BETTER LAWN -- HARVESTS

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AUTUMN PRESS KIT

Several days of sorting and tallying September-October clippings from the Luce Press Clipping Service reveal the following. Clippings are those that happen to be caught by the temporary readers, and do not necessarily represent identical coverage in all parts of the country. These totals reflect material reasonably certain to have been inspired by or picked up from the press kit (often with by-line or direct mention of the Institute).

The "top ten" states in term of appearances, shows New York first, (about 80 clippings), followed by Pennsylvania, Michigan, New Jersey, Ohio, Illinois, Missouri, Indiana, Connecticut, and California. Close behind California came Massachusettes, Wisconsin, Iowa and North Carolina.

In a general way use of Institute materials corresponds to population, except that the material is obviously biased in favor of northern climates where bluegrasses, fine fescues and bentgrasses are most used.

NEW SEAL USERS

Borden Chemical Company, initiating a seed line in 1968, will utilize the Lawn Institute's Seal of Approval on its packaging. Packaging for the firm will be done by Seaboard Seed Company, under direction of Jack Valentine, an Institute member.

PRESS STORIES PREPARED

As mentioned elsewhere a tabloid gardening page is being co-sponsored by the American Seed Trade Association and several of its divisions. At the request of Bruce Price, the Lawn Institute has prepared for issuance through a Washington public relations outlet, 40-50 column inches of text on lawns. Also included were two Institute photographs emphasizing quality lawngrasses and their care.

Titles of the stories furnished include "Bluegrass Aids Beautification", "Fine Fescues for Shade", "Bentgrasses for Moist Lawns", "Fine New Lawngrasses", "Seed Lawns Early", and "Lawnseed Does Not Contain Crabgrass". We can expect considerable newspaper space from this issuance, complementing coverage from the Institute's own press kit.

IN TAIWAN

The office was surprised to have a clipping from the Taipei Taiwan China Post, in which an Earl Aronson AP Newsfeature (two derived from the Institute autumn press kit) appeared. We don't know enough about the climate in this part of the Orient to judge whether "Fine fescues (Chewings, Illahee and Pennlawn) do very well in the shade -- bentgrasses, such as Highland -- in a cool humid area. -- Bluegrasses such as Park -- do not thatch heavily.", as the Aronson article advises. But we do know that in most of the states where this syndicated column is widely used, that the advice is good. We are very grateful to Earl Aronson for again providing such excellent coverage through AP facilities, where this compendium of Institute items has been worth thousands of column inches of exposure.

SEMINAR ON KENTUCKY BLUEGRASS

Dr. Schery was invited to present a seminar to the combined horticultural and agricultural departments at the University of Illinois, December 6. He chose as his topic, "Kentucky Bluegrass, Domesticated". The seminar was illustrated with slides depicting the growing and harvest of Kentucky bluegrass, and four different reprints were distributed to those wishing supplementary literature. ("The Migration of a Plant", "Bluegrass Grassroots Empire", "This Remarkable Kentucky Bluegrass", and "The Many Varieties of Kentucky Bluegrass").

The presentation opened with discussion of the "old-fashioned" Kentucky bluegrass seed industry, as it was a decade ago. Then the industry was traced back historically to colonial times including introduction of bluegrass into the New World, and some speculation about original Old Worlddiploid ancestors. This established the genetic (highly polyploid) basis upon which future varietal selections were to be made, and indicated the tremendous plasticity and diversity so valuable for natural selection that yielded natural Kentucky bluegrass.

How selections have since been uncarthed from this proven gene pool was the final topic of consideration, with techniques for proving out varieties discussed. It was noted that several bluegrass varieties are generally mixed to hedge against epidemics that might affect a single variety, and Dr. Fletcher (Regius Keeper, Royal Botanic Garden), quoted in his statement to the International Horticultural Congress, " - all this mainly because crops are too narrowly spaced genetically to carry adequate resistance; that, lacking the genetic variability of more broadly based crops, and of natural populations, the narrowly based crop is particularly susceptible to pathogen attack."

AGRONOMY MEETINGS

The national agronomy meetings, this year held in Washington, D.C. the week of November 6, are the national meeting grounds for turfgrass research workers, including most Institute advisors. The turfgrass division programs are becoming increasingly sophisticated, in keeping with the burgeoning interest in and importance of turfgrass the modern economy. This year the main thrust of the research reported seemed to center on fertilization, although of course fertilization can only be considered in terms of environment and kind of grass. The program, spread over four days of the conference, cannot be detailed here, but some of the highlights may be of interest to the members.

