

BETTER LAWN

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Harvests

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SCHERY SPEAKS AT ALABAMA TURF CONFERENCE

Dr. Schery was one of the guest speakers at the Alabama Turfgrass Conference, Auburn, September 9-10. His subjects were "Pure Grass Seed", and "Maintenance Of Lawns", as well as serving on a question-answer panel.

The conference was especially marked by interest in winterseeding. Schery's discussion of quality factors in lawn seed, was followed by a presentation by James B. Moncrief, on the overseeding of golf greens. At this time of year interest is quite high, and it would seem an excellent market is developing for fine-textured grasses to replace ryegrass. W. R. Thompson, Jr., who has cooperated with the Institute on winterseeding work in Mississippi, also touched upon the seeding of golf greens in his discussions of managing Tif-green bermudagrass.

Tifdwarf bermuda, a very low-growing release now being offered, is receiving much attention. This may be the golf green grass "of the future" in the South. It is not a low-maintenance variety, however.

Formal talks with slides were conducted in the late morning and early afternoon at the university, and the research plots at the Agronomy Farm were visited in the afternoon. The first night the traditional banquet was held, and the following day more formal presentations.

CANADIAN ROSE ANNUAL

The Canadian Rose Annual, yearly book of the Canadian Rose Society, carried Dr. Schery's "Quality Lawns For Fine Roses". Eight pages were devoted to the lawn story, in which was interspersed a full-page color plate. The story related lawns to rose growing and landscape in general, ended with practical instructions for lawn care in Canada. The story opens on this theme: "Although snow cover is Canada's destiny many weeks of the year, it is comforting to know that hardy bluegrasses and fine fescues lie beneath, temporarily dormant but sure to turn resplendent ere spring rose bloom begins."

Other articles in the book are directed chiefly to rose growing and showing, and to business of the Society. The last quarter of the book recites test performance on various new roses. Several color plates of roses are included. All in all, it is an attractive hard-cover book of 218 pages.

L/G/O ANNOUNCES INSTITUTE MEETING

The July issue of Lawn/Garden/Outdoor Living carried a resume of the Lawn Institute annual meeting, under the title of "Closer Industry Cooperation Seen By Lawn Institute". Mention was made of the election of J. L. Carnes to the Board of Trustees, as well as recitation of the new officers and Board. Thoughts expressed by President Mangelsdorf were repeated, viz. "It is gratifying that there are now represented in this one organization all major fine lawn species, including Kentucky bluegrass and its many varieties, the fine fescues for which Oregon is noted, and the lawn bentgrass, Highland."

AUSTRIANS WANT SEED MAT

An inquiry was received from The Austrian Trade Delegate In The United States, indicating that an Austrian firm was interested in "preseeded mats for lawns". The most familiar such product is probably TroyTurf, the name and address for which was turned over to The Delegate.

MULCHES FOR HIGHWAY SEEDING

While checking in Hancock County, Ohio, for suitable sites for the Institute-sponsored roadside seeding, it proved possible to inspect some of the mulch trials on two-in-one slopes at a newly constructed interchange. In spite of unfavorable summer conditions, seeding had to be completed in order to have the test area ready for the October Short Course inspection. Consequently, with the drought that has been prevailing, water was having to be hauled from a near-by creek and sprayed over the test area with a hydroseeder. Thus stands were materializing, and the moisture-retaining properties of the various mulches were being very well defined. Less clear was the erosion-controlling properties, since there have been no rains and not sufficiently heavy watering to cause much run-off.

At the time of inspection, the new excelsior mulch was performing excellently. Whether blown onto the hillside with the conventional straw blower, or whether applied as a mat (in its own mesh containment), the excelsior held well in place, providing an appreciable moisture barrier that made best use of such watering as was available, and seemed effective in preventing erosion. Conventional straw mulch was equally effective, except that on this slope there was some tendency towards displacement unless retained by a mesh overlay or some kind of tack.

Performing less adequately were woven jute mesh, and a cellulose fiber applied as a slurry (Turfiber). In each case these materials provided less of a moisture barrier than the foregoing. Moreover, with the jute mesh, water penetrated easily and tended to undermine soil below the mesh.

Glass fiber mats were also under test. These are being newly offered out of Louisville by Famco, Inc. These seem to be doing a good job in encouraging seed sprouting, but somewhat like the jute mesh did not restrain or absorb water to any great extent, such that there was some undercutting of soil from below the mulch.

Obviously, at this time of year mulches beneficial to sprouting (i.e. forming a good moisture barrier) were showing to advantage. In rainy seasons, or other climates, possibly erosion-control features might show up more importantly, and make materials such as Turfiber appear to better advantage. In final analysis comparative costs will have considerable influence. Although high cost mulches can be chosen for specialty purposes, such as unusually steep banks or gullies, they will have to compete with standard straw mulching for general highway use, a practice that is both effective and economical for usage in parts of the country where straw is readily available.

BUILDINGS MAGAZINE ASKS INSTITUTE HELP

Buildings, "The Construction and Building Management Journal", Cedar Rapids, Iowa, requested Institute help for developing their "Handbook of Building Operations", to be issued in November. Pertinent material was offered, and ample background literature for lawnkeeping discussion sent. Although the outdoors receives less attention in Buildings than does indoor maintenance, there's an encouraging trend towards considering management of the property as a whole.

STORIES PREPARED OR FINALIZED DURING THE QUARTER, NOW IN PRESS

The following stories have been completed, and are destined to appear in the respective magazines in coming months. Of course ultimately editors may shorten or change titles, so that reprints to be sent you may or may not be exactly as indicated below:

- "This Remarkable Kentucky Bluegrass" - Missouri Botanical Garden
- "Good Seed For Golf" - Golf Magazine
- "Buying Lawn Seed" - Better Homes & Gardens
- "The Latest On Lawns" - Horticulture
- "Air Cushion Mowing" - Weeds, Trees and Turf
- "Lawn Seed And Lawn Weeds" - Seed World

SCIENCE AND MECHANICS USES INSTITUTE MATERIALS

Science and Mechanics Magazine, New York, requested for its "Fixit" section (October issue) information and photographs on lawn rebuilding. While we have not as this is written received a copy of the magazine, full credit was to be given the Institute in the magazine. Managing Editor Richard J. Demske extends his "thank you for your cooperation".

MISSOURI LAWN AND TURF CONFERENCE

The 6th Annual Lawn and Turf Conference was held at the University of Missouri, September 15-16. The Institute was represented by Dr. Schery, who presented papers on lawn seed and on mulches, as well as serving as speaker for the annual evening banquet. Excerpts from Dr. Schery's presentations are given elsewhere.

Charles Wilson, Milwaukee Sewerage Commission, reviewed the turf events of the first half of 1965. His feeling can be summarized as that there is increasingly "less attention to production of hay and more to the stubble that remains".

Stan Frederiksen, Mallinckrodt, reviewed the current status of turf diseases. Many are now controllable, including "spring dead spot", but new ones are always arising, too. John Long, Scotts, spoke about characteristics needed in (breeding) new varieties. Al Chandler, Golf Coach, presented pertinent tips for keeping the golfers happy, largely simple matters of courtesy and thoughtfulness.

The university entomologists had little new to report on research. Billbug is of increasing importance on zoysia. Webworm is worst on the best-kept bluegrass. Bob Rugar showed slides indicating the tremendous advances in automatic sprinkling, and Ray Freeborg detailed the sod project for the new St. Louis stadium, being custom composed of zoysia, vegetative bluegrasses, with a bluegrass overseeding. There will likely be artificial soil warming to help regulate the sod environment. One wonders if this complex mix can be kept in balance?

