germination (95-90).

Pennlawn red fescue and Illahee red fescue are still listed separately, along with Chewings; additionally there will be "red fescue (U. S. grown)" at the same purity and germination as the varieties (98-85), "Canadian red fescue" (97-85), and "European red fescue" (95-85). Bentgrasses would be listed separately (viz. Highland, Astoria, Penncross, Seaside) all at 98-85. Crown-vetch, alsike clover, yellow sweet clover, Poa nemoralis, orchardgrass, bermudagrass, Korean and Sericea lespedezas, and perhaps others will be new additions.

A recommendation to revise categorization of "fine'textured" and "coarse kinds" on lawn seed labels was voted (apparently partly tongue-in-cheek for lack of agreement on standards among committee members and by the organizations). The resolution is being passed along to the parent ASTA. Basically it involves utilizing Kentucky bluegrass as a standard, and admitting any other variety whose actual leaf width (agreed upon by concensus) approximates Kentucky bluegrass. This would be a literal interpretation of "fine-textured," and would be regardless of species involved. The proposal hardly seems workable,

and if accepted in labeling would destroy the clear-cut consumer information presently the case.

There was considerable discussion about *Poa annua* as a noxious weed, and some effort directed to softening attitudes towards it, particularly in the Maryland seed law.

Unanimous approval was given a new disclaimer clause, but a suggestion for indicating origins was defeated by divided vote (although lawngrasses were to be exempted). Three new perennial ryegrass varieties are being pushed especially for acceptance as "fine-textured" kinds. A survey indicated that the majority favored reinstatement of crop forecast reports by the USDA.

Among new varieties reported on, Jacklin's 0217 (a proprietary bluegrass), and Penn State K-547 were stressed as most promising, but with certain problems still to be worked out. Northrup, King 106 ryegrass is apparently to bear the name *Pelo*. Many new fine fescue selections can be expected to be introduced in the near future.

A plea to resist further government registration restrictions and detailed reporting was advanced. A proposal was re-introduced and passed advocating coding of test dates on the label. Insufficient interest in reporting statistics quashed the idea of issuing industry sales figures.

A brief report on seed storage indicated that 5% moisture with Chewings fescue will insure its keeping qualities regardless of (reasonable) temperatures, and 7% moisture content is generally adequate for most lawn seeds.

Resumes of talks by invited speakers are reviewed separately.

#### HIGHLAND TEST RESULTS

In years past, the Highland Bentgrass Commission has provided modest sums to establish bentgrass test plots on the Lawn Institute grounds, in the heart of "bluegrass-fescue country." These are now paying off in greater experience with and information about Highland, especially as it performs vis-a-vis bluegrass. This should prove the basis for several stories during the coming year.

But members may also be interested in the comparative performance of bentgrasses in this climate. The autumn of 1965 was a warm and open one, with all grasses growing intermittently into the new year. An outstanding performance has been put on by Highland in this late season. Its dark color and general attractiveness has been outstanding. Its color has been appreciably richer than Kingstown and Astoria, and far better than Exeter (which turned off-color quite early, and in this particular year exhibited at least two months of less satisfactory autumn performance than Highland). At certain seasons, Highland is a less dense and aggressive bentgrass than are other varieties, but considering its economy, attractive color, and prolonged season, still must be regarded the workhorse lawn bentgrass.

#### MASSACHUSETTS TURF BULLETIN ATTRACTIVE

Ending its second volume is the "Turf Bulletin" sponsored by the Massachusetts Turf and Lawn Grass Council, edited by Dr. Keohane of the University of Massachusetts. The Bulletin has a slick 8x11 format, with very attractive three-color covers and generally double-column spacing. Advertising is carried. News of the Council and the University of Massachusetts work is of course featured. Typical contents are those of the December issue, with items on turf scholarships, fungicide trials, pre-emergence control of crabgrass, highway planting, herbicide treatments of fairways, salt injury to turf, measuring soil moisture, improvement of old golf greens and other items of news interest. As noted in other items, this Turf Bulletin has utilized Institute materials and pictures.

#### INCREASING IMPORTANCE OF SOD

Aside from consumption of seed, the sod industry has an increasing importance for the lawn seed industry in that it demands higher quality. Premium price is of far less concern than ability to secure weed-free and crop-free seed, of proper genetic identity. Estimated future importance of the sod industry, made by E. D. Johanningsmeier at the Illinois Turfgrass Conference, may be of interest. He believes there are currently 100,000 acres of sod production in the five Great Lakes states (Wisconsin to Ohio).

#### SIXTH TURFGRASS CONFERENCE, ILLINOIS

A copy of the Proceedings for the early December Turfgrass Conference at the University of Illinois was received through the good offices of President Mangelsdorf. The general impression is one of intensive coverage of a more limited subject area than is characteristic with many conferences.

For disease control, Dyrene and Daconil receive acclaim as the nearest thing to "all-purpose" fungicides.

Increasing competence in control of most weeds, seems to have made greater problems with others (nimblewill, nutsedge, bentgrass and tall fescue are named). Suggestions for reducing these perennial monocots are given, but it is admitted there is no good selective control. Dicamba (Banvel-D) receives favorable comment, and is suggested used half-and-half with 2,4-D. The newer pre-emergence crabgrass chemicals, Tupersan and Azak, are now accepted.

In reviewing thatch, many more beneficial effects from thatch are listed than is customary (possible benefits outrank adverse effects 8 to 6 in the listing).

A thorough outline for golf green construction is presented. So is basic background in the fertility nutrition of plants. The immense effort in developing a new pesticide, receiving proper clearance and label is outlined.

In a study of Helminthosporium disease on putting green turf, it is shown that certain natural plant products have quite an effect on stimulating a fungus to attack grass. Important ramifications are suggested in that

glutamine mixed with a fungus spore solution produced higher infection, and glutamine is at least partly controllable in the plants by fertilization.

There were also presentations on tree care, shrubs for the area, lawn insect control, arsenic toxicity in soils with low phosphorus content, and bluegrass selection and breeding.

#### SHORT COURSE ON ROADSIDE DEVELOPMENT

October 4-8, the Lawn Institute was instrumental in the 24th Short Course on Roadside Development, co-sponsored by Ohio State University and the Ohio Department of Highways. One of the presentations was Dr. Schery's "Buying Seed For The Roadside," which included illustrations of the grass seed producing areas. This paper will appear in full in the Proceedings of the conference, and is epitomized elsewhere in this issue of Harvests.

The conference opened on Monday with registration and business activities, that included the judging of student landscape design for a section of highway. On Tuesday there were various regional and state reports, and presentations largely having to do with usage of highway roadsides and camping areas. The annual banquet featured a talk by J. Austin Smith on "Highways, The Symbol Of Progress."

All of this more or less set the stage generally, for more specific presentations on Wednesday, and the tour through the northwestern sections of Ohio on Thursday and Friday. The ASTA was co-sponsor of the Thursday evening dinner in Toledo, liaison for which had been worked out through the Lawn Institute.

Wilbur Simonson, Chief of the Roadside Branch, Bureau of Public Roads, went into some detail on federal policies and cost sharing with the states. A representative from England explained the pictured conditions there. The Executive Secretary of the American Association of Nurserymen discussed problems in obtaining ornamentals for the roadside landscaping. Of course Dr. Schery discussed much the same for roadside seeding.

Representatives from the University of Massachusetts described research there, primarily concerned with successes related to timing of seed sowing. Dr. Palmertree, Mississippi State University, reported on roadside fertilization studies in his state (his recommendation was for annual bolster fertilization, in which at least 1 lb. of nitrogen should be used, of which at least 25% should be "long-lasting"; phosphorus and potassium not important). The U. S. Rubber people detailed further research on MH-30 for growth control, of which the newest interest is controlling terminal growth of trees under power lines.

A panel discussion elicited a number of questions from the audience. The evening smorgasbord was courtesy of the Finn Equipment, Hydro Seeder manufacturer. Then followed the tour of highway installations and demonstration areas. Included, of course, were the Lawn Institute-sponsored berm and median seedings with fine-textured grasses. Credit for these plantings was officially given.

The tour began from Columbus, Ohio with an initial stop to see how certain problem areas had been replanted after disastrous erosion. One of these included the planting of the Lawn Institute fine-textured mix under an excelsior mulch. Signs were in place, indicating the composition of the seeding mixture (fine fescues, Kentucky bluegrass, Highland bentgrass, in roughly equivalent seed count proportions). Unfortunately, volunteer tall fescue from seed in the soil tended to obscure the fine-textured grasses, although it was apparent that the treatment (whether due to mulch or because of seeding mixture) had corrected the erosion problem.

Most other demonstrations involved mulch materials and various types of equipment for mulching, spraying, and otherwise maintaining the roadside. If any member has particular interest in these matters, we would be pleased to send further information upon inquiry. The long stretch of berm in Hancock County that had been seeded to Lawn Institute-furnished seed was pointed out to the touring group, but since it had been planted only a couple of weeks before tour time there was little to show as yet in the production of turf. This, and other areas to be seeded to all fine-textured mixtures, can receive emphasis in subsequent years. They fulfill our objective of getting fine-textured grasses onto considerable stretches of roadway under usual maintenance.

All in all, the conference and tour was impressive for the quality and diversity of its attendees. There were representatives from 43 states, and a half-dozen foreign countries (including Europe and S. Africa). Thus remarks and references on the program are exposed to a truly wide-ranging audience, of individuals in key positions in the field of roadside landscaping.

#### APPRECIATION FROM GOLFDOM

"Dear Dr. Schery: Thank you very much for the very fine seed article. It is running in the October-November issue of Golfdom. - - many thanks for your cooperation." - Patty Keating, Editorial Assistant, Golfdom

#### INSTITUTE PLATE IN TURF BULLETIN

A. Warren Clapp, writing "Suggestions For Evaluating And Choosing A Lawn Seed" in the September issue of the Massachusetts Turf and Lawn Grass Council Turf Bulletin, featured the photo borrowed from the Institute that contrasted fine-textured grass with coarse kinds (with inserts showing seed size). The caption with this lead photograph is typical of the tenor of the presentation: "Quality grass results only from proper seed. The fine lawngrasses, Kentucky bluegrass and Oregon red fescues, contrast with the coarse tall fescues and ryegrass. Seeds pictured are proportional to their frequency per pound. Bluegrass-lawn fescue blends afford many more seeds than do cheap haygrass mixtures."

