BETTER LAWN Harvests

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EXECUTIVE COMMITTEE MEETING

On November 10, in conjunction with the Western Seedsmen Association meeting in Kansas City, President Mangelsdorf called for a Lawn Institute Executive Committee session. This was held at 2 P. M., November 10, in the Kansas City Club. Attending were President Edward F. Mangelsdorf; Secretary-Treasurer Roy Edwards, Jr., committee member Edward Spears; Don Hector (representing the Oregon Seed League and Oregon Commissions), Jim Carnes (Northwest Bluegrass Association and Highland Bentgrass Commission); and Director Robert W. Schery.

Mr. Carnes and Mr. Hector spoke encouragingly of the organization of a Northwest Bluegrass Association, representing growers in the states of Oregon, Washington and Idaho. This organization will represent the domestic (western) segment of the industry, with the intention of giving major support to the Lawn Institute and its program. Arrangements were completed for a growers luncheon, in conjunction with the Oregon Seed League meetings December 14.

President Mangelsdorf reported that there were no new developments from the earlier exchange of correspondence with European bluegrass producers. An offer of very limited support by the Europeans had been rejected, and no reply received to the alternative suggestion that they contribute upon imports into the United States a percentage comparable to that of domestic participants. It was decided to keep the two major Dutch firms (guests at a special meeting the year before) informed, but to not undertake general or frequent mailings to Europe.

Engagement of new representation in Kansas City was deferred (with regard to closing of the Bozell & Jacobs office), until the Northwest Bluegrass Association has become fully established. The spring press kit is to be issued as in the past, through the customary hired services utilized in its production in Kansas City.

The "Gardening Without Tears" sequence of radio broadcoasts, prepared by Gottlieb Associates primarily for the Dutch bulb people, was played. It was the impression of the committee that this presentation was somewhat tedious without being very informative, and lacked interest as an effective vehicle for publicizing quality lawn seed. Accordingly, the offer for co-sponsorship of a spring series was rejected though much appreciated.

Dr. Schery reviewed briefly recent Institute participations, and the meeting terminated with approval by the Executive Committee of the customary Institute activities.

NORTHWEST BLUEGRASS ASSOCIATION FORMALIZED

The organizational committee headed by J. L. Carnes and E. L. Hollingshead launched the infant Northwest Bluegrass Association to a fast start during the Oregon Seed League meetings December 14. A luncheon meeting to explain the objectives, by-laws and intended mode of organization had capacity attendance (with an equally many having to be turned away for lack of space). It was a most auspicious and gratifying beginning for this association, reflecting the excellent groundwork laid by the organizational committee.

The meeting opened with background discussion by Mr. Carnes (Mr. Hollingshead was ill on the day of the meeting). Mr. Carnes pointed out the increasing importance of bluegrass in Oregon-Washington-Idaho, and the indication that within a few years as much bluegrass seed will be produced there as was consumed nationally before the Lawn Institute began its promotional program. Orderly marketing and advantageous public image requires some sort of spokesman organization for this tremendous new source of bluegrass seed (imports, at the present rate of production, will run almost equally high, and continue to give severe competition).

Mr. Carnes introduced Edward Mangelsdorf, President of the Lawn Institute and of his own seed firm in St. Louis, who outlined how the Lawn Institute was organized and functioned. He felt that its program had been most effective, and that the support the Institute might gain through affiliation of the Northwest Bluegrass Association would prove most rewarding.

Mr. Mangelsdorf called upon Dr. Schery, Director of the Lawn Institute, to explain what the Institute does. Dr. Schery discussed ways in which the Institute gets information before the public, sometimes directly and sometimes indirectly, such that Kentucky bluegrass and other quality turfgrasses are publicized and made household words with the lawn seed consuming public.

Mr. Carnes then introduced Carey Strome, Chairman of the Oregon Fine Fescue Commission, who expressed satisfaction with the many years of contact and support that organization has lent the Lawn Institute. He emphasized to the bluegrass growers that they need have no fear in associating with the Lawn Institute; that they would be honestly and fairly represented.

Mr. Walter McElhaney, Chairman of the Oregon Highland Bentgrass Commission, reported similar satisfaction on the part of the Highland Bentgrass Commission in its association with the Lawn Institute. He urged similar cooperative efforts for bluegrass, such as he felt had been of considerable benefit to Highland bentgrass.

Gordon White, member of the organizational committee, then explained the structure of the new association, indicating that final papers were now before proper state authorities. A cut-off date for memberships would soon be announced, at which time a Board of Directors would be elected consisting of seven "handler" members and eight "grower" members, prorated equitably upon a geographic basis.

The Articles of Incorporation were read, and a rough outline of the by-laws (still to be formalized) mentioned. Very shortly there were to be regional meetings in the producing areas to explain in further detail the functions of this newly created organization.

OREGON SEED LEAGUE MEETINGS

President Edward Mangelsdorf obligingly gave of his time to attend the Oregon Seed League meetings, speaking for the Lawn Institute at several sessions, including the organizational meeting of the Northwest Bluegrass Association. Mr. Mangelsdorf's sincerity and fine reputation in the seed industry was of no little help in spreading confidence among growers not previously familiar with the Lawn Institute, and its program and background.

Of course the Seed League meetings don't revolve around the Lawn Institute, although President Mangelsdorf and Dr. Schery appeared before the Northwest Chewings and Creeping Fescue Association and a Meeting of Highland Bent Growers, in addition to the Northwest Bluegrass Association presentations. It may be that readers of Harvests would enjoy a resume of certain presentations on the general program.

A number of experts from Oregon State University spoke on varying aspects of current research and progress in the growing of turfgrass for seed. Without naming each source, here are some of the points that stood out.

The annual burning of field aftermath, following seed harvest, is considered absolutely necessary for effective disease control. Yet there is increasing public clamor protesting this, and it is felt that it is none too soon to take steps reducing hazards and objectionable side effects, while also instituting a public relations effort to gain greater public approval (people seem not to realize that this is a vital activity, not just a "whim" on the part of a "lazy" grower).

Newer varieties continue to shape up under investigation in the eastern consuming areas. Rhode Island has already supplied Kingstown and Exeter bentgrasses, reportedly has a new fine fescue about ready for release. New Jersey (Rutgers) is said to have a new bluegrass about ready. Pennsylvania has reportedly made ready for release a new fine fescue, and a new non-creeping Colonial bentgrass. Michigan is said to have a new red fescue. Washington State is combining three bluegrass clones for a varietal release tentatively named "Cougar," said to be later and denser than Merion, and to be afflicted a little less by rust.

Bluegrass seed yields were reported better from broadcast sowings than from row plantings (spring cultivation possibly injures spreading plants?). Karmex and IPC herbicides are said not to bother adequately fertilized bluegrass.

One expert visualized a flurry of interest in the Kingstown Velvet bent, to be followed by limited use in the long run. He also felt that Exeter bentgrass may provide a type that could get back into the lawn seed mixtures. He theorizes that foreign varieties would eventually work into the domestic market. Selling Newport as "common" Kentucky bluegrass was said to be a rising problem, protested by eastern experts. A low tall fescue seems to have a place (for things such as highway seeding).

As to statistics, it was reported that about 9 million pounds of fescue were imported, 17 million pounds of bluegrass (14 million through Holland, about 2½ through Denmark). Carryovers were considered sizable, but not burdensome. It was theorized that the domestic bluegrass supply would reach nearly 30 million pounds, with disappearance now averaging about 38 million. Bluegrass imports in the near future could approach 20 million pounds. Yields in Europe are said to average about half-ton per acre.

FINE FESCUE COMMISSION HONORS INSTITUTE EXECUTIVES

A luncheon meeting with the Oregon Fine Fescue Commission during the Oregon Seed League meetings, was very much appreciated by Institute prexy Edward Mangelsdorf and Dr. Schery. As guests of the Commission it was possible to become personally acquainted with these leading fescue representatives, a few of whom the Institute has not had the privilege of having had attend the annual meeting in Kansas City. An informal luncheon provides excellent opportunity for "small talk" seldom on the agenda of formal board meetings.

Present were Carey Strome, Creston Shaw, Tom Ruckman, Ray Glatt, Lud Hagen, Amos Funrue, Tom Gorman, and Richard Kuehner. Following the luncheon Ray Glatt was most cordial in taking his visitors on an inspection tour of nearby growing areas and cleaning facilities. Mr. Funrue accompanied the tour, and the group was met in mid-afternoon by Dick Kuehner and Tom Ruckman, also.

AGRONOMY MEETINGS, 1964

The Turfgrass Management Division had one of its most extensive programs ever, as part of the 1964 Annual American Society of Agronomy meetings, in Kansas City, in mid-November. A resume of some of the programs, and some of the papers, may interest Institute members. Those wishing a full set of abstracts covering the entire Society, can purchase "Agronomy Abstracts" for these meetings, from the Society for $1.

The first day's sessions were devoted to readside turf. Much of the general information was old hat to those that have been following highway landscape work through the years, but the papers generally carried somewhat greater authority because specific data was cited. As has come to be expected, details vary tremendously with climate and local conditions. It is apparent that even within a single state (viz. Institute advisor, D. G. Sturkie, talking about Alabama); soil, slope and choice of grass is entirely different for southern Alabama than for northern. How to get the engineering personnel generally in charge of highway work to listen to and appreciate agronomic detail, was a concern of several speakers.

D. G. Sturkie emphasized that there is no substitute for seedbed preparation; a good mulch cannot make up for an uncultivated seedbed, which had best have both fertilizer and lime mixed into it in Alabama. Dr. Sturkie praised weeping lovegrass and sericea lespedeza for middle and northern Alabama, of course bahiagrass for southern Alabama.

McCully, Texas, pointed out that bermuda is the grass commonly seeded in eastern Texas east of the 30-inch rain line, and that in western Texas a hodgepodge

including many native grasses is used. In west Texas wind rather than water is the chief eroding agent. Texas engineers call for a "basic" grass in the mixture, accompanied by a "companion" grass (often sudan). Some new hopes among roadside grasses are green sprangletop (Leptochloa dubia) and buffelgrass (Pennisetum ciliare). Mulching is essential for good stands, but some of the soil-sealing mulch sprays are a disadvantage in that they shed water rather than letting it be absorbed.

Ward, of Mississippi, had some specific measurements on mulch influence. Straw was one of the best mulches for controlling erosion, but at 1½ or more tons per acre it shaded bermudagrass too much for effective establishment. Sprayed cellulose pulp seemed a good compromise, useful where soil drying was not too critical. All mulches, save the soil sealants, were far better than no mulches in establishing roadside turf.

McKee, of Virginia, presented numerous microclimatic data. He pointed out that there might be a 40° difference in temperature comparing a north slope with a south slope; similar differences comparing the top with the bottom of a slope, one that's vegetated compared to one bare, whether the days are cloudy or not, whether sods are clipped or not, etc. Such a complication of local conditions makes it difficult to give a single over-all seeding recommendation that the engineer wants.