Additional presentations included a review of weeds and controls by Dr. Hemphill, tours of demonstration plots, and various work and discussion sessions.

LAWN SEED WITHOUT WEEDS

Some highlights from Dr. Schery's talk to the Missouri Lawn and Turf Conference on this subject follow. Full summary appears in the Proceedings.

"- - Reference to the tables of 'Lawn Seed, And What's A Weed' shows that the lawn elite - the Kentucky bluegrasses, the fine fescues and the bentgrasses - come to market in pretty good shape on the whole. Nor is ryegrass too bad, a species of some utility as a nursegrass. - -

Note that in these routine tests nearly half 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. Note further, that with these elite kinds, when there are contaminants most are not terribly serious. Often the foreign seed is a type of plant so similar as to be scarcely distinguishable, or one which will disappear naturally in competition with the select grass. Canada bluegrass, chief 'contaminant' of Kentucky bluegrass in the chart, is such an example. Even in those lots which do contain off-types, the foreign inclusion is frequently of very low frequency. - -

The ubiquity of dandelions and plantains on waste ground (and many lawns) brings up another point of interest. These, and most of the other most troublesome weeds in lawns, arise from volunteer residual seed in the soil. Our survey shows that there were never encountered in the 1707 lots of seed checked these familiar lawn invaders, among many others: black medic, bur clover, buttonweed, carpetweed, cudweed, English daisy, filaree, geranium, ground-ivy, heal-all, knotweed, mallow, pennywort, petty spurge, puncture vine, purslane, spurge, thistles; barnyard grass, crabgrass foxtail, nimblewill, panicgrass, Paspalum, sandbur, stinkgrass.

"- - Reference to the tables of 'Lawn Seed, And What's A Weed' shows that the lawn elite - the Kentucky bluegrasses, the fine fescues and the bentgrasses - come to market in pretty good shape on the whole. Nor is ryegrass too bad, a species of some utility as a nursegrass.

-- Volunteer Kentucky bluegrass as crop in Merion Kentucky bluegrass would be of no more consequence than Canada bluegrass in Kentucky bluegrass; on the other hand, tall fescue in fine fescue, or timothy in redtop, might easily introduce difficult, unwanted species. - -

- - Best way to guard against unwanted crop is to purchase seed from reliable sources, and be willing to pay a fair price for seed grown and cleaned to quality standards.- -"

SOUTHERN MAILING

In early September press kits were mailed to nearly 400 southern newspapers, editors and writers, containing a series of stories and shorts on winterseeding with fine-textured northern grasses. Board members received an advisory copy, and sample mimeographs will be sent gladly to other members upon request.

Included in the kit were excerpts and quotations from Dr. Schery's presentation to the Alabama Turfgrass Conference this year; Portrait VI on "Wintergrass", reprinted from Weeds, Trees and Turf; six stories of varying intermediate length; and three pages of paragraph fillers, which have proved so successful in our regular season press mailings.

MAGAZINE CREDIT

The September issue of "Flower Grower" carried both a story and a "notebook" section on lawns. In the latter we were pleased to see a section devoted to "Choose The Right Grass", in which the Kentucky bluegrasses, bentgrasses and fine fescues were featured. The final admonishment read: "The Lawn Book by Robert W. Schery, Macmillan Co., gives complete advice for entire country." Both photos and drawings embellished the presentations.

NEW YORK UNIVERSITY PROJECT

A cooperative study exercise between New York University and the Wall Street firm of Putnam, Coffin & Burr brought an interesting inquiry from Donald Kress. He was seeking information on lawn seed markets, history, trends and competitive factors. There are eight "students" assigned to project the success of an imaginary new business venture involving "instant grass".

We were pleased to send along such background information as is available through reprints and publications. A conclusion of the study has been promised. While not apt to result in direct sales of lawn seed, activities of this sort certainly add to the "excitement" of the industry, and offer opportunity for further enhancing the quality turfgrass image.

COLLEGE REQUESTS INSTITUTE LITERATURE

"We are a new community college operation with three independent college libraries on three separate campuses. It is our request that, if possible, three copies (of your items of literature) be sent to the address below." - Eugene F. Larson, Assistant Librarian, Oakland Community College, Union Lake, Michigan

NEW MASSACHUSETTS LAWN SEED LEAFLET

A. Warren Clapp, Department of Agriculture, Massachusetts, sent us a copy of his new leaflet, "Suggestions For Evaluating And Choosing A Lawn Seed". This is one of the most lucid explanations that we have seen issued, with clear-cut examples of what are quality ingredients in a lawn seed mixture.

The booklet opens with discussion of labeling requirements, and what are "fine-textured grasses" and what "coarse kinds". Sample mixtures are typical of the sort of thing that might turn up in the trade, brand A good, brand B poor.

The better grasses are named, as are typical varieties of them. The booklet states: "The backbone of a permanent fine-textured lawn in the Northeast is Kentucky bluegrass and one of the fine-leaved fescues listed above." It then describes habitat most suitable to each of these, and the plus and minus features of Merion Kentucky bluegrass (which is recommended for the Northeast). A sort of neutral position is taken on bentgrass, of which Highland and Astoria are named by variety. Creeping bentgrass is not recommended, nor are the general run of "coarse kinds".

There follows brief discussion of inert, weeds, crop, etc. As to annual bluegrass, the booklet states: "is undesirable and is classified as a weed in Massachusetts. Although already present in many of our lawns, it is much unwanted and very difficult to eradicate. Buying of grass mixtures declaring a sizable count per pound of this seed should be avoided."

The general lawn seed recommendations given are excellent. Kentucky bluegrass and fine fescues are strongly suggested, the former for better sites, the latter especially for shade and poor soil. There follows an exhortation not to choose seed on the basis of price alone, and then some advice on properly starting lawns for best performance of seed.

RESUME OF ALABAMA TURFGRASS CONFERENCE

Here are a few highlights from the discussions of the Alabama Turfgrass Conference, other than the views presented by Dr. Schery given elsewhere.

Nutgrass, prohibited noxious weed in Alabama, is one of the worst fine-turf pests. It is quite a hazard in the production of certified sod or sprigs. Extensive research is under way on its control, and at present almost any of the organic arsenicals (arsonates) seem to do a pretty good job in controlling nutgrass without injury to bermuda or zoysia (they can't be used on centipede, St. Augustine or bahia) if applied persistently. From rates as low as 2 lbs./A of active ingredient on up to 50 lbs., there seems repression of nutgrass without injury to the permanent turf. It is suggested that treatment be given each six weeks, so that new sprouting bulblets will be progressively inhibited.

Fertilizer studies are also being thoroughly looked into by the soils people. Each soil and each grass has its own special requirements. But particularly with centipede, it looks as though too much fertilizer rather than too little is usually the cause of demise. It is suggested that perhaps reduced phosphate level will keep centipede from growing too vigorously, and from winter-killing.

But low potassium gives poor color, and poor winter survival. Balance is still needed.

Thatch was a subject of some discussion, particularly on golf greens. Thompson felt that it is best controlled by frequent topdressing, but that vertical mowing (frequently) can also help. He noted that when air temperatures were 95°, temperature under a deep thatch reaches as high as 117°. He would suggest vertical mowing each two weeks, and aerifying six times per season on heavily trafficked greens.

