

# BETTER LAWN

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## EUROPEAN BLUEGRASS INTERESTS ACQUAINTED

Advantage was taken of the attendance of major bluegrass producers from North Europe, at the Western in Kansas City, the week of November 4. President Mangelsdorf, with the help of Secretary Edwards, organized a luncheon meeting primarily for Hans Mommersteeg and A. J. Van Engelen, and their representatives in this country. Attending also were Board members Edward Spears and Gustav Kveen, with Bill Herron of Heritage House and Jim Massie of Northrup-King representing Associate members.

Dr. Schery and Milt Stephan spoke for the Lawn Institute, in outlining the Institute's many activities. Documentation weighing several pounds was given Mr. Mommersteeg, for taking back to Europe in order to acquaint his father and colleagues with the program. A similar compilation was sent to Holland in behalf of Mr. Van Engelen.

Sequence of coverage was much as given at the annual meeting. Dr. Schery presented a brief history of the Lawn Institute, and its progressive increase in activities through the years. Rules of membership and form of participation were reviewed for the European guests.

Sample press kits were circulated, and the results achieved through them discussed. Since statistics on this are given in the Director's annual report (Harvests, Volume 10, No. 2, June), they will not be repeated here. A clip sheet was circulated showing that 22 stories, totaling 120 column inches of newspaper lineage, were achieved from a single press kit mailed to a single address near Kansas City. Multiply this by hundreds of kits, and the extent of coverage is extraordinary.

Sample reprints were given the visitors, of the stories appearing through the years in the popular gardening press. The fine acceptance of the Lawn Institute movie and its visuals was also brought out. Unfortunately, time did not permit a showing of slides assembled for the occasion, the formalized presentation being dispensed with as give-and-take discussion between the visitors and Institute representatives developed. It will be fully possible for Mr. Mommersteeg and Mr. Van Engelen, and their friends in Europe, to read of Institute activities at greater leisure, through the voluminous documentation being sent or carried back to Europe.

An active topic of discussion was the new regulation in New York, requiring the listing of *Poa annua* as a weed. Rightly or wrongly, the Europeans attribute passage of this regulation to the Lawn Institute's position. It was pointed out that if our European friends had been willing to join with

the Lawn Institute several years ago when first invited, their feelings concerning *Poa annua* would have been more adequately known when the Lawn Institute resolution was voted.

There was a quick review of the Institute's tangential activities, such as active efforts in developing a winterseeding market in the South. The potential tie-in with de-thatching equipment, marketing efforts (Seal of Approval), Extension activities and promotional efforts, etc. was discussed.

Upon adjournment of the meeting, it seemed that the Europeans and their representatives had gained a much better understanding of the Lawn Institute, its purposes and activities. Mr. Mangelsdorf expressed the hope that in the future there could be more meaningful collaboration between European and domestic interests, in carrying forward the objectives of the Lawn Institute.

#### HIGHLIGHTS OF THE AGRONOMY MEETINGS

National conventions have become so large that it is impossible to keep track of everything. It is helpful when abstracts are prepared, such as the 1963 annual meeting of the American Society of Agronomy. We can only mention here occasional items of interest appearing on the program, that may relate to lawn growing. Authors and titles will not be cited for reasons of space, but if you are interested in learning where the particular research is being undertaken, just drop a note to the Marysville office.

Soil gases in compacted soil had a markedly different composition compared to those in uncompact soil; carbon dioxide especially increased.

Reduced oxygen levels in compacted soils severely depressed root growth, although mechanical impedance (in relatively compacted soil) was the most important factor at medium densities.

Chemical sprays have been found which cause closure of stomata (leaf pores), leading to reduced wilting, the plant often seeming to benefit more from reduced transpiration than from the reduced photosynthesis occasioned by stomatal close.

Phosphorus moved through the soil many times faster when the microbial population was stimulated by addition of sugar, the phosphorus being in the organic form after absorption by the microorganisms). Phosphorus movement in soils is mobilized by microbial action.

Availability of cation (nutrient) exchange increased greatly and consistently, as the soil pH was progressively raised from 2.5 to 8, with 60 Wisconsin soils. The contribution of organic matter was similarly improved as pH increased.

Phosphate solubility affects its uptake by plants, but adverse effects of soluble iron and aluminum may override this. Partially acidulated rock phosphate might provide soluble phosphate within the rock phosphate particles without disadvantageous mobilization of iron and aluminum.

Sulphur (to acidify soil) became effective more rapidly the smaller the particle size, reached a peak after sixty days, was not appreciably affected by existing pH, was converted rapidly at higher temperatures, and was more readily oxidized when applied to the soil surface. Sulphur oxidization was greater with nitric and diammonium phosphates than in triple super-phosphates.

Nitrogen applied as part of crop residues was most readily recovered from hay, next from corn stalks, and most slowly from soybean straw. Averaging results shows that about 10% of the nitrogen applied is recovered each year.

Steam sterilization of soil upset its balances markedly, increasing extractable nitrogen, phosphorus and sulphur, and decreasing the moisture equivalent.

Gamma radiation or methyl bromide sterilization did not have this effect.

Extracts from wheat, oats, corn and sorghum contained substances toxic to the growth of wheat seedlings. A compound from wheat straw stimulated growth of wheat seedlings. The chemical compounds have been partially identified.

The recovery of nitrogen from the nitrate sources was greater than from ammonium sources, suggesting that nitrate is the preferred source (for grasses) or that ammonium is more susceptible to loss (as by volatilization).

Stubble mulching of wheat fields has long been advocated as a conservation measure, but has recently been shown to reduce stands of the next crop. This is apparently due at least in part to fungi associated with the stubble, 65% of which yielded substances toxic to germinating corn. Thirty-four of 39 fungi yielded toxic substances, and appreciable numbers produced patulin, a phytotoxic antibiotic.

Tracing calcium uptake by radioactivity, bluegrass was shown to absorb about 60% of its calcium from the top inch of soil, and 95% from the top three inches, no matter previous liming procedures.

Investigating the value of manure as a replacement for nutrients (particularly nitrogen), about 65% of the nitrogen in the manure was recovered within three years. Yields from the manured plots were higher than could be accounted for by the nitrogen alone.

On tests with Italian ryegrass, the tops grew best at warm temperatures, the roots at moderate temperatures; heavy increases of nitrate reduced top yields, but ammonium did not; but there was more top growth with medium levels of nitrate than with ammonium. Nitrate restricted root growth to the surface soil, while ammonium did not. Increasing nitrate increased the percentage of calcium and magnesium; increasing ammonium increased the percentage of sulphur. Nitrate decreased phosphorus, chlorine and sulphur; ammonium decreased calcium.

Fertilization increased yield, but only if additional water was also used.

Effects of previous fertilization were noted two years later on bermudagrass, and soil tests indicated differences in nitrogen and pH.

Nitrogen was assimilated by soil organisms more quickly at higher temperatures, ammonium more than nitrate, and more adequately at high pH than low (with



ammonium; not with nitrate). Recovery of fertilizer was greater when applied to soils alone, than when applied along with crop residues, even if the residues were first allowed to decompose for several weeks.

Resin-coated urea fertilizers showed 82 to 95% recovered in one day compared to non-coated urea. After ten weeks, half of the nitrogen was in ammonium form. Urea recovery practically ceased after the second week. Increasing temperature increased leaching (oxidization).

Nitrogen lost as ammonia from fertilizer applied to the surface of fescue turf ranged from about 4% loss with ammonium sulphate to 47% for pelleted urea. Ammonia loss was reduced when sawdust was mixed with soil, but not very much when alfalfa meal was incorporated.

In another test to fertilizer applied at the soil surface, urea was poorly recovered in the crop compared to ammonium sulphate, uncoated urea recovering only 19% compared to ammonium sulphate 82%, with coated urea prills intermediate.

Micronutrients should be applied with respect to particular need and solubility of the element, are seldom sufficient when incorporated as part of a premium fertilizer.

Deficiency in micronutrients is showing up ever more widely, especially in the South.

Grass root extracts inhibited germination and seedling vigor of seven legume species; Johnsongrass, sorghum and coastal bermudagrass were all severe compared to tall fescue which had little effect.

A good indicator of critical nitrogen level with Italian ryegrass, was found to be 1000 ppm in tissue of the newest leaf.

The influence of removing leafage varies with the density of stand, and removal of incipient seedheads reduces seed yield but increases tillering; carbohydrates accumulated in plant parts contribute to spring performance and regrowth, but little to seed production.

If sufficient carbon dioxide is present, plant photosynthetic efficiency improves with increasing sunlight; differing plants differ in their ability to take up limited amounts of carbon dioxide, and stirring of the air (as by wind) is the equivalent of increasing carbon dioxide.

Presence of other nutrients increased efficiency of nitrogen uptake with ryegrass, from about 41% with nitrogen by itself to as high as 139% with a 30-120-60 fertilizer.

#### TURFGRASS SECTION PAPERS AT AGRONOMY SOCIETY MEETINGS

Fourteen papers were presented in the Turfgrass Management section of the Agronomy Society, at the recent annual meetings. Most were rather abstruse judged by immediate practical potentiality.



Dr. Beard, of Michigan State, explored winterkill of bentgrass, bluegrass and *Poa annua*, through differing treatments in a freezing chamber. Bentgrass was least injured, although most treatments caused little damage to any grass.

Blaser, of Virginia, speaking about mulches, pointed up the moisture holding and lowered temperature advantages with a mulch.

Callahan, of Rutgers, depicted the internal anatomical disruptions in Colonial bentgrass which had been treated with Silvex.

Couch, of Pennsylvania State, noted the increasing affliction with *Fusarium roseum* in the East; perhaps one out of five Merion lawns on Long Island examined were severely damaged by this fungus. Couch recommended Difolatan or Dithan-M-45 for control of the disease.

Goss, of Washington State, reviewed fertilization of putting green turf, much as presented in the Highland bentgrass newsletter. He concluded that intermediate levels of fertility nutrients, in balance, produce the best turf consistently.

Green and Beard, of Michigan, tested bentgrass, bluegrass, fescue and ryegrass under differing nitrogen regimens, noting that certain internal sugars disappeared at higher nitrogen levels; bluegrass and fescue behaved very similarly.