Andrews pointed out that Illinois utilizes both temporary and permanent seedings, but has come to the conclusion that there is no point in having temporary seedings (the permanent ones supplying as much ground cover about as quickly). The seeding mixtures used In illinois include strange combinations of oats, rye, legumes and whatnot. Tall fescue is considered the only grass that really stands up (but of course it is coarse, not fit for urban areas), and surprisingly, alfalfa has been proving excellent in recent dry summers, both because it is deep-rooted and because it can be seeded at any time of the year. Apparently Illinois had not yet come to the stage of working with refined, fine-textured turf, which one would suppose possible on rich Illinois soils.

Richardson, Georgia, reiterated the needs for seedbed preparation and mulching, and further advocated regular follow-up fertilization of grasses. He spoke highly of tall fescue for northern Georgia, bahia for southern Georgia, but had reservations about lovegrass (noting it dies out about the third year). Sericea lespedeza was considered good if well seeded. His slides even showed extensive vegetative plantings, such as of day lilies, for steeper slopes. Broomsedge was another grass mentioned.

Gilbert, North Carolina, reported on cost-and-effectiveness studies with ditch-lining mulches, concluding that excelsior was excellent but costly, and that asphalt-fiber glass-asphalt combinations did nearly as well at less than half the cost.

Zak, Massachusetts, told of experimentation in the Cape Cod area for dune control, where drought-resistant grasses more than mulches were the answer. The end results were not nearly so striking as those reported by Francis, on the Bethlehem Steel mine-waste dumps in Pennsylvania. By hydraulic seeding (and fertilizing) from a distance, within a few years "quicksand" was transformed into solid recreational and wildlife habitat.

MISSOURI TURFGRASS PROCEEDINGS

In early December the Proceedings of the 5th Annual Lawn & Turf Conference at the University of Missouri was published. Copies are available from the Mailing Room at the university for $2 each. Ten presentations covering 40 pages are included.

Among the titles are "The Meaning of Soil Tests Results," "Management Problems with Warm-Season Grasses in the Missouri Area," "The Conquest of Spring Dead Spot of Bermudagrass," "The Care and Repair of Turf Equipment," "Economics of Turf Disease Control," "The Value of Proper Moisture Environment for Healthy Turf," "Fraudulent Fertilizers," "What's New in Weed Control," "Identification of Grasses by Vegetative Characters," and Dr. Schery's "Lawn Seed Sweepstakes."

Since Missouri is a border state, it is of interest that Jim Latham, in his presentation on warm-season grasses, claims: "For general lawn and fairway usage, Missouri is still 'bluegrass country.' In fact, this state remains a good place to grow cool-season grasses. We grant that summers make the management of cool-season grasses difficult, but it can still be done." Jim then explains some of the problems and their cures for warm-season grasses.

Institute grasses received mention in Dr. Schery's presentation: "That's one reason for purchasing from reliable sources, and often a good reason for specifying domestic seed (such as Oregon fine fescues, Highland bentgrass, bluegrass of domestic origin)." "In Missouri natural Kentucky bluegrass performs well; Arboretum and Park are of very similar background. Merion has proven itself when amply fertilized - -." "The varieties currently in commerce are mainly the proven selections from Oregon, such as Chewings, Illahee, Pennlawn, Rainier." "Highland continues its distinctive performance, representing a specialized habitat, sold certified only under high mechanical quality, unlike some run-of-the-mill Colonial seed not so meticulously watched over."

Hemphill offers an interesting new thought regarding pre-emergence herbicides. Referring to the increasing evidence of cumulative toxicity after years of use of the same chemical, he suggests: "Perhaps it would be wise to alternate two or more of the more effective pre-emergence herbicides."

IMPRESSIVE PROGRAM IN MILWAUKEE

A letter from the Milwaukee County Extension Service brought the invitation to Dr. Schery, to be "kick-off" speaker at a spring "Homegrounds Improvement Program" in March. This program is on Monday of four succeeding weeks, the first session featuring lawn establishment and management. The emphasis is directed towards amateur gardeners and homeowners. Co-sponsors with the Milwaukee County Extension Service are the Milwaukee Journal and the Milwaukee Vocational School (in which the session will be held), as well as others.

CONTINUING INTEREST IN GARDEN PRODUCTS

John Mettler, Market Analyst for the Associated Merchandising Corporation of New York, telephoned recently wanting information about lawn seed and lawn products. Evidentally there is a concerted push by larger department stores (which maintain

gardening departments) in the direction of emphasizing gardening products. This may prove an effective entree for upgrading the quality of the seed mixtures sold through such outlets.

INTEREST IN TURF FARMS

A letter from United States Gypsum Company brings inquiry on the number of turf farms active in the United States. There are few enough of these of a really responsible nature, but undoubtedly many fly-by-nights. Interest in sod production is progressing, particularly in the South. The better sod farms of the North, too, are consumers of quality lawn seed. The U. S. Gypsum inquiry suggests that some American corporations already visualize this as a market worth going after.

HIGHLAND HEADLINES

For presentation at the Northwest Bluegrass Association organizational meeting in Oregon, a miscellaneous assortment of press clippings was reproduced as an example of Institute press kit acceptance. No effort was made to single out any especial grass, and it is pleasing to note that our favorite "specialty grass," Highland bent, received considerable acclaim in the press even in country where the bread-and-butter turf is a bluegrass fescue combination. Here are some of the examples noted in the few pages which were photocopied: "Bentgrass Popular," "Bentgrass," "Bentgrass Care," "Contains Many Seeds," and "Bentgrass Is Best For Fancy Lawn."

A couple of representative text quotes are: "Highland is the name given a selected bentgrass, the seed of which is produced only in a foothill section of the western Oregon mountains. Highland is used for lawns and fairways that must be clipped low - -." (Pomona, California Progress-Bulletin), "If you insist on a close-clipped lawn that resembles a golf fairway - - Highland bentgrass would be - - appropriate. It is a - - fine-textured variety that tolerates close mowing - -." (Hanover, Pennsylvania Sun).

BLUEGRASS BEAUTY SHOWINGS

Although the Institute movie, "Bluegrass Beauty," has been withdrawn from television showings because of budgetary restrictions, it still plays regularly to private audiences requesting it from Modern Talking Picture Service. We continue to have gratifying playing dates and comment on this film, now several years old. Showings have averaged better than one a day in the most recent months reported. There have been well over 3000 private showings of Bluegrass Beauty, to audiences totaling well over 100,000.

It may be of interest to members to know what areas currently are most hungry for lawn information, as indicated by Bluegrass Beauty requests. Ohio and Pennsylvania lead in total bookings, followed by Michigan, New York, Indiana, Iowa, Wisconsin, District of Columbia and Colorado. An appreciable number of requests also come from Connecticut and the New England states, and from some of the eastern prairie section including Kansas-Nebraska-Missouri.

PLANTING SYSTEM AND SEED YIELD

A report by Austenson and Peabody, in the September-October Agronomy Journal, dealt with "Effects of Row Spacing and Time of Fertilization on Grass Seed Production." Investigations included red fescues and Colonial bentgrass, in addition to two field grasses. Although seed quality was not affected by any of the treatments, yields with the Colonial bentgrass were significantly improved from solid stands rather than row spacing. There was no significant difference in yields with red fescue. On the other hand, orchardgrass and timothy benefited from row spacing.

ON CONTROLLING ANNUAL BLUEGRASS

Roy Goss, who has done research for the Highland Bentgrass Commission, reports in the September-October Agronomy Journal on pre-emergence tests for controlling annual bluegrass. Familiar pre-emergence chemicals, such as Dacthal and Betasan, were effective without injury to the permanent turf. However, control was effective only 9-12 weeks, and application had to coincide pretty well with germination periods of the annual blue. Betasan had the longest residual life. The pre-emergence chemicals seem to inhibit root development, and of course should not be used where seeding with desirable grass is contemplated during the period of their activity.

Work reported to the 1964 Agronomy meetings by Rutgers people, including Institute advisor Engel, shows that Betasan inhibits root growth of lawngrass months after its use as a pre-emergent. The aftereffects of herbicides are still not completely explored.

GRASS SALT TOLERANCE

An article by Lunt, Kaempffe and Youngner, "Tolerance of Five Turfgrass Species to Soil Alkali," appeared in the September-October Agronomy Journal. Grasses under test included common bermudagrass, Kentucky bluegrass, tall fescue, Seaside bentgrass, and Puccinellia distans. As might be expected, considering their zone of adaptation, the Seaside bentgrass and the Puccinellia proved very salt-tolerant. But surprisingly, the remaining three grasses were not far behind. Even where growth was reduced (as represented by clipping production), stands were still satisfactory. It appears that any of these grasses will continue to live under exchangeable sodium percentage in the soil up to 35-50%.

POA ANNUA ON INSTITUTE GROUNDS

Since installation of the automatic watering system for the bentgrass plantings on the Institute grounds (courtesy of Toro and the Highland Bentgrass Commission), there has been an increase in incidence of annual bluegrass in the bent area. The soil had been semi-sterilized prior to planting, and there was no history of annual bluegrass in this particular area, on high and relatively dry ground prior to irrigating.

From whatever source, Poa annua has gradually developed a toe hold and promises to become a pest. One-half of the bentgrass is de-thatched from time to time,

resulting in severe (though temporary) thinning. We have noticed that Poa annua is making its greatest entree where this thinning to remove thatch was practiced.

PURDUE UNIVERSITY REPORTS

The Midwest Regional Turf Foundation at Purdue University mailed a report on the September Field Days. This gave a very brief history and resume of the exoerimentation observed.

A point of interest to Institute members may be the attention recently towards using bluegrass once again in fairways. Purdue seems to be thinking along such lines, now that crabgrass has effective controls. A current problem seems to be the disease Fusarium roseum (formerly considered Curvularia), apparently severe on the Purdue golf course.

Bluegrass is also being planted to the athletic field, following elaborate mechanical preparation. Purdue continues to recommend a blend of bluegrasses over a single variety. There is intensive search for a fine-leafed, disease-resistant, low-growing selection.

SEAWEED AID TO SPROUTING

Button and Noyes, reporting in the Agronomy Journal (July-August 1964) indicate "dramatic" improvement of early germination of fine fescue seed when treated with ½ or 1% of an English seaweed extract known as S-M3 (Chase Organics Ltd., Shepperton, Middlesex, England). Heavier rates severely inhibited germination, and seemingly shortened viability of the seedlings' life in the germinator. The tests were on sand, in petri dishes, in the germinator, and seemed to speed up early leaf growth as well as increase the percentage of germination at an early date (11% germination in seven days with no treatment, as compared to 18% at ½% treatment). But as with gibberellins, in time the controls essentially caught up. After the article was prepared, there was an "addendum," which disclaimed any advantages from treatment if the seed was redried (as would seem necessary if it were to be handled, shipped and used in the conventional fashion). In fact, germination was reduced under such circumstances. So there seems no practical usefulness to the product as a germination stimulant.