In spring transition, spiking each 7-10 days is advocated to open the sod sufficiently for revival of bermuda. It was stressed that the fine-textured grasses give a better transition than does ryegrass.

Incidentally, whether this can be generally verified or not, Thompson indicated that the putting on Pennlawn (and to a less extent, Illahee) winterseedings was much superior to that on similar sods of common Creeping Red fescue. He, and the golf team at Mississippi State, didn't care for Poa trivialis putting quality. He did like bluegrass for its exceptional cold tolerance in winter.

There was considerable additional discussion on mulching greens for winter, overseeding practices, weed control and so on.

STORIES PUBLISHED IN QUARTER

During the quarter the stories listed below appeared in the respective magazines, reprints of which were circulated to the membership and requests for additional copies honored.

"Lawns With A Future," Park's Floral Magazine

"Fall Offers Ideal Growing Conditions For New Lawns," Lawn/Garden/
Outdoor Living

"Fine-Textured Winterseeding," Southern Turf Newsletter

"Quality Lawns For Fine Roses," The Canadian Rose Annual

SEED DONATED FOR WINTERGRASS TESTING

For the third straight year complimentary seed has been sent to southern cooperators for winterseeding experimentation. The distribution this year was mostly confined to the "Lawn Institute mix", a blend of Highland bentgrass, fine fescues and Kentucky bluegrasses, in approximately equal proportions by seed count. This is the blend which has proved so successful in University of Florida experimentation in previous winters. Seed was sent to researchers with whom the Institute has cooperated in the past, in the states of Alabama, Arizona, Florida, Georgia, Louisiana and Texas.

WIND-UP ON INSTITUTE MOVIE

"Bluegrass Beauty", the Institute movie which has served us well for a half-dozen years, is being gradually retired (for financial reasons). Some time ago television showings were discontinued, and now private showings are

drawing to a close as the last commitments have been honored. Total audience certified for private showings has now reached 166,588.

KANSAS TURFGRASS RESEARCH

Dr. Schery called upon Dr. Ray Keen, Kansas State University, to review research work going on there. He reports that this is the general situation as of this autumn:

It's been a "bluegrass year" - moist and cool. All cool-season grasses show to advantage compared to the bermudas, zoysias and centipede. But premium bluegrasses are no better than natural bluegrass for the Kansas climate. Seed harvested in Kentucky and the Midwest gave just as good (or superior) stands after two years, as more highly touted names.

Merion was badly rusted, as were to some extent CB and Windsor. Nudwarf was badly afflicted with Sclerotinia. Newport, Park and Delta were good, among the better-known named varieties.

As in Missouri, fine fescues don't hold up in the sun so well as bluegrass, tending to turn a bit patchy. Not a great deal of difference shows between the varieties, although Pennlawn and Rainier seem to have suffered a bit less, Chewings a bit more.

Nitrogen fertilization studies are well under way. Considerably more ureaform material is needed to produce presentable turf than with sludges or solubles, - perhaps four times as much on an actual N basis! With cool weather having arrived (September 17, near frost at night), even urea is not pronouncedly effective, not being oxidized over to nitrate in the cooler temperatures.

NATURAL GROWTH INHIBITORS

More evidence continues to pile up on the natural inhibition of growth of one plant by another. Precise cause of inhibition may vary greatly. Papers on this general area of interest were prominent in the Ecological Society program, at the AIBS meetings, University of Illinois.

Tukey, Cornell, emphasized that there is continuous leaching from above-ground foliage, of all sorts of products including nutrient cations. That there will be pronounced effect upon the soil and vegetation beneath is apparent. There may be sufficient loss through leaching that cells themselves die of "under-nourishment".

Reid, Wyoming, found unidentified inhibitors in sagebrushes and greasewood. These particular products inhibited germination of several species of grass. Obviously, there is survival value for the mature plant, in preventing competition from grass (or even its own offspring) within its soil locus. Leachates from vegetation have a marked effect, too, on the microflora of the soil. Rice, Oklahoma, has found in plants first colonizing abandoned soil, that there are phenolic inhibitors against nitrifying bacteria! Suppression of nitrification, of course, would give selective advantage to those plants less in need of nitrogen.

Grant, Canada, reviewed the known inhibition of leachates from familiar crop plants, of which alfalfa heads the list. Timothy also produces a toxic substance, as do sweet clover, quackgrass, and many legumes and grasses. Jameson, Arizona, showed that the suppression of grass under trees (*Juniperus*) was due not to competition for light and water, but due to the influence of leaf litter.

APPEARANCES IN KANSAS CITY

Through the efforts of Dr. John Philip Baumgardt, Executive Director, The Garden Center, Loose Park, Kansas City, Missouri, the lawn planting season was launched in Kansas City August 17 and 18, featuring several appearances by Institute Director Schery. In thorough-going fashion Dr. Baumgardt had made preliminary appearances on television announcing the program, followed up by excellent releases through the Kansas City Star and publicity from The Garden Center.

The two-day program involved three separate activities. First was an inspection trip to the Princeton Turf Farms, an extensive sod-growing operation northwest of metropolitan Kansas City. Various demonstration plantings were there, with representatives of the corporation as well as the "visiting firemen" on hand to discuss turf. This was a "get-acquainted" session, without formal presentations.

In the evening Dr. Schery was the speaker at the Nelson Art Gallery Auditorium. Five hundred reprints were distributed to the entering audience from the registration desk ("Better Lawns Are Autumn Sponsored" and "Good Lawns & Rose Splendor"). The talk stressed ecological needs of quality turfgrasses, and how the homeowner might set up a proper environment for Kentucky bluegrass, fine fescues or Highland bentgrass.

The evening presentation provided background for a practical "Lawn Clinic" the following morning at The Garden Center, Loose Park. The public was invited to present problems, bring in weeds for identification, and so on. Dr. Schery acted as moderator, with the discussions taking such turns as the questions evoked. Some attendees remained the full morning, others came and went as their problems were hashed over. Additional reprints were made available for pickup. The sessions were covered by the Kansas City Star, and by a representative of the Federal Rehabilitation Service of the Kansas City area.

All in all the extensive two-day session is testimonial to the continuing high interest in lawns by Kansas Citians, and the energy of Dr. Baumgardt in arranging such a comprehensive program. This year has been unusually wet for Kansas City, and crabgrass became quite a problem. Sod webworms still raise havoc on bluegrass lawns, and summer die-out (seemingly due to over-succulent grass going into hot weather) is not much less prevalent than usual. By and large natural Kentucky bluegrass and the fine fescues are the preferred species for Kansas City, and there is increasingly intense dissatisfaction with tall fescue that seems cropping up in lawns everywhere.

INSTITUTE REPRINTS FOR SHORT COURSE

For the 24th Short Course on Roadside Development, Ohio State University and Ohio Department of Highways, the Lawn Institute supplied the following

materials for the "tote bags" given to each registrant:

- 200 colored post cards, courtesy of Highland Bentgrass Commission
- 150 "Seed For Sod", Parks & Recreation
- 150 "How To Get A Good Buy On Grass Seed", Park Maintenance
- 150 "Lawngresses: What Kind For Your Customer", Lawn/Garden/Outdoor Living
- 150 "Lawn Seed, And What's A Weed", The American Horticultural Magazine

These hand-outs tie in nicely with Dr. Schery's presentation programmed as "How To Get A Good Buy On Good Seed For Roadside Seeding".