Virginia researchers questioned the recent tendency to be concerned with "winter kill" of fine turfgrasses, often believed influenced by the type of autumn fertilization. In a report presented by Blaser it was suggested that generous nitrogen is quite appropriate to autumn and winter fertilization, and had little influence on "winter kill" (which usually occurs in spring as the grass is reviving, and may be interconnected with disease or other factors).

Gilbert, of North Carolina, presented evidence that higher potassium levels do make bermudagrass more hardy, although the practical effect of being able to withstand only one or two degrees lower temperature might be questioned. Changes in protein makeup in bermudagrass as it hardens for winter were determined.

Davis, Ohio, confirmed that higher mowing of Kentucky bluegrass or fine fescue helps prevent weed invasion, and that higher levels of fertility preferentially favor the bluegrass over the fescue. It is of some interest that irrigation reduced the fescue and increased the weed content.

Work in Michigan showed marked response of creeping bentgrass to temperature. For one thing, at high temperatures the leaves become much shorter and wider and the plants more erect. Although the total weight was greater, the clippings under this changed morphology were considerably less.

As part of the "potassium symposium", several researchers recommended fertilizer analyses relatively high in potassium, as best representing losses in clippings. Goss, Washington, for example, finds less disease when potassium is adequate.

Studies in Georgia indicated that seedhead formation in bahiagrass can be reduced by heavy seeding, weekly mowing; and a denser, more attractive sod is obtained when adequately fertilized.

Michigan research showed greater rooting capability of Kentucky bluegrass sod when grown on organic rather than mineral soil. In fact, contrary to original expectations, organic bluegrass sod seemed to be superior to mineral sod in most respects.

Roberts, reporting on work done while in Iowa, emphasized that "balance" in fertility is very important. If there is luxury feeding of one nutrient, then there is demand for additional of other nutrient to maintain good appearance.

Ohio researchers investigated the rhizome and tiller development of Kentucky bluegrass. A longer light period increased rhizoming, but tillering was best at medium day length (except Delta, which responded best to a short day length). Higher temperatures generally gave greater length of rhizome. Thus in general longer photoperiods favored rhizoming. Merion tillered more profusely than Windsor, and Windsor produced more rhizomes than Merion.

Wood, of Vermont evaluated bluegrasses and fine fescues for shade tolerance. In growth chamber tests, fine fescues reduced top growth to a greater extent than bluegrass as light quantity was reduced, but the reverse was true of root growth. Under the conditions of the experiment Beltsville 117 was the most shade tolerant of the bluegrasses tested, and Golfrood of the fine fescues. Bentgrasses responded poorly to shade. Youngner, California, compared the response of Merion, Newport and Fylking bluegrasses to different temperature regimens. Fylking gave the greatest density, but Newport improved somewhat at lower temperatures.

Tufcote bermudagrass establishment under different herbicide treatments showed good weed control and excellent establishment with DMPA, only slightly less with DCPA, at Maryland. But difficulties were had with simazine, bensulide and trifluralin. By and large there were no spectacular new developments in the use of herbicides for turfgrass management.

ROADSIDE DEVELOPMENT SHORT COURSE

The 26th Short Course on Roadside Development, sponsored by the Ohio Department of Highways and Ohio State University, was held in Columbus October 2-6. As always, this was a well-planned event, enthusiastically attended by Highway landscape men from 43 states and several foreign countries. You will remember from our last report, that the Institute furnished 6 oz. all-finetextured grass seed packets (Kentucky bluegrass, fine fescue and Highland bentgrass) as give-aways for those making the tour, as well as a supply of reprints for pick up at the meetings and hand-out on the buses.

The Monday sessions were devoted chiefly to registration and exhibits. Thesday morning was devoted to review of roadside rests, and Tuesday afternoon to highway beautification. Wednesday morning dealt more with grass care, featuring experts from Ohio State University discussing roadside maintenance and research concerning roadside plantings. Wednesday afternoon the ecology of roadside planting was covered, with Institute advisor, Eliot Roberts of Florida, discussing tolerance of grasses to salt spread on the roadside.

The overnight tour Thursday-Friday visited northeastern Ohio, with numerous stops for inspection of the roadside and the use of equipment there. One of the luncheons for the tour is co-sponsored by the American Seed Trade Association, at which the Lawn Institute was recognized as being helpful in encouraging the program and through the years contributing much to the Short Course and its tours. All in all this annual program is an inexpensive and excellent way to keep in touch with roadside landscaping interests, and to push for greater use of the fine-textured grasses in roadside seeding.