#### OREGON SEED LEAGUE MEETINGS

Following a week of growers meetings in Oregon, Dr. Schery stayed over for the Oregon Seed League meetings. This was an excellent opportunity to get the feel of the important lawn seed industry in Oregon, and meet various growers and officers of sponsoring groups. The formal program this year was

particularly strong on foreign situations, emphasizing especially the possibility of Japanese markets.

The opening panel reviewed the technicalities of foreign trade, including the requirements and compromises needed vis-a-vis disease-free seed. The name "ergot" is anathema in Japan (serious on rice), even though it is questionable that forms from turfgrasses would have any great consequence. Yet, exporters must adjust to customer thinking, and hope to change that where it is unrealistic. Greater public relations efforts seem in the cards for overseas.

Taxes were discussed at a luncheon address. The first session following lunch provided additional information on forage crops in Japan. Then Dr. Orvid Lee, of Oregon State University, reviewed seedbed treatment for a clean seed crop. His discussion followed his published suggestions (reviewed briefly in a previous Harvests), and involve fall preparation with winter herbicides (such as IPC) in November, followed by Paraquat or something similar in March. He emphasized that seedbed treatment will not control living rhizomes in the field. He feels that progress can be made towards control of *Poa annua* in bluegrass by spring use of Diuron. He mentioned Atrazine as effective for spot treatment, and advocated rotation of herbicides for greater effectiveness.

The late afternoon program reviewed alfalfa growing, and the possible new crops which may be profitable in the future for Oregon growers.

On Tuesday, a series of excellent talks was led off by Dr. Burton Wood, of Oregon State University, who looked into his crystal ball for the future of farming. He sees massive, well capitalized agglomerations (often with stockholding), continuously more businesslike and professionally managed. He can see nothing but greater competition ahead, and probably lower prices for most seeds as the result of this and improved growing techniques.

Mrs. Louisa Jensen gave a delightful resume of her year in the Far East, especially the Malay Peninsula. Then there were committee reports on local problems, relating to labor, field burning, and so on.

In the afternoon, a panel of experts reviewed some of the procedures and problems having to do with certification. A Washington, D. C. agronomist reported on production trends with important varieties of field seeds. The afternoon session ended with another excellent review of Japan, including attractive pictures taken in conjunction with visits to the recent Seed Trade Fair. At the evening banquet, Representative Wyatt reviewed his voting record in the recent session of Congress.

Wednesday morning opened with a showing of the Union Pacific movie, "Miracle Of Grass," astoundingly popular. Joe Jarvis suggested that the combined lawn seed groups sponsor a similar film; that two such films competing would give greater acceptance for each.

There followed a panel on promotion of Oregon seed crops, on which fine fescues were ably represented by Amos Funrue, Chairman of the Fine Fescue Commission, and Highland bentgrass by Walter McElhaney, Chairman of the Highland Bentgrass Commission. Both gentlemen kindly gave mention to the Lawn Institute. In spite of serious discomfort from a recent automobile accident,



Willard McLagan had a few words concerning bluegrass, and the new Northwest Bluegrass Association. Ryegrass and orchardgrass were also represented on the panel.

Following this Jim Carnes gave an interesting review of markets for Oregon turf seeds, emphasizing especially his recent trip with Walt McElhaney to Europe, in behalf of Highland bentgrass. The slides were most interesting, and between them Carnes and McElhaney impressively conveyed information on the current situation in northern Europe. The program was rounded out with discussion of the value of turf in Oregon, with figures on dollar value and acreages for many uses across the country.

#### FRED JANS RETIRES FROM HIGHLAND OFFICE

It is with regret that we learned Mr. Fred Jans will relinquish his office as Executive Secretary of the Highland Bentgrass Commission, beginning in 1966. Mr. Jans has represented the Commission on a part-time basis since its inception several years ago. His cooperativeness in working with the Marysville office of the Lawn Institute has been outstanding. Our regret is tempered, however, knowing that Fred will now have more time for his favorite avocations of fishing, gardening and country-cabin living.

A new Executive Secretary will not be appointed, but Mr. Rod Bright will handle administration and liaison for the Commission as one of his advertising company services. His exact title has not been decided, though "Promotions Manager" rather effectively describes his activities. The Highland Bentgrass Commission announced these changes at its December meeting, and honored Mr. Jans with an "appreciation" that included a gift set of weather instruments which will serve him well in his new leisure time for outdoor living.

#### INFORMATION FILTERS THROUGH

The Lawn Institute can't devote too much of its limited time and budget to secondary activities, such as promotion of winterseeding in the South. Thus it is gratifying when we have evidence that our limited efforts are producing results. A sample indication that we are reaching a southern audience is exemplified by a recent letter from Orlando: " - - Could you send me the other articles - - I also would be interested in any other information you have on golf course grasses - - you mentioned a Lawn Institute blend. Was it successful? Do you still recommend it? Do you have a recommendation for lawns in Florida? . . . as well as golf greens? Any information you can send will be appreciated." - James K. Byrd, Haile-Dean Seed Company, Inc.

#### BLUEGRASS ORIGIN SHAPING UP?

There has been concern in technical circles about the identity of bluegrass coming to market as "common." A considerable part, for example, may be of Newport or Delta, not given varietal identification for one reason or another. Thus "common" becomes an indefinite catch-all designation, and what has been termed "natural" Kentucky bluegrass (marketed as "common" in the trade) harvested in the Midwest assumes added distinctiveness. As a matter of fact, in the state of Kentucky Dr. Buckner has proposed to certify the bloodline of the

"old-fashioned" natural Kentucky bluegrass stock. Essentially this amounts to certification of origin, and might prove feasible in other famous producing areas such as South Dakota. It would be something of a guarantee of the broad gene pool and wide adaptation characteristic of natural Kentucky bluegrass.

#### 1965 AGRONOMY MEETINGS

The American Society of Agronomy held its annual meeting in Columbus, Ohio in early November. Multiple sections, often of overlapping interest, are condensed into the four-day program. Increasingly represented is Division C-5 "Turfgrass Management," and the closely allied divisions such as C-4 "Seed Production" and A-2 "Land Use and Management." Many other crop and soil division programs bear on lawns and lawn products. Epitomization of Turfgrass Management papers follows.

Opening session was on "Nutrition and Management." Hays, of Hercules, reviewed ureaform fertilizers. Virginia workers discussed nitrogen fertilization on golf greens and highway slopes. They reported favorably upon Sunoco fertilizer, the nitrogen of which is released by hydrolysis (thus a non-burn type with the availability advantages of a soluble). Ureaforms performed poorly in winter, but were good in late spring. Other VPI research (with wheat) pointed up reduced germination in the presence of nitrate salts, and improved germination under high osmotic pressure if pre-soaking is practiced. Youngner and California colleagues discussed salinity tolerance in creeping bentgrasses, for which Seaside was far best (and Penncross poorest). It was hypothesized that selections out of Arlington and Seaside could yield creeping bentgrasses of notable salinity tolerance.

Roy Goss, Washington, covered his fertility trials at Puyallup concluding that potassium was at a deficit in summer, nitrogen in autumn, and that medium rates of fertilization were adequate. Schmidt, Virginia, measured performance of bentgrass and bermuda, concluding as is generally recognized that bermuda accommodates to high temperature better than bent, though even bermuda is inhibited if night temperatures remain as high as 90°. Mississippi workers said that topdressing was the most important practice for controlling thatch, although mechanical removal and other tangential procedures could have some influence too. California researchers studied soil amendments as they relate to water infiltration and soil compaction, concluding that redwood bark and calcined clay were useful, but that peat mixed into the soil did not forestall compaction.

"Weed And Disease Control" was topic field for the Monday afternoon sessions. Iowa research correlated a high potassium content with reduced disease; and suggested high levels of nitrogen to reduce dollar spot (probably through masking because of increased growth). Minnesota researchers spoke of the continuing program in bluegrass selection, whereby several lines have now been isolated resistant to mildew, and to a lesser extent other diseases. This suggests the possible release eventually of "improved" lines, or of synthesis of another variety such as Park. Beltsville research confirmed that there was some antagonism to efficiency of certain herbicides under high phosphorus levels, and that high phosphorus and high pH gave some advantage to *Poa annua*. But the majority of pre-emergence herbicides (Zytron rated best in these results) were unaffected by soil factors. A Mississippi State report indicated that soluble fertilizers used even as infrequently as four

times per year gave the best and most consistent ratings, as compared to more expensive (and supposedly "superior") fertilizer such as ureaform. A business meeting followed, and then round-table discussions concerned with the multiplicity of fertilizer regulations state to state, and with the new interest in electrical warming of the soil (viz. stadium grass).

Tuesday morning "Seed Production And Technology" sessions were held jointly with the American Seed Research Foundation, and Tuesday afternoon a symposium on "Diseases Of Turfgrasses - Causes And Cures," both of which are being reviewed under separate headings. Wednesday morning tours were made to the research grounds at Ohio State University, and in the afternoon to Scott facilities in Marysville.

Thursday witnessed a joint meeting with the Land Use And Management Division, having to do with "Roadside Turf." USDA people from Georgia studying different mulching techniques, found straw partially embedded mechanically into the soil to be among the best. Dr. Beard, Institute advisor in Michigan, found straw (or sod) to be much the best in controlling erosion in his state. Ohio State researchers also found straw mulch hard to beat.

Iowa and Nebraska research emphasized salt tolerance and performance, particularly of some of the coarser grasses. In Nebraska bluegrass gave poor establishment, while wheatgrass and crownvetch were among the top performers. Research in Illinois was more elaborate, and emphasized the individuality of location as largely determining (single varieties, shotgun mixtures, and peat pot plantings were made to determine adaptedness). For survival and spread, bluegrasses and fine fescues rated well. Canada bluegrass ranked near the top. Fine fescues and Seaside bentgrass were reported as faster establishing than bluegrass. Park bluegrass was a favorite variety, along with Delta. In shotgun plantings tall fescue and vernal alfalfa gave the most cover most quickly.