WORD FROM MICHIGAN

In the recently received "Michigan Turfgrass Report" for Summer 1965, Carter Harrison has this to say about turfgrass mixtures: "After three years, mixtures of bluegrass and red fescue continue to rank higher than bluegrass-red fescue mixtures containing perennial ryegrass. A small percentage of perennial ryegrass is still persisting to an objectionable degree. Mixtures containing as little as 5% redbud ranked quite low in quality."

In the ranking of individual varieties, Hildebrand concludes: "The Penn State selection K-5 (47) continues to rank on top - - of the commercially available varieties, Merion continues to rank highest, provided it receives a higher maintenance level. Park and Delta continue to show leaf spot susceptibility; but are able to recover from the thinning - - Prato has slipped in ranking - -."

For the red fescues: "- - Pennlawn and Rainier ranked slightly higher - - for the first time in three years Chewings is ranking higher than common Creeping. Four experimental selections - - all ranked considerably higher than Pennlawn in turf quality and density."

SEED FIELD WEED CONTROL IN OREGON

W. O. Lee, Oregon State University, discussed selective control of downy brome and rat-tail fescue in central Oregon, in the July issue of "Weeds". Of 21 different herbicides tested, Dicamba and prometryne proved most satisfactory, applied immediately after the first irrigation subsequent to burning the fields.

ON WINDBREAKS

With recent concern about availability of water, windbreaks may receive increasing attention for lawn and garden. A discussion by J. R. Evison, in Parks & Sports Grounds (England) gives these bits of information. A fence or thick planting of trees will tend to influence the wind to windward up to three times the height of the windbreak, and up to seven times on the leeward. In other words, a 10-foot high screening fence would not only help protect plantings for 70 feet downwind, but tend to still the air 30 feet upwind.

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DANIEL ON BLUEGRASS FAIRWAYS

Institute advisor W. H. Daniel repeats in the August "Golf Course Reporter" the earlier admonition from Purdue University about bluegrass fairways. They are recommended if proper precautions are taken. It is Daniel's feeling that to maintain bluegrass so closely cut as is required for the modern fairway, that a number of weed control and irrigation practices are necessary. In a previous Harvests it was noted that these tend to be so cumbersome (if each and every advocated practice is followed), as to be confusing. But at least it is gratifying to the seed industry to have Daniel advocate "repeated light overseedings at 10-40 lbs. for each acre in early fall and/or early spring should be expected - -."

MEMBER REQUESTS REPRINTS

"May we take advantage of the offering in your letter of August 9th, and request twenty-five copies of 'Lawns With A Future'.

These will be given to our sales staff as one of the many reminders about fine leaved lawns, lawn maintenance, outdoor living, and the home beautiful." - - Glen Mahan, The Chas. H. Lilly Co., Portland, Oregon

ISSUE ON DISEASES

The July issue of California Turfgrass Culture was devoted chiefly to diseases attacking turfgrasses in California. Information was conveyed by the question-answer technique. Two pages of charts followed, characterizing the disease, the grasses it attacked, conditions favoring the disease and method of control. Turf fungicides are named and characterized according to active ingredient.

All in all, this issue constitutes a comprehensive review, focusing attention on obvious but ordinarily little-thought-about facets of disease identification and control. While strong in this organizational approach, one might question a few facts (or perhaps it is clarity of expression?). For instance: "In general, seeds are extremely susceptible to invasion by facultative parasites, - - ." Perhaps this is a typographical mistake, because certainly seeds in the dormant state as stored and marketed, are the most unlikely of plant structures to be attacked by disease! One might question, too, that there is any less encouragement of disease from dew than from watering. Perhaps understandably, relationship of fertility to disease is superficially treated. The listing of products is somewhat confusing - viz. lack of punctuation among "soil fumigants" makes it seem as though methyl bromide products are of the mylone group.

EDUCATIONAL APPROACH

We like this philosophy from the Massachusetts Department of Agriculture, Chief Market Investigator, Warren Clapp. "The demand for and sale of better lawn seed mixtures which will give satisfaction depends primarily on education."

Mr. Clapp adds, along these lines: "Your reprints are always so interesting and enlightening that I am looking forward to receiving your latest. In fact I may accept your kind offer and request some additional copies for our use."

3RD MISSISSIPPI VALLEY GOLF COURSE SUPERINTENDENTS FIELD DAY

Dr. Schery had chance to attend this field day when in St. Louis. His notes indicate the following.

Evansville bent is becoming a problem when mixed with others on a green. It "fluffs", so should have extra mowing and thinning.

Greens soil mixes very high in sand or calcined clay were in disfavor. Better liked was the familiar 65% sand, 20% soil, 15% peat combination.

Trace element applications show little advantage, although iron may slightly improve color. Others, copper especially, have caused discoloration.

Zoysia and bermuda plugs into dead (bermuda) patches have successfully healed the blemishes. Bermudas are best liked, especially a selection found at Sunset Country Club. Tifton varieties have not proven as adaptable. Tufcote (USDA) largely winter-killed.

Fertilizer studies showed that in this good growing year, each type was about the equivalent of others if used at comparable N rates.

Dachthal, Chlordane and arsenate all kept most goosegrass out of greens without serious injury to bent. The arsenate seemed to also inhibit nutsedge.

REPRINTS AT WORK

Handed out to the more than one hundred participants at the Missouri Lawn and Turf Conference were:

"Large Area Seeding," Park Maintenance

"Seed For Sod," Parks & Recreation

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

TURFGRASS INFORMATION REQUESTED

"We are involved in recreational development throughout the state of Michigan. We would appreciate any information that you have about lawns and turfgrass - -."
- William F. Krause, Recreation Consultant, Recreation Research Associates, Muskegon, Michigan

SMITH-DOUGLASS SALES PROMOTION

Smith-Douglass Fertilizer Company came to the Lawn Institute for the preparation of a presentation dealing primarily with thatch, for sales force and dealer meetings around the country. It was possible in working up this

presentation, to give favorable mention to Lawn Institute grasses and their varieties by name. This should prove another effective means for initiating "quality lawngrass talk", in key locations.

PRESS KIT APPRECIATED

"I wish to acknowledge receipt of the Autumn 1965 Press Kit from the Lawn Institute. Over the last few years since I have put in more and more time on turf, I have found your press releases very helpful." - Dr. Leroy J. Higgins, Associate Agronomist, University of New Hampshire

REPRINT DISTRIBUTED

We are grateful to the Cyclone Seeder Company, for purchase and distribution of 500 copies of "Fall Offers Ideal Growing Conditions For New Lawns", reprinted from Lawn/Garden/Outdoor Living. Smaller lots of this same reprint have gone to other outlets.

INSTITUTE COOPERATES WITH ADVISOR

"Dear Bob: We received your bluegrass selections and seeded them in small 3 by 5 feet plots. We will keep you informed of their performance as soon as we obtain any critical data. Thanks for your fine cooperation." - C. Reed Funk, Associate Research Specialist in Turfgrass Breeding, Rutgers University

COLUMBUS PARK BOARD CALLS

Jim Barger, of the Columbus Metropolitan Park Board, asked for suggested specifications for lawn seed destined to be planted in a diversity of habitats that will likely receive minimum maintenance. It was decided that rigid germination and purity specifications were not needed, and that in buying from reliable source the supplier could be asked to furnish seed free of unwanted "coarse-kind" contaminants. The Park Board decided upon a blend 50% Kentucky bluegrass, 35% a combination of two fine fescues, and 15% Highland bentgrass.