Juska reported response of Kentucky bluegrass and fine fescue to different phosphorus levels, both grasses showing general increase in yields as phosphorus increases. Fescues out-yielding bluegrass.

Daniel, of Purdue, discussed the selecting of zoysia for interplanting in the North.

Lunt, of the University of California, presented complicated data on sodium exchange percentages in soil, the conclusions from which seem to be that salt tolerance among turfgrasses showed *Puccinellia* as topmost, followed by bermuda, fescue, Kentucky bluegrass and a bentgrass.

Madison, of the University of California, measured vegetation removal at differing clipping heights, concluding that Highland bentgrass grew best mowed about 1 inch, or above 2 inches, but not between these two cutting heights.

Roberts, of Iowa, discussed certain wetting agents and similar chemicals as affecting growth of Kentucky bluegrass in culture solutions in the greenhouse.

Goetze, of Oregon State, reviewed the effectiveness of pre-emergence herbicides in controlling *Poa annua*, concluding that Betasan at 10 lbs. per acre showed promise, though its longevity was poor.

Wilson, of the Milwaukee Sewerage Commission, evaluated cool-season grasses for winter overseeding of southern golf greens. Wilson credited the Lawn Institute with cooperation, and for furnishing seed for this year's trials. As has been reported previously, the Milorganite people favor finer-textured northern grasses for southern winterseeding, as contrasted to the conventional ryegrass; but they are perhaps more strongly sold on *Poa trivialis* than many other experts. Wilson's data reported success one place or another with all of the grasses currently represented by the Lawn Institute. There was considerable interest from the floor on the recommendations advocated.

Dr. Youngner, of California, discussed factors affecting the flowering of bermudagrass clones.

#### RIGHTS OF PLANT BREEDERS SYMPOSIUM

One of the best attended meetings at the Agronomy Society's annual convention in Denver, was the joint symposium "An Analysis of Plant Breeders Rights" held the afternoon of November 18. Participants included Dr. M. G. Weiss of the USDA, Gunnar Weibull from Sweden (speaking on the system in Europe), John D. Dorsey of Minneapolis (speaking on the legal aspects), a review of germ plasm control (John Carew of Michigan State for vegetables and flowers; W. M. Myers of the University of Minnesota for field crops; Raymond Baker of Pioneer Hybrid Corn for hybrids; Cloy M. Miller, speech read by Dr. Robert Kalton, for asexually produced crops); certification by F. G. Parsons of the University of California and the effect on the seed trade by Allenby White of Northrup-King.

This symposia had been organized jointly by five societies, including the Crop Science Society, the American Society for Horticultural Science, the American Seed Trade Association, the International Crop Improvement Association, the National Council of Commercial Plant Breeders. That there was nary a vacant seat in the immense ballroom attests to the high interest currently manifest concerning breeder's rights in this country.

A full summarization of the many viewpoints is impossible. Only publication of the impressive series of papers would permit the careful evaluation needed to fully digest the information expressed.

It is appropriate to point out, however, that almost to a man the speakers were in greater or lesser degree opposed to any further regulation or restraint by the government. Most of them felt that in their respective fields, ways and means had been found to work efficiently in the improvement of crops, with excellent cooperation between private and public interests.

A broad evaluation of securing breeder's rights with respect to the federal constitution and the full gamut of United States laws was interestingly developed by Mr. Dorsey, touching upon matters agriculturists seldom think about. Patents through the patent office, even were it possible to arrange a scheme for sexually-producing plants, would be so cumbersome and difficult as to be impractical. Perhaps better possibilities could be tied in with trademark regulations, or special legislation be passed to conform with the peculiarities inherent in seed and plant materials. Mr. Dorsey felt that some scheme of breeder's rights was merited for protection of plant breeders just as in other industries, and that this could only be handled by action at a national level (as contrasted to working through seed laws of separate states). By implication, Mr. Dorsey would suggest further federal legislation, something from which all following speakers seemed to shy.

Dr. Carew, of Michigan State University, gave a very forceful presentation championing individualism, freedom from regulation, and continuing usage of a system that seems to be working perfectly well for garden plants. Remaining speakers, with perhaps some of their "thunder stolen" by preceding speakers, were less forceful, but seemed to advocate generally the same position for

field crops, hybrid crops (which have natural built-in protection), and asexually produced crops (now working well internationally under a "gentlemen's agreement" between private growers).

Allenby White indicated that there was no unanimity of viewpoint within the seed trade, with differing viewpoints largely depending upon which facets of the industry a seedsman was concerned with. He felt that the great majority, however, would be strongly opposed to further federal regulation, and especially to such things as the contemplated compulsory registration of varieties. He would have no objection to registration, if it could be on a voluntary basis.

The tenor of the meeting was that there is a pretty good, if not perfect, system functioning now, that chances serious upset if there are attempts at imposed regulation. Free exchange of plant material might be endangered, with research centers pitted one against the other (even to the extent of experiment stations being ordered to withhold patentable information which might yield profitable royalties under a plant patent system). The symposium was especially stimulating in bringing out the many ramifications that relate to breeder's rights.

#### TURF RESEARCH CONTINUES AT KANSAS

Following switch of turfgrass research grounds to the outlying agronomy farm, Dr. Keen's work at Kansas State University has picked up once again. There are fairly extensive tests of his bermudagrass selection program, as well as trials with promising bluegrasses received from others. Dr. Keen has several fine fescue selections which have proven hardy through the summer (in the sun) in Kansas. There are also bentgrass plantings, including a large area to be devoted to research on putting green turf.

Dr. Keen is still interested in finding a bentgrass which retains winter color better than conventional varieties. The characteristic does not seem too difficult to uncover, but breeding a pure strain that can be perpetuated by seed is difficult.

A wide array of bermudagrass selections has been accumulated through the years. Interestingly, Keen is finding that there seems to be some correlation between going off-color early in winter, and hardiness. A number of the selections, like the widely used U-3, can't stand winter traffic well.

#### CALIFORNIA TURFGRASS RESEARCH

It was possible for Dr. Schery to drop in on Dr. John Madison, turfgrass specialist in the Ornamental Horticulture Department at the University of California, Davis. A modest research program along distinctive lines continues at Davis, with Dr. John Madison exhibiting originality in his approaches.

On the trial grounds, Park and Merion varieties of bluegrass continue to prove excellent. Newport is said to have deteriorated about the fourth year after planting. Currently Dr. Madison is recommending "three or four" bluegrass varieties mixed together, for home lawn planting.



A rate-of-seeding study has been completed, in which it was shown that two-to-four pounds of a quality seed mixture based primarily on bluegrass was a good seeding rate. One pound was adequate, but eight pounds too much (giving stunted, thatched grass subject to disease).. Seeding depths up to  $\frac{1}{2}$  inch were adequate for bluegrass, but bent performed better at shallower depths (about  $\frac{1}{4}$  inch).

Dr. Madison also advocates thatch removal on all turfgrasses grown in the area. He believes that some of the disease troubles are intensified by physiological upset of the grass because of herbicide application.

From time to time there are reports of disease being cured by the application of certain fertilizers. One such case was in evidence at Davis, where an application of Milorganite snapped creeping bent out of a diseased and chlorotic condition. Speculation is that this might be due to the antibiotic effect of microorganisms stimulated by the Milorganite. Incidentally, ureaform fertilizers have performed poorly in this area, giving appreciable effect only during very hot weather, even when used at rates as high as 1 lb. per month for a period of five years.

Madison still prefers the cool-season grasses such as bluegrasses, fine fescues and bentgrass for this section of California. However, bermudagrasses and zoysias will thrive. As in other parts of the country, the failure to mow zoysia well with the conventional light weight inexpensive mowers is a problem in the use of this species..

Dr. Madison feels there is no especial reason to recommend perennial ryegrass for the bay area. It will do well, but so will its betters such as Kentucky bluegrass.

#### UNIVERSITY OF MISSOURI ISSUES PROCEEDINGS

The Proceedings of the 4th annual Lawn and Turf Conference, held at Columbia, Missouri in September, "hit the mails" during the Christmas season. Additional copies are available at \$1 each, from the Mailing Room, University of Missouri, 17 Waters Hall, Columbia, Missouri.

Members may recall that Dr. Schery, representing the Lawn Institute, was a participant in this conference. Resumes of his talks appear in the Proceedings, under the titles of "Quality Cultivars," "Why Thatch," and "Winter-seeding."

Other subject coverage includes "Practical Turf Disease Identification," by Stan Frederiksen, Mallinkrodt; "What Is New In Turfgrass Disease Control?", Robert Miller, DuPont; "Developing New Turfgrass Varieties," Emmett Pinnell, University of Missouri; "Progress Report On Control Of Dutch Elm Disease," Harry Brown, University of Missouri; "The Sod Webworm Problem," George Thomas, University of Missouri; "Nitrogen Fertilization of Turfgrasses," Robert Miller, DuPont; "Solving The Phosphorus Problem In Turf," Ellis Graham, University of Missouri; "Controlling Cutworms," George Thomas, University of Missouri; "Landscaping The Clubhouse," Willard Summers, University of Missouri; "What's New In Weed Control?", Delbert Hemphill, University of Missouri; "Control Of Aquatic Vegetation," James Whitley, Missouri Conservation Commission; and "Kentucky Bluegrass Fairways," Ralph Guyer, Webster Groves.

The Proceedings encompass 40 pages, stapled between two cover sheets.

#### FLORIDA VISITED DURING SOUTHEASTERN SWING

During October, Dr. Schery spent two weeks visiting throughout the Southeast in behalf of winterseeding promotion. A detailed report was sent members of the Board, for such circularization among member organizations as they wished. Introduction to the October 22 report to the Board read:

The Southeast - Kentucky, Tennessee, Georgia and Florida principally - was visited October 1-16, 1963. Winterseeding was just under way (upper South) or being contemplated (lower South). This trip was a follow-up on that reported December 12, 1962. While the 1962 trip was principally to contact experimentors and survey the status of winterseeding, the trip this year was more exhortative, with presentations to commercial interests and sales forces, following up the publicity launched by the Institute earlier in the autumn. Sales forces and key personnel of several of the leading garden trade retailers and seed distributors in Georgia and Florida were addressed.

Members particularly interested in Florida may appreciate a few comments of specific nature.