SPEED OF MULCH DECOMPOSITION

In areas where small grains are grown, straw is frequently used as a mulch in the seeding of new turfs. There is much uncertainty among homeowners, as to whether this mulch should be left in place, and how quickly it will "disappear." The Lawn Institute advises leaving the mulch in situ, for it will soon be overtopped by the grass and become obscured.

It is interesting to have some factual data presented by P. L. Brown, at the 1964 Agronomy meetings, on "Straw Decomposition Under Field Conditions." Straw in contact with soil was 93-98% decomposed after 18 months (Montana climate). Straw held above the soil was only 22-34% decomposed in the same length of time. This bears out what we have long maintained about the incurring of thatch, - that those open-growing grasses such as Kentucky bluegrass and fine fescue build

relatively little thatch, simply because the clippings settle down where contact with soil encourages decomposition. Stoloniferous grasses, such as the creeping bentgrasses and most of the southern lawngrasses, weave an insulating mat of stems which keeps clippings and old leaves away from immediate contact with the soil.

With the high interest in thatch and de-thatching equipment at present, purveyors of the Kentucky bluegrasses, fine fescues and the more erect bentgrasses such as Highland, might well have a sales point in the lessened tendency of these grasses to thatch.

ACCLIMATION OF PLANTS

The September issue of the American Journal of Botany carried research by Mooney and West showing that five different species all started in a given location, then having representatives moved to three different climates, found those representatives changing their photosynthetic habits to match the new location even when brought back to the original spot for testing. This parallels findings of several years ago, which Dr. Schery reported to the AIBS meetings at Stanford University in 1957, whereby natural bluegrass selections from diverse areas, planted side-by-side in Marysville, all trended to the Marysville norm, losing the distinctive qualities that marked them in their original location. This "plasticity," or ability to adjust to widely differing environments, is one of bluegrass' outstanding traits, contributing to its usefulness as a lawngrass.

ROADSIDE DEVELOPMENT SHORT COURSE

The 23rd Short Course on Roadside Development, co-sponsored by Ohio State University and the Ohio Department of Highways, was held October 5-9, 1964. As customary, the first 2½ days include the formal sessions and evening banquets, held in Columbus, Ohio; the final two days the field trip by bus, this year to Cincinnati and return with points of interest enroute.

Formal presentations ranged from roadside research and the activities undertaken, through more specific papers on design and maintenance. A fine change of pace is provided by the Tuesday evening banquet featuring an outstanding national speaker, in this instance Dr. Kenneth McFarland.

Not all phases of the program will be of interest to Institute members, even though in the background of all roadside landscaping lies seeding. Thomas Mracek, Chief Landscape Engineer for Illinois, touched upon this, in his paper. He reported a continuing trend to permanent grasses, with mechanisms developed for seeding them at all seasons (thus extending the season) since the pace of modern construction is such that completion time of the engineering work is unpredictable. Here would seem a fertile field in which seedsmen might cooperate, providing adequate information to contract operations not too familiar with turf establishment, which might relate to temporary cover and a reservoir of permanent seed for those seasons not exactly opportune for conventional planting.

Hand in glove with this goes further investigation on "automated" seeding, with the gigantic hydraulic seeders and blowers now becoming available. Equipment on display during the field trip showed that now there are means for economically

fertilizing as well as seeding the roadside, which in turn might permit employment of the better grasses on questionable sites. Mulching methods also pertain. Harold D. Dolling, Chief Landscape Architect for Iowa, in his paper on this subject showed such contrasts as 650 tons soil loss per acre where no mulch was used, compared to no soil loss (with glass fiber mulch) and very little with wood chips.

Dr. Alban, of Ohio State, reporting on "Vegetation Control - - Research Project," indicated that the high rates of sterilants now being used for such locations as under guard rails, were hazardous in that they often washed and killed grass down-slope. The trend seems to be low rates of sterilants combined with systemics, which if used over a period of years soon conquer all vegetation. It is reported that even the first year 75-90 percent control is obtained, that it is better to have "not so perfect" control and yet no erosion down-slope, than complete weed control but grass kill on the berm. There's also renewed interest in the ecology of the raodside - what moves in successionally after the seeding? Alban reported that in Ohio foxtail and Panicum seem to be the weeds that particularly crop up the second year.

Alban did not consider the growth inhibitors (maleic hydrazide, MH-30) as reliable as he would like, but finds them effective when used along with 2,4-D to control the other weeds that come later (after the grass growth is restricted). On the field trip, there was an excellent demonstration of MH-30, in which a spraying made the first week of May eliminated the need for mowing the whole rest of the year. Because 2,4-D was used, there was no disagreeable, contrasting vegetation. One is led to wonder if this same sort of thing might not be achieved, even without the maleic hydrazide, were fine fescue and bluegrass substituted for the tall fescue-bluegrass seeding mixture now standard in Ohio? Mr. Garmhausen is quite receptive to the idea of making a trial planting with fine fescue-bluegrass-Highland bentgrass, over a section of highway about a fourth of a mile long, as was suggested to him. Various methods of handling, and treatments to the grass, could be compared here. In mentioning to some landscape people attending the course how beautiful the fine fescue swards near Buffalo look from the New York Throughway, there was general agreement that this might well be worthy of investigation for general employment.

Where 2,4-D must be used, one must be careful not only of crops on adjacent land, but the types of ornamentals found near the highway. Alban suggested that lists be composed of those planting materials reasonably resistant to 2,4-D, so that they might be chosen for median and berm plantings.

Hottenstein's recitation of costs on the Ohio Turnpike, indicated $23 per acre per year for mowing alone. This is based upon eleven mowings, at about $2.15 each. Certainly there must be room for economy here, either through the planting of lower-growing grasses, or the use of chemical inhibitors!

The roadside people seem thoroughly cost-conscious about maintenance. This concern is very likely to be intensified, as maintenance of the tremendous Interstate system passes to state responsibility as completion occurs. Even though there are rules against the planting of patented plant materials (not open to competitive bidding), premium seeds or other materials can be justified and excepted from bidding where they perform a particularly useful job. Seemingly, there is not the concern about spending money on construction, that there is on maintenance of the roadside; one Interstate bridge over the Little

Miami River, some 230 feet high above the river bed, cost 5 million to construct! It is apparent that money is being spent lavishly on the Interstate roadside system, only about half completed now. In fact the landscaping is just beginning to approach its highest levels, augering for even higher levels of spending for roadside seeding during the next decade. Progressive seedsmen should have no difficulty getting their fair share of these terrific expenditures, keeping in mind that each mile of highway embraces about 25 acres of planting and roadside maintenance.

MICHIGAN TURFGRASS REPORT

Dr. James B. Beard, Institute advisor in Michigan, has just issued the Fall 1964 report on turfgrass varieties for Michigan. We are pleased that Dr. Beard's findings parallel Institute opinions quite closely.

In his opening statement, Dr. Beard states: "Permanent grasses such as Kentucky bluegrass and red fescue should compose a major portion of a lawn mixture for Michigan. Cheap, quick-growing lawn mixtures are generally a poor buy since they may contain large quantities of temporary and weedy, perennial grasses which are unsuited for a beautiful lawn."

Thereafter, the major lawngrasses are discussed individually, including Delta, Park, Merion and Newport along with natural (common) Kentucky bluegrass. Beard suggests a blend: "The blend is suited to a broader area of adaptation and disease tolerance than a single variety."

Fine (red) fesuces are discussed briefly, with a very slight nod given to Pennlawn and Rainier varieties. A position often espoused by the Institute is taken: "If - - 'other crop' is listed on the label when purchasing red fescue, be sure it is not tall fescue."

Poa trivialis and bentgrass receive short treatments, while perennial ryegrass, annual ryegrass and redtop are mentioned, tolerated but not recommended.

A negative position is taken regarding tall fescue and zoysia, both included among "grasses not well adapted for Michigan lawns." Of tall fescue, Dr. Beard states: "Tall fescue (Festuca arundinacea) is a frequently misused grass. It is a coarse-textured, perennial grass which resists heavy wear and high temperatures. It is vigorous in establishment but is susceptible to snow mold and subject to winterkilling under turf conditions. - - Due to its coarse texture it is generally not suited for home lawns. - - Do not confuse the Kentucky-31 variety of tall fescue with Kentucky bluegrass." As to the zoysias, though Meyer is winter-hardy in southern Michigan, the long dormant period makes them of questionable value in Michigan.

Among bentgrasses for golf greens, Toronto (C-15), Cohansey (C-7), Washington (C-50) and Congressional (C-19) are rated favorably. Some misgivings are implied for other varieties such as Old Orchard, Arlington, Pennlu, Evansville, and Nimisilla. The mention of Highland bentgrass is not unflattering: "Highland is a grayish-green Colonial bentgrass having good drought resistance. It has good hardiness but is not used for greens - -." It would seem as though Highland is regarded well if used for turfs other than closely-clipping putting greens!

REPRINT REQUEST

"In addition to the above, I would appreciate it very much if I could obtain approximately 100 reprints of your article - Large Area Seeding - a rundown on costs, methods and success, as it was printed in Park Maintenance, of 1962. Another reprint - How To Select The Right Turfgrass - would also be very beneficial in giving our sales crew a good basic rundown on the industry. Thank you very much for your cooperation in this matter." - R. H. Stamm, American Excelsior Corporation

PRESS KIT USE

The Institute article "Mowing Before Winter" was carried in the October 9 issue of Seed World. Excellent use of the press kit has been made by Seed World this autumn. As customary, mowing is the "vehicle" in this story for carrying mention of the Institute grasses.

VISITORS TO THE INSTITUTE

On October 12, Dr. Claus Fengler and his wife visited with Dr. Schery at the Lawn Institute, following inspection of Scott demonstration areas. Dr. Fengler took a complete batch of Lawn Institute literature back with him to Germany, and promises to let us hear from him further after he has had time to read and digest the voluminous literature. Although there is some difficulty in communication with such visitors, it appears that Dr. Fengler's father-in-law operates a garden supply business in Germany. The Fenglers were especially interested in the over-all status of the lawn business in this country, and what products have proven useful for seeding and maintaining good lawns.

AUTUMN PRESS KIT RESULTS

For reasons of economy the Institute no longer maintains continuous clipping service, but does schedule during September some clipping pickup to judge which of the autumn press kit stories are finding greatest acceptance. Because not all clippings had been received when the last issue of Harvests was composed, we deferred reporting upon the clipping pickup until this time.

As we have come to expect, there were several hundred column inches of space directly attributable to Institute stories, even under the relatively curtailed clipping pickup. Often by-line credit is given, either to the Lawn Institute or to Dr. Schery as its Director. Such instances occur, especially with newspapers generally too small to have their own garden columnist, for example the Traverse City, Michigan Record-Eagle, the Columbus, Ohio Dispatch, the Somerset, Pennsylvania American, and the Buffalo, New York Review.