ANOTHER REQUEST FOR TEACHING MATERIALS

Thomas Cianamitaro, Instructor in Detroit, requested lawn literature for teaching of his landscaping class. We were delighted to send a complete battery of reprints, plus an offer to procure "The Householder's Guide - -" at cost if he wished to employ this as a text. The trend towards teaching the fundamentals about care of the outdoors continues unabated.

CUSTOMER HABITS

A study of garden center customer habits was undertaken by the University of Georgia, and reported in Lawn/Garden/Outdoor Living. In the Atlanta area average annual purchase was about \$130 (compared to less than \$100 in Toledo, Ohio), with women predominating (except on week-ends when ratio of men and

women was equal). The largest age group was 31-40, with 41-50 not far behind. Most customers had a home valued in the \$15-25,000 range. Most respondents patronized two different garden outlets, but gave the one nearest to their home the bulk of business. 85% of the shoppers lived within ten miles of the garden store at which they made their purchase. Visits to the store averaged slightly less than once per month.

MISSOURI VALLEY TURF ASSOCIATION

A new association dedicated to encouraging study and liaison of turfgrass matters in the difficult middle-Mississippi and lower Missouri valleys was formally organized at the 6th Annual Missouri Lawn and Turf Conference. This Missouri Valley Turf Association has as its first Chairman, Robert Mitchell of St. Louis. First Vice-President is Bill Latta of Kansas City, and Secretary is Earl Page, St. Louis. Other officers and Board members are from various parts of the state, including Springfield and St. Joseph. Dr. D. D. Hemphill, University of Missouri Horticulturist, was elected "ex officio" a member of the Board and research co-ordinator.

MULCHES FOR SEEDING

Here are a few excerpts from Dr. Schery's presentation on this subject to the Missouri Lawn and Turf Conference. Full summary appears in the Proceedings of the conference:

"As lawn tending becomes more professionalized and sophisticated, the mulching of new seedings becomes increasingly of interest. Almost all show lawns these days consist of 'fine-textured' grasses (as they are termed in the newer labeling) - the Kentucky bluegrasses, the fine fescues, the bentgrasses and a few specialty Poas. By and large these species have smaller seeds with less stored food, than do most 'coarse-kind' field species. A bit more care in seedbed preparation and during germination helps overcome the lesser food supply inherent in a small seed, and is more than compensated for by the economical seeding rates then applicable. - -

Most of the materials mentioned provide a suitable mulch for lawngrass seedings if properly used. Ideally they should be dense enough to restrict drying out of the soil surface, yet loose and porous enough to let the grass emerge readily. They should not introduce unwanted weed seed or toxic elements, and should be helpful in protecting against forceful rainfall that would puddle and wash the surface. Some serve in one way better, some in another - -

- - Roadside landscape people generally consider straw as hard to beat, all things considered, at least in regions where small grains are grown and clean straw from them readily procurable. In exposed areas it is tied together with an asphalt tack sprayed on as the straw is blown on the seedbed.

- - Very similar in performance, and free of the chance of unwanted weed or grain seeds, is wood excelsior. Where competitive in cost, this material seems to have excellent potentialities as a general mulch.

Somewhat similar is a new glass fiber mat, said to be competitive in cost. It may not be quite the moisture barrier that is straw and excelsior, but it's easily lifted from sprouting seedlings for reuse. Likewise, woven nettings are not the best moisture barriers, and though they do a pretty fair job of holding soil in place, they are less effective in encouraging quick sprouting in the absence of steady moisture supply.

- - The accompanying slides show some of the modern methods for applying these mulches. We can expect mechanization to proceed further in this aspect of starting fine turfs, with better and more convenient ways being found to give quality turfgrasses such as the Kentucky bluegrasses, fine fescues and bentgrasses a good start in life."

FINE FESCUE DISEASE RELATED TO TOTAL ENVIRONMENT

Dr. Houston Couch, Virginia Polytechnic Institute, sent a reprint from Phytopathology, following up a series of studies on "Influence Of Environment On Diseases Of Turfgrasses". In this instance, Pennlawn and Rainier fine fescues were the test varieties, inoculated with Corticium Red Thread as the disease. Disease attack of the fescue was related to variations in nutrient content allowed the grass, and to moisture stress.

The only marked correlation indicated that high calcium levels in the grass generally helped restrain disease. Since magnesium content was inversely related to calcium, by the same token high magnesium content in the foliage encouraged disease. There was very little significance to higher or lower rates of conventional N, P and K nutrients.

There was some difference according to variety. By and large Pennlawn was more resistant to the disease, but Pennlawn itself was more resistant at certain seasons (autumn) than at others (spring). This may relate partly to a somewhat different nutrient uptake between the two varieties, showing that genetic qualities govern total environment basically. Nutrient levels can't be established conducive to disease; it depends upon what variety, grown under what soil conditions, at what time.

There was some indication (with Rainier) of minor disease response to soil moisture conditions. The study supports the concept that mineral composition of a particular species is not fixed, but will vary considerably with the cultural and climatic conditions. Nitrogen, often noted to encourage disease when in excess, in some instances (in this study) actually reduced disease. Under other combinations of circumstances it increased disease. Here nitrogen showed little influence with Pennlawn, but with Rainier it increased disease in autumn, but decreased it in spring!

BLUEGRASS ESTABLISHMENT

Volume 85 of the Proceedings of the American Society for Horticultural Science carries a report by University of Illinois researchers on the establishment of four varieties of Kentucky bluegrass under differing schemes of fertilization and weed control. Recognizing that autumn seeding is generally best, this test nonetheless was undertaken in spring because so much seeding is done then. The measure of success was percentage of cover attained by autumn.

As would be expected, markedly better cover was attained when summer weed control was practiced. Chemical control of annual grasses rated highest, followed by mechanical control (vertical mowing), and lastly the check. Surprisingly, amount of fertilizer applied at seeding time made little difference in eventual cover (there might have been greater difference had this not been on good Illinois soil?). Variety of grass was not especially important, either, and varied slightly under differing treatments; Merion, Newport C-1, natural and Delta bluegrass were the test varieties.

Perhaps of most interest to seedsmen is the rate-of-seeding aspect of this study. Seeding rates varied from a low of 4 lbs./acre to a high of 120 lbs. (the approximate usual recommendation). Anything below 60 lbs./acre was clearly inadequate to provide much of a stand, no matter subsequent care. So the evidence suggests that the usually recommended rates of about 3 lbs./M are valid. To quote the researchers (Drs. Kemmerer and Butler): "It is poor economy to use too little seed in the establishment of a lawn. Too little seed often results in a thin, patchy stand of grass, in which weeds easily become established." This may be worth citing!

ADDITIONAL VOCATIONAL TRAINING

Ramsey Groves, of the Technical Center, Ohio State University, telephoned to ask if Dr. Schery would review planned releases for teachers on practical horticultural subjects. Selected vocational agricultural teachers are preparing a manual for training other teachers, to equip "low-achievers" among high school students to learn the practicalities of grounds maintenance. The manuals are to be written in a very elementary fashion, understandable to teachers whether or not they have background in horticultural subject matter. Of course the Lawn Institute was delighted to aid in the preparation of such materials, which could in the long run be instrumental in the usage of quality plant materials.

EARLIEST LAWN MOWER?

Perhaps the forerunner of the modern rotary mower is a model pictured in the July Lawn Equipment Journal, estimated to have been made prior to 1859. It is a push mower, powered from the wheels, from which a series of gears activate four spinning blades for 11½ inch cutting width. The machine was found many years ago, abandoned in an old New Hampshire barn.