At the Fort Myers Country Club, the greens are Tifgreen with common bermuda in the fairways. The fairways are said to be improving, probably a result of moderate fertilization recently inaugurated (4-6 lbs. of nitrogen per M per year).

Corbins Garden Center, Fort Myers, stresses bahiagrass seed mixtures. The hairy Paraguay bahia, said to germinate slowly, is not now handled. Argentine bahia, similar to Pensacola, lies flatter and is thought to give better cover.

Dr. Evert Burt, Ft. Lauderdale, has some of the finest trial grounds in Florida. Dr. Burt has been supplied the "Lawn Institute mix" wintergrass for experimentation. Incidentally, Dr. Burt believes that Diquat translocates better than does cacodylic acid, and should be useful for general "knockdown" at only 1 lb. per acre. He points out that no residual remains in the soil.

Nematodes are serious in Florida. VC-13 has not been much help in controlling them. Nemagon proved more useful in Burt's trials, but a coded Bayer product rated best (though it is not officially recommended because of toxicity hazard). Dr. Burt feels that nematode treatments are needed yearly.

Other visits included Dr. Granville Horn at the University of Florida; Dr. R. W. Prevatt, International Minerals Research Center, Mulberry; and an evening meeting with South Florida Spraymen's Association. After a presentation to the latter, there seemed to be enthusiasm for enlarging spraying operations to include de-thatching and seeding, much as discussed in the "Business Opportunities - -" story from Weeds & Turf Pest Control Magazine.

#### NEW EMPHASIS ON ROADSIDE SEEDING

What with Dr. Schery the ASTA Chairman of the Roadside Development Committee, the Lawn Institute has been well represented in roadside seeding activities. The Lawn Institute has been instrumental, for example, in alerting the Highway Research Board and state highway officials about the shortage of tall fescue in early 1963.

The interest in roadside seeding increases, and research progresses. What with the gigantic road building program now going on, under sizable budgets, highway departments find it possible to sponsor roadside seeding research through the state colleges and other research centers much more adequately than in the past. As a matter of fact, larger budgets for turfgrass research are often obtainable through highway department grants, than through regular "agricultural" channels of the state agricultural college.

It is not surprising, then that the Agronomy Society is recommending for next year's Agronomy meetings, a full-day symposium on roadside seeding. Final details are yet to be worked out, although presumably there will be several invited speakers to this "kick-off" charter session. It would be expected that a section on roadside seeding at the Agronomy meetings would deal largely with technical research reports, and that less detailed, more popular presentations reviewing latest developments would continue to find a receptive audience at the annual Ohio Short Course, attended by most highway landscape architects nationally. Unless the technical information reaches the architects, who can apply it effectively, agronomy researchers will simply be talking to themselves.

One of the functions of the ASTA committee would seem to be to assure that the technical information is properly relayed to the Ohio Short Course.

#### DR. SCHERY VISITS GIRD HEADQUARTERS

Upon invitation from Garden Institute of Research and Development executives, Dr. Schery visited the Baltimore headquarters recently. Two days of discussions were held on such matters of mutual concern as proper information concerning the contemplated GIRD-approved seed blend for its associates, and the employment of the Lawn Institute "Seal of Approval" on the boxes.

#### MERION BLUEGRASS ASSOCIATION AFFILIATES

Arrangements have been reached whereby the Merion Bluegrass Growers Association will participate in the Lawn Institute according to President Mangelsdorf. The Merion Association appointed Mr. Arden Jacklin as its representative on the Board of Directors. We warmly welcome this added representation from the Northwest and trust it will prove to be the beginning of a broad affiliation. More information will follow since notice of this affiliation was received just as we were going to press.

#### LAWN/GARDEN/OUTDOOR LIVING CARRIES INSTITUTE STORY

The October issue of Lawn/Garden/Outdoor Living devoted almost a full page to review of Dr. Schery's presentation at the charter GIRD Conference.



The summarization appeared under the banner of "Lawn Conscious Prospect Needs Turf Care Advice." Dr. Schery emphasized the importance of the lawn in landscaping and enjoyment of the home. He pointed out that it was the obligation of the conscientious dealer who considered himself an authority to advise intelligently about lawn care. Inevitably this would lead to increased sales of profitable, quality products. "In this increasingly complex field, the average customer cannot be expected to keep abreast of technology - -. If one understands how an individual bluegrass plant - - behaves - - one almost automatically understands what a lawn needs."

#### INSTITUTE PHOTO USED

A photograph depicting lawn fertilization released through the Lawn Institute, appeared as a full-page illustration with an article on potassium use in turf, in Better Crops With Plant Food, October 1963 issue.

#### ADVISOR'S COMMENT

Dr. William C. Macksam, Institute advisor at South Dakota State College, recently wrote the Marysville office: "We should have the best lawns in the nation if for no other reason than bluegrass likes it so well, at least the eastern third of the state. We don't have serious disease problems as in the areas of higher humidity. - - I would like to accept your offer of Highland bentgrass seed. - - Keep up the good work. I look forward to receiving your articles and frequently make use of choice parts."

#### INQUIRY ABOUT SEED PRE-GERMINATION

The Lawn Institute received inquiry from Hamilton Williams, Turfgrass Research, County of Los Angeles, California, inquiring about information the Institute might have on pre-germination of seed. Dr. Victor Youngner, Institute advisor, had suggested Mr. Williams write.

The tabular data presented to the Agronomy meetings at the Atlanta meeting some years ago was resurrected, and a photocopy sent Mr. Williams. This concerned various soaking procedures on bluegrass and fine fescue, with the general conclusion that sprouting was so little improved by any procedure as to hardly be practical, considering the extra expense and effort.

#### GERMINATION INHIBITORS

The list grows, of one form of vegetation inhibiting seed sprout or growth of another. Perhaps the oldest studies were on juglone, an extract from black walnut roots, which interferes with establishment of a wide variety of plants (but not of Kentucky bluegrass). There has been indication of an extract from ryegrass interfering with the germination of preferred lawngrasses.

Our plots on the Lawn Institute grounds suggest there may be some inhibition of new seeding by old duff at the soil surface following cacodylic acid kill of the old vegetation. It is well known that extracts from quackgrass

are lethal to certain legumes such as alfalfa. In a report given this December at the Cleveland AAAS meetings, it was even shown that extracts from goldenrod interfered with the germination of jack pine seed. Apparently through years of natural selection, nature has devised many subtle schemes for reducing plant competition.

#### WEAR RESISTANCE OF TURFGRASSES

Dr. Victor Youngner, University of California, an Institute advisor, reported additional observations on the wearing of turfgrasses in the October issue of California Turfgrass Culture. He noted that spreading grasses such as zoysia and bermuda wore well and recovered best. Kentucky bluegrass, ryegrass and fine fescues were all moderately resistant to wear. Although tall fescue wore well, it is interesting that "tall fescue and perennial ryegrass turfs became open and bunchy."

Dr. Youngner has continued to note that high clipping increases the wear resistance, probably both because there is a better cushion and because the grass then has greater vigor. He notes "close clipping significantly lowered the wear resistance of all mixtures (bluegrasses, fescues, ryegrass and Colonial bentgrass in various combinations) compared to the high clipping."

#### FERTILITY LOSS THROUGH AMMONIFICATION

An article by California workers, entitled "Leaching And Gaseous Loss Of Nitrogen From Some Nontilled California Soils," appeared in the November-December issue of the Agronomy Journal, reflecting continuing interest in this problem. The research supports previous evidence of increased ammonia volatilization from surface applications of urea, these increasing as pH, temperature, moisture evaporation increased, and as cation exchange capacity decreased.

In this particular test, involving ample irrigation on a well-drained soil, there was nitrate loss from leaching as well as ammonia loss through volatilization. But as in previous studies, the amount of nitrogen lost from urea through volatilization, greatly exceeded that lost from ammonium nitrate. Not a great deal of ammonia was given off from urea-formaldehyde, presumably because there was no breakdown and release of the ureaform. Manure proved an inefficient source of nitrogen.

#### CHEMICALS TO BOOST GERMINATION

There has been considerable recent interest in the use of fatty alcohols ("hexadecanols"), as soil or seed applications to influence germination. Very extensive tests on Kentucky bluegrass germination were undertaken at the University of Illinois, and reported by Atsatt and Bliss in the November-December 1963 Agronomy Journal.

Although the fatty alcohols applied were influential, it is doubtful that the effectiveness is certain enough or inexpensive enough to be practical. Treatment of the seed resulted in lower germination. Solid or flake forms

of the alcohol applied to the soil were relatively ineffective. Liquid (emulsion) forms of fatty alcohol, when applied to the soil under conditions such as to form a moisture barrier preventing evaporation of soil moisture, did increase germination of Kentucky bluegrass giving improvement of stands. Rates of from 300 to 500 lbs. per acre were needed for significant increases.

#### SMITHSONIAN INTEREST

"I read with much interest your article in the September-October issue of The Garden Journal, "The Curious Case Of Highland Bentgrass." If you have reprints of this available, I would appreciate your sending me a couple, one for my personal collection and one to put in the Hitchcock-Chase grass library here at the Smithsonian." - Thomas R. Soderstrom, Associate Curator, Division of Grasses, Smithsonian Institution.

#### NORTHERN GRASSES FINDING SOME EMPLOYMENT IN GENERAL SEEDING MIXTURES IN THE SOUTH

Several seedhouses are including fine fescues, Highland bentgrass and Kentucky bluegrass in "all-purpose" seed mixtures for Florida, usually in combination with bahiagrass or similar seeded southern grasses. The northern grasses are, of course, temporary, but give attractive cover initially, or through winter when the mixture is used for autumn planting.

#### WINTERSEEDING AT THE UNIVERSITY OF TENNESSEE

On October 2, Dr. Underwood's grass plots at the University of Tennessee showed all of the southern grasses still green, but interseeding successful, especially in all varieties of bermuda and bahia. Bluegrass seems to be the outstanding northern grass, persistent through summer in this climate under Underwood's system of management. Appearance of bermudas and zoysias was improved where bluegrass was interseeded, obscuring the brownish undercast of old vegetation on the bermudas, and the yellowish-green of the zoysias as they approached winter dormancy. Bluegrass establishment was best where low mowing or vertical thinning had been practiced.