#### GROUNDS MAINTENANCE MAGAZINE

The Lawn Institute cooperated with the Oregon Fine Fescue Commission, in preparing a "news release" about the Fescue Commission, for the charter issue of Grounds Maintenance Magazine. This was entitled "Fine Fescues Arouse National Interest," and reflected the nationwide efforts that the Commission lends, now that it also sponsors investigations in the deep South for winter-seeding. It is felt that with the increasing attention given beautification, as a result of the President's program, that fine fescues will be increasingly useful even for what were once considered rough turf areas.

#### DE-HULLING GRASS SEED

C. L. Canode, Washington State, reports in Crop Science on the germination of forage grasses kept for five years, in the normal state and when de-hulled. Wheatgrass, orchardgrass, timothy, brome-grass, oatgrass and meadow foxtail were the test species. Germination in all was better preserved under storage in cool, dry conditions. Removing the hulls materially lowered storage life of timothy, foxtail, and wheatgrass; but did not seriously reduce germination under comparable storage conditions with orchardgrass, oatgrass and brome-grass.

### THE SOD INDUSTRY

In its usual comprehensive fashion, the winter issue of the Farm Quarterly, in an article "Sod Is For The Pros," reviewed the burgeoning sod industry from production through marketing. A few of the highlights:

4000 square yards to the acre, grossing as much as \$1600 (Merion bluegrass). But expenses and competition these days make it quite exceptional if as much as \$200/A be net. Proper accounting of expenses would show much sod production to net less than competing agricultural enterprises.

Sod business growing fast, with nearly 200 growers today employing tens of thousands of acres. In Michigan alone an 18 million dollar a year business.

Sod operations discussed are mainly for Kentucky bluegrass. Will regenerate from rhizomes in time, but professional operations re-seed, on roughly a two year basis. Highest quality of seed is demanded. Growing practices entail the latest procedures, including regular irrigation. Even cutting, rolling and hauling are becoming mechanized, and about \$200,000 needed to capitalize an operation (with no income the first year).

A good Merion sod may sell in the field for 20¢/yard, or 25¢ F.O.B. on a semi-trailer. If a producer carries all the way through to a captive sales outlet, one grower estimates an average 42¢/yard return, with most of the additional 17¢ eaten up by the expected business expenses. Disillusioned producers can undermine the price structure, trying to unload when sod growing does not prove the bonanza expected.

### NEW TORO MOWER

The Institute is much indebted to Toro Manufacturing Corporation, for one of the new model mowers. In addition to a strikingly attractive appearance (red and white), there are a number of interesting innovations. The mower is quite light weight and easily handled, with a substitution of plastic for metal over most of the unit. There's a new oil fill "funnel" with glass cover, that gets away from the messiness in oil change. Control adjustments are simplified and conveniently placed. The 19" rotary model retains all the flexibility and convenience for which it has long been noted, and should prove a most attractive workhorse model in the Toro stable.

### MEMBER REQUESTS REPRINTS

"Will you please send us 100 copies of the reprint from Golfdom entitled 'Seed Selection Is Important.' This is a very interesting article, one that we would like to send to our salesmen. - -" - G. O. Newton, Vice President, Consumer Products, Northrup, King & Co.

### COUNCIL TO REPRINT BLUEGRASS STORY

A letter from Dr. Joseph A. Keohane, editor of the "Turf Bulletin" of the Massachusetts Turf and Lawn Grass Council, asks permission to reprint in

that Bulletin the story "The Migration Of A Plant" from Natural History. We are delighted to have this additional publicity given the story, and have suggested the University of Massachusetts proceed according to the editorial policies of Natural History Magazine.

#### PESTICIDE EFFECTS

The U. S. Department of Interior has issued Circular 224, "Pesticide-Wildlife Studies By States, Provinces And Universities." Listed alphabetically by state and province are summarizations of research work done and in progress. The reporting seems to be unslanted, except, of course, that by definition it ignores the huge area of successful usage of pesticides in agriculture and horticulture. So far as wildlife is concerned, the circular reports many safe and sensible applications of pesticides, and a greater number of cases where there has been measurable damage. Oftentimes damage to the fauna is partial, selective, and of only moderate duration. One might even suppose eventual build-up of somewhat immune populations. An "average" situation (if there can be any such thing) might be the conclusions for an Ohio forest treated with Malathion: "preliminary observations indicate limited effects on vertebrates, and effects on insects, though severe, appear short-termed. Residues - - were found throughout the faunal system - -."

#### MORE ON MOVIES

Modern, Institute movie distributor, indicates expanding interest in (free) short movies at airports. A second skyport theater has been opened at Minneapolis, following the successful operation at Cincinnati. A survey indicates that 70% of the people waiting in the terminal spend a portion of their time watching the films. The majority of the audience consists of important executives and professional people.

Likewise, there is increasing use of sponsored films at resorts. Although viewers are not necessarily present because of personal interest in the film, nonetheless they too represent a high income audience in a position to react to proper motivation.

#### PRESENTATION TO ROADSIDE CONFERENCE

Following are excerpts from Dr. Schery's presentation to the 24th Short Course on Roadside Development, Ohio State University and the Ohio Department of Highways. The conference was attended by representatives from 43 states and several foreign countries. Full text of his talk, with supplementary illustrations, appears in the Proceedings of the conference.

Dr. Schery's title was "Buying Seed For The Roadside." He emphasized that common sense, combined with flexibility in specifications, can result in the "best buy." His subsequent remarks explained to the uninitiated the criteria for intelligent selection of seed. He pointed out: "Perhaps more so along the highway than elsewhere, cost of seed seems less important than cost of its ultimate maintenance." By a way of example, he indicated that use of all fine-textured blends might, in many instances, reduce the amount and cost of mowing. He also pointed out the greater seed count with

bluegrasses, fescues and bentgrasses, as compared to the conventional tall fescue used through much of the Midwest.

Seed mixtures were suggested, for the same reasons they are used so widely in lawns. Information is at hand (or soon will be), on what the ecological succession is likely to be in the area where planted. "For the roadside there would seem advantage in having a broad genetic base. This is partly gained from widely adapted, unspecialized varieties, - - it is also gained by employing mixtures of compatible species - -."

Dr. Schery then offered some observations on standards utilized in the purchase of seed - principally germination, inert, weeds and crop. "Since germination tests are routine as a basis for trade, and since there is checking by state officials as to its truthfulness, germination need not be a primary concern for the landscape architect. Overly stringent germination specifications can sometimes interfere with the ability to make the 'best buy'." Dr. Schery advocated on-the-scene leeway in purchasing available seed.

As to inert, "there would be no sound reason for refusing seed containing a 15% inert as compared to 5%, provided its cost was at least 10% less and the seed not disagreeable to handle." With weeds, "it's hardly a good practice to plant weeds at any price. - - but don't be too alarmed. - - Weeds which may be an important problem in a cultivated field, can be of little concern on the roadside - - most of the official weeds are already abundant in the soils which constitute much of the roadside - - a few more or less is not going to make a great deal of difference."

Crop was discussed in terms of the reprint from the American Horticultural Magazine, "Lawn Seed, And What's A Weed." The remarkably pure condition of much seed was pointed out, and slides shown of the producing areas indicating the problems and triumphs in seed production. Schery added, "nevertheless, many forage and field species are tough competitors for the grasses and legumes you may be sowing. - - on the highway berm, where so much tall, clumpy stuff the likes of tall fescue is now seeded, the addition of more haygrass crop may be of little consequence. But as more sophisticated plantings with 'fine-textured' grasses become prevalent, there may be reason to check seed for unwanted crop."

For selecting the roadside grass, it was pointed out how there is increasing dissatisfaction in suburban and urban areas because of dispersal of coarse-textured grasses that seem to contaminate nearby lawns. Rather, in these areas, " - - the Kentucky bluegrasses (with varieties such as Park, Arboretum and Delta available at a small premium), the fine or Creeping Red fescues (with Chewings, Illahee, Pennlawn, Rainier, etc. at little premium), bentgrasses (of which Highland is moderately priced among seeded varieties), - -" were suggested in place of "coarse kinds." Schery continued, "rightly or wrongly, the liberal use of tall fescue in highway berm seedings gets at least partial blame for the ubiquity of this clumpy haygrass in lawns. - - Even this should be a public relations concern for the highway landscaper, lest his public image become one of planting one of the country's worst weeds in otherwise attractively landscaped berms!"

Modern mulching techniques should make it possible to establish quality, fine-textured species in this day and age. Expected supplies of these, and other

roadside seed was reviewed, information through the courtesy of the Edward F. Mangelsdorf Seed Company.

#### MACMILLAN GARDENING ENCYCLOPEDIA

Dr. Donald Wyman, Arnold Arboretum, Harvard University, prominent Macmillan author, was engaged to edit and partially prepare an extensive encyclopedia of gardening. He called upon Dr. Schery and the Lawn Institute to develop the section on "Lawns And Their Care." Nearly 30 pages of manuscript were prepared and turned over to Dr. Wyman, featuring especially seeded northern grasses. What with Wyman's reputation in horticulture, this should prove an influential encyclopedia.

The section on lawns opens by characterizing this special facet of horticulture. Dr. Schery concludes "Grasses generally work best. In the northern two-thirds of the United States Kentucky bluegrass (*Poa pratensis*), the fine-leafed or red fescues (*Festuca rubra*), and the seeded bentgrasses (principally colonial types such as Highland (*Agrostis tenuis*), are most used."

Growth conditions for grasses are then characterized, with discussion of soils, seedbed preparation, seeding and equipment. The grasses, their characteristics and needs, are first divided according to northern and southern species. Tables, such as appeared in "What Lawn To Plant Where," epitomized each species. Fine fescue adaptation to "poverty shade" is discussed, and similar special adaptations for the other quality species, including golf course usage.