Additionally, Institute stories receive mention by the columnist or the text is used verbatim. For example, the Edna Halliday "Yard and Garden" column (distributed by Central Press Association) opens this King Feature syndicate column with "Dr. Robert W. Schery, Director of the Lawn Institute, says that - -." Again, under the heading "Seed Lawns During Fall For Better Grass Stands," the Zanesville, Ohio Times-Record reports "Autumn seeding of new lawns

is best according to Dr. Robert W. Schery, Director of the Lawn Institute. Dr. Schery offered the following hints - - noted lawngrasses such as Kentucky bluegrass, fine fescues and the better bentgrasses (are planted in autumn for a variety of reasons) - - it's hard to miss in getting a good stand of grass, if you seed your lawn in autumn with a good seed mixture. Kentucky bluegrasses and fine fescues are at their best then. - - A fungicide helps protect Highland bentgrass lawns in northern regions against snow mold."

We are pleased with a number of headlines, such as "Bluegrass Can Fight Crabgrass," "Autumn Season Best Time To Start Bluegrass Lawn," "Bluegrass Started In Fall Can Take Care Of Crabgrass," "Fertilizing Bluegrass," and "Annual Bluegrass Is Not Kentucky Bluegrass." Fescue gets headlines, too, as "Fertilize The Lawns Of Bluegrass, Fescues Now" (Boston Traveler), "Tall Fescue Doesn't Mix With Bluegrass" (Willoughby, Ohio News-Herald), "Best Lawn Seed Mixtures Contain One Or More Fescues" (Buffalo, Review), "Weedless Fescues" (Asbury Park, New Jersey Press), and "Fine Fescues" (Boston Evening Globe). Bentgrass shares in the publicity, viz. "Bentgrass Is Best For Fancy Lawn," "Bentgrass Blends Best," "Bentgrass Popular," and "The Highland variety of bentgrass is widely used for close-clipped turfs in this country, notes the Lawn Institute - -."

Among other banners used with direct pickup of Institute text are: "Note Variety Listing Before Buying Seed," "Kentucky Home For Bluegrass," "Bolster The Lawn In Autumn," "Annual Bluegrass A Weed," "Listings Required" (new labeling), "Seed In Autumn," "Identify Lawn Seed," "Remove Lawn Thatch," "Bentgrass Popular," "Lawns Improve Soil," "Seed Instead Of Sod For Better Rooting," "Lawn Seed Purity," "Plastic Protects Seeds," "Lawn Seed Base Cited," "Bluegrass Home," "Annual Bluegrass," "Lawns Improve Soil," "Produces Bluegrass," "Contains Many Seeds," "Purchase Good Seed," "Kentucky Bluegrass," and "Bentgrass Care." This gives some idea of what the press does with Institute text that always mentions the grasses by name.

Photos have not been included in recent press kits, but are sent when individual request is received. One such example of publicity gained was from the Cleveland Press, a September 19 photo with caption that read: "Tree-shaded lawn like this needs a seed mixture with plenty of the fine fescues in it to make it tolerant of the shade. There is no loss in appearance from using these fescues (Pennlawn, Illahee, etc.) for their texture blends well with Kentucky bluegrasses."

We are pleased to see even major newspapers pick up press kit materials, such as this from the Boston Herald, September 10, under the heading "Plant Lawn Now To Beat Crabgrass." Excerpts read: "One of the best reasons for starting bluegrass lawns in autumn - -" and "You needn't worry, if your lawn is truly perennial, of permanent Kentucky bluegrass and fine fescues - -."

National columnists often give us good publicity, such as Institute friend George Abraham, in his "The Green Thumb" syndicated column. He usually mentions the Lawn Institute by name, and this year has offered Institute reprints to readers sending a stamped envelope. He paraphrases our latest release slightly, commenting: "We prefer a mixture of grasses rather than one alone. Basically, the bluegrasses provide the best sod, strong and recuperative, highly pleasing. Bluegrass is at its best on fairly rich soils - - the fine fescues such as Chewings, Illahee, Pennlawn and Rainier are all attractive and will tolerate shade, poor soil and dry locations better than bluegrass. Fescue seeds are quick to germinate and make a good initial showing." This in numerous eastern papers.

Curtis Schick, writing for the Newark News among others, repeats Institute advice, in boldface, no less, in his column: "Select a lawn seed blend that is composed mostly of fine-textured grasses. These will be listed on the labels of the seed bag or box. Such mixtures will be mainly Kentucky bluegrass (including varieties such as Merion and Park, and the fine fescues (Chewings, Illahee and Pennlawn). The Highland or Colonial type of bentgrass can be sowed where the lawn must be clipped very short."

Earl Aronson, with AP Newsfeatures, heads his September column with Institute materials. Art Kozelka continues to give us mention in the Chicago Tribune. And many county agents have obviously lifted press kit paragraphs for local repetition. A goodly number of papers seem to await Institute press kits for direct insertion of items, especially the fillers.

A sprinkling of comment from the text of random clippings dramatizes the type of mention gained through press kit issuance: "Read The Label When Buying Grass Seed." (Du Quoin, Illinois Call), " - - with the Kentucky bluegrasses and fine fescues, the usual combination for good lawns that can receive only average care, there is more latitude. For one thing Kentucky bluegrass grows low - - so, with a Kentucky bluegrass-fine fescue lawn a middle approach is probably best." (Bay City, Michigan Times), "These include Merion and other improved bluegrasses and fine fescues." - - "Dr. Robert W. Schery, Director of the Lawn Institute, points out that the best lawn mixtures are based on Kentucky bluegrass, including its varieties such as Merion and Park, and on fine fescues such as Chewings, Pennlawn and Illhaee." (Chicago Tribune), "Such mixtures will be mainly Kentucky bluegrass (including varieties such as Merion and Park), and the fine fescues (Chewings, Illahee and Pennlawn). The Highland or Colonial type of bentgrass can be sowed where the lawn must be clipped very short." (Ann Arbor, Michigan News), "Lawn seed mixtures that are predominantly thin-leafed and attractive, lastingly perennial, will be able to spread and thicken. Fine fescues are among grasses most tolerant of dry shade. Improved varieties from Oregon are Rainier, Pennlawn, Illahee and Chewings. The Park variety of Kentucky bluegrass is derived by interplanting - -. Midwest climate has been famous for Kentucky bluegrass - - (bluegrass) from the West (Park and Merion) will be free of rough bluegrass." (Kansas City Kansan), "If your lawn is mainly Kentucky bluegrass, or if it includes the fine fescues (such as Chewings, Illahee, Pennlawn, etc.), or if it is of Highland bentgrass, autumn is the time to lay on the plant food." (Midland, Michigan News), "A mixture that will produce an attractive, long-lasting lawn contains a high percentage of Kentucky bluegrass or Merion Kentucky bluegrass and one of the red fescues." (North Bergen, New Jersey Gazette).

Benton, Texas and Hanover, Pennsylvania both hear about Highland bentgrass: "If you insist on a close-clipped lawn that resembles golf fairway - - Highland bentgrass would be more appropriate - - Highland should be mowed frequently - - Highland or Colonial type is easier to care for - - Highland should be fertilized regularly - -." The Wassau, Wisconsin Record-Herald, and many other modest-size papers, liked the crabgrass story, which begins: "Who's afraid of crabgrass? Not I, said the bluegrass lawn - if you start me in autumn. While the top quality lawn species such as Kentucky bluegrass, Oregon fine fescues and Highland bentgrass, are at their spankingest best - - not so crabgrass."

Sample comments from the always popular short fillers include: " - - a good argument for having fine fescues along with other top-flight lawngrasses such

as Kentucky bluegrass in the seed mixture." (Buffalo), "Kentucky bluegrass and fine fescues benefit from higher mowing, Highland bent from lower mowing." (Baltimore), "Bluegrasses and fescues have their best growing season ahead." (Michigan), "High quality grass - Park Kentucky bluegrass is marketed only as especially pure - -." (Michigan), "Highland bentgrass contains about 7 million seeds - - 7,000,000 Highland bentgrass starts for a penny - quite a bargain." (Michigan), "The fine fescues, components of better lawns - -" (Colorado), "Kentucky bluegrass remains a favorite lawn species - - many improved varieties have been originated, among the earliest of which were Park and Merion." (Boston), "Bluegrass turfs, fertilized, thrive well even on poor soil, and fine fescues generally outlast neglect." (Minnesota), "Bentgrasses require a little extra attention - - compared to widely used Kentucky bluegrasses and fine fescues." (New York), "Kentucky bluegrass fills in well - -." (Kansas City), "Kentucky bluegrass and fine fescue lawns are certainly not softies." (Illinois), "The Highland variety of bentgrass is widely used." (Pennsylvania), "Highland bentgrass, now splendidly adapted to western Oregon - -." (Michigan), "The fine fescues in quality lawn seed mixtures." (New York), "Bluegrass turfs - - thrive, and fine fescues - - outlast neglect." (Sioux City), "Sprouting of good seed mixtures containing Kentucky bluegrass." (Albany), "The Park variety of Kentucky bluegrass." (Iowa), "Natural Kentucky bluegrass makes an excellent base in which Oregon fine fescues and selected bluegrass varieties can be mixed." (New York), "Bluegrass from Kentucky, widely adaptable, has been famous over a century." (Massachusetts), "Don't confuse perennial Kentucky bluegrasses such as Park, Merion and other varieties, with annual bluegrass." (Boston). "Best grass for Ohio - - common Kentucky bluegrass, red fescue - -." (numerous Ohio papers), "Few weeds - - in plantings of - - Oregon fine fescues such as Chewings, Illahee, Pennlawn and Rainier." (New Jersey), "Fine fescues are an excellent addition to lawn seed mixtures." (Massachusetts), "- - fine-textures group. Among the bluegrasses may be Arboretum, Merion, Newport, Park, Prato and Windsor; among the fine fescues Chewings, Illahee, Pennlawn and Rainier." (New Jersey), "If your lawn is Kentucky bluegrass, don't cut it shorter - -." (West Virginia), "Select a quality seed mixture mostly of fine-textured types." (New York), "Good bluegrass lawns can be fertilized any time." (Denver), "Kentucky bluegrass, fine fescues and Highland bentgrass, well-known lawn species - -." (Pennsylvania), "Mixing fine fescues with Kentucky bluegrasses provides candidate cover for shade - -." (Pennsylvania), "Noted lawngrasses such as Kentucky bluegrass, fine fescues and the better bentgrasses." (North Carolina), and so on.

ABOUT BLUEGRASS SEED PRODUCTION

The September-October "Crop Science" carried a research report which will be of interest to bluegrass seed producers. It is entitled "Floral Induction and Development in Poa pratensis," by Lindsey and Peterson, of the University of California, Davis. A good many years ago the Lawn Institute had covered much this same ground while developing methods for prediction of midwestern natural Kentucky bluegrass seed crops.

Merion Kentucky bluegrass was chosen as the test type in this study, partly because it offered a more constant hereditary make-up. Seedlings were subjected to various combinations of day length (or night interrupted by light), and to different temperature regimens. It has long been realized that seedhead production in bluegrass is triggered by shortening days, cold temperature, and to some extent other interrelated mid-winter factors. But precise information

on the critical relationship between the factors needed further documentation. In part Lindsey and Peterson have provided this.