#### UNIVERSITY OF FLORIDA ADVISES

Dr. Granville Horn, at the University of Florida, Gainesville, feels that it's quite possible to establish Kentucky bluegrass and fine fescues even in southern grasses so tough to winterseed as st. augustine. He suggests renovating st. augustine and centipede in winter, winterseeding in late autumn because very early wintergrass plantings suffer from disease in hot weather. Horn rates bermudagrass after st. augustine and centipede, in the order of turf covers important in Florida. Bermuda, and fourth-ranked bahia, are more amenable to winterseeding than st. augustine and centipede.

#### SUCCESSFUL WINTERSEEDING MIXTURE

Harrells, Lakeland, Florida, report success and enthusiasm with a seed mixture they have compounded for local golf course usage. The blend was chiefly



Highland bentgrass and fine fescues, with some Kentucky bluegrass and redtop. Recommended seeding rate is 8 lbs. per M. It is suggested that a green to be winterseeded first be vertically mowed, then topdressed, then seeded, then lightly topdressed a second time.

#### NO-MOW BERMUDAGRASS

When visiting Florida checking on the winterseeding work, there was considerable interest in a new bermudagrass, said to have been picked up at Mobile, Alabama. It seems to have slow, prostrate growth such that little mowing is needed. Dr. Burt, at the Plantation Experiment Station, feels that for home lawn usage even weeks can elapse between mowings, almost unheard of with bermuda. It might be that such a habit would be advantageous to winterseeding with fine-textured northern grasses.

#### CONCLUSIONS FROM OCTOBER WINTERSEEDING CHECKUP

Dr. Schery voiced these general conclusions following his trip through the Southeast to stimulate interest in winterseeding experimentation and use.

The conclusions of previous reports still hold, pointing to moderate interest in winterseeding on golf courses, especially in the upper South and with fine fescues (which establish quickly).

*Poa trivialis* continues as a serious competitor for the winterseeding market among cool-weather grasses, its use furthered by recommendations from the Milorganite people.

Institute information and reprints have been gratifyingly received, with a number of Florida firms including such reprints as "Business Opportunities In Turf Reseeding" and "New Look For Winter Turf" in their own mailings.

To some extent the Institute activities have swayed merchandising opinion, - with Hastings, of Atlanta, for example, featuring a "fine-leaf winter lawn mixture" (containing Highland bent and Penmlawn fescue) as a result of Institute stories. Fine-textured mixtures are being stressed by several Florida houses, with requests for suggested formulae.

The experts are enthusiastic about better northern grasses for winterseeding, and lend the Institute program support.

The winterseeding market, if it develops, would seem to have its greatest destiny in northern Florida and the upper South; especially in southern Florida it is in competition with the flourishing sod industry.

Until lately, turfgrass information has not been well disseminated to the Florida populace, perhaps partly because of the complexity inherent this far South. In any event, there is room for more sophisticated merchandising, and an actual demand for good stories about winterseeding based upon research developments.

#### WEEDS AND TURF ASKS DIRECTOR SCHERY TO REVIEW MANUSCRIPT

"Dear Bob: Enclosed is the first draft of a manuscript on nematode control in turf prepared by the staff biologist of Weeds and Turf magazine. - - Because of your familiarity with turf problems, we would appreciate your helpful review of and comments on this feature prior to publication. - - Thank you in advance for your help, which will bring a more enlightened turf industry." - Charles D. Webb, Editor, Weeds and Turf Pest Control

#### INSTITUTE IN ENCYCLOPEDIA OF ASSOCIATIONS

The Lawn Institute recently received xerographic proof from the Gale Research Company of Detroit, indicating that its listing will again be carried in the Encyclopedia of Associations. During the course of the year we receive many communications that keep up alert to national activities by being so listed.

#### WINTERSEEDING OPINION

In golfing circles, the opinion of O. J. Noer, veteran turfman, is widely acknowledged. Possibly some Institute members may want to use the authority of an O. J. Noer statement when discussing winterseeding of southern golf greens. A summarizing paragraph as O. J. sees it, as it appeared in the September-October Golf Course Reporter: " - - plots receiving Seaside bent at  $1\frac{1}{2}$  bls., *Poa trivialis* at 3 lbs., common Kentucky bluegrass at  $3\frac{1}{2}$  lbs. and Pennlawn fescue at  $12\frac{1}{4}$  lbs. per M. have been excellent."

#### EARTHWORMS BENEFIT SOIL

Dr. H. Jacks, of New Zealand, reports that earthworms improve soil fertility remarkably. In a lawn they should be especially effective in recycling the nutrients in duff and thatch. Earthworm casts were reported by Jacks to be five times richer in nitrates than the soil, seven times richer in available phosphorus, and eleven times richer in potassium. The earthworm burrows also have a biological influence.

#### SEEDHEAD PREVENTION ON BAHIAGRASS

One of the objections to bahiagrass, easily plantable by seed in Florida, is unsightly and difficult-to-mow seedheads. It is said by Florida authorities that 5 lbs. of maleic hydrazide (MH-30) per acre applied once will prevent 80% or more of the seedheads during the course of a year.

#### NUT SEDGE CONTROLLED WITH AMITROL

The October issue of Weeds carries an article by Ellis Hauser indicating that purple nut sedge was controlled with repeat application of amitrol.

#### CANADIAN RESPONSE TO REPRINTS

"Please forward - - another 250 complete sets of the "advice" series of reprints. We've already distributed the 300 copies we received - - and the response has been most gratifying. It would seem as though the dealers in Canada are finally beginning to learn that product knowledge is essential to their survival." - C. A. Collings, Hogg & Lytle Limited, Oakwood, Ontario, Canada

#### HIGHLAND BENT COOPERATION

We are pleased that the Highland Bentgrass Commission includes the Better Lawn & Turf Institute seal in their advertisements appearing in Lawn/Garden/Outdoor Living and other publications.

#### REPRINTS DISTRIBUTED

"Mr. Dealer: Be Prepared To Provide Lawn Advice" - September Home & Garden Supply Merchandiser

"Business Opportunities In Turf Reseeding" - September Weeds & Turf Pest Control Magazine

"New Look For Winter Turf" - Seedsman's Digest

"The Many Varieties Of Kentucky Bluegrass" - November Horticulture

"The Curious Case Of Highland Bentgrass" - September-October The Garden Journal, New York Botanical Garden

"The Grass Craze" - The Saturday Evening Post

"Lawn Conscious Prospect Needs Turf Care Advice" - October Lawn/Garden/Outdoor Living

#### ADVISOR'S COMMENT

"Was interested in your article 'The Many Varieties Of Kentucky Bluegrass.' Although the CB strain did not look so good when seeded in 1960 it now has formed a dense resilient turf that holds on to its color longer than others - -." - Dr. Glen M. Wood, The University of Vermont

#### "THE GRASS CRAZE"

A number of months ago James Skardon, writing for The Saturday Evening Post, was in touch with the Lawn Institute among other sources, concerning an article which eventually appeared in that magazine entitled "The Grass Craze."

The National Plant Food Institute had quantities of this article reprinted, and supplied these without charge to the Lawn Institute.



DIRECTOR'S PHOTO IN FLORIDA PAPER

When Dr. Schery was in Florida in October checking winterseedings, he was invited to be on the Ft. Myers Kiwanis program. His picture appeared in the Ft. Myers NEWS-PRESS with this caption: "Kiwanis Speaker. Dr. Robert W. Schery, director of Lawn Institute of Kansas City, Missouri, nationally recognized lawn and turf authority, will speak at Downtown Kiwanis Club meeting Monday - -."

WINTERSEEDING REPORT

In light of the Institute's cooperation with the Milwaukee Sewerage Commission in furnishing seed for winterseeding, members will be interested in the Milorganite people's epitomized report appearing in the 1963 "Agronomy Abstracts":

"Evaluation Of Cool Season Grasses For Winter Overseeding Of Southern Golf Greens.  
C. G. Wilson, O. J. Noer and J. M. Latham, Jr., Sewerage Commission of the City of Milwaukee.

4 years evaluation of overseeding individual grasses and mixtures at various locations in the South indicate that the latter are superior to individual grasses. They provide the best season-long playing conditions and color, with no spring transition problems. The best quality ratings were from a mixture of Poa trivialis, Pennlawn creeping red fescue and Seaside bentgrass. Kentucky bluegrass increased overall quality in the Florida and Gulf Coast areas. Domestic ryegrass winterkilled in the upper South in early 1963. Seeding rates are dependent upon seedbed preparation. The 1962-63 results show that rate of seeding can be reduced by thorough seedbed preparation and sandwiching the seed between heavy and light topdressings."

PUBLIC BECOMING ACQUAINTED WITH SEAL OF APPROVAL

"My job is essentially that of gathering information and teaching - - students, county agents, garden supply dealers and homeowners.

One thing I can report - - the public is becoming acquainted with the seal from County Agents, and I had an inquiry from a garden center operator as to the meaning of the seal which was being used as a selling point by some seed company. Progress is being made.

Again thanks for all the information. It is a real help." Hal Mosher, University of Massachusetts.

HOPE FROM READER'S DIGEST?

We wonder if the oft-delayed lawn story in Reader's Digest may yet materialize? This note was received by Dr. Schery from Editor William Hard:

"Dear Bob: Thank you for your letter and enclosure. I am sending this along to Don Wharton with the thought that he might be interested in preparing an article about lawns.

Best Christmas greetings. Yours, Bill".

### FLORIDA AFTERMATH

One of the intangibles following visits, is how local authorities make use of an outsider's appearance. Chan Baker, in Florida, followed up along these lines, in a mailing to jobbers and selected retailers: "The Lawn Institute Director, Dr. Robert Schery, states: Ryegrass is quick and easy, but it has a number of faults and has fallen into disfavor with golf course superintendents who must maintain greens of high quality for winter vacationers. Ryegrass is relatively coarse, not a very deep green and subject to a number of diseases. It requires generous seeding rates because the seeds are large and represent so few seeds per pound. Although cheap in cost per pound, it really isn't inexpensive but costs more than the more modest growing fine leaved winter grasses such as Highland bent and fine fescues."