The final section is devoted to care of lawns, in which mowing, fertilizing and watering are major concerns. Kentucky bluegrass-fine fescue turfs are cited as standard, for which these procedures are reviewed. "Bluegrass-fine fescue turf, the most widely utilized of fine turfs over most of the nation, is chosen as the standard for discussion. This is a rather trouble-free, erect-growing grass population, of course best adapted to northern regions."

Secondary maintenance features, such as pest control, are treated more cursorily because of space limitation. Also, it seems unwise to emphasize unnecessarily some of the negative aspects of lawn tending. Rather, the pleasure that comes from living on and working with a well-designed lawn. Dr. Schery concludes, " - - a good lawn need not be a burden, either financially or in terms of the attention it will require."

#### REPRINTS REQUESTED

"We would much appreciate receiving reprints of 4 bulletins on grasses you mentioned during your talk at the 24th Ohio Roadside Short Course." - George B. Tobey, Jr., Head, Division of Landscape Architecture, The Ohio State University.

#### ADDED SUPPORT IS APPRECIATED

The Lawn Institute is very appreciative of the special support and publicity recently extended by the Highland Bentgrass Commission. We call members' attention to such broadminded advertising as appeared in the September

Seedsmen's Digest, in which not only is Highland bentgrass featured, but bluegrasses and fine fescues, too. The ad reads in part: "A blend of bluegrass, fine fescue and Highland colonial bentgrass may be just the thing to give you winter green turf of fine quality." We are most grateful, too, that the Lawn Institute is specifically named, and its Director figured.

"FERTILIZE FINE FESCUES, BLUEGRASS"

This was the headline given our story, adapted from the press kit, appearing in the October 22 issue of Seed World. We are pleased to see Seed World utilizing so many Institute releases for their "Bulletin Board Suggestions" section. We won't quote from the story, since all members have received a sample autumn press kit.

SHORT COURSE PARTICIPATION APPRECIATED

"Dear Bob: Another Short Course on Roadside Development has been completed and it takes a lot of people to make the conference successful.

I thank you for preparing and presenting your paper on 'How To Get A Good Buy On Good Seed For Roadside Seeding' and appreciate your good participation." - Wilbur J. Garmhausen, Chief Landscape Architect, Ohio Department of Highways

PUBLICATIONS REQUESTED FOR LIBRARY

"We are attempting to build a - - file in our library - - could you provide us with several past copies of your publications and other material which would be useful - - Thank you for your consideration." - T. R. Hanley, Instructor in Business Administration, University of Wyoming

TEMPERATURE AND NITROGEN

An interesting report appeared in the July-August issue of Crop Science, relating temperature to nitrogen fate in corn. Corn, being a grass, suggests that the same principles are involved with turfgrasses. High summer temperatures are often deleterious to top northern lawn species such as Kentucky bluegrass.

The study indicates that high temperature reduced certain enzyme activities, resulting in nitrate accumulation but less total nitrogen. There were marked effects upon amino acids and protein nitrogen. Differential results in the amino acid-protein complex very well could have an influence on the greater incidence of bluegrass disease in summer and at high levels of nitrogen fertility.

Moisture and light were of decidedly secondary influence compared to temperature.



CROP LOSSES AND CONTROL

Agricultural Chemicals carried a review by E. L. LeClerg, itemizing estimated loss of various crops (including turf) due to disease, insects, weeds, and so on; and the comparative cost of controlling the afflictions.

While one might question the lumping of "turf" entirely within the insect damage category (loss 827 million dollars), nonetheless it is interesting to note that in most instances cost of control is only one-tenth or less the loss. Cost of weed control equaled the estimated loss due to weeds, and exemplifies how tremendous would have been losses were there not control!

The USDA has issued handbook 291, "Losses In Agriculture," obtainable from the Superintendent of Documents for 60¢.

QUOTABLES PICKED UP IN AUTUMN PRESS CLIPPINGS

We don't know that all of the following quotations were inspired by the Lawn Institute press kit, but certainly such widespread expression of Institute ideas is encouraging.

From Lebanon, Ohio: "Erect Grasses Best - Kentucky bluegrass and the fine fescues thatch least - - Park, Arboretum and other varieties similar to natural Kentucky bluegrass seldom have thatch problems. The same is true of such fine fescues as Chewings, Illahee and Pennlawn. - - Bentgrasses are turfgrass delights - - the more erect varieties, such as colonial and Highland, thatch less - -." And in Gahanna: "Kentucky bluegrass or one of its varieties - - avoid annual bluegrass that is considered a weed." Down in Dayton, Ohio Bob Burns voices: " - - Kentucky bluegrass and the fine fescues, basic ingredients of a good lawn herabouts, - -." The Cincinnati papers emphasize: "It should not be confused with Kentucky bluegrass and one should be sure it is not included in a lawn seed mixture," referring to tall fescue.

Several New York papers carried "Garden Hints," advising: "Choose Seed Carefully - Bargain lawn seed mixtures seldom produce quality lawns. They simply don't contain enough of the desirable permanent lawngrass seed, Kentucky bluegrass and red fescues. Kentucky bluegrass or Merion Kentucky bluegrass is the backbone of good lawn seed. - - Red fescues, of which Pennlawn, Rainier, Illahee, Chewings - - commonly available varieties, are the best grasses, - -." Under the title "Lawngrasses Best Suited To Westchester," one reads: "There are two grasses that have been proven over the years for permanent lawns - -. They are the fine-bladed Creeping Red fescues and the Kentucky bluegrasses." Nearby in Scarsdale: "If area is shady, use a fescue - Pennlawn is the very best. If the area is moist and sunny, Kentucky bluegrass is the best choice, and here Merion is the premium grade." Added New York support: "The importance of using top-grade mixtures of permanent fescues and bluegrasses - -. And investment in 'bargain' grass seed mixtures - - is a waste of money." Also, "It would be good economy to invest in a high grade seed at this time. The best mixtures for this area are predominantly bluegrasses and fescues - the permanent and perennial grasses." Just over the river, in New Jersey readers are told: "Cheap Seed Yields Disappointing Lawn."

In many Missouri papers we learn: "Kentucky bluegrass is the best lawngrass to use - - several varieties such as Arboretum, Delta, Newport and Park are available, - - it is also recommended that red fescue be used with Kentucky bluegrass as a nurse - -. It sprouts faster, - -." St. Joseph learned: "Everyone agrees Kentucky bluegrass makes a longer-lasting lawn of fine texture - - Merion blue or Park blue are tops too." Park is mentioned as the bluegrass "newly developed by the University of Minnesota that has the advantage of coming up very quickly." Missouri papers added: "It's also recommended that red fescue be used with Kentucky bluegrass." In Excelsior Springs, Missouri they feel: " - - a reminder that common Kentucky bluegrass is still our most satisfactory lawngrass. Folks having much shade may desire to add 20-40% of one of the narrow-bladed lawn fescues." And from a number of Missouri papers: "Grass Seed Bargains Can Be Deceptive - In an ounce of Kentucky bluegrass there are about 135,000 seeds. An ounce of perennial ryegrass contains only 14,000 seeds."

In South Dakota: "Kentucky bluegrass is the best - -. In sunny and moist areas a seed mixture of 60% Kentucky bluegrass, 30% Creeping Red fescue - -." From nearby Iowa: "Kentucky bluegrass and Creeping Red fescue are fine grasses while the coarse grasses are ryegrass and tall fescue."

New Jerseyites read repeatedly: "No matter how much care you give a lawn planted to cheap bargain seed mixtures, you'll never be proud of it. - - For a sunny lawn, Kentucky bluegrass should predominate in the mixture, and for a shady lawn the red fescue." And inspired by the Institute press kit: "Alta, Goars Fescues Not For Lawn" - "So in buying seed mixtures, don't confuse them with the fine fescues, in varieties such as Chewings, Illahee and Pennlawn." Then the headline "Use High Quality Seed For Lawn," from the Red Bank Register, no less.

Of course Maryland has been hearing a lot about annual bluegrass: "Annual Bluegrass Beautiful In Spring" says this pest is fast becoming one of the most serious weed problems in Maryland. "Important source of these weed seeds is lawn seed imported from Europe. In every imported lot of bluegrass seed tested in Maryland last year, some *Poa annua* was found." In adjacent Washington, D. C. it is said: "The choice of grasses - - be given careful consideration. Common Kentucky bluegrass seems to be the most desirable . . of the red fescues, and we should have them in the mixture, Pennlawn seems more desirable than the common red fescue. Illahee, Chewings are useful for drier, shadier areas." The Washington, D. C. Star advocates: "Reseeding with a mixture of Chewings fescue and common blue."

Many papers in Minnesota advised: "Use a good quality grass seed containing a high percentage of permanent grasses. Such grasses as Kentucky bluegrass are recommended for the heavier soils, whereas mixtures with fescue are better for the lighter soils and under shady conditions." The well-known columnist, Joe Witmer, Minneapolis, recipient of Institute kits, says: "Shady areas need Creeping Red fescues while sunny lawns require mostly Kentucky bluegrass. The percentage for shade is 60% fescue and 40% blue, - -." Alden, Minnesota residents were similarly advised: " - - overseed with a combination of Park variety bluegrass and Creeping Red fescue."

Widely distributed in Wisconsin was this advice: "As for varieties, the standard by in most situations is still Kentucky bluegrass." Very similar is advice to

Michiganders: "Two primary grasses are best for home lawns. The Kentucky bluegrasses are adapted to heavier soils and sunlight conditions, while Creeping Red fescues are best adapted to lighter soils and shade. Include some Merion Kentucky bluegrass if you're willing to put extra care on your lawn. If not, choose any of a number of common Kentucky bluegrass types such as common, Park or Delta. Red fescue varieties include Pennlawn, Rainier, - -." The Sturgis, Michigan Journal headlines "Plant Cool-Season Grass: Bluegrass Bent and Fescue."