In brief, here are some of the conclusions: if autumn and early winter day length is materially increased by artificial light (or the night interrupted by an hour's light), the production of seedheads is reduced or prevented. The same is true unless the grass be subjected to at least 30 days of cold (45 or more days gave better performance). This bears upon what the Lawn Institute concluded years ago, - that the abundance and vigor of new growth (tillers) in autumn had a marked influence on the following year's crop. If early autumn growth is good, then there is a sufficiently lengthy period for inductive factors to trigger seedhead initiation; but if growth is late and weak, there may not be enough inductive influence for good seed set. Hence the importance of rains and good autumn growing weather. Lindsey and Peterson say this: "It is evident - - that only the tillers which emerge early are exposed to a sufficiently lengthy cold period to assure reproduction. Results also indicate that the cold stimulus to flowering is not translocated from one tiller to another."

Having determined with some accuracy the combination of cold and short day length needed to set the seedhead-formation process in motion, subsequent environmental factors (analagous to spring weather) were investigated. Here it was found that a long day length (just the opposite of the preliminary influence of daylight in autumn) was required, to encourage full seeding. Most remunerative production occurred when day length approximated 16 hours (a continuous 24 hour photoperiod markedly reduced the number of seedheads per plant). The negative influence of short day length in this late stage could be overcome by illuminating the grass briefly in the middle of its dark period.

Thus this study verifies and co-ordinates a number of previously investigated responses of Kentucky bluegrass, a plant which must first have short day length and adequately cold temperatures to initiate any seedheads at all, then long days for maximum production of them. Moreover, this whole scheme plays upon a physiologic condition in bluegrass, such that there must be an adequate number of vigorous tillers going into the early induction period if there is to be a full-fledged seed crop. All of this agrees with the findings of Dr. Bass at Iowa State University on natural Kentucky bluegrass, encouraged to undertake some induction studies by the Lawn Institute a few years ago; and Dr. Schery's report to the Agricultural Meteorological Society on "Kentucky Bluegrass and the Weather."

THE TEEN-AGE MARKET

A research report from Modern Talking Picture Service reminds us how important are those in the teen ages, not only for certain markets today but the markets of the future. Habits and familiarity acquired early are remembered later. That's one reason why we were always pleased when the Institute movie, "Bluegrass Beauty," received considerable attention from high schools across the country. And at least the boys already had a stake in lawns, no doubt being required to do mowing. What a golden opportunity to stress quality grasses, and indicate that these really require very little attention considering all the benefits a lawn affords! And how easy it is to care for them with modern products and equipment!

The research report indicates that by 1970 teenagers will be spending some 21 billion dollars per year at their own whim, and that additionally they will be influencing parent purchases in a most influential fashion. The day-after-tomorrow they will be homeowners themselves, buying products with which they are familiar.

While the lawn seed business obviously doesn't have the stake in teenager attention that would clothing, grooming products, automobiles, and suchlike, it nonetheless is worth remembering that over a half-million teenagers graduate into marriage each year, and that if they have heard of Kentucky bluegrass, fine fescues and quality bentgrass, even if only vaguely remembered as the lawngrass to plant, obvious marketing access can accrue. As to the motion pictures, all schools have projectors these days, and use films, 59% as classroom teaching aids, 27% for general information, 14% for auditorium and club activities.

WINTERGRASSES RECOMMENDED IN FLORIDA

The Fall 1964 issue of the "Florida Turfgrass Association Bulletin" carried a story by Cabler and Horn, of the University of Florida, on "Wintergrasses For Overseeding." The report is partly based upon experimentation done with seed furnished by the Lawn Institute in recent winters.

The story opens with reasons for increasing dissatisfaction with ryegrass for winter cover, especially on gold greens: - poor spring transition, coarseness when lightly sown, certain diseases very serious, objectionable putting surface to many golfers. The article notes that superintendents and homeowners have turned to the "fine-textured" grasses. "These fine-textured species include the fine fescues, Kentucky bluegrasses, Poa trivialis and the bentgrasses."

The authors then devote a section entirely to "Which Grasses To Use." They cite tests at the University, and various golf courses throughout the state. Performance of the fine-textured grasses is indicated. The conclusion: "An excellent mixture for golf greens would consist of fine fescue, Kentucky bluegrass and Highland bentgrass. The fine-textures grasses can also be used for home lawns." This recommendation, in effect, is for the "Lawn Institute mix" furnished for experimentation last winter.

The article goes on to give valuable advice on the time for overseeding, preparation of the seedbed, and various maintenance practices including watering, disease control and fertilization.

NITROGEN LOSS FROM UREA FERTILIZATION

Hutchinson and Scarsbrook, Auburn University, reported upon ammonia volatilization from applied urea under differing rates and conditions. The higher the rates, the higher the temperature, and the higher the pH, the greater the nitrogen loss. The study supports the well-known contention, that fertility losses in winter (cold soils) are far less than in summer; when soils were just a few degrees above freezing, only 6% of the applied nitrogen was lost, while at summer temperatures 40% was lost.

The same sort of results were found by Puh and Hunter, in Pennsylvania.

FERTILIZATION MAKES SEEDING SUCCESSFUL

Woodhouse, of North Carolina, reporting to the Land Management Division of the Agronomy meetings, showed that fertilization of the Outer Banks of North Carolina was very helpful in establishing and maintaining vegetation on sand. Beachgrass, cordgrass, sea oats and Seaside panicum were all increased tenfold within a year when fertilization was initiated. There are obvious beneficial effects in trapping blowing sand. Best time for fertilization proved to be autumn.

REDUCED SEED GERMINATION

Willis et al reported upon activators and de-activators in seed germination, at the Agronomy meetings. Seed germination was inhibited by a number of salts, including ammonium acid phosphate. But the harmful effects could be overcome, at least in part, by magnesium and calcium solutions. It is suggested that calcium and magnesium additions will supply the seed enzymes with these needed minerals, to overcome the antagonistic effect. Might this be an argument for liming lawn soils?

MORE ON NITROGEN MOVEMENT

Boswell and Anderson, Georgia, reported at the Agronomy meetings on "The Effect of Water Rates on the Mobility of Nitrogen - -." Three types of nitrogen were applied to undisturbed soil, and rainfall simulated. Potassium nitrate moved down the soil column most rapidly, followed by calcium nitrate.

Least movement occurred with ammonium nitrate. It made no difference whether 4 inches of "rainfall" were applied all at once, or in four 1-inch applications.

SEED DORMANCY

Fendall and Carter, North Dakota, reported to the Seed Technology Division of the Agronomy Society on the " - - Site and Cause of Seed Dormancy - -" in a couple of prairiegrasses. Although fresh seed barely sprouted, the germination was increased immediately to nearly 50% if the husks were removed. This is contrary to the Lawn Institute's findings of some years ago with Kentucky bluegrass. Also unlike the Institute studies, growth stimulators including gibberellic acid, thiourea, and hydrogen peroxide all stimulated germination if used at proper concertration. Actual internal causes for repression of germination were not clear in the North Dakota study.

BLUEGRASS IN THE ANTARCTIC

A paper presented at the AAS meeting in Montreal, by E. D. Rudolph, Ohio State University, was entitled "Germination And Growth Of Bluegrass Seeds Near Hallett Station, Antarctia, As Related To Microclimate Conditions." Delta and Park bluegrass seeds were planted on a level gravelly area near Cape Hallett in November 1963. Germination (outdoors) took 50 days, and height after another 3 weeks was no more than an inch. These findings in nature

parallel what the Institute reported to the Agronomy Society some years ago, from germinator tests.

INTEREST INCREASES IN PRACTICAL TURFGRASS TEACHING

As evidence of the increasing practical concern about horticulture, in particular turfgrass, we note several new Extension-type activities designed to inform those actually in the turfgrass business. Elsewhere mention is made of the invitation extended Dr. Schery to be kick-off speaker at the Milwaukee "Home-grounds Improvement Program" in March. Then Nasco, an educational aid supply firm for vocational agricultural instructors and others, has come to the Marysville office for cooperation in developing a broad line of instructional materials.

Not to be outdone, the Ohio Horticultural Extension people have planned a three-day "Horticultural Trade School" for garden supply dealers, nurserymen, landscape and turfgrass managers, to be held in the Cleveland area in mid-February. Dr. Schery was asked to be the speaker for this school, on "How To Sell Turfgrass Products With Confidence."

So there seems to be under way a wholesome trend to bring reliable information to those who can make greatest use of it, rather than confine research reports to the more erudite society meetings where the expert talks only to other experts. Interpretative presentations to garden supply people should certainly be helpful in upgrading the image of an industry in which there have been more than enough exaggerated products and irresponsible recommendations.

PARK EXECUTIVES DIRECTORY

A recent letter from Alfred La Gasse, Executive Director of the American Institute of Park Executives, asked the lawn Institute to provide a summary of its activities for park and recreation departments. It was indicated that the Institute had many items of literature, and possibly advisory services, in the fields of seed choice and turf establishment. It is good to be named in such nationally circulated lists.

ROUGH SEASON

Drought was quite severe summer and autumn through great stretches of the Midwest and East, for the second year running. If the winter is open, serious desiccation damage to turf (and woody plantings) could occur. Mere threat of this exouraged an investment advisory service to recommend lawn product stocks, on the theory that this means big business in reseeding and overseeding. The better grasses have a way of reviving quickly when weather turns favorable, but nevertheless the consumer should be receptive, on the basis of what he has seen and heard, to suggestions for bolster seeding in early spring.

Charlie Wilson, writing in Golfdom, October, notes how severe have been the effects on golf courses - the worst summer since 1955. He argues well for just the "right amount" of water - not too little, nor over-abundance (as is often the case where irrigation equipment is used). The need for flexibility, to match the weather of the moment, is stressed. For winterseeding in the South

Wilson still stresses Poa trivialis, conceding that some Kentucky bluegrass may also be useful. Strangely, he finds that fine fescue is a bit too expensive, largely on the basis of Schmidt at VPI (Virginia) recommending 24 lbs. of mixed Pennlawn and fine fescue per M. Difficult to see why this heavy a seeding would be needed!

ALASKA REPORTS

Until recently there has been little research information on our familiar fine turfgrasses as they perform in Alaska. At the Agroncmy meetings, H. J. Hodgson, reported on "Performance Of Turfgrass In The Subarctic." Seven Kentucky bluegrass and eight red fescue varieties were planted at Palmer, Alaska in 1962, and observed through three growing seasons. Park Kentucky bluegrass exhibited the earliest spring growth, but was overtaken by Merion later in the season. Most bluegrasses developed Helminthosporium disease, but the fine fesuces did not seem to be bothered by it. Fescue density equaled that of the bluegrasses. Unfortunately, Pennlawn, Chewings and Illahee fine fescues proved the least hardy among the test species. One intriguing observation was that a lot cut was not disadvantageous to the fine fescues in this climate (we usually counsel against low mowing in areas where the summers are hot).

A LOT OF INTEREST IN LAWN SPRINKLING

Among the several firms having inquired of the Lawn Institute this year, about the need, use and potential of lawn sprinkling systems, is American Machine & Foundry. AMF has considered previously such gardening accessory as hand tools and hedge shears. It appears as though a number of firms are hungrily eyeing the lawn and garden market.