### INSTITUTE PHOTO UTILIZED

A Lawn Institute photo illustrating seed size comparisons was utilized with credit in the Flower & Garden Magazine article "Lasting Beauty Comes From Care Taken At The Beginning." The caption read: "The 2½ million seeds per pound makes bluegrass most economical despite its high pound price. Under the magnifier at the right of this photo, it contrasts with the large size of seeds in a cheap mixture, predominately ryegrass."

### INSTITUTE ADVISOR QUOTED

Dr. Henry W. Indyk, Institute advisor and extension lawn management specialist at Rutgers University, was quoted in the Oakhurst, New Jersey NEWS: "Invest in proper lawn seed mixture if you expect to grow a velvety, fine-textured, long lasting picture type lawn. The best kind of care you can give your lawn never will produce a satisfactory lawn if you plant poor quality seed. - - suggests a mixture that contains at least 75% of the permanent fine-textured grasses such as common Kentucky bluegrass, Merion Kentucky bluegrass and red fescues. Mixtures that contain even more than 75% of these are even better. The Kentucky bluegrasses and red fescues are the basic ingredients of recommended mixtures - -."

### NEW LABELING FOR IOWA

The Iowa Seed Law has been amended to specify that lawn seed must be listed under one of two categories - either fine-textured grass or coarse kinds. L. E. Everson of the Iowa State University Seed Laboratory advises in the Oskaloosa HERALD: "Under this new labeling requirement, only the bluegrasses, bentgrasses, creeping red and chewings fescue may be included under the fine-textured grasses. - - The homeowner should recognize, however, that there are still differences in the fine-textured kinds. Kentucky bluegrass and creeping red fescue are considered by turf experts as the best fine-textured lawngrasses for Iowa."

AUTUMN LAWN ADVICE IN OHIO

In her "Dustmop Circuit" column in the Piqua, Ohio CALL, Kate Harrison suggests early September as an ideal time to prepare and seed a new lawn. " - - use top quality seed, which will give a good lawn - -. Kentucky bluegrass is the most important element of a seed mixture for a sunny lawn. A good mixture contains from 45 to 60 percent of this. - - For a lawn in shade, use a shady mixture - - (containing) a good percentage of red fescue, Chewings fescue or one of the improved fescue types."

COUNTY AGENT ADVISES

We are pleased to see Assistant County Agent, J. Edgar Ferrell, giving advice such as this in the Annapolis, Maryland CAPITAL: "A pound of fine-textured grasses will cost about three times as much as a pound of coarsegrass seed or inferior mixture. But considering the fact that fine-textured grasses have much smaller seeds than those of coarser grasses and that a pound of fine seed will contain as many individual seeds as three or more pounds of coarse seed therefore seeding an area three times as large, it all works out that one pays nearly the same for the so-called cheap seed as he would fine seed."

MIXTURES RECOMMENDED

Dr. Victor Youngner, turf specialist at the University of California, Los Angeles, Institute advisor and cooperater on winterseeding, has long commanded our respect for sound and practical advice, especially relating to the myriad of California environmental conditions. It is pleasing to see him quoted concerning "turfgrass seed mixtures," in the December issue of Western Landscaping News. With becoming modesty, Youngner suggests the following example mixtures, pointing out that they should not be considered as a recommendation for every situation:

SEED MIXTURES

- (1) General purpose mixture for temperate climate regions.

Kentucky bluegrass - - - - - 60%  
Creeping red fescue - - - - - 40%

Sow at 3 lbs. per 1000 sq. ft. of area. Park, Merion or Newport bluegrass may substituted if desired.

- (2) General purpose mixture for sub-tropical climate regions. May also be used for fairways.

Kentucky bluegrass - - - - - 75%  
Hulled bermudagrass - - - - -

Sow at 3 lbs. per 1000 sq. ft. of area. Turf will be primarily bermuda in 1 - 2 years.



(3) Close cut fairway mixture for temperate climate regions.

Merion Kentucky bluegrass	- - - - -	40%
Creeping red fescue	- - - - -	40%
Highland bentgrass	- - - - -	20%

Sow at 3 lbs. per 1000 sq. ft. of area. Highland bentgrass will dominate if mowing is 3/4 inch or less.

(4) Shade mixture for temperate climate regions.

Red fescue	- - - - -	60%
Highland bentgrass	- - - - -	10%
Poa trivialis	- - - - -	30%

Sow at 4 lbs. per 1000 sq. ft. of area. This mixture may be used in subtropical regions also but will not be permanent. Zoysia and St. Augustinegrass are the only permanent shade grasses for these regions.

(5) Playing fields and heavy use areas in subtropical regions.

Alta tall fescue	- - - - -	60%
Pensacola bahiagrass	- - - - -	40%

Sow at 6 to 8 lbs. per 1000 sq. ft. of area. Bermudagrass and Zoysia are also good and will be finer textured. Alta fescue also may be used alone.

(6) All bluegrass mixture for temperate climate regions.

Park Kentucky bluegrass	- - - - -	30%
Merion Kentucky bluegrass	- - - - -	30%
Newport Kentucky bluegrass	- - - - -	40%

Sow at 3 lbs. per 1000 sq. ft. of area.

(7) Quick growing turf for coastal areas only - not for areas of warm summer temperatures. May not be permanent.

Perennial ryegrass	- - - - -	60%
Kentucky bluegrass	- - - - -	40%

Sow at 4 lbs. per 1000 sq. ft. of area.

(8) Quick growing turf for warm summer areas. May not be permanent.

Meadow fescue	- - - - -	70%
Kentucky bluegrass	- - - - -	30%

Sow at 4 lbs. per 1000 sq. ft. of area. For permanent turf substitute at least 10% hulled bermuda for part of one of the above components.

A point of considerable interest is that Youngner does not shy from mixing cool-season and warm-season grasses where occasion warrants, and Highland bentgrass with fescues and bluegrasses (something the East has shunned in recent years).

#### WINTERSEEDING INTEREST STIRRED

Typical of some of the publicity that has appeared in the South, following Lawn Institute promotional efforts there, is this by Paul Harris, in the Fort Myers, Florida NEWS PRESS. In the "Garden Grooming" column, under a headline "Mixture Of Grass Seeds Advised For Beautiful Lawn In Winter," we find such statements as "Establishing and maintaining a healthy winter lawn is not difficult, expensive or complicated - - there's a better and more rewarding way to have the kind of lawn you dream of than by broadcasting ryegrass. - - Ryegrass robs the soil of plant food and water and the lush stooling spring growth often smothers or retards reactivation of the perennial lawn. - - Homeowners and professional grass men are turning more and more to the quick-germinating lawngrasses used for permanent lawns in the cooler regions. Improved creeping fescue, Kentucky bluegrass and Highland bentgrass seeds begin to germinate in 7-10 days - -. They grow modestly and require less mowing - - these fine-leaf wintergrasses blend into the summer lawn and slowly disappear. - - A mixture of these grass seeds blended to provide an approximately equal number of plants of each variety contains over 3 million seeds per pound as compared to only 225,000 ryegrass seeds." There follow instructions for establishing, possibly picked up from the Institute releases.

#### CONTINUING INTEREST IN SOUTHERN WINTERSEEDING

Warren Meadows, Institute advisor and extension expert with Horticulture at Louisiana State University, asked permission to quote a Lawn Institute release in the winter issue of "The Louisiana Turfgrass Bulletin." This is the quarterly publication of the Louisiana Turfgrass Association.

Under the banner "A New Trend In Overseeding?", Meadows reviews the latest developments in winterseeding. Most of the article is devoted to the quote of the Institute story, viz. "Dr. Robert W. Schery, Director, The Lawn Institute, provides us with an interesting discussion - -. Among the best grasses in texture, color and hardiness are the bentgrasses, the fine fescues, and the Kentucky bluegrasses. 'Blue chip' names among them are Highland (Highland Colonial) bentgrass; Chewings, Illahee and Pennlawn varieties of fine fescues; and good quality seed of almost any Kentucky bluegrass (Park is recognized as a quick sprouter). - -"The article goes on to summarize each of these groups of grasses, and report on their economy.

Meadows' final question is: "With the advent of the hybrid bermudas, southern golf greens have taken on a 'new look' for summertime. Is a 'new look' for winter appearing?"

#### SEA ISLAND, GEORGIA

When in the Southeast, Dr. Schery visited with T. M. Baumgardner, Sea Island Company, Sea Island, Georgia.

Baumgardner seems to prefer ryegrass for winterseeding, since he must spruce up the grounds for tournaments at irregular intervals. However, he does not object to including other seeds in mixture with ryegrass.

Interestingly, a shipment of *Poa trivialis* was returned to Milwaukee when seed analysis disclosed undesirable weed content. The *Poa triv* was supposed to have been thoroughly recleaned and free of such pests as chickweed and shepherd's purse.

#### WINTERSEEDING IN TRANSITION ZONE

It will be recalled that the Lawn Institute furnished seed this year for distribution to several golf courses in the Kansas City, St. Louis and Philadelphia areas, for trial use on golf course fairways that have been planted to bermudagrass. The seed was distributed through the Milorganite organization, according to the plan drawn up by the Sewerage Commission agronomists.

Among the several golf courses undertaking this experimentation, was Mission Hills, in the Kansas City area, Chet Mendenhall, superintendent. On November 5, it was possible for Dr. Schery to drop by Mission Hills, and inspect the plantings with Mr. Mendenhall.

Because of the late autumn in 1963, bermudagrass, normally off-color by this date, was still green in Kansas City. Nevertheless, seedings with several quality northern grasses, and "the Lawn Institute mix," had become well established, were clearly visible as a green fuzz. While it was too early to pass judgement on the adequacy of performance and potential usefulness, Mr. Mendenhall was very well satisfied with the practicality of the operations.

#### TURF EXPERIMENTATION AT TIFTON, GEORGIA

The Tifton Coastal Plain Experiment Station was visited chiefly to check winterseeding, but it is interesting to note the wide variety of turfgrass research being undertaken there. Of all the grasses under observation, the zoysias appeared outstanding in early October. Golf green bermudas, fertilized with as much as 18 lbs. of nitrogen per M per year, were also striking, but not better than the more easily tended lawn zoysias.