Surprisingly, for Wichita, Kansas: "Cool-season grasses adapted for southern Kansas include Kentucky bluegrass and its varieties." In Irwin, Tennessee, the headline "Bluegrass Best," - "For our area, common Kentucky bluegrass has proven to be the best grass for the average lawn." The story further suggests that bluegrass from Canada or Europe should not be used. In Virginia we hear: "For shady areas use half Kentucky bluegrass (Merion or common) and Creeping Red fescue (Pennlawn, Illahee)."

Bloomington, Indiana has four columns of advice: "Beautiful Spring Lawns Must Be Started Now." - "Good permanent grasses, such as Kentucky bluegrass or any of the fescues, have tiny seeds. - - One pound of 'bargain' annual ryegrass may cover only 100 feet, while a quality mixture will give you 500 square feet of coverage." Out of Lafayette, Indiana came this headline "Bluegrass Time." In Illinois the advice was: "When seeding an entire new lawn or just touching up a bare spot, it's important to buy the right kind of seed. In sunny areas, use a Kentucky bluegrass such as Merion, Delta, Park, Arboretum or Newport." One Illinois paper headlines "Read The Label When You Are Purchasing Seed."

Connecticut Extension suggested a mixture of 3 lbs. bluegrass and 1 lb. fine fescue for general use. Penn State University advises: "Bluegrass is the basic lawngrass, but several of its selected varieties, as well as other grass species, provide first-rate turf."

The Suffern, New York Independent carries this headline, "Don't Skimp On Quality Of Grass Seed." Buffalo, New York reads: "That Cheap Seed Can Be Costly." Then, "Kentucky bluegrass is the best grass for sunny places and good soil - - this grass is the backbone of a seeding mixture. Red fescues are best for dry soil either in sun or shade." From the Jersey Coast: "High Quality Lawn Seed Mixtures Considered Best." A syndicated column question about zoysia is answered. "But it is not a northern grass. If you want something straw-brown from the end of September until late April, then use zoysia. You can get the same effect from crabgrass, except crabgrass is free."

Detroit, Michigan is advised: "Choice lawn seeds - such as Kentucky bluegrass and fine fescue - are less demanding than some surmise." Grand Rapids, Michigan hears: "Fall Is Best Time For Building Up Lawn."

Out in Montana we learn: "The Merion or Park strains of Kentucky bluegrass are recommended - - Kentucky bluegrass with 10% Creeping Red or Chewings fescue can be seeded in shady areas." Over the border in Idaho: "Kentucky bluegrass is recommended for lawns throughout Idaho." And in western Nebraska: "Top quality Kentucky bluegrass selections grow at their best in the cool autumn air." Other Cornhuskers heard: "When purchasing grass seed for your lawn, do not sacrifice quality for quantity. - - Many bargain seed mixes are merely grass seed - not lawn seed." Way West in Eugene, Oregon, Mark Taylor says: "Fall Best Time To Rehabilitate Your Lawn."

It's unusual from North Carolina to hear much about bluegrass, but we learn, in John Harris' column: "In the mountains Kentucky bluegrass used alone or in combination with red fescue is recommended."

Not often recommended in mix are these, "Park bluegrass and bird's-foot trefoil" (Mahnomon, Minnesota), and "for larger areas, Korean lespedeza, plus bluegrass, may start a good lawn with a minimum of cost" (Lafayette, Indiana). But in Massachusetts it is standard, "A mixture that consists of Kentucky bluegrass or Merion and a red fescue such as Pennlawn, Illahee or Creeping Red - - the fescues will sprout first."

#### TECHNICAL SCHOOL USES REPRINTS

Mr. Charles Reutter, instructor in the Springfield Technical School, dropped by the offices selecting reprints useful for classwork. As a starter, 25 copies each of "The Importance Of Quality Seed," "Seed For Sod," and "A New Slant In Lawn Fertilizing" were taken for classroom instruction. Mrs. Payne later sent sample copies of other reprints, and Mr. Reutter will select from these what he needs as classwork progresses. The Technical School is newly established to provide technical training for those not going on with academic college work, to better equip them for jobs in the horticultural and agricultural field. Considerable opportunity would seem to lie in garden center and landscaping operations.

#### ADDITIONAL LAWN SEED PUBLICITY

We are grateful to Seed World, in its September 24 issue, carrying the Institute story "Good Lawn Seed Sprouts Fast." The cooperation extended the Lawn Institute by Seed World is much appreciated.

#### CHASE MANHATTAN SURVEY

Members may have noted in Seed World results of the garden spending survey conducted by Chase Manhattan Bank of New York. It was estimated that 65 million dollars is spent for seed and bulbs, about a quarter-billion each for fertilizer and pesticide, and 2½ billion for tools and equipment.

#### GARDEN CLUB AWARD

We have a release from Better Homes & Gardens about competition among Men's Garden Clubs for the national award of best project completed in 1965. All clubs are urged to enter the competition, which can be based upon a lawn project as well as other gardening activities. The winner will be named at the MGCA national meeting in Portland, Oregon next June. Perhaps members might suggest to a local club the seeding and refurbishing of turf areas on public display. Nothing contributes more to general neatness and attractiveness.

### SOUTHERN INFLUENCE

Even though our clipping service is northern, finished before "winterseeding" season in the Southeast, it is noteworthy that there is increasing pickup of Institute stories in the South. Particularly noteworthy this autumn has been the Orangeburg, South Carolina Times-Democrat, using 8 Institute stories. On two major items, "Select A Good Wintergrass" and "Want A Winter Lawn? Prepare To Winterseed," prominent by-line credit is given. Sample quotes: "More satisfactory on the golf green and many lawns are newer blends combining several fine-textured grasses. Typically included are fine fescues, under varietal names such as Chewings, Illahee and Pennlawn; Kentucky bluegrasses of which Park is a fast-sprouting variety; and several of the bentgrasses, such as Highland." And "Bluegrass-fescue-bentgrass blend will cost a bit more by the pound. But you'll get nearly ten times as many seeds in each pound."

Typical quotes from the shorter stories: "The better garden centers and seed stores stock blends of Kentucky bluegrass including the Park variety; the fine or red fescues from Oregon, in varieties such as Chewings, Illahee and Pennlawn; and economical bentgrass such as Highland, with probably the most luxurious texture of all." "The fine fescues such as Chewings, Illahee and Pennlawn have a dark green color most attractive for lawns. In winterseeding the fine fescues are usually combined with Kentucky bluegrass, also rich in color and a bentgrass of which the Highland variety is bluish-green." And "A winterseeding mixture of bluegrass, fescue and bentgrass profits from supplementary seasonal performance - - of these stalwart species."

The Birmingham, Alabama News picked up two stories from our regular (northern) kit, viz. "Bluegrasses, fine fescues and bentgrasses are among the fine-textured types - -." Several Mississippi papers utilized winterseeding materials, as: "Here are seven steps recommended by the Lawn Institute for making your lawn more beautiful - -," under headlines such as "Golf Green Quality For Your Own Lawn."

We were given by-line in Tyler, Texas ("Try These Steps For Winter Turf"), and California stuck with regular release material ("Bluegrasses Are Best For Lawn"; "Six Best Weeks For Lawn Care"; etc.).

### PAPERS USING INSTITUTE RELEASES

It is gratifying when certain newspapers make extensive usage of materials prepared for the press. The instances cited below are flattering, in that these papers saw fit to use our materials exactly as issued (without editing).

Michigan - The Pontiac Press led all others, with 9 stories. Next came the Traverse City Record-Eagle. Other prominent papers were the Kalamazoo Gazette, the Lansing State Journal and the Battle Creek Enquirer-News.

New Jersey - The Trenton, New Jersey Times led with 8 stories, followed by Jersey City Journal and the Newark News.

Ohio - The Cincinnati Enquirer was way out front with 7 stories.

The intensive usage in Maine is mentioned elsewhere, while in Wisconsin the Manitowoc Herald Times and the Two Rivers Reporter share honors. The Boston Herald leads in Massachusetts (6 stories), and the South Bend Tribune in Indiana. In New York we are especially gratified by the Albany Times Union where in addition to by-line courtesy our friend Earl Aronson has seen fit to mention us again in his story by name.

#### ASTA-ATLANTIC SEEDSMEN PRESENTATIONS

The two-day meeting of these associations in New York City was sparked by several outstanding presentations by invited speakers.

Carleton Lees, Executive Director of the Massachusetts Horticultural Society, went to the heart of gardening, in "What Price Beauty." He emphasized that a garden is possible anywhere, and is often the inspiration for improvement in taste and attitude. Among other things, it is one of the best and most economical means for "slum clearance." Gardening should be more than just a hobby, become part of man's environment. Certainly it is needed as a steady influence amidst today's turmoil of movement, mechanization and change. Sometimes it can be "sold" only by emphasizing its practical values - the dollars it saves through the chain of events it inspires. He quoted from Bruce Gullion, "Many children today do not know where even a carrot comes from, and through not knowing may grow up to destroy the very environment which sustains them." Gardening is indeed fundamental, not superficial.

Dr. Henry Fortmann, in Tokyo for the Trade Exhibits, showed marvelous color photographs taken in Japan. The diligence of the people and their inherent artistic talents were very much evident. "Insurmountable" difficulties are surmounted to create beauty where ugliness might be anticipated. One wonders what the beautification campaign in America might become, if the Japanese attitude towards environment should prevail!

C. R. Edwards, of the USDA Seed Branch, reviewed "Labeling In General Under The Federal Seed Act." His views were generally conciliatory, in agreement with industry position on most counts. His resume on noxious weeds is mentioned elsewhere.

Dr. Reed Funk, Rutgers University, gave an "Evaluation Of New Turfgrasses." His photos showed comparative performance of selections under stress, and accordingly were not ideal turf. He mentioned Kentucky bluegrass as the most important lawngrass of the northeastern United States. Ratings of selections under test were given. Few equal Merion, although an increasing number of problems are now besetting Merion. Anheuser has performed well at Rutgers (not as well in other parts of the country), and several Penn State selections (including K-547) offer promise. Belturf, from the Plant Industry Station, Beltsville, has shown advantageously. Fine fescues were not recommended as pure stands except perhaps for dry shade. But they belong, " - - faster to germinate than Kentucky bluegrass - - plus fairly good shade tolerance makes red fescue a desirable component of most lawn seed mixtures." Funk suggested need for a red fescue with greater disease resistance and tolerance of close mowing. He favored Norlea perennial ryegrass, and noted positive features of NK-100 and NK-106. Bentgrasses were reviewed, but are not recommended for general turf in New Jersey.