NEW LAWN PAMPHLET

The state of Iowa has been treated to a new lawn booklet, "Lawns For Better Living," by the Iowa State University experts. Dr. Roberts is Institute advisor, and Ed Cott regular recipient of Institute release materials. The pamphlet prepared under their aegis is numbered 312, with a date of August 1964.

In ten full-size pages, well-rounded coverage on lawn tending is given, beginning with soil and fertility conditions, followed by mowing, watering, weed control, then consideration of pest problems. The presentation is understandably written for non-expert, and the pamphlet profusely illustrated. The advice is sound, following generally the Institute's reasoning.

A couple of quotations on grass selection may be of interest: "Since Kentucky bluegrass and Creeping red fescue are the two species of grass making up most of the lawns in Iowa, fertility programs should be adjusted to (their needs) - -." And, for the repair of bare spots: "Seed - - with a good lawngrass seed mixture containing a large percentage of Kentucky bluegrass - -." And for shade: "The use of shady-lawn seed mixtures, high in Creeping red fescue, will make it easier to maintain a cover - -."

EMPHASIS ON WEEDS

The final day of the Turfgrass Division meetings with the Agronomy Society related mostly to weed control and turfgrass management. A miscellaneous assortment of papers was offered, only a few of which can be highlighted here.

Engel, New Jersey, showed root zone inhibition from certain supposedly harmless pre-emergence chemicals (especially Azak and Betasan). He cited other instances where untypical growth has followed the use of various chemicals. Chlordane plots on the Rutgers turf grounds showed serious thinning of turf many years after applications for crabgrass control. It was suggested that there can be considerable aftereffects of which we understand little, in various depths of soil, even following much time and many inches of rainfall.

Juska, Maryland, discussed use of fungicides along with latex emulsion; the data were inconclusive, but there were enough instances when the latex seemed of advantage to merit further study at additional rates.

Roberts reported that Helminthosporium diseases on Merion bluegrass increased as nitrogen level increased and as osmotic pressure (controlled with a glycol) decreased. This was surprising, in that Merion is relatively resistant to Helminthosporium in the field.

With inclement weather brewing, and several participants hightailing it for home, a number of the papers were cancelled. Other papers that were given had to do with control of nut sedge, and bermudagrass, interaction of fertility materials on the quality of bluegrass turf, the persistence of certain herbicides in Kentucky soils, critical nutrient levels for Newport bluegrass, control of spring deadspot on bermuda and some humic acid-fertilization rates for bermudagrass.

TURFGRASS TOUR

During the Agronomy meetings in Kansas City, the Central Plains Turfgrass Association arranged a tour that included about twenty points of interest. In spite of a bitter day, two chartered buses (over 100) were filled (with others wishing to attend having to be turned down), attesting to the wide interest turfgrass is creating in agricultural circles these days.

Stops included two stadia, berm seedings on highways, the Mission Hills Country Club, Johnson County Extension demonstration plots and several other points.

At Mission Hills plantings of tees to Meyer zoysia is under way. Most fairways are U-3 bermuda, although this was sadly decimated in recent winters. Roughs are bluegrass, which also invades the fairway.

The Johnson County demonstration plots are sponsored jointly by Flower & Garden Magazine, and the County Extension Service. Although of interest, comparisons are rather meaningless, since they are not replicated, and are not necessarily planted in equivalent locations or treated in equivalent ways. At time of visit the bluegrass plantings looked good, but the fine fescues had killed out in the hot summer weather except in shaded locations. As is well recognized, Kansas City represents a marginal climate, not "southern" but neither completely "northern" (summers are especially critical).

L/G/O MEETING

Advantage was taken of the Agronomy meetings being held in Kansas City, to visit with Frank Bartonek, Editor of Lawn/Garden/Outdoor Living. L/G/O has been a frequent user of Institute stories, the most recent of which is "Lawngrasses: What Kind For Your Customer?".

Chats with editors in the main stream of gardening news bring one to date on related facets of the industry. Apparently there is tremendous interest at present by numerous tractor outfits, in getting into the lawn and garden market. Many "big names" in the tractor field, are now offering smaller garden vehicles. The competition should be intense, and perhaps presage mergers and consolidations.

One might also anticipate numerous equipment novelties, attachments for power equipment, that can more effectively plant and tend to turf. We may be on the verge of even more easily and quickly planted lawns, augering well for lawn seed usage!

SIGN OF THE TIMES

An indication of the increasing professionalism in the lawn products field, is an announcement from the Frye "Lawn and Garden Service," that this firm, basically an exterminating company, has reporganized to include lawn service. College-trained managers supervise the general horticultural maintenance services - quite a change from the hit-or-miss operations by local labor, often passing for "service" in this field. More of this sort of thing can be expected in metropolitan areas, as an affluent public comes to demand the same professional skills in landscaping and horticulture that it does of its doctors, lawyers, and suchlike. The Frye company offers lawn planting as well as maintenance service, pest control for all ornamentals, and general landscaping and pruning services.

CONTINUING QUEST FOR HYBRID GRASS SEED

Burton and Hart reported to the Agronomy meetings, on the continuing search for self-incompatible clones in many perennial grass species. Numerous clones of this type have been found for bahiagrass, and Tifhi-1 is the result of interplanting of self-incompatibles. Several self-incompatible clones of bermudagrass have also been isolated, and one would suppose the phenomenon occurs in other genera.

TURFGRASS IN THE SUBARCTIC

Hodgson, of Alaska, reported to the Agronomy Society on the performance of several turfgrass varieties. Among bluegrass varieties, Park exhibited the earliest spring growth, while Merion recorded the best turf quality. Most bluegrasses became diseased with Helminthosporium, but the red fescues did not. Pennlawn, Chewings and Illahee red fescue were not particularly hardy in the climate. Best red fescue performance was at low fertility levels.

ON SHADE ADAPTATION OF TURFGRASSES

Jim Beard of Michigan, and Tim Gaskin of the Chicago area, both reported upon the shading of turfgrasses at the Agronomy Society meetings. Beard reported upon heavy shade conditions, and indicated disease would be the major factor in causing grass to go out in the shade. Mildew caused 98% loss with Merion, and leaf spot 90% loss with red fescue (although there was considerable later recovery). Snow mold hit tall fescue and ryegrasses. Even Poa trivialis was severely thinned by the third year.

Gaskin studied the morphology of both northern and southern grasses under shade. Shade generally reduced vegetative parts and length of rhizomes. As would be expected, leaves became elongated in the shade. Those grasses generally regarded as shade tolerant seemed to have a lesser reduction in plant parts. Both bluegrass and bermuda increased greatly in height in the shade.

APPRECIATION FROM SEED WORLD

"Dear Bob: Enclosed is a copy of our November 27th issue on page 14 of which appears the 'Lawn Seed Sweepstakes' article which you sent us.

Thank you very much for it, and if you would like several extra copies for your files please let me know and I will see that they are forwarded to you." - P. M. Stelle, Editor, Seed World Publications

INSTITUTE LITERATURE ON FILE

The USDA National Agricultural Library continues to request mimeographed and published items from the Lawn Institute, for file in the Current Serial Record of the USDA. The Library has been brought to date by the Marysville office.

REPRINTS DISTRIBUTED

During the quarter there was demand from several sources for multiple copies of a number of reprints. A thousand copies of "23 Questions - -" were purchased by one member, and 100 copies or more of each "How To Select The Right Turfgrass," "Large Area Seeding," and "How to Get A Good Buy On Grass Seed" were requested by members and other cooperators. The American Excelsior Corporation of Chicago purchased a couple hundred reprints for internal educational purposes, and Dr. D. D. Hemphill distributed copies of each of the first five "Lawngrass Portraits" (from Weeds & Turf Magazine) to the University of Missouri Annual Crops Conference.

OHIO BULLETIN APPRECIATED

The Lawn Institute had cooperated with the Ohio State University, in furnishing certain illustrative materials for Bulletin 271, "Your Lawn." In October a sample copy of this bulletin was sent to all Institute members, calling attention to a quotation from the pamphlet that pleads for use of quality lawn seed.

This bulletin was well received, and an extra small supply was ordered from the university to handle additional requests. A few are still on hand in Marysville, should anyone need another copy.

ANSUL INTEREST

Robert Lucas, representative of the Ansul Chemical Company, an Institute associate, dropped by the Marysville office in mid-December. He indicates expanding interest by Ansul in the manufacture and sale of cacodylic acid, which is proving excellent as a cotton herbicide as well as for lawn "trimming" (as is often mentioned in Institute literature). Eventually a greatly increased field staff will be active across the South.

STORIES AND REPRINTS DURING QUARTER

"How To Get A Good Buy On Grass Seed" - Park Maintenance, September 1964
"Turfgrass Portrait III: Bentgrasses" - Weeds and Turf Magazine, September 1964
"Turfgrass Portrait IV: Wintergrass" - Weeds and Turf Magazine, October 1964
"Turfgrass Portrait V: Bermudagrass" - Weeds and Turf Magazine, November 1964
"Lawn Seed Sweepstakes" - Seed World, November 27, 1964

Stories in press or preparation:

"Soils And Fertilizer" - McCall's
"Lawns" - McCall's
"Turfgrass Portrait VI: Zoysias" - Weeds and Turf Magazine
"Turfgrass Portrait VII: Bahiagrass" - Weeds and Turf Magazine
"Lawngrasses: What Kind For Your Customer?" - Lawn/Garden/Outdoor Living
"The Saga Of Kentucky Bluegrass" - Natural History Magazine
"The Secret's In The Structure" - Popular Gardening
"Speedy Lawn Green-up" - Flower & Garden Magazine
"Turfgrass Portrait VIII: Centipedegrass" - Weeds and Turf Magazine
"Turfgrass Portrait IX: St. Augustinegrass" - Weeds and Turf Magazine
"Lawn Seed, And What's A Weed" - American Horticultural Magazine

PLUG FOR WINTERSEEDING

Dr. Victor Youngner, Institute advisor in southern California, writing for Western Landscaping News, tells of "Outstanding Developments in Turfgrass Equipment and Materials." One paragraph is of particular note, in view of recent Institute sponsorship of winterseeding.

" - research has shown that several grasses other than common rye may be used for (winterseeding) with superior results. Creeping red fescue and Poa trivialis are especially good, giving a long season of good color with a minimum of competition for the bermuda in the spring."

ASSOCIATED PRESS, NO LESS

We were pleased to have a further request for information from Earl Aronson, who has been so generous in mention of the Lawn Institute in his Associated Press syndicated columns. He's inquiring into "instant grass" matters, including

the adequacy of seed for the burgeoning sod industry. Writes Earl: "Anything you have to say about this subject (and may I quote you?) would be welcome. I appreciate very much your lawn information folders which (you may have noted) provide wonderful grass advice for my column."