The difficulty with zoysia continues to be lack of an economical mower that can handle this tough, siliceous grass. De-thatchers have not been tested for zoysia, but it is recognized that occasional burning back to the ground (in winter) is helpful in renewing growth and eliminating thatch.

An extensive test on the wear of different kinds of turfgrass has been undertaken. As many as 64 passes daily with a golf cart are made across a series of test plantings. All wear proves harmful, but certain varieties revive more quickly than others. Of course good care is helpful.



#### UNIVERSITY OF KENTUCKY CONTINUES BLUEGRASS WORK

Dr. Schery inspected the turfgrass test plots at the University of Kentucky, with Dr. Buckner in early autumn. This far south, the results with bluegrass varieties are often different than in more northerly locations.

For example, Merion is notably unsuccessful in Kentucky (rust is said to kill it in the seedling stage), and Newport has been a notable failure. North European varieties such as CB, and imported Holland and Danish seed, have proven ill-adapted to local growing conditions compared to bluegrass from Kentucky-grown seed.

Dr. Buckner's best results have come from mechanically combining several selections he has made himself, from the southern portions of the bluegrass belt. The one he is currently emphasizing is constituted of nine separate selections mechanically combined. The textural appearance is finer than usual with bluegrass, resembling very much fine fescues (with which it should blend nicely).

#### RUTGERS TURFGRASS COURSE

Rutgers University, New Brunswick, New Jersey, will hold its annual three-day turf course beginning January 13, 1964. Dr. Schery has been invited to discuss "The Importance Of Quality Seed," a presentation to be given the first day of the conference. Sessions are held at Collins Auditorium, on the agricultural campus.

#### MILORGANITE REPORT ON WINTERSEEDING

The Milwaukee Sewerage Commission has had mimeographed Charles Wilson's talk essentially as given at the Agronomy meetings, reported on elsewhere in this issue. A limited supply has kindly been sent for any distribution we care to make. If any member wishes to have a copy of "Evaluation Of Cool Season Grasses For Winter Overseeding Of Southern Golf Greens," please request same from the Marysville office.

The gist of the talk is favorable to *Poa trivialis*. A few quotes from the report as they mention other grasses of especial interest to the Institute, follow:

"Graham, reporting from Sarasota in December, found the heaviest seeding mixture containing Kentucky bluegrass was best, with the individual bluegrasses filling in surprisingly well. For many years, a few Florida superintendents have included Kentucky bluegrass in their overseeding mixtures. These tests show they were right in doing so. Bernard at DeSoto Lakes found a light topdressing on the seed to be quite helpful in earlier establishment of winter grass."

"In mid-January the heavier rates of seeding still looked best at Sarasota, with Seaside and Astoria bent starting to make a showing. Redtop, Highland, and this past year Velvet, have been consistently poorer than Astoria and Seaside during all the years of these tests. Penlawn fescue and Poa trivialis were starting to show some injury from traffic, and this could be

considered yet another reason why mixtures containing Kentucky bluegrass are worthy of consideration. - -"

"About the same time, Warnecke, reporting from Atlanta, ranked Poa trivialis very good, which put it ahead of all other individual grasses. However, only the mixtures of trivialis, bent and fescue - or this same group with Kentucky bluegrass - ranked excellent."

"In late February Poa trivialis was the best of individual plots at Braeburn in Houston, but still ranked far behind the best mixed plots. In these trials, the presence of extra seed in masking Poa annua, which was just starting to show, was also quite striking."

"At this time the cold weather really started to hurt the South and our grasses also took considerable punishment. Latham, reporting from Memphis, found everything poor. The ryegrass had completely winter-killed; all bents were poor; and only Poa trivialis and Kentucky bluegrass were providing any color in the turf. The mixture of all four grasses looked best."

"Undoubtedly many will be justified in altering this for local conditions. As an example, Kentucky bluegrass seems more important as one travels south. Since this basic mixture 'hedges bets' for both early and late in the season, Highland might be substituted for Seaside, as Seaside is both scarce and high in price."

#### GIRD COOPERATION

The Lawn Institute is grateful to D. Murray Franklin, of the Garden Institute of Research and Development, for his friendly cooperation in furthering Institute objectives. This is especially important at a time when the Lawn Institute budget is severely restricted, limiting some of the approaches that would normally be undertaken.

GIRD has not only accepted Lawn Institute suggestions on what constitutes a quality seed mixture, but has invited Dr. Schery to address GIRD associates on two occasions (charter conference at Penn State; winter meeting, Fort Lauderdale). In February Dr. Schery will cover "What Makes A Good Lawn Seed Mixture?", and additionally will speak at several regional training sessions for sales personnel.

#### ORGANIC GARDENING UTILIZES INSTITUTE RELEASES

The Rodale Books Inc. Publishing Company issued advance copies of an extensive new encyclopedia on gardening just before Christmas. One was circulated to Dr. Schery, Institute Director, for his opinion and criticism.

This extensive gardening encyclopedia is quite elaborate, including 1544 pages, with topic coverage ranging from landscaping through all garden operations.

We are particularly interested in the chapter concerning lawns. Some of the information is "tired," seemingly secondhand from older publications of others. Dr. Schery is quoted, but the quoted material not clearly delineated. While

such a chapter might be stronger if written by an expert in the field, it nonetheless adds to the "excitement" about lawns. It is good to have lawns covered as frequently as possible in all gardening books.

Several Lawn Institute photographs were employed in the lawn chapter, to illustrate various facets of the discussion. Their captions were essentially as issued with the photos, viz.: "Either red fescue or bluegrass will give you a fine turf, like that on the right above. Coarser grasses will produce a more rugged lawn, but one which looks rough as on the left." and "When you buy lawn seed, be sure to ask for the seed best suited to your use by its correct name. Both of the above are fescues; the slender one is red fescue, the other, tall fescue."

#### CHICAGO PAPER PLUGS FOR QUALITY SEED

In the Chicago, Illinois SOUTHTOWN ECONOMIST the homeowner is advised: "Do not buy the cheapest seed unless you want a temporary lawn. The old axiom 'you get what you pay for,' is not necessarily true. In the case of cheap lawn seed, you often get less for your money than if you buy high quality seed."

The article then goes on with six other pointers for inexperienced seed purchasers, including: "First, prepare a good seedbed - - - Second, use only first quality seed. For this area use pure Kentucky bluegrass, or a mixture of at least 65% bluegrass with the balance composed of fine leaved grasses. Avoid ryegrasses and coarse-leaved grasses such as Kentucky (31) fescue."

#### INSTITUTE RELEASES UTILIZED

Tom Carlson, In the Janesville, Wisconsin GAZETTE, quoted Institute releases, viz.: "Kentucky bluegrass-fine fescue seed mixtures do best when sown in autumn, but need the boost of abundant fertility to become well established before freeze-up." "Tests at the Lawn Institute have shown that fertilizers applied to frozen ground in January have a beneficial influence in thickening the turf and spring color - -."

#### FALL 1962 PRESS STORIES STILL BEING PICKED UP

The Baltimore, Maryland MORNING SUN utilized an article from the fall 1962 press kit, "Fall Held Best Time To Seed A Lawn." Members may recall the story read in part: "Bluegrass seed mixtures can be successfully sown in spring, but autumn results are even better. There are many advantages to autumn, paramount being that Kentucky bluegrass, fine fescues and Highland bentgrass perform best during cooler weather while the weeds don't."



#### NEW YORK ADVISORY

Walter Androsko's column "Rebuild Lawn By Mid-September To Guarantee Permanent Results" appeared in the Mt. Vernon, New York ARGUS, Ossining, New York CITIZEN REGISTER, White Plains, New York REPORTER DISPATCH, Port Chester, New York ITEM and the Peekskill, New York STAR. Androsko advises: "The grasses which are desirable for Westchester County are Kentucky bluegrass and its selections, and red fescue. - - Red fescues are quite tolerant of shade conditions and are generally found to be the predominant grass in a shady lawn mixture."

#### BEWARE OF BARGAIN SEED

"Beware of bargain lawn seed. Read the label carefully. A good seed mixture should contain 75% permanent lawngrasses. Kentucky bluegrass and Creeping red fescue are the best kinds for Iowa." - Washington, Iowa JOURNAL

#### FOR THE EAST

In the Baltimore, Maryland NEW POST, Tom Stevenson gives advice for seeding lawns under trees: "For heavy shade, - - a mixture of 20% Merion Kentucky bluegrass, 20% common Kentucky bluegrass, 55% Creeping red fescue - -."

#### QUALITY SEED RECOMMENDED

Kansas City STAR garden writer, Mary Hobbs, seems to adapt from Institute releases in her advice: "Kentucky bluegrass and Oregon fine fescues are carefully processed and tested to insure top-quality seed with a low weed count, and that seed which passes top quality testing will be actually the most economical."

#### WHITNALL PARK TESTS

"After a decade of grass testing at Whitnall Park, Milwaukee, Wisconsin, common Kentucky bluegrass - the granddaddy of the bluegrasses - and its offspring, Merion Kentucky bluegrass, still reign supreme in the Milwaukee area. This public grass testing program is said to be the only one in the United States. The testing program was initiated in the fall of 1953 in cooperation with Charles Wilson of the Milwaukee Sewerage Commission."

#### WATCH LAWN SEED PRICES

The Middletown, Ohio JOURNAL carried this advice: "Watch that label on the lawn grass seed package, especially if the price of the seed is less than you would expect to pay. The cheaper seed mixtures often contain undesirable types - -. Kentucky bluegrass is still the best for this area."

#### KENTUCKY ADVISORY

Earl H. New, University of Kentucky Extension horticulturist, advised Kentucky residents in the Danville ADVOCATE-MESSENGER, Lexington HERALD and Louisville TIMES: "Common Kentucky bluegrass is the standard lawngrass for most of Kentucky. Good, clean seed of common Kentucky bluegrass usually is the best choice for an average Kentucky lawn - -."