NEW LAWN BROCHURE

Publishers engaged in preparing a lawn brochure for Henry Field Seed Company requested photos of the Institute for illustrations. Credit to the Institute is indicated for several older scenes furnished. Newer, distinctive photos cannot be supplied private request unless reasonable editorial control is allowed. Of course good booklets add to the interest in lawns, and the Institute wants to encourage those stressing quality seed.

SEED STORAGE CHEMICALS

Day and Thompson, Arizona, report in the July-August Agronomy Journal on tests where a fungicide and insecticides were utilized as protectants during storage. In almost all cases seed viability was reduced. "Moth ball" materials, DDT and Ceresan were some of the materials tested.

NEW MULCH DESCRIBED

Fertilizer Solutions reviewed a new petroleum resin mulch material, named ENCAP, a development of Armour and Humble Oil. The material is apparently used successfully with row crops, to speed germination and provide a more uniform stand. From description of its physical characteristics, it might also join the family of mulches used for grass seeding. Cost is said to be \$25/acre.

ARIZONA WINTERGRASS REPORT

The report on "Turfgrass Research" from the University of Arizona, for 1964, was late in being received. But it will be of interest to members that the winterseeding experiences were favorable to the "Lawn Institute mix" (Pennlawn and Chewings fine fescue, natural and Park Kentucky bluegrass, Highland bentgrass). The conclusion reads:

"All of the plots germinated and formed an acceptable turf. An usually cold winter ensued with the plots remaining green but no mentionable growth - - ryegrass which usually grows under quite cold conditions did not grow and had a very unsatisfactory color. - - With warm weather the middle of March, growth resumed and the spring transition with the mix was much more satisfactory than the ryegrass."

"LAWN" MARKET INTENSIFIES

A telephone call from the New York office of Chemstrand (Monsanto Chemical Company), points up the continuing economic interest in "lawns". In this instance, Chemstrand was endeavoring to arrive at some "average" cost figures for establishing and maintaining a lawn, with a view towards possibly competing in the market with an artificial "grass" made of nylon or acrilan (Chemstrand products). This would be analogous to the 3M artificial turf, which we understand is being utilized in Houston's Astrodome.

POTASH INSTITUTE INFO

"Better Crops With Plant Food", publication of the American Potash Institute, is a highly esteemed and informative periodical we are grateful to receive. The May-June issue carried several items of interest.

The cover showed in color, respective content of nitrogen, phosphorus and potassium in many major crops. Coastal bermudagrass, yielding 10 tons/acre, was one of the most abundant extractors of nutrients from the soil - 570 lbs. of nitrogen, 145 lbs. of P_2O_5 and 400 lbs. of K_2O . Turfgrass, estimated to yield $2\frac{1}{2}$ tons/acre, showed respectively 225 lbs. N, 60 lbs. P_2O_5 and 140 lbs. K_2O .

Another story provided information on how greater winter hardiness is achieved with bermudagrass, by properly balancing nitrogen fertilization with potassium. Photos illustrated the better survival of coastal bermudagrass under high potassium fertility.

Another story, relating to grass only indirectly (corn is in the grass family), showed experimentally the greater plant growth obtainable with increased light. Reflectors in the field provided the stepped-up illumination.

In another interest discussion, the value of frequent irrigation ("misting") was discussed. Even though little of this moisture reaches the soil, yields and quality with a number of crops were quite superior. The data indicates that this is due to lower temperatures, and less requirement for transpiration (crop water loss). One hears not to water lawns in midday. Obviously, there is greater evaporation then, but at the same time there should be reduced soil water depletion and improved performance of Kentucky bluegrass, fine fescues and Highland bentgrass because of the moderated temperature.

TURF ANNUAL

Park Maintenance Magazine's July annual "Turfgrass Review" was edited this year by C. Richard Skogley, Institute advisor at Rhode Island. List of reference sources (which includes the Lawn Institute) seems to increase each year, indicating extension of turfgrass importance nationally. As is always the case with this Turf Annual, reports are so condensed as to be more an indication of research interest than a summarization of results. The occasional typographical mistakes or careless editing casts some doubt, too, on some of the reports.

The Annual begins with diseases, and includes this statement (on the basis of Michigan research): "As little as 10% Merion in a blend has greatly reduced the leaf spot incidence - -." Certainly this is one of the strong points for including Merion in bluegrass blends.

The next section discusses fertilization. Members may be interested in having for the record some California results, indicating that 3.5% nitrogen, 0.4% phosphorus, and 1% potassium in leaf tissue were associated with maximum growth. California work indicates that a phosphorus level below 0.4% in bluegrass becomes critical. Michigan researchers theorize that the well-known effect of decreased rooting under high nitrogen may result from blockage in the transport of carbohydrates to the root system.

Bentgrass, bermudagrass and bluegrass receive the greatest attention in the section on grasses. Ohio research was reported as showing Highland bentgrass to be susceptible to brown patch disease, more so than most of the golf green selections. Attention was given the newer attitude at Purdue University, favoring the use of bluegrasses for fairways under certain prescribed conditions (reported previously in Harvests). Quite interesting was John Voight's work in Wisconsin, in which his "four-way mixture of Kentucky bluegrasses" (Merion, Delta, Park and natural), now seven years old since planting, was "the outstanding turf plot in 1964". Almost equally acceptable for sunny locations was the mixture of Merion and Norlea perennial ryegrass, in which "the Norlea has vanished leaving straight Merion in its stead. This is fortunate, because the plot seeded straight to Norlea looks ratty by comparison, - -."

As to winterseeding, the Lawn Institute mix comes in for favorable mention in research reports from several southern locations where seed has been furnished (particularly Mississippi, Florida and Arizona). Some researchers name the "Lawn Institute mix", and others cite its constituents by name, mentioning the varieties of bluegrass, fine fescues and Highland bentgrass. For example, Burt, Florida, reports "a mixture of Pennlawn Red fescue, Kentucky bluegrass and Highland bentgrass - - was the most desirable of eight overseeding combinations - -."

Discussions continue with sections on insecticides, irrigation, management aids, mowing and weeds. The Lawn Institute literature is mentioned with regard to seeding. Institute advisor Roberts, Iowa, is reported to find that "better turf, however, is produced where use specification will permit seeding" (as compared to sodding). Performance of herbicides suggests more refinements in the use of existing materials, than the release of striking new chemicals during the year.

IN "GARDENERS' FORUM"

The American Horticultural Society's "Gardeners' Forum", Volume 8, August, 1965, carried Dr. Schery's "Fescue Facts". The story aims to clear up confusion between unwanted tall fescues, and the fine fescues which are peers of Kentucky bluegrass in the lawn. Acceptable fine fescue varieties are listed.

Dr. Schery asks: "The Lawn Institute would very much welcome information on how tall fescue gets spread so widely. The seed seems too large to be carried any appreciable distance by wind (there are only about a quarter-million seeds to the pound with tall fescue, compared to over two million with Kentucky bluegrass, and seven million with Highland bentgrass). I have not come across any studies on whether the seed is consumed by birds, and if so whether it may pass through the intestinal tract without damage, to sprout in the droppings - -. Studies of seed lots - - show it to be a relatively infrequent contaminant in lawn seed.

Horticultural associations can help make it clear that there are 'fescues and fescues'. Lawn seed purchasers should scan the ingredient listing to be sure that only fine fescue, not tall fescue, is included - -."