IN TRADE PRESS

We are pleased that Seed World, in its October 23 issue, carried the Lawn Institute story "Simplified Lawn Renovation." The story concludes: "Of course all is in vain unless seed of high quality is chosen to replace the old coarse vegetation. Choose a blend that is mostly of 'fine-textures' grasses, usually listed under that heading on the seed box. Such mixtures will be mainly Kentucky bluegrass (including varieties such as Merion and Park), and the fine fescues (Chewings, Illahee and Pennlawn). The Highland or Colonial type bentgrass can be sowed where the lawn must be clipped short."

FERTILIZER NITROGEN LOSS

Through the years a confusing series of contradictory research reports have indicated sizable nitrogen loss from applied fertilizers, sometimes more with ammonium nitrogen, sometimes more with nitrate nitrogen. Carter et al, ARS, Beltsville, in a report to the Agronomy Society on "Recovery, Movement and Plant Uptake of N .15 Fertilizer Nitrogen Under Field Conditions" took elaborate precautions to measure and contain all nitrogen. In the first eight weeks losses ranged from 4% to 12%, and increased to 58% after 14 months. Recovery of ammonium nitrogen was greater than that of nitrate nitrogen, and better under grass than under fallow. The 4% to 12% loss of unrecovered nitrogen must be volatilization loss, since elaborate precautions were taken to eliminate errors or other disappearance.

TURF WINTER INJURY

A half-day of the Turfgrass Division programs of the Agronomy meetings was given up to an invitational symposium on winter injury of turf. By and large this involved theoretical considerations of plant physiology, rather than practicalities having to do with seed and seeding. Nevertheless, a brief summary may be of interest.

Ferguson reviewed the many causes of winter injury. Beard, Michigan, looked at what was happening to an actual grass plant. He noted such phenonema as more injury at a lower height of mowing, greater kill when the grass was "soft" from heavy nitrogen (or with insufficient potassium). His charts showed differing susceptibility according to grass, and it was notable that almost all grasses showed severe winterkill when root zone temperatures came close to 0°. Bentgrasses and Poa trivialis were among the hardiest of species in his laboratory tests.

Lebeau, Canada, stressed that winterkilling is seldom due to temperature alone, but is accompanied by desiccation and fungus attack. He was especially concerned with the very serious snow mold losses, especially on bentgrass, in western Canada. He noted a link with hydrocyanic acid in host tissues. Tests have shown that by raising soil temperature slightly (heating cables) much

damage could be eliminated, but that if temperature was raised a little too far damage was again increased. He noted that cold-hardy varieties, which are usually marked by turning off-color or going dormant earlier, are more resistant to snow mold than late varieties.

Watson, Minnesota, reviewed the practicalities of protecting turf with cover (polyethylene tarps, for example). The extra expense and effort is sometimes justified when special turfs are needed extra-early.

NITROGEN AFFECTS PHYSIOLOGY

A Virginia study by Blaser and Schmidt related performance of bentgrass and bermudagrass to nitrogen fertilization. Internal carbohydrate conditions varied with temperature. Clipping weights increased with temperature, especially with bermudagrass. But bentgrass roots decreased with higher temperatures. Bermuda rooting was best at 70° (poorest at 50°), while assimilation rate was poorest for bermuda at cool temperatures and poorest for bent at high temperatures. Abundant nitrogen increased respiration, clipping weight and total protein, but dereased root weight and reserve carbohydrates (a weekening effect often noted on cool-weather grasses going into hot weather).

RECOVERY OF NITROGEN FROM OLD VEGETATION

Voigt, of Yale, reported to the Agronomy meetings significant recovery of nitrogen from old leaves. From 60 to over 90% of the original nitrogen content in old vegetation was recovered by Douglas fir seedlings. As is well known, decomposition of hardwood vegetation is more rapid than that of conifers.

MORE ON NITROGEN RECOVERY

Harvests has commented from time to time upon reported research having to do with nitrogen recovery of applied fertilizers. Carter et al, Beltsville, reported on this subject at this year's Agronomy meetings. 88-96% of the nitrogen applied was recovered after eight weeks, but the percentage dropped as low as 42% after 14 months. Recovery was greater from ammonium sources than from nitrate sources. Grass helped conserve the nitrogen, and took up more nitrogen from ammonium sources than from nitrate sources. High pH increased nitrification of the ammonium, and more rapid leaching akin to nitrate. Unrecovered nitrogen is indicated to have been lost through volatilization into gaseous forms.

ELECTRIC POWER FOR MOWERS

Union Carbide, because of its interest in small batteries (Eveready), inquired of the Institute recently concerning "average" size of lawns and the time taken to mow them. Evidently the battery power contemplated diminishes after about 45 minutes, requiring recharging then. Whether to go all out in promotion of batteries for lawn mower power would, under present circumstances, seem to depend for its market on smaller lawns, or those which are landscaped to mow quickly.

INSECTICIDE SUMMARY

A thorough summary of major classes of insecticides appeared in the November 20 issue of Science, by John E. Casida, "Esterase Inhibitors As Pesticides." Background and fundamentals are given for such well-known classes of insecticides as include parathion, malathion, and carbaryl.

MORE ON PEST CONTROL

At the AIBS meetings in Denver, an invitational symposium by the Ecological Society of America was arranged on "Pesticide Pollution Of Fresh Water Ecosystems." The hope was to clarify the rash of publicity launched in all communications media after publication of Rachel Carson's "Silent Spring."

The reports indicated that, indeed, pesticide application to wild areas did reduce certain insect populations, often the food of fish and integral to natural balance. However, there was recovery of some populations in as little as four days, while others seemed to be seriously depleted over a goodly length of time. Apparently the great build-up of DDT has been going on in lake resort areas, almost unnoticed, due to individual spraying to control mosquitos.

Perhaps the general conclusions can be summarized as confirmation that indiscriminate pesticide use is indeed dangerous, and that ecologists should take the lead in pointing out those instances in which results can be especially troublesome, suggesting alternatives of a biological nature for the control of pests. The Silent Spring hillabaloo goes on!

HELP FROM INDUSTRY

The Brady Company, Milwaukee, in behalf of FMC Corporation, telephoned Dr. Schery about preparation of a lawn booklet to be distributed through Bolens Equipment outlets. This is to be an informational piece, written objectively, emphasizing the means for a good lawn rather than Bolen's products. A printing in the hundreds of thousands is contemplated.

So that ample information about quality lawn seed might be in the Brady Company hands, the Lawn Institute sent reprints and other background literature. Whether the Lawn Institute participates directly or indirectly, opportunity for stressing quality lawn seed through cooperation with allied industry seems assured.

PARKS INTEREST IN SEEDING

Invitation was received from the American Institute of Park Executives, to develop a seeding story for a spring or summer 1965 issue of the society's professional magazine, "Parks and Recreation."

SELECT LIST

The Ohio Highway Department, through Mr. Garmhausen, recently sent the Institute a complete list of names and addresses of all of those registered at the

Twenty-Third Short Course on Roadside Development. About 350 names are involved, of which the majority are from Ohio and nearby.

INSTITUTE STORY

The September 25 issue of Seed World carried among its Bulletin Board suggestions, the article "Last Chance For Lawn Weed Control." This item mentioned the conventional weed killing chemicals, and how the better turfgrasses such as Kentucky bluegrass, fine fescues and Highland bentgrass were tolerant of weed control measures when properly used.

LAWN PARTNERS - PRESS QUOTES SHOW THAT THE WORD IS GETTING AROUND, VIZ.:

"The recommended procedure - - is the same as that followed on the White House grounds. The affected area has been reseeded with Kentucky bluegrass - - in the belief that it may be somewhat more resistant to the disease." (Washington Post-Times-Herald).

"An advantage of Kentucky bluegrass, one of the preferred lawn seeds - - eventually dominate any lawn where fertility and moisture are moderate to high. Fine fescue - - can tolerate lower fertility." (Binghampton, New York).

"Any grass mixture which has a total of less than 85% of the better grasses - Kentucky or Merion bluegrass, red fescues and Colonial bent - should be refused." (Martinsburg, West Virginia Journal).

"Thus it is not necessary to water a Kentucky bluegrass lawn to keep it alive." (Excelsior Springs, Missouri Standard).

"Buy a good seed mixture from a reliable dealer. Kentucky bluegrass and red fescues make the best blend for a permanent lawn." (Cincinnati, Ohio Post Times & Star).

"Many lawn-making recommendations prescribe a seed mixture high in Creeping Red fescue and Kentucky or Merion bluegrass." (Portland, Maine Telegram).

"Homeowners with the foresight to seed their lawns with heat-resisting varieties of Kentucky bluegrass have faired somewhat better this summer. Bluegrass is the 'grass of all grasses' for this part of the country," according to one nursery owner - -." (Springfield, Massachusetts Union).

"Contrast between the results obtained from a good mixture of grass and a less favorable mix (pictures)." (St. Louis, Missouri Post-Dispatch).

"Kentucky bluegrass hardy, long-lived." (Huntington, West Virginia Herald-Dispatch).

"Kentucky bluegrass is a winter-hardy long-lived grass of medium texture and dark green color - - on acid soils with low fertility, Creeping Red fescue does better than bluegrass." (Cape May, New Jersey Gazette).

"Seed your lawn in autumn when Kentucky bluegrass is at its best." (Columbus, Nebraska Telegram).

" - - the latter part of August and the month of September produce the best lawns in the shortest time. Fescues, Merion bluegrass and the common Kentucky bluegrass - - make a good showing in 7-10 days." (Gary, Indiana Post-Tribune).

"Buy good seed containing - - Kentucky or Merion bluegrass and - - Creeping or Chewings fescue - - avoid mixtures containing even a trace of timothy, orchardgrass, tall fescue - - read the label." (Baltimore Evening Sun).

"Kentucky bluegrass has long been a favorite grass for fall planting." (Wichita, Kansas Eagle).

"A mixture containing Merion bluegrass and Pennlawn red fescue is recommended - - Common Kentucky bluegrass can be substituted for Merion." (Baltimore News American).

"Grasses suited to New England such as Kentucky bluegrass, Merion bluegrass and the fine-leaf fescues." (Lexington, Massachusetts Minute Man).

"Bluegrass is by far the leading lawngrass." (San Diego, California Tribune).

"An attractive, long-lasting lawn contains a high percentage of Kentucky bluegrass or Merion Kentucky bluegrass and one of the red fescues." (Hackensack, New Jersey Record).

"One may choose between common Kentucky bluegrass - - and several varieties - - red fescue is a good addition." (Independence, Missouri Examiner).

"I would suggest Kentucky bluegrass or Creeping Red fescue." (Elizabeth City, North Carolina Advance).

"Common Kentucky bluegrass is still our most satisfactory lawngrass in the greater Kansas City area." (Excelsior Springs, Missouri Standard).

"Read the label when buying grass seed." (Lexington, Illinois Unit-Journal).

"Bluegrass still tops list of popular U. S. grasses." (Denver, Colorado Post).

"In shady areas, 2 lbs. each of Merion Kentucky bluegrass and common Kentucky bluegrass, and 4 lbs. of Creeping Red fescue - -." (Newport News, Virginia Press).