#### ADDITIONAL WINTERSEEDING PUBLICITY IN MISSISSIPPI

As members realize, the Lawn Institute has encouraged winterseeding research at the University of Mississippi. In a previous Harvests, mention was made of the many Mississippi newspapers picking up a press release from Mississippi State University, quoting W. R. Thompson. In addition, our clipping service noted these stories in late October and November: Jackson ADVOCATE, Corinth CORINTHIAN, Louisville JOURNAL, Waynesboro NEWS, Durant NEWS, Pontotoc PROGRESS, Carthage CARTHAGINIAN, Hazelhurst COPIAN CO. NEWS, Tunica TIMES-DEMOCRAT, Booneville BANNER-INDEPENDENT, Okolona MESSENGER, Baldwin NEWS, Herando NEWS, Clarksdale PRESS REGISTER, Kosciusko STAR-HERALD, Holly Springs REPORTER, Rosedale DEMOCRAT, Sardis REPORTER, Lexington ADVERTISER, Newton RECORD, New Albany GAZETTE, Tupelo JOURNAL. You may recall that the story reads in part: "When the low temperature severely injured the ryegrass, Kentucky bluegrass and Illahee fescue survived with little injury."

#### FROM SUNNY ARIZONA

The Mesa, Arizona TRIBUNE, definitely in bermudagrass country, still had this to say in early November: "Since bluegrass is the preferred seed for most sunny lawns, you will find it dominant in most mixtures. - - Other bluegrasses, fescues and similar permanent grasses make excellent combinations."

#### LATE AUTUMN USE OF INSTITUTE RELEASES

As late as early November, we were gratified to notice pickup of Institute press kit materials in a wide range of papers. Included were the Ann Arbor, Michigan NEWS, the Portland, Maine TELEGRAM, the Springfield, Missouri LEADER AND PRESS, the Portland, Oregon OREGONIAN, the Albany, New York TIMES UNION, the Kenmore, New York RECORD-ADVERTISER, the Columbus, Ohio DISPATCH, the Washington, Pennsylvania OBSERVER, the Zanesville, Ohio TIMES-RECORDER, and the Lafayette, Indiana JOURNAL AND COURIER.

Sample lines from some of these include: "The fine-textured quality grasses include the bluegrasses, fine fescues, bentgrasses and a few specialty species.", "The Lawn Institute reports that tests in Mississippi indicate much better catch of Kentucky bluegrass and fine fescue overseedings when the permanent grass is first mowed low.", "Kentucky bluegrass and fine fescues benefit from higher mowing, Highland bent from lower mowing, about 1 inch tall.", "While versatile lawn seed mixtures contain fescues as well as Kentucky bluegrass, it is the ability of bluegrass to spread by rhizomes that makes bluegrass seed mixtures especially useful.", "Top seed mixtures contain adaptable grasses such as fine fescues (Chewings, Illahee, Pennlawn

varieties) and Kentucky or Merion bluegrass - -.", "Kentucky bluegrass, fine fescues, or Highland bentgrass gain an advantage over weeds from autumn planting, - -.", "Kentucky bluegrass and its fine fescue companions of better lawn mixtures, may stay green until after Christmas, says the Lawn Institute.", "Kentucky bluegrass combined with fine fescues usually yield the best all-around turf with minimum attention. Park bluegrass can be included for fast sprouting. Highland bentgrass is excellent for moist or watered areas."

#### ILLINOIS ECHOES INSTITUTE SENTIMENTS

The University of Illinois is quoted as advocating: "As to seed mixtures, - - Kentucky or Merion bluegrass and red fescues are good perennial grasses for most lawns in the Midwest."

#### FLORIDA PLUGS FOR WINTERSEEDING

Jack Cabler of the Extension Service, and Granville Horn of the research staff at the University of Florida, both of whom have been utilizing Lawn Institute seed for experimentation, were widely quoted in Florida papers during November.

In a special release out of Gainesville, Cabler discusses the "two-grass system" (permanent grass, with winterseeding in autumn). Cabler indicates that this system is applicable all over the state, with winterseeding generally practiced from October 15 to November 15. "The cool-weather grasses generally grow rapidly. Ryegrass is a quick and easy example, but it has a number of faults. Cabler believes finer textured grasses hold promise for the future, such as Kentucky bluegrass, the fine fescues (Creeping red, Chewings - -) and the lawn-type bentgrasses." This story appeared in the Pensacola JOURNAL, the Orlando SENTINEL, the Leesburg COMMERCIAL, the Cocoa TRIBUNE, and other Florida papers.

The St. Augustine, Florida RECORD gave even more specific recommendations, following a discussion of winterseeding research. Noted in the article were: "For several years, University of Florida researchers have been evaluating various cool-season grasses. - - (seed) a mixture of 2 lbs. - - fescue plus 1 lb. of Kentucky bluegrass for a thousand square feet of lawn area. The fescue will germinate rapidly, giving an excellent color. Later the bluegrass fills in as the fescue begins to thin out. The transition using this mix should be excellent. - - Another good combination is 1 lb. of Kentucky bluegrass and 2 lbs. of Pennlawn fescue - - These suggestions are based on extensive research and experience. They are designed to enable Florida homeowners to maintain colorful and attractive lawns throughout the winter."

This is a nice follow-up on the publicity stories released throughout the South by the Lawn Institute last autumn.

#### MID-OCTOBER CLIPPING PICKUP

Among the papers utilizing Lawn Institute materials around mid-October, were the Pittsburgh, Pennsylvania PRESS, the Ann Arbor, Michigan NEWS, the Kansas City, Missouri STAR, and the Elgin, Illinois COURIER-NEWS. All of these



quoted the Lawn Institute directly. Snatches from the items include:

"Park, though noted as a vigorous sprouter, does not produce extra leafage. Park, Arboretum and other varieties similar to natural Kentucky bluegrass seldom have thatch problems. The same is true for such fine fescues as Chewings, Illahee and Pennlawn. Bentgrasses are turfgrass delights when cared for. But creeping sorts are great thatchers. - - The more erect varieties such as Colonial and Highland thatch less - -."

"Both Kentucky bluegrass and the fine fescues, the prime grasses of quality seed mixtures, grow to some extent right through winter."

"If bluegrass and fine fescue seeds aren't at hand, surely there will be weeds instead. Kentucky bluegrass and fine fescue are harvested and cleaned by modern equipment, to sprout more surely and have fewer weeds."

"Kentucky bluegrass and fine fescues are not injured by winter cold, although the ryegrass of bargain seed mixtures will almost surely be killed."

#### AUTUMN SEEDING BEST

Ilo Foltz, Lima, Ohio NEWS, seems to borrow heavily from Institute releases, viz: "The lawn can be no better than the grass chosen. Check the seed content on the package to be certain it predominates in 'basic grasses,' mainly Kentucky bluegrass and its varieties, backed by appropriate red fescue and bentgrass selections - -."

#### YEAR-END CLIPPINGS

Of 22 clippings picked up by the service in the December 5 envelope, 9 were direct quotes of the Lawn Institute press kit, and 7 having to do with winterseeding in the South (for which the Lawn Institute has been active in stirring interest, even if not always directly quoted).

Also of interest was this item, which appeared in the Chicago, Illinois NEWS, circulation over 500,000. The item appeared in the "In Your Garden" column:

"Common bluegrass recovered more readily from diseases than Merion or Newport bluegrasses and proved to be the best of those presently available, a four year study at the government's agricultural research center, Beltsville, Maryland, revealed."

Another interesting quote is from Connecticut, where the New England Nurserymen's Association receives Lawn Institute mailings: "It is wise - - to use the best grass seed for a new lawn. Excellent for New England - - bluegrass seed with a mixture of fescue." Other text in the article, appearing in the Niantic NEWS, was obviously derived from the Lawn Institute release materials.

The Southern Cemetery, of Atlanta, gave by-line credit to Dr. Schery and the Lawn Institute, in an article entitled "Seed Hardy Wintergrasses." Sample sentences include: "Kentucky bluegrass is especially hardy, - - . Kentucky

bluegrass continues growing right through winter - -. The fine or red fescues, are hardy, too. - - Varieties such as Chewings, Illahee and Pennlawn are frequently selected, and have excellent dark green color. - - Highland bentgrass backs up the other stalwarts - -. Highland bent is a little slower - - but exhibits excellent late winter growth."

The Columbus, Ohio DISPATCH utilized one of the Institute shorts: "Bluegrass, fine fescue and bentgrass run little chance of burning when fertilized during the cooler weather of autumn and early winter, notes the Lawn Institute." The Pittsburgh PRESS, the Cincinnati ENQUIRER, and the South Bend TRIBUNE all made frequent use of similar shorts, mentioning the Lawn Institute by name.

First-rate advice continues to emanate from the Extension Service in New Jersey. This in the Irvington, New Jersey HERALD, in reply to inquiry about zoysia for New Jersey: " - - if you don't have a situation where zoysia does especially well, you'll be happier with a Kentucky bluegrass-red fescue lawn."

The Miami HERALD, the Fort Lauderdale NEWS, the Sanford HERALD, the Sarasota HERALD-TRIBUNE, and the Okeechobee NEWS all carried Florida winterseeding items. The Fort Lauderdale story utilized the picture furnished with the stories mailed out in autumn. Editor of the paper by-lined the article, and quoted Florida experts, including Dr. Evert Burt and Dr. Granville Horn, with whom the Lawn Institute has been working closely. The article continued: "Dr. Schery says ryegrass, once the favorite grass for winter, has fallen into disfavor with experts such as golf course superintendents who must keep high quality turf during winter months. - - Most successful two-grass mixtures were Highland bent plus Pennlawn fescue, Kentucky bluegrass plus Pennlawn fescue and Kentucky bluegrass plus Illahee fescue. Best three-grass mixtures were: Highland plus Seaside bent plus Kentucky bluegrass, and Highland bent plus Pennlawn fescue plus Illahee fescue. Best four-grass mixtures were Highland plus Seaside bent plus Illahee fescue plus Creeping red fescue and Highland plus Seaside bent plus Illahee fescue plus Chewings fescue."

Sample quotes from the other southern stories include: "Cabler believes finer textured grasses hold promise for the future, such as Kentucky bluegrass, the fine fescues (Creeping red, Chewings, Poa trivialis) and the lawn-type bentgrasses." "You can have wintercolor by planting Italian or other northern grasses (fescue, redbot, Kentucky blue or bent) now."

The Prentiss, Mississippi HEADLIGHT continues even this late in the season, to quote research at State College, Mississippi: " - - when the low temperatures severely injured the ryegrass, Kentucky bluegrass and Illahee fescue survived with little injury."