Final speaker was Dr. Henry Indyk, also of Rutgers, reviewing procedures for lawn maintenance and renovation. Slides showing mechanization of sod growing were of considerable interest. Sod certification is possible in New Jersey, but so far only about 25 acres have qualified under the rigorous standards (involving inspections before and at sowing), even though the sod industry is rapidly burgeoning in the area. Indyk is an aggressive advocate of quality for New Jersey lawns.

#### SEED PHYSIOLOGY SYMPOSIUM

Under aegis of Division C-4, a joint symposium was held on seed physiology during the Agronomy meetings. Howard Kaerwer, Northrup King, set the stage with a discussion of important points as they relate to the interest and economics of seed production.

Pollock, Colorado, discussed the progression of germination steps in peach seeds and lima beans. He theorizes that in germination there are a series of discrete steps, not a continuous progression of events (which might be questioned in grass seed germination?).

Marcus, USDA, Beltsville, discussed theory relating to the chemical cycle in seed germination, - with triggering, repressive and automatic feedback mechanisms. One gains the impression that so complicated are the inter-relationships, that the physiologists are really surmising that everything which occurs during germination is related to everything else.

Perhaps more understandable was Borthwick's (USDA) discussion of "Action Of Light On Seed Germination." The "on-off" triggering of red and far red light on many plant reactions is now well recognized. Borthwick discussed the isolation and performance of the active phytochrome. It seems as though most instances are not an "all or none" response, but that there are tempering degrees of control.

#### AGRONOMY MEETINGS POTPOURRI

Elsewhere in this issue are reviews of papers presented to the Agronomy meetings, that relate closely to turfgrass. In addition a broader range of subject coverage may be of interest to members. Here are several topics taken mostly from the abstracts, that bear somewhat upon lawns and which reflect the expanding interests of agronomists.

Ohio State University researchers discussed nutgrass, in relation to photoperiod, temperature and various treatments. High nitrogen combined with short days and high temperature increased rhizome production; gibberellin generally had a retarding effect.

Virginia workers compared growth and composition in mixture of orchardgrass, tall fescue and Kentucky bluegrass, as these related to potassium and nitrogen. As expected, all grasses benefited from N and K. Bluegrass produced higher yields than the other grasses or mixtures, and fescue yielded more than did orchardgrass. But the bluegrass yield was due to incidence of invading species. Bluegrass was the least aggressive, and persisted better in mixtures with fescue than with orchardgrass.

In California research, Hardinggrass flowering was facilitated after low temperatures; tillering was depressed by seedhead formation (mortality of old, and fewer new), but increased again after seedhead formation. It is implied that tillering (thickness) can be influenced by control of seedhead production. The implication is obvious, that a poor seeding bluegrass will likely be the better performer in a lawn!

A Connecticut researcher pointed out that almost all fungicides act as protectants. But consider that they must inhibit one type of plant (fungus) while not harming another, in spite of being subject to oxidation, hydrolysis, decomposition by sunlight, washing-off, and many other interactions with environment. Even then the fungus may have internal mechanisms to avoid toxicity. No wonder the perfect fungicide is hard to come by.

In Columbia, Missouri, soil moisture loss and soil shrinkage were tested under corn, alfalfa and Kentucky bluegrass. As would be expected, bluegrass came up by far the winner in these comparisons. "The loss of soil moisture under bluegrass was mostly confined to the upper two feet of the profile."

In Ontario, Canada, fertilizer identified radioactively was shown to be quickly absorbed by soil microbes when a carbohydrate such as sawdust was added to the soil.

In Beltsville studies, a combination of herbicides generally persisted longer than the same herbicides individually. For example, the addition of Amitrol made Dalapon toxicity longer persistent. On the other hand, Dicamba decomposed more rapidly in soils treated simultaneously with 2,4-D. It looks as though each situation must be individually ascertained!

Martin, of California, called for more information about the influence of pesticides on soil microbes. Pesticide residues can upset the ecological balance of the soil, causing production of secondarily toxic substances, elimination of certain races of microbes, all of which in turn can materially affect the solubility and concentration of nutrients. So many factors are involved, that it is almost essential to study each pesticide individually.

In Illinois, inoculation of crop plants with a mycorrhiza (fungus) increased yield and phosphorus content; apparently the mycorrhiza makes available unavailable sources of phosphate.

British Columbia researchers reported on recovery of different fertilizers by orchardgrass. Resin-coated urea and ammonium nitrate were most abundantly recovered, more so than urea by itself and conspicuously more so than urea-formaldehyde.

Minnesota research continued on the atmospheric loss of fertilizer nitrogen. There was negligible loss from several ammonium sources, but appreciable loss from ammonium carbonate. However, urea suffered loss up to 13%. Increasing soil pH increased loss with moderate application, but heavy application showed loss regardless of pH. Major nitrogen loss occurred from 2-12 days after application.

Iowa soil conservation workers concluded from a series of studies that soil formation in Iowa has occurred in less than two thousand years. Two thousand years is sufficient to define a wide range of the soil properties.



Ants, in Wisconsin, are shown to have quite an effect on soil where their workings occur. Ant mounds contain five times as much phosphorus and two times as much potassium as adjacent prairie.

In Louisiana, even small levels of soil compaction repressed the growth of loblolly pine seedlings - showing this to be important in the forest as well as the lawn.

Fertilization and erosion studies along Ohio highways showed tall fescue and Kentucky bluegrass to persist, redtop and alsike clover to disappear; fertilization increased percentage of cover, and persistence was better where phosphorus was included with nitrogen (after four years).

Goss, reporting on the Pacific slope of Washington, indicated less thatch with the prevailing bentgrass if mowed at 3/4 inches instead of 1 1/2 inches, and if the grass is fertilized rather than left unfertilized. Contrary to what is the case with bluegrass in the East, bentgrass showed fewer weeds at the lower cutting height, and of course at the better fertility levels.

In Tampa, Florida, comparisons were run on bahiagrass varieties. Argentine bahia was considered more close-knit, and better for lawns; while Pensacola was hardier, better used for recreation areas and erosion control. Both seemed highly satisfactory with soils ranging in pH from 5.2 to 7, fertilized with about 50 lbs. N/A annually, and with small additions of iron.

Nebraska tests of various mulch materials showed seedling establishment of tall fescue best under wood chips (as compared to prairie hay, straw, sawdust, asphaltic emulsions, etc.).

#### LAWN SEED SEMINAR

Dr. Henry Becker, Botany, Ohio Wesleyan University, called on Dr. Schery of the Lawn Institute office to conduct a Seminar on economic botany. Dr. Schery's text, "Plants For Man," has been a standard teaching manual for economic botany for over a decade.

On this occasion Dr. Schery chose as his topic of emphasis, the lawn seed industry. Its progression from field seed origins to the highly sophisticated business that it is today was traced, with particular mention of the harvesting, processing and commendable consumer quality that mark the modern lawn seed industry. Slides were shown of the producing areas, and the extensive measures undertaken to assure a clean crop, free of harmful weeds or other inclusions.

While the limited number of undergraduate and graduate students plus faculty members attending such a Seminar are themselves not great consumers of lawn seed, certainly their influence through the classroom and in their writings makes them a very significant audience. We are pleased to have had this opportunity to better acquaint an important, influential group of the superior qualities that superior lawn seed exhibits.

#### ADVANCES IN TURFGRASS MANAGEMENT

Advances In Turfgrass Management is the title being given a new Agronomy Society publication, which will be offered for sale throughout the world. Roughly half of the purchasers are foreign.

Manuscript contains well over 100 pages, estimated to become approximately 60 in final publication. Prime authors are Dr. Eliot Roberts of Iowa State University and Dr. William Daniel, Purdue University, both Lawn Institute advisors.

A draft of the manuscript was sent to the Lawn Institute for scrutiny and suggestions. Dr. Daniel asks us "to revise and mark on the manuscript, put in statements, write in suggestions - - your help is appreciated."

This is the first time that the "Advances In Agronomy" series has carried anything on lawns and turf, another manifestation of the increasing importance and status accorded turfgrass.

#### EDITORIALIZING

Edmond J. Hoffman, in an editorial in the Garden Supply Merchandiser, emphasizes how fortunate garden merchandisers are in this country compared to the rest of the world. We still have space, and affluence enough, for appreciable home beautification. There's nearly twice as much lawn to a home in the United States as in Europe, and in Italy it is said lawn planting is avoided because the better impression it gives might lead to higher property taxes. Nowhere in the world are opportunities so great, as with the single-family home in the American suburbs.

#### NEW JERSEY LAWN PUBLICATIONS

Speaking before the ASTA Lawn & Turfgrass meetings in New York in November, were Drs. Funk and Indyk of Rutgers University. Their presentations are reviewed elsewhere. Several of the latest Rutgers pamphlets were offered.

Of these, probably most interesting to members will be Bulletin 362 "Your Lawn And Its Care," and Bulletin 357 "Better Lawn Seed Mixtures." The former is the more comprehensive (18 pages), and will likely have greater popular appeal.

The lawn advisory is typical of the conservative approach characterizing the Rutgers turfgrass research. There is very little in the booklet with which the Lawn Institute would disagree; indeed some sections are almost identical with Institute releases. There is little point in reviewing the whole booklet, but it will interest members that Kentucky bluegrass and fine fescues are mentioned favorably throughout, almost alone the grasses recommended.

These grasses are constantly referred to. For example, under "Watering," one reads "A healthy Kentucky bluegrass-red fescue lawn can survive ordinary drought on most soils in New Jersey without watering." Under "Disease Control," "A good Kentucky bluegrass-red-fescue type lawn experiences less serious and shorter

periods of damage from diseases than the other types common to this area." And for "Improving The Lawn," "Use a mixture that is predominantly Kentucky bluegrass and red fescue."