\$86 PER HOUSEHOLD

This is the figure a survey in Toledo unearthed, as the amount of money spent annually on lawn and garden, averaged for the households in the Toledo Blade's trade area.

WORD FROM THE SOUTH

Chan Baker, now associated with Florida Seed & Feed, is encouraged with lawn seed prospects in the South. He writes: "We, here in the deep South, see a very definite trend towards increased use of seed as a means for developing good southern lawns." As to winterseeding, Chan adds: "Your old mixture, in which the bluegrass, bent and fescue appear in approximately equal percentages in terms of pure live seeds per pound, is still, without doubt, the finest for our part of the country."

FOOD FOR SOME THOUGHT

An editorial from the 1965 Film Annual, "The Strategy Of Persuasion", could be related to lawns and lawn seed. Persuasion is not easy; it involves both good communication, and motivation towards an objective. But the end results are much more permanent and gratifying than when something is accomplished simply by obeying an order, rather than from inner conviction. In a sense, lowering prices is a "command" to buy. But it does not encourage loyalty to the product. The buyer will purchase a competing product just as soon as its price is lower. Loyalty to a product is built only through persuasion.

The implication is obvious, that for wide public acceptance of quality lawn seed there must be some means of public education - the sort of thing the Lawn Institute devotes itself to. Strategy for persuasion in this case is to identify with the consumer's problem (he probably knows little about lawns but wants a better one), then make the end result possible at a level within grasp (advise choice of seed, and provide simple instructions that will enable it to perform satisfactorily). If original desire is satisfied by suggested grasses (you can't create desire, only channel it), you gain a convert. The consumer becomes especially devoted to quality fine-textured grasses if in the process of educating him you have made him feel this was his own solution towards fulfilling the initial desire. Honest persuasion is called for, for as the editorial concludes "An unobtainable goal generates aggression and frustration".

NATIONAL OBSERVER MENTIONS INSTITUTE

Photocopies of National Observer's resume of the lawn products market were sent to members in August. This prominent mention of the Lawn Institute was the outgrowth of a telephone call from Patrick Young, upon the recommendation of Beltsville. Mr. Young discussed at length on the telephone the quality features in seed and trends within the industry. Subsequent telephone calls from the Observer, plus the forwarding of reprints and other literature from the Institute offices, provided background for the editors.

HOMEOWNERS APPRECIATE ADVISORIES

Typical of the occasional letter we receive, thanking the Lawn Institute for informational materials, is this from C. B. Peck, Englewood, New Jersey (excerpted): "I want to thank you for your letter of August 19th and the fine information it contained - - we will sow seed and fertilize as you suggest - - I am very grateful to you. We enjoy large expanse of green equally with flower beds. Ours is an old rustic home built in the last century."

FACTORY MAGAZINE REQUESTS INFORMATION

"I recently received an interesting press kit from you people on lawn maintenance. As Buildings Editor for FACTORY, one of my areas of responsibility lies in landscaping for industrial plants. - - FACTORY is preparing a lead article which will appear as a round-up by each of the department editors on new occurrences and predictions for the coming year. Anything you could provide would be of considerable help." - Lindley R. Higgins, Buildings and Facilities Editor, FACTORY. Of course background materials were sent.

AUBURN UNIVERSITY PRESENTATIONS

A resume of Dr. Schery's talks to the Alabama Turfgrass Conference will appear in the Proceedings of that meeting. We would be glad to prepare a copy for any Institute member requesting it.

In brief the coverage was as follows. In "Pure Grass Seed" Schery stressed that the lawn seed industry is relatively new, especially in the South, an offshoot from the field seed business. As yet not everything is perfect, but great strides are being made to provide better seeds of higher quality. It was emphasized what a good bargain seeds are, considering the many live starts available from a pound, and the hygienic virtues in contrast to the traditional southern planting of sprigs and plugs.

Reprints were distributed of "Lawn Seed, And What's A Weed", and the inclusions found in lawn seed discussed, particularly as they might relate to winterseeding of southern golf turf. It was pointed out that it is poor economy to haggle over bargain-basement prices, since good seed should command a fair price, and is really the most economical in the long run considering that unwanted crop or weeds might have to be hand eliminated from delicate golf green turf. Explanation followed as to what to look for in the way of germination, purity, inert, and other conventional designations. The chart showed very well that the fine-textured seeds do come to market in good quality, if pains are taken to seek out adequate Kentucky bluegrass, fine fescue and bentgrass at a fair price.

Schery summarized as follows: "Eventually, laws and regulations will mature sufficiently to more accurately specify prejudicial inclusions in lawn seed. Already there has been a step in the right direction, under the newer labeling calling for 'fine-textured grasses' and 'coarse kinds'. In the meanwhile, and in fact any time, the best tool in fighting for better grass seed is willingness to pay a fair price for the end product. Modern growers are able, indeed would like, to market only highly pure seed. But the cost of weed control in the fields, and overhead of processing and cleaning, must be reflected in the eventual price."

In "Maintenance Of Lawns", Dr. Schery pointed out that for different uses this differs mostly in degree rather than the kind of practice. Without proper maintenance, the best efforts by the plant breeders are negated. For general seeding he mentioned "there is something to be said for the adaptability and flexibility of some of the older 'plain-Jane' grasses."

After discussion of the major and secondary maintenance practices that must be accorded any fine turf, and relating this specifically to the grasses found in the South, Schery concluded: " - - response of the turf is generally contingent upon a number of primary and secondary practices, of which in toto can be more important than the type of grass. Any one of these can limit performance, but mistakes in plantings, mowing and fertilizing are apt to be the more serious, show more quickly. All maintenance practices together establish the environment for the lawn, and if they are adjusted to meet the ecological needs of the particular grasses chosen, there will be a minimum of problems and failures. The grass then fights most of its own battles against pests."

WEATHER CYCLES

H. C. Fritts, University of Arizona, reported this year at the AIBS meetings, upon the evidence from tree ring studies for climatic changes in the western part of the country. There have been periods of widespread drought alternating with those of above-average moisture. Particularly moist periods, in terms of both extent and content, occurred 1611-1625, and 1906-1920. Within recent times, the span 1931-1940 was a drought interval. Cycles generally ran 9-14 years.

pH DOESN'T INDICATE CALCIUM NEEDS

V. A. Tiedjens, reporting in the Ohio Journal of Science, concludes: "A pH reading, without a calcium test, does not give the true picture of the lime requirement - - in many cases a near neutral pH was associated with a very low available calcium reading - -." It has long been the custom, in preparing seedbeds for lawns, to presume that a pH reading by and large signifies adequacy of lime. Tiedjens' report throws doubt on this, and it may be that lime should be used more frequently, at least for soils meant to support bluegrass-fine fescue lawns.

Ten actual cases are reported, including one where lima beans failed to germinate until the soil calcium deficiency was corrected. On a clay-loam soil from Marion, Ohio, a bluegrass lawn would not maintain itself until lime was applied, in spite of a soil pH of 6.6. 40 tons of limestone per acre were needed on a muck soil, before there was sufficient "available" calcium for the crop to respond. Observations such as these lead Tiedjens to conclude: "Our soil acidity test is not a satisfactory test for determining the calcium and magnesium needs for optimum growth of crops."

MISSOURI TURFGRASS RESEARCH

Members will be interested in some of the seasonal results noted at the University of Missouri.

In pre-emergence crabgrass control most products performed ably when properly used. Some are now in their eighth year of repeat treatment on the same test plots. In dry years Chlordane has given some damage, as have arsenate and the now discontinued Treflan. More injury has occurred in bent than on bluegrass, and added caution must be exercised on golf greens with Dacthal, Zytron, Azak and other well-known names.