#### PRESS KIT FILLER WIDELY USED

The small statements concerning the Institute and its grasses, which were included in the press kit, have continued to receive wide usage. Fillers, such as those below, have been picked up by such papers as: Fresno, California BEE; Springfield, Missouri LEADER & PRESS; South Bend, Indiana TRIBUNE; Arabi, Louisiana VOICE; Cincinnati, Ohio ENQUIRER; Cliffside Park, New Jersey PALISADIAN; Albany, New York TIMES-UNION; Pittsburgh, Pennsylvania PRESS;

Newark, New Jersey NEWS; Two Rivers, Wisconsin REPORTER; Manitowoc, Wisconsin HERALD TIMES; Kansas City, Missouri STAR; Columbus, Ohio DISPATCH; South Charlotte, North Carolina MUNICIPAL; Ann Arbor, Michigan NEWS; Pikeville, Kentucky NEWS.

"Kentucky bluegrass is one of man's more durable plantings, notes the Lawn Institute. In Kentucky and the Midwest sods of Kentucky bluegrass as old as the memory of white man are still producing commercial seed for modern lawns."

"Fine fescue is good for shade, notes the Lawn Institute. Fine fescues make excellent companions for Kentucky bluegrass in lawn seed mixtures, because they are able to survive well on dry soils in the shade."

"Highland bentgrass, with 7 million seeds to the pound, can best be sown with a well-engineered lawn spreader, notes the Lawn Institute."

"MILLIONS PER POUND. There are about 7 million seeds to the pound of Highland bentgrass, the most among good lawngrasses. Kentucky bluegrass has over 2 million seeds to the pound."

"Bluegrass, fine fescues and bentgrasses benefit most from autumn feeding, according to the Lawn Institute. These elite lawngrasses grow best when the weather is cool."

"PARK BLUEGRASS. Park Kentucky bluegrass is a 'synthetic variety,' says the Lawn Institute. Park, noted for its seedling vigor, is derived by planting together a dozen Kentucky bluegrass strains selected by the University of Minnesota."

"The difference between the fine or lawn fescues and the tall or hay-type fescues is critical in lawn making, notes the Lawn Institute. Purchase lawn seed mixtures that contain Oregon fine fescues such as Chewings, Illahee or Pennlawn - not coarse field fescues such as Alta or Kentucky-31."

"The Lawn Institute points out that the deep green color of lawns is enhanced by generous use of lawn fertilizer."

"The fine fescues in quality lawn seed mixtures are fast sprouting, notes the Lawn Institute, but a mulch and regular watering cause new plantings to sprout more surely."

#### WHAT THEY ARE SAYING ABOUT THE INSTITUTE AND ITS RELEASES

Your secretary kindly gave me material about the Institute including your book 'Outdoor Beauty,' which I find useful and thank you. Congratulations on your article 'Kentucky Bluegrass' in November Horticulture. It is the first article I have read that did not reveal a half hidden prejudice for or against one type or another, and I find that rather comfortable. - -"

Robert L. Waln, President  
Men's Garden Clubs of America



"I have purchased a copy of 'The Lawn Book' and find it very interesting."

John J. Malesky  
Houston, Texas

"Thanks much for the packet of information which you sent out to lawn advisors under date of November 12. To me, one of the most interesting things in the packet was your article 'The Many Varieties Of Kentucky Bluegrass.'"

Louis A. Jensen  
Extension Agronomist  
Logan, Utah

"I have read 'Outdoor Beauty' with a great deal of interest and profit. - - Heaven knows - something is needed to offset the half truths of the special pleaders for various lawn supplies. Your fine book at the attractive price of 50¢ should be very widely distributed. It will certainly prove very valuable to the new homeowner as well as to the more experienced one."

Elliott G. Nathan  
Kansas City, Missouri

"I am a gardener, but not a very good one when it comes to top-dressing lawns. I am befuddled in my poor top-dressing jobs this fall. - - holler if I made a mistake. - - I feel better already now that I got this off my chest, and told a man that I can trust to correct me."

Philip J. Lamendola  
Long Island, New York

"Dear Dr. Schery: Thank you for the interesting reprints. - -"

Arthur Nelson, Professor  
School of Biology  
San Francisco State College

"Dear Mr. Stephan: Thank you for your letter relative to the acceptance of turfgrass information by the press, radio and television companies. Our experience in this state has been similar. We are hard pressed to provide the quantity that could be used. I believe Dr. Schery does a fine job and have occasion to use and promote his releases frequently. The Institute is to be commended.

Dr. C. R. Skogley  
University of Rhode Island

"Yours was an interesting letter regarding Better Lawn and Turf Institute. We subscribe to the Institute membership in full confidence that under the capable direction of Dr. Schery a lot of good is being done on behalf of industry and better turf throughout North America."

N. M. Rothwell  
Hogg & Lytle Limited  
Oakwood, Ontario, Canada

"I have just received your assortment of Lawn Institute publications, and I want to express my appreciation for same. - - Thanking you again, I remain - -."

John J. Malesky  
Houston, Texas

"We have your letter of November 1st outlining all the good things being accomplished by the Institute and we go along with this and we think a fine job has been done."

C. H. Farris, President  
Mitchelhill Seed Company  
St. Joseph, Missouri

"Let me express my appreciation to you again for your contribution to this Conference. I have received many favorable comments concerning the program, and it is you that merits the compliment. With kind appreciation, I am - -."

Dr. Delbert D. Hemphill  
Professor of Horticulture  
University of Missouri

"Believe me, I appreciate receiving your newsletters and reprints - - also the news releases from Kansas City. These all provide me with ammunition and information for the county agents and news releases. - - Keep up the good work!"

Hal Mosher  
University of Massachusetts

"I have read with interest your recent articles and releases and find them very well done and to the point. We use many of them in news releases locally and find them very useful in keeping up to date on lawn thinking. - - Keep up the good work."

Dr. C. M. Harrison  
Michigan State University

"Thank you very much - - comments on our manuscript - - scheduled - - next February. We really appreciate the degree of study you have obviously devoted to this paper - - and many of your comments will be incorporated into our final manuscript. It is because we are able to obtain the critical comments of experts like yourself that we are privileged to present - - articles - - of tremendous practical value."

Charles D. Webb, Editor  
Weeds & Turf Pest Control Magazine

PRESS QUOTES

"When buying lawngrass seed, look for a combination of Kentucky bluegrass and Creeping or Chewings fescue. These should make up at least 80 percent of the grass mixture." - Waterbury, Connecticut REPUBLICAN

"Kentucky or Merion bluegrass and red fescue are suitable lawngrasses for most of Indiana." - La Crosse, Indiana REGIONAL NEWS

"If possible, sow seed to produce the same kind of grass now in the lawn or an all-purpose 50-50 mixture of Kentucky bluegrass and red fescue grass such as Pennlawn, Illahee - -." - Westwood, New Jersey NEWS

"It takes just as much effort to plant inferior quality seed as to put in a permanent lawn using seed of high purity and germination." - Ithaca, New York JOURNAL

"Kentucky bluegrass is the best grass for sunny places in good soil and is the backbone of good mixtures for sunny lawns." - Warrensburg, New York NEWS

"The most widely planted lawns of quality, from Atlanta northward, are of Kentucky bluegrass and such fine-leaved lawn fescues as come from Oregon. The bluegrass-fescue lawn is not demanding." - Ann Arbor, Michigan NEWS

"In this area the right blend of bluegrasses and some good fescues make the best lawn mixture. Most quality dealers handle these combinations. The cheaper seed will often contain coarse grasses which grow rapidly but make a ragged-looking lawn." - Mansfield, Ohio NEWS-JOURNAL

"Choose a quality seed mixture, high in bluegrass and red fescue varieties (Chewings, Illahee, Pennlawn, Rainier, etc.) with but little 'haygrass' content." - Ann Arbor, Michigan NEWS

" - - a word of warning when selecting grass seed: Know what you're buying. There are many cheap lawn mixtures. These usually contain cheap quality seeds and some undesirable seeds. Read the label to make sure the seed has high germination and high purity. - -" - Willoughby, Ohio NEWS HERALD

"There is a tremendous difference in lawn seed. Two boxes of seed may weigh the same and seem alike, but there may be ten times the amount of seed in one package than another. Bluegrass seeds add up to about two million seeds to a pound. A more temporary grass comes to only 250,000 seeds to a pound." - Allan Swenson, Austin, Texas STATESMAN

"If you're establishing a lawn - fall's the recommended time to pay close attention to the kind of seed, rate of seeding and preparation of the seedbed. - - Kentucky or Merion bluegrass and fescue are suitable lawngrasses for most of Illinois.

- - as to seed varieties Butler (University of Illinois) advises that Kentucky bluegrass or Merion bluegrass and red fescue are good perennial grasses for most lawns in the Midwest. For a temporary cover, redtop or ryegrass may be used." - Homewood Flossmoor, Illinois STAR



"It is false economy to sow a cheap mixture; the best are the least expensive in the end. Lawngrasses which qualify for this distinction include Kentucky bluegrass, Merion Kentucky bluegrass and Pennlawn fescue." - Cincinnati, Ohio ENQUIRER

"Common Kentucky bluegrass is the standard lawngrass for most of Kentucky. Good, clean seed of common Kentucky bluegrass usually is the best choice for an average Kentucky lawn, since most of the selected bluegrass varieties on the market are either subject to disease or have not been tried sufficiently in Kentucky to be recommended here." - Earl H. New UK Extension Horticulturist New Castle, Kentucky LOCAL

"Bluegrass is the preferred lawn grass in the Midwest because it develops strong rhizomes. Mixtures of bluegrass varieties, such as Merion, Newport, C-1, Park, Delta, and Kentucky are best, since they offer maximum disease tolerance and vigorous growth. Use bluegrass containing some red fescue in shady areas - -." Brazil, Indiana TIMES

"Grass seed is generally sold in mixtures of selected grass species. These grasses are compatible and augment each other in a lawn. Each grass species has certain growth characteristics; e. g. Kentucky bluegrass grows upright in full sun and red fescue is a low-growing creeping grass that fills in the spaces between the upright bluegrass plants. These two species are often used together to give a compact, complete turf carpet." - Barre, Mass. GAZETTE