We are pleased to see a positive ending to the brochure, something the Lawn Institute has long been trying to push. It is all too easy to discourage a homeowner while advising multiple preventive treatments for disease, insects, weeds and whatnot. Bulletin 362 ends with a final section, "Growing A Lawn Can Be Easy."

In "Better Lawn Seed Mixtures" there are recognized two groups of grasses, the first for permanent lawns, the second "Special Purpose Species And Temporary Grasses." The bluegrasses, fine fescues and bentgrasses fill the former niche, redtop, perennial ryegrass, *Poa trivialis*, sheep's fescue and clover the latter. It is noteworthy that timothy, orchardgrass, meadow fescue, tall fescue and other coarse species are among "Grasses Not Recommended For Home Lawns." Standards suggested are reasonable, allowing up to 25% nursegrass with permanent species, and with no attempt to be restrictive in terms of purity or weeds and crop.

#### LEADING STORY USER

"Champion" in use of lawn items taken from the autumn press kit appears to be a geographically unlikely paper, - the Bangor, Maine News. Eleven stories appeared between August 28 and September 25, as corralled by our clipping service. The longer stories all carried by-line credit, and most of the shorts mention of the Lawn Institute.

Sample quotes: "Crabgrass just is not found in the bluegrass, fine fescue and Highland bentgrass seed field."; "Kentucky bluegrass of ancient lineage."; "Mow bluegrass-fescue tall."; "Earlier studies on Kentucky bluegrass have suggested that this lawn favorite replaces about half its root system each year."; "High Highland - bluegrass and fine fescues don't survive well at  $\frac{1}{2}$  inch mowing height, but Highland bentgrass is excellent mowed between  $\frac{1}{2}$  and 1 inch."; "Fertilizer helps control Merion bluegrass rust."; "Park bluegrass for late seeding."; "Autumn is the season when the top lawngrasses - the fine fescues, Kentucky bluegrasses and Highland bentgrass - benefit most - ."; "Kentucky bluegrass blends containing some fine fescues, in varieties such as Chewings or Pennlawn, serve the all-purpose needs of most lawns."

#### BASIC FERTILITY RELATIONSHIPS

A stimulating story, by James Eakin, Pennsylvania State University, in Solutions Magazine, notes the rapidly increasing need for and use of fertilizer on plants of the grass family. For example, wheat, oats and other crop varieties now bred with stiff stems (will not lodge), take as much as double the usual nitrogen fertilization, recommended for highest yields. Likewise, grass in pastures has been neglected in deference to legumes (though studies show the grass component to average 82% of the forage). By fertilizing the grass (without worrying greatly about the legumes), there are numerous advantages, and the animals prefer the fertilized grass.

All of this leads one to wonder whether in the turfgrass breeding programs, more attention might not be paid to developing varieties which will profit from high fertility without secondarily induced disease. Eakin has some interesting tables which show Kentucky bluegrass, among other forage grasses, as generally being quite the best in protein content under various fertilizer treatments. This represents high quality as a forage, and perhaps there could be developed a similar type of rating as it relates to lawn durability (primarily resistance to disease).

#### INFORMATION ON INSTITUTE REQUESTED

" - - To keep abreast of the latest in the turf management field - - would you please forward me any information pertaining to your association and its work. Thank you." - Bruce S. Nelson, Manager, Western Turf Management, Philadelphia, Pennsylvania.

#### NURSERY INTEREST

Littlefield-Wyman Nurseries of Massachusetts purchased a complete set of Institute literature, as a preliminary to selection of certain items and a possible application for membership. We are delighted with this opportunity to cooperate more fully in the nursery trade.

#### AGRONOMISTS REPORT

The November-December issue of the Agronomy Journal carried four articles on turfgrass.

Rutgers researchers determined that trace nutrients had little benefit for lawnglass, but at high rates were detrimental. Appropriate rates of iron, manganese and boron did temporarily increase intensity of color under conditions of very low fertility, but often affected sod density adversely later on.

F. V. Pumphrey, Eastern Oregon Experiment Station, formalized in print the effectiveness in improving seed yield of removing or burning the post-harvest residue in the seed fields, with both Kentucky bluegrass and red fescue. Of course burning should be practiced before regrowth starts in autumn.

Iowa researchers confirmed increase of bluegrass leaf spot lesions with increasing nitrogen and decreasing osmotic pressure.

Washington State workers discussed the effect of herbicides on grass seed yields, found no significant difference with creeping bentgrass, but 2,4,5-T and Silvex to lower red fescue (and orchardgrass) yields. Two forms of 2,4-D and MCPA were not harmful, and were generally instrumental in greater seed yields.

#### MERION RESISTS MELTING-OUT

The October issue of California Turfgrass Culture reported research on disease resistance of four bluegrasses in the San Francisco area. Only Merion showed

appreciable resistance against *Helminthosporium vagans*, the melting-out disease. C-1 was slightly ahead of common, and common slightly ahead of Park. All fungicides tried were effective in reducing or controlling the disease. Apparently the researchers don't presume fungicidal control to be practical for the average home, so suggest higher mowing and good general care, to enable any of the bluegrasses to throw off and recover from the disease.

#### POA ANNUA FREQUENCY

It is reported that Dr. Elwyn Deal, Turf Specialist, Maryland, indicates that imported seed has averaged 5,524 annual bluegrass seeds per pound, whereas domestic seed has averaged only 75. The greatest annual bluegrass concentration in imported seed was 30,872, and in domestic seed only 454.

#### CRABGRASS CONTROL IN BLUEGRASS

Illinois researchers report in the October issue of *Weeds*, on tests at Urbana that confirmed the superiority of the arsonates over PMA in controlling crabgrass in newly seeded bluegrass. Treatments started five weeks after seeding of the bluegrass were risky, but after 7-11 weeks the bluegrass was generally not injured.

#### DISEASE SYMPOSIUM

In conjunction with the Agronomy meetings there was held a Turfgrass Division invitational symposium on "Diseases Of Turfgrasses - Causes And Cures." Noel Jackson, Wales, discussed pathogens in general; his co-worker, Frank Howard of Rhode Island, stressed that *Curvularia* is a saprophyte which can turn pathogenic on grass under stress. The presentation was a general background summary on turfgrass pathology.

Endo, California, reported on microscopic damage in bentgrass root tip due to dollar spot, and the same (superficial) symptoms as a reaction to D-galactose. D-glucose nullified the galactose effects. The paper reflected excellent technical work, but had limited practical connotations.

Couch, Virginia, gave what was perhaps the widest ranging presentation. He pointed out the intimacy of relationship between disease and nutrient balance, and even to time of year (sometimes an increase, sometimes a decrease, under same circumstances). Dollar spot could be encouraged by applying stress to the grass through withholding irrigation; this worked on bentgrass, but not on fescue. Deficiency in secondary elements (such as calcium) often gave more disease. Couch doesn't believe that high nitrogen is a cure for Merion rust (although it may help obscure the symptoms). His paper served to point out admirably how little we really know about the internal environment of the host and the external microenvironment, as these relate to "disease."

Britton, Illinois, stuck closely to his specialty, rust on (Merion) bluegrass. Nothing strikingly new was advanced.

Gould, Washington, presented a practical survey on fungicides. Querying many experts across the country he rated specific fungicides as to their effectiveness. By and large the mercurials were superior for almost all diseases and conditions. Thiram, Dyrene, and similar organics were intermediate. Dexon is a well known specific for Pythium, but inadequate for other diseases. He noted that Emerald zoysia, as well as Merion bluegrass, are touchy to mercurials; the fescues to cycloheximide. He thinks that reasonable protection can be had from twice a year application of broad spectrum herbicides by the homeowner, but cautions about inactivating the fungicidal chemicals by including them in fertilizers. Best recommendation for controlling fairy ring seems to be simple soaking with water. Gould pointed out that there are oftentimes complicating factors, such as when a disease actually becomes epidemic after soil sterilization (because the competing fungi are eliminated, which would have inhibited the pathogen).

#### PLANTING GRASS SEED FIELDS

W. O. Lee, Corvallis, Oregon, reported in the October issue of Weeds, on weed prevention in planting new grass seed fields. Locale was western Oregon. Paraquat, Diquat, IPC and Amitrol-T were successful if applied between soil preparation in October and January 15. Crop seeding was made in March, to undisturbed soil. Paraquat was recommended at seeding time. The grass stand developed rapidly through summer, reasonably free of weeds, and was in condition for winter weed control with Diuron the following October. The method is said very effective in switching from one perennial grass crop to another without a prolonged interval of fallow.

#### HOPE FOR RIDDING BLUEGRASS OF QUACKGRASS?

W. H. Vanden Born, Canada, reports in the October issue of Weeds, on "The Effect Of Dicamba and Picloram On Quackgrass, Bromegrass And Kentucky Bluegrass." The researcher concludes that established Kentucky bluegrass is not injured by dosages of these herbicides sufficient to kill and control quackgrass. In field treatments of sod, 20 lbs./A of Dicamba, or 7 lbs./A of Picloram gave a high degree of quackgrass control without significant injury to the Kentucky bluegrass. Fine fescue withstood light rates of Picloram.

#### TURFGRASS "ADVANCES IN AGRONOMY" NEARS ISSUE

"On December 7 we forwarded the fourth revision on the article for Advances in Agronomy to Dr. A. G. Norman, editor. This should appear in volume 18 in the fall of 1966. It included 150 references, 9 figures, 3 tables and should be about 60 printed pages.

Both Eliot Roberts and I appreciate your help by editing and making suggestions. Everything was included - - thanks for being prompt and getting the material back, as well as taking the extensive time required - -." - William H. Daniel, Turf Research & Extension, Midwest Regional Turf Foundation, Purdue University.

WORTH MENTIONING

Here are a few headlines and select phrases picked up from newspaper clippings which utilized Institute stories.