"Overseeding permanent lawns - - fescue and Kentucky bluegrass makes an attractive winter lawn. For st. augustine and centipedegrass, the best mixture is one containing ryegrass, Highland bent and Poa trivialis. Or Kentucky bluegrass and Pennlawn fescue makes a good combination." (Chester, South Carolina News).

"A mixture high in percentages of permanent grasses such as Kentucky bluegrass and Creeping Red fescue." (Westwood, New Jersey News).

"A mixture which contains at least 40%, or better 60%, Kentucky bluegrass. The remaining can well be made up of some Creeping fescue - -." (Washington, D. C. News).

"Kentucky bluegrass should be used in shade." (Leaksville, North Carolina News).

"Kentucky bluegrass is the best lawngrass - - it is also recommended that red fescue be used with Kentucky bluegrass as a nursegrass." (Moberly, Missouri Monitor Index).

"The Kentucky bluegrasses and fine fescues are normally considered the best of our lawngrasses." (Washington D. C. Star).

"Cheap lawngrass seed priced on a per pound basis is by far the most expensive seed you can buy." (Fort Morgan, Colorado Times).

"In open, sunny areas, Kentucky bluegrasses are the best choice. These include Merion - - the red fescues include Pennlawn, Illahee - - Chewings." (Ocean City, New Jersey Sentinel Ledger).

"Seed Creeping Red fescue in areas that are shady and Kentucky bluegrass in areas in sunlight - -." (Harvard, Illinois Herald).

"In Tulsa and northeastern Oklahoma, Kentucky bluegrass may be used." (Tulsa, Oklahoma Tribune).

"The three permanent grass species most suited to New England lawns are Kentucky bluegrass, Colonial bentgrass and Creeping Red or Chewings fescue." (Boston, Massachusetts Herald).

"Suggest that you try a mixture containing 30% Merion Kentucky bluegrass, 30% Kentucky bluegrass, 20% Pennlawn fescue and 20% Creeping Red or Chewings fescue." (New Egypt, New Jersey Press).

"For example, when you add red fescue to Kentucky bluegrass or Merion Kentucky bluegrass you provide a partner that blends well and is adapted to shade and poor soil conditions." (Dover, New Jersey Advance).

"Seed mixtures containing Kentucky bluegrass and ryegrass may be planted in September." (Koscuisko, Mississippi Star Herald).

"In the northern two-thirds of the country bluegrasses and fescues make the best lawn." (Cato Citizen and Weedsport, New York Chief).

"Such grasses as Kentucky bluegrass and red fescue are the desired grasses which will respond to proper attention." (Newton, New Jersey Herald).

"The Kentucky bluegrasses and red fescues are suitable lawngrasses for most of Illinois." (Athens, Illinois Free Press).

"If the area is heavily shaded, use a mixture 75% red fescue and 25% Kentucky bluegrass. If the area is partly shaded, use a 50-50 mixture." (Havre de Grace, Maryland Record).

"Bluegrass, fescue are best for lawns, (headline)." (Manville, New Jersey News).

"Kentucky bluegrasses are the best choice - - the red fescues include Pennlawn, Illahee - - not all fescues are suitable - - for example, Kentucky-31 fescue - - you wouldn t like in your lawn." (Haddonfield, New Jersey Town Crier-Herald).

"In the mountains bluegrass is still our best grass." (Clinton, North Carolina Sampsonian).

EXPANDING INTEREST IN TURF

Indicative of new horizons, is a letter from Allan Haukom, President of Nasco, a "Sears-Roebuck" for vocational agricultural supplies. Nasco senses expansion in the field of vocational agriculture, into horticultural, golf course and landscaping subjects. It wants to be ready to offer to students and teachers in this field, teaching aids of all sorts - visuals, literature, exhibits, etc. Asks Mr. Haukom "Would it be possible to work with you or your organization in the development of such instructional materials?"

AP HELP

We are grateful to Earl Aronson, in his AP Newsfeatures for giving the Institute and its grasses direct mention. Viz. "There are good reasons for starting a bluegrass lawn in autumn - - for lawns that can't be pampered use a seed mixture principally of Kentucky bluegrasses and fine fescues (Chewings, Illahee, Pennlawn), recommends Dr. Robert W. Schery, Director of the Lawn Institute. The bluegrass lawn started or refurbished in the fall is one of the staunchest - - Kentucky bluegrass, Oregon fine fescues and Highland bentgrass are at their best - - Schery says these chemicals will not harm the better turfgrasses - -."

This Aronson feature appeared in the following papers caught by our clipping service: Oswego, New York Times; Shelbyville, Tennessee Gazette; Palo Alto California Times; Chillicothe, Missouri Constitution; Greeneville, Tennessee Sun; Albany, New York News; Marshalltown, Iowa Republican; Stamford, Connecticut Advocate; New Kensington, Pennsylvania Dispatch; Naples, Florida News; Northampton, Massachusetts Gazette; Alliance, Ohio Review; Hartford, Connecticut Courant; Rochester, Minnesota Post-Bulletin; Bridgeport, Connecticut Post; Del Rio, Texas News-Herald; Santa Ana, California Register; Shelbyville, North Carolina Star.

FOLLOWING INSTITUTE EXAMPLE

How effective has Institute leadership been, in publicizing quality lawns and lawn seed? One indication is the extent to which our lead has been followed. Particularly effective support occurs when state Extension Services issue a release in the name of the local county agent. We are gratified that Institute materials sent the head Extension office frequently seem influential in the state release. A few examples:

Kansas (two stories): "It's time to work up the seedbed for the cool-season lawngrasses, Kentucky bluegrass - -." Picked up in twenty Kansas papers.

Illinois: "The Kentucky bluegrasses and red fescues are suitable lawngrasses for - -." Three papers noted.

New York (two stories): "Good quality and containing at least 85% of permanent grasses such as bluegrass and fescue." Eleven papers.

Indiana: "Turf specialists emphasize the importance of good grass seed - - Bluegrass - - types such as Merion, Delta, Newport and Kentucky. In shady areas add red fescue." Eight pickups.

New Jersey (three stories): "A mixture high in - - permanent grasses such as Kentucky bluegrass and Creeping Red fescue and low in - - redtop and ryegrass." "Read label - - choose a mixture with at least 75% of the permanent fine-textured grasses such as Kentucky bluegrass, Merion Kentucky bluegrass and red fescues. Kentucky bluegrasses and red fescues are basic in recommended lawn seed mixtures." "In the open, sunny areas, Kentucky bluegrasses are the best choice - - for shady spots - - red fescues - - Pennlawn, Illahee, Creeping Red and Chewings. - - not Kentucky-31 fescue - - when you add red fescue to Kentucky bluegrass or Merion Kentucky bluegrass you provide a partner that blends well - -." Twenty-three papers.

Ohio: "The best time to seed a lawn is September - - seeding of Kentucky bluegrass often gives the best results. Use red fescues with bluegrass for shaded areas. Always buy clean seed - -." Twenty-two papers.

Iowa: "It doesn't take an expert to buy the kind of seed to use to obtain a beautiful lawn any more - - seed must be either 'fine-textured grasses' or 'coarse kinds.' Examples of the fine-textured grasses include Kentucky bluegrasses, Creeping Red fescues and bentgrass - -." Six papers.

CLIPPINGS SUPPORT HIGH INTEREST IN LAWNS

In spite of discontinuous clipping service, such that new readers have to be "educated" to find pickups when service is resumed, there seems to have been tremendous publicity gained this autumn through the Institute press kit and similar efforts by others. We are pleased to see that a number of state Extension Services have copied the Institute in sending out seasonal releases (often "borrowing" from Institute source materials). Mrs. Payne finds that during the month of September our clipping service noted 3560 column inches of space achieved on lawns, of which perhaps one-third was attributable directly and indirectly to the Institute's educational efforts. The clippings received by us, of course, are keyed just to the grass names, and do not reflect publicity in related industries such as for equipment and lawn mowers.

AP APPRECIATION

"Dear Bob: Again I am grateful for your fine cooperation in the "instant grass" project. This one was for the AP's home supplement used by many newspapers in the spring. However, I expect to use some of the material in a garden column about the same time.

Your material was just what I wanted. Your reference sources will be most helpful and I appreciate the copy of your "Householder's Guide To Outdoor Beauty."

This has been a rugged year (election, meetings, travel and now a strike on the two daily newspapers in Albany) so that I wound up writing the instant grass story at home during vacation.

It seems a bit early, but I wish you a merry holiday and a happy and healthy 1965 (1966,etc.)." - Earl Aronson, State Editor-Garden Editor, The Associated Press.

NEW LABELING STIRS INTEREST

Numerous Institute-sponsored stories in garden magazines, and in the press kit, concerned the newer labeling requirements that group lawngrasses as "fine-textured grasses" or "coarse kinds." That this interest has public appeal is evidenced by stories in the Metropolis, Illinois News, the Philadelphia, Pennsylvania Enquirer, and the Meriden, Connecticut Record.

WHAT THEY ARE SAYING ABOUT THE INSTITUTE AND ITS RELEASES

"I appreciated very much receiving your communication - - to which you attached several reprints. After reviewing these, I am making them available to Dr. W. R. Kneebone of our Department of Agronomy. He is working with bermudagrass and is concerned with lawns." - Harold E. Myers, Dean, University of Arizona

"- - regarding my name on your list of national advisors. - - It will be a pleasure to serve in this capacity and to make any small contribution that I can. Best personal regards. I shall look forward to hearing from you soon." Elwyn E. Deal, Extension Turf Specialist, University of Maryland

"Just a quick note to let you know the manuscript and illustrative materials arrived safely. While I've only had time thus far to give it a quick reading, I'm pleased with the approach you've taken and am confident it will make a rewarding Natural History article. Let me say also that it was a pleasure to receive such well-organized materials." - Harry Atkins, Associate Editor, Natural History Magazine

"I would agree with you 100 percent that I think it would be wise to wait until the first of the year for any new developments and the latest happenings in the seed and turfgrass world. I think that your idea to start composing a story about the first of the year is excellent, and I look forward to hearing from you." - David G. Wright, Director of Publications, American Institute of Park Executives

"Dear Dr. Schery: Please send me Turfgrass Portraits - - Thank you in advance."- Allen D. Boettcher, Assistant County Agent, Clark County, Las Vegas, Nevada

"I know that it will be very interesting and helpful to our members and do hope it will be instrumental in improving a great number of lawns. Personally I am elated at being able to present such fine material and it is just such effort that brings in letters of appreciation not only from our own members but also from interested people throughout the continent. Many thanks, Dr. Schery, on behalf of our members and readers." - Orville E. Bowles, The Canadian Rose Society

"Appreciate receiving the well written set of reprints from Lawn Institute and assume that you are on our mailing list from Michigan State." - Dr. James B. Beard, Crop Science Department

"We have just received a copy of 'Turfgrass Portraits No. V.' It is a most interesting treatise on bermudagrass and we will appreciate having you send us - extra copies." - G. O. Newton, Vice President, Consumer Product, Northrup, King & Co.

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