Broadleaf weed control is now relatively easy, with Banvel-D (Dicamba) added to the arsenal of phenoxy weed killers. Spurge, late in the season, is still something of a problem in bent.

In bluegrass variety testing no great difference was showing. Prato and common were perhaps best-appearing, in what has been a good growing year. Plots were seeded in late '62 and early '63. Fine fescues do not fare so well as bluegrass in Missouri latitudes, becoming "patchy" in summer in the sun. With fine fescues, as with bluegrass, there was no striking difference between varieties.

LEADS FROM THE PRAIRIE

The early summer issue of Ecology carried an instructive report from Koelling and Kucera, University of Missouri, observing native prairie. If we can presume that mineral changes in lawngresses are like those in prairie grasses, then there is instruction for lawnsmen in this report. Recycling of fertility nutrients and the implied usefulness of clippings, should be similar in both prairie and lawn.

Perhaps most striking is that fertility nutrients are quickly released from grass foliage, even while still alive and functioning. Of the nitrogen in bluestem foliage in mid-May, less than half (on a percentage basis) was present by mid-July, and even less through autumn and winter. Even more striking, the loss of potassium from foliage was 96% within a year. Phosphorus turnover was significant but less extreme, while calcium and magnesium showed little percentage loss, and iron and silica actually increased slightly (on a percentage basis). This suggests that in a lawn a fertilizer may be recycled quickly, and when the clippings are left on the lawn most of the nutrient content is recoverable.

Another observation relates to the "quality" of clippings. Initially, bluestem foliage lost nitrogen quickly, down to about 25% of original content. But this remaining 25% proved more stable than the organic (carbon) residues. As decomposition continued, carbon was exhausted more quickly than the nitrogen, such that the resulting humus was richer in nitrogen (on a percentage basis) as it got older. This suggests, that in a lawn, the oldest clippings (as at the bottom of a thatch layer) may be contributors to fertility, and at least not a serious drain on nitrogen supplies.

Another possible analogy prevails. Burned prairie (somewhat the equivalent of regularly mowed lawns, the clippings removed or the thatch collected) responded more quickly to environmental changes. For example, it greened up more quickly in spring (less insulation, so quicker warming), and it responded almost immediately to released nutrients. With adequate rainfall, its productivity was greater (it is surmised the opposite might be the case in arid climates or during drought, when the mulching effect of litter might be beneficial). There is verification in the prairie that accumulation of litter does retard total growth, and buffer seasonal response. The same thing is certainly true in a bluegrass lawn, where quick response with rejuvenated foliage is generally considered desirable.

ROADSIDE SEEDING

As approved at the annual meeting, the Lawn Institute is cooperating with the Ohio State Department of Highways in establishing some all-fine-textured roadside areas, in contrast to those containing the conventional seedings with tall fescue. Tall fescue is increasingly a problem in lawns, and we are anxious that the highway people have at least some acreage on which to gain experience with the all-fine-textured blends. On many soils, and in many locations, fine-textured grasses will establish as readily as tall fescue, and should actually give some savings in maintenance (since they're not so rank and tall-growing).

Two separate seedings have been arranged for, to be made in early autumn of 1965. One is about a quarter-mile stretch of Highway 23 in Delaware County,

under Stephen Wolfe, district supervisor. The second is in Hancock County, involving a 1000-foot berm about 100 feet wide at the interchange of Highway 15 and 68, near Findlay. Mr. Loy Steveley is supervisor in charge. In both instances fine fescues, Kentucky bluegrasses and some Highland bentgrass will be included in the seeding mixture.

INSTITUTE SUGGESTS MORE ATTENTION TO LAWNS

In reply to communication pointing out the dearth of lawn coverage on International Horticulture programs, we have this reply:

"I quite agree with you that we must look into this matter of lawns and turf. We will be having a meeting of the Program Committee for the XVIIth International Horticultural Congress sometime early in October. - - I would certainly agree with you that this is a most important topic - - I hope that we can include it." - H. B. Tukey, Sr., President, International Society for Horticultural Science

ADDRESSES SALES GROUP

Dr. Schery was invited to address a sales conference of garden center employees, concerned with counseling homeowners in the relatively affluent Cleveland suburban area. "Lawn Seed, And What's A Weed" was distributed, as a focal point for discussion, and an effort made to explain that there is available really good quality domestic seed, in spite of some "junk stuff" also reaching the market. Considerable concern had been expressed by operators of landscape departments that coarse grasses were being introduced in bluegrass-fine fescue seedings. Inspection of one such job done by the Horton Nurseries, a Pennlawn fine fescue seeding to a shaded lawn, showed a heavy incidence of objectionable-looking coarse grass. This proved to be annual ryegrass in this case, expected not to persist through another winter. The nursery had thought it might be tall fescue. In any event, it serves to point out that there is increasing awareness of and dissatisfaction with "crop" coarse grasses in fine-textured seed. It seems likely in this instance that the annual ryegrass must have come with the fine fescue, because neighboring turf seeded at the same time to other seed contained none of the annual ryegrass clumps.

WHAT THEY ARE SAYING ABOUT THE INSTITUTE AND ITS RELEASES

"We would like to mention again, Dr. Schery, how much we appreciate your very fine article which has drawn much favorable comment. - -" - Orville E. Bowles, The Canadian Rose Society

"Thank you for your excellent letter about the golf course in Istanbul and also your article. I have forwarded them both to the Consul General and I am sure he will be most grateful - -." - Sherman Ewing, New York, New York

"Thanks so much for sending along the material of April 15 for our review - - For fall, we had selected the article 'Remake Your Lawn In Autumn' - -." - John H. Mansfield, Vice President, Lloyd Mansfield Company, Inc.

"I want to thank you for your help and the time you took to assist me in my research." - Patrick Young, Feature Department, The National Observer

"May we express our continuing pride in having you as a contributor. Our contributors are the foundation on which the authoritativeness of The World Book Encyclopedia rests. Thank you." - Robert O. Zeleny, Vice-President and Executive Editor

"Thank you for your cooperation - - concerning my project for the New York University Graduate School of Business - - The enclosed material that you sent me is ideal in laying the foundation for my phase of the report." - Donald G. Kress, Putnam, Coffin & Burr, New York

"Dear Bob: Boy, I sure wish I could write as well as you do! Thanks for sending me copies of your information." - Wayne C. Morgan, Farm Advisor, University of California, Agricultural Extension Service

"Dear Dr. Schery: Thank you for your interest in FACTS ABOUT MERCHANDISE. The information which you sent to me in June proved to be quite valuable in the preparation of the manuscript for Chapter 38, Horticulture." - Dr. William B. Logan, Distributive Education, The Ohio State University

"Thanks so much, Mr. Schery, for sending me - - the different suggestions and items enclosed. - - if you get back this way at any time I certainly would like to meet you personally." - J. H. G. Cooper, President, Harry Cooper Supply Company, Springfield, Missouri

"Thanks again for your kind comments on our 1965 Annual and please bear in mind that our pages will always be open to any further material you may care to send us at a later date." - Orville E. Bowles, The Canadian Rose Society

" - - we have learned about your work and will be very interested in hearing nearer about it, just as we have much interest in eventual publications from your Institute." - pr Faellesforeningen for Danmarks Brugsforeninger, Froafdelingen, Reinh. Kristensen