50% of headlines accompanying stories in Michigan named one or more of our sponsoring grasses (bluegrass 5 times, fescues 4 times and Highland bentgrass once). Typical text: "Autumn is the season when the top lawngrasses - the fine fescues, Kentucky bluegrasses and Highland bentgrass - benefit most from feeding." And again "One of the most widely used colonial bentgrasses is Highland, carefully produced in a single section of Oregon." "Tests by the Lawn Institute suggest that Highland is not much this sort of threat. Even where constantly watered, it has not aggressively invaded bluegrass."

Around the country, "Merion Kentucky bluegrass is characteristically rather low-growing. But even it, along with natural Kentucky bluegrass and other select varieties such as Park, - -"; "The Merion variety of Kentucky bluegrass is still regarded as one of the top varieties, says the Lawn Institute - -."; "The exquisite texture and misty blue color of Highland bentgrass makes it excellent for those intimate, meticulously tended nooks - -."; "Lawngrasses such as Kentucky bluegrass and fine fescues are much cherished."; "For the few cents saved, chances are you are buying an assemblage of grasses entirely different than the recognized lawn favorites, says Dr. Robert W. Schery, Director of the Lawn Institute."; "Best lawngrasses for most of the country are the attractively fine-leafed Kentucky bluegrasses, fine fescues and bentgrasses."; "Fine-textured grasses will form a beautiful, tight sod before freeze-up."; "A mixture that will produce an attractive, long-lasting lawn contains a high percentage of Kentucky bluegrass and one of the red fescues."; "Kentucky bluegrass blends containing some fine fescue, in varieties such as Chewings or Pennlawn, serve the all-purpose needs of most lawns."

In many states, "Bentgrasses such as Highland should be mowed on schedule right up until frost."; "In either case select good seed at a fair price - a blend mostly or entirely 'fine-textured,' such as the Kentucky bluegrasses, the fine fescues and lawn bentgrasses such as Highland. Familiar varieties are the luxurious Merion and the fast-sprouting Park among the bluegrasses; Chewings, Illahee and Pennlawn among the versatile fine fescues."; "All Kentucky bluegrasses respond well to autumn feeding, especially improved varieties such as Merion and Park - - select varieties such as Chewings, Illahee and Pennlawn usually require a bit less fertilizer than do bluegrasses."; "Northern turfs such as bluegrass-fine fescue and Highland bentgrass will heal quickly. Bolster seed - -."; "The Lawn Institute points out that most main bentgrasses for golf greens must be started from live stems - - for lawns, non-creeping Highland bentgrass is available as seed."; "Fine fescues and Highland bentgrass come chiefly from Oregon, while Kentucky bluegrass is widely produced in Kentucky, the Midwest and the Pacific Northwest."; "Fine fescues, the other basic component of quality seed blends, produce husky sprouts even more quickly."

Also, "The quick-sprouting feature of Park Kentucky bluegrass makes it especially suitable for winterseeding in the South, or where there have been delays in more northerly locations."; "Perhaps one reason why fine fescues are noted as shade grasses, is that they persist on poor, dry soils."; "The gardening world has become quite familiar with the fescue name, because

of the excellent performance by fine fescues in lawn blends."; "Lawn seed is one of the world's biggest bargains, notes the Lawn Institute."; "A sweep of deep green aristocratic bluegrass is a thing of beauty. - - Kentucky bluegrass combined with the fine fescues usually yield the best all-around turf with minimum attention. Park bluegrass can be included for fast sprouting. Highland bentgrass is excellent for moist or watered areas."

Additionally, "Fine-textured grasses will form a beautiful, tight sod before freeze-up - -."; "Highland grass is widely used."; "The Merion type of Kentucky bluegrass is still regarded as one of the top varieties, and in many localities is the chief Kentucky bluegrass grown for sod, says the Lawn Institute."; "An exquisite texture and misty blue color of Highland bentgrass - -."; "Winter lawn damage is seldom due to cold, says Dr. Robert W. Schery, Director of the Lawn Institute. Bluegrasses, fescues and bents aren't bothered - -."; " - - the comparisons were run in the Northeast on Kentucky bluegrass and bentgrass."; "Annual bluegrass, not to be confused with perennial Kentucky bluegrass, national lawn favorite - -."; "One reason the Park variety of Kentucky bluegrass is so vigorous, notes the Lawn Institute, is because it is 'cream of the crop' - -."; "Check lawn seeds for fine texture."; "Growers of the elite lawngresses like the bluegrasses and fine fescues - -."; "Good bluegrass shows tiny shoots in less than a week. Fine fescues, the other basic component of quality seed blends, produce husky sprouts even more quickly."; " - - top of the component listing. They include the Kentucky bluegrasses (such as Merion and Park), the fine fescues, the bentgrasses (such as Highland) and some minor specialty sorts."; "Kentucky bluegrass, the fine fescues from Oregon, and the erect Highland type of bentgrass all do extremely well - -."

And also, "Best lawngresses for most of the country are the fine-leaved Kentucky bluegrasses, fine fescues and bentgrasses. Seeds of excellent quality of all of these are produced domestically. Fine fescues and Highland bentgrass come chiefly from Oregon, while Kentucky bluegrass is widely produced in Kentucky, the Midwest and the Pacific Northwest."; "Pennlawn fescue is very similar to Kentucky bluegrass and follows a similar pattern. Bentgrass such as Highland should be mowed regularly until frost."; "'Bargain buys' may not be the bargain that the price tag indicates."; "And we've already noted that bluegrass-fescue-bentgrass makes best use of fertilizer when weather is cool."; "One reason is that bargain seed is generally a mixture of impermanent or coarse haygrasses instead of perennial beauties such as the Kentucky bluegrasses and varieties of the fine fescues."; "If the area is shady, plant a mixture including bluegrass and fescue."; "In either case select good seed at a fair price, a blend mostly or entirely a fine-textured. The Kentucky bluegrasses, the fine fescues, and lawn bentgrasses such as Highland are good. Familiar varieties are the luxurious Merion and the fast-sprouting Park among the bluegrasses; Chewings, Illahee and Pennlawn among the versatile fine fescues."

Mrs. Payne has in the clipping scrapbook the originals from which these quotes come, should identification of any be wanted. We can find you a quote for most any state.



WHAT THEY ARE SAYING ABOUT THE INSTITUTE AND ITS RELEASES

"Thank you so much for - - the extremely interesting articles - - They tell just the things I have wanted to know for a long time - - would you ever have time to give a talk on your experience with different grasses - - Looking forward to those other articles with impatient interest - -." - Anne Bruce Haldeman, Landscape Architect, Glenview, Kentucky

"Dear Dr. Schery: I wish to thank you for your kindness in appearing on the Turfgrass Short Course in Auburn. You made an excellent contribution to this program. I deeply appreciate your taking time out from your busy schedule to be with us. Best personal regards." - D. G. Sturkie, Professor of Crops, Auburn University, Auburn, Alabama

"We received the literature you sent. Thanks. It will take a little while for me to review it and decide what we can use, but I know that some of that material will be very helpful. I'm glad I had the opportunity to meet you. If you are in this neighborhood, please drop in and look our school over." - Charles J. Reutter, Instructor, The Springfield and Clark County Technical Education Program

"Dear Bob: Thank you for your kind letter of October 4. We are happy to send out the requested copies of our newsletter to Watson Distributing Company and W. R. Grace and Co." - E. Ray Jensen, Southern Turf Nurseries

"I enjoyed the Lawn and Turf Conference at Columbia. I thought your evening program was excellent." - Kenneth Walkup, County Extension Director, Platte County, Missouri

"Dear Bob: Just a note to say thanks for your very informative letter. I value your wide knowledge in the turf field and what you say makes sense." - Larry Grove, Better Homes & Gardens

"Many thanks for the reprints. They were greatly appreciated. - - It was good to see and talk with you at the Agronomy meetings." - Robert C. Buckner, Research Agronomist, Agricultural Science Center, Lexington, Kentucky

"You have our permission to reprint your article that appeared in the October-November issue of Golfdom. - - Thanks again for a good story!" - Desmond Tolhurst, Associate Editor, Golfdom Magazine

"I'd like to express my appreciation for your ready kindness in reply to my earlier letter. - - With a very large amount of 'Merion blue' seed on hand I am concerned about its storage over the winter. - - Let me again express my appreciation for your generous interest." - George F. Baier, Vice President, Grant Advertising, Inc., Chicago, Illinois

" - - I'm familiar with your work and frequently have occasion to refer to your writings for the Lawn Institute. Although we have made no definite plans as yet, it's not unlikely that we'll publish a piece on lawmaking next fall. Should we decide to do so, I'll be happy to ask you to write the story for us." - Evanthia Kondonellis, Garden Editor, The American Home, The Curtis Publishing Company

" - - We have proceeded with planting about 50 per cent of the large park area and hope to complete balance in the spring. Thank you once again for your letter and enclosures." - W. H. Alford, Men's Horticultural Society Of Greater Middletown, Ohio

" - - The bulletins and information you provided were greatly appreciated and will be used in future lessons. - - Your paperback text sounds interesting. Would it be possible to purchase a copy of 'The Householder's Guide To Outdoor Beauty' and send it to my supervisor for approval as a supplement text? - - Much thanks for your interest and assistance." - Charles M. Ciaramitaro, Vocational Instructor, Dow School, Detroit, Michigan.

"Dear Dr. Schery: I wish to thank you sincerely for the set of reprints recently received on Kentucky bluegrass. In the meantime I have read your interesting treatment in Natural History which develops more popularly the evidence for an alien origin of *Poa pratensis*. - -" - Dr. William G. Dore, Canada Department of Agriculture, Research Branch, Plant Research Institute, Central Experimental Farm.

"Dr. Thompson of the Agronomy Department - - told me you might be able to furnish information - - I'm writing a term paper on marketing at Mississippi State, and would appreciate all the information you may be able to send. - -" - Gene Livingston, Starkville, Mississippi

"Dear Bob: I wish to acknowledge the releases which I recently received. Personally I find them very helpful and will always be pleased to receive the same. Our turf work seems to be increasing each year - - we have organized the golf superintendents association in New Hampshire during the past few weeks - - working on the program for the third meeting statewide in New Hampshire for the benefit of the golf people - -." - Dr. Leroy J. Higgins, Associate Agronomist, University of New Hampshire.