KANSAS TURFGRASS CONFERENCE

The eighth Central Plains Turfgrass Conference was held at Kansas State University, Manhattan, Kansas, October 19 to October 20, 1967. Dr. Schery represented the Lawn Institute, appearing on the program on three occasions ("The New Cool Season Grass Varieties") "Fescues and Bluegrasses for Athletic Fields", and substituting for Dr. Ferguson on "Irrigated Turft", Others on the program, in addition to the Kansas State staff, included Dr. Couch of Virginia, Dr. Watson of Toro, Mr. Latham of Milorganite, Dr. Miller of Dupont and several members of the association.

Dr. Charles Long of KSU, reporting on herbicide research, noted that siduron (Tupersan) effected 98% control of crabgrass and foxtail. DCPA (Dacthal) and bensulide (Betasan) were almost equally as good. Other pre-emergent crabgrass preventers were only about 85% or less effective this year. Long noted that spurge is also controlled by Tupersan and Dacthal. None of the chemicals were phytotoxic on grasses, including buffalograss. Bioasay for cumulative phyotoxicity over a period of five years, at soil depths of 6, 12 and 18 inches is being made. The indicator plant is Kanobaoats. Indications are that DCPA and other cratgrass preventers do not catch dandelion germination, and that their effectiveness declines in about 40 days. Other research reported involved continuation of projects previously underway. Dr. Keen continues to examine putting green mixtures, in which he advocates mostly sand with a little peat and no soil.

Past studies of cool-season grasses showed excellent success with all varieties of Kentucky bluegrass and fine fescue, when these were maintained according to their needs, (low fertilization and high mowing). It is planned, starting next year, to find out which are the "sissies", by mowing at one inch and supplying 3-5 lbs nitrogen/M.

Dr. Schery extolled the fine performance of most bluegrass, fine fescue and bentgrass varieties for the climate from northeastern Kansas northward and eastward. Ratings of different varieties from eastern states were tallied, indicating that now one, now another proved most useful, depending upon the management conditions and the requirements desired.

Dr. Couch spoke about his nutrient culture work in Virginia, relating fortility and moisture to disease. Except to say that calcium generally helped to control disease, results were so varied that no general conclusions could be drawn from them. Couch believes that it is best to control disease with a fungicide, and fertilize the grass for its best growth, rather worry about disease incidence.

Other talks review mowing, winterizing turf, diagnosing turf troubles, the use of fungicides, appropriate trees and for the area and various aspects of labor and mechanization in the maintenance of turf.

ASTA LAWN DIVISION

As in the past, the American Trade Association, Turfgrass Division meetings were held in conjunction with the Atlantic Seedmen in New York City, November 9 and 10. Dr. Schery was able to attend the ASTA sessions after termination of the agronomy meetings in Washington, D.C. the same week.

Institute members Arnie Bonnickson and Arden Jacklin played important parts in the ASTA meetings, chaired by Stephen Hart, also a member. Mr. Bonnickson has been, and continues as, "new variety committee" chairman. He is charged with collecting information, on the origin, release and propietary rights of new varieties. In his committee report he referred to these bluegrasses, among other new selections; Nugget from the University of Alaska, not yet released; Belturf, a USDA development, not yet released; Anheuser, now released, Purdue. Among the fine fescues Arctared, from the University of Alaska, under test; and Golfrood, out of Holland, now released, were especially pointed out. Perennial ryegrasses received no little attention with special mention being made of NK-100, Pelo, Norlea and the newly released Manhattan (by Rutgers). A resolution was passed for requesting the ICIA to devote early attention towards a system of certification for bluegrass varieties.'. Mr. Jacklin is chairman of the planning committee, important in organizing the Association activities. The division, after considerable discussion and mixed feelings, voted a \$600 contribution towards preparation of the tabloid issued jointly with the gardening and nursery groups, as was done last year (members will recall that the Institute furnished the text on lawns). It is hoped that again this year the Institute can be useful in supplying text and illustrations.

Geoffrey Cormish, golf course architect from Massachusetts, provided a very informative presentation as the chief speaker. He mentioned some of the special needs of the golf course, and the special demands on turfgrass varieties. We were pleased that Mr. Cornish thought well enough of the Institute position on such matters as fairway seeding mixtures, that he referred to the Institute several times during his presentation. Golf course creation and maintenance is certainly becoming a highly specialized as well as burgeoning field.

The chief importance of this ASTA divisional meeting is the consolidation of opinion among major eastern packagers. Gradually the suggestions advanced become accepted practice and in some cases law. The trend currently seems to be to buck greater government regulation of the industry, to develop mechanisms for authenticating new varieties (bluegrass especially), and to gain admittance of the perennial ryegrasses into the fine-texture grass category. Fuller discussion of happenings can be found in the trade press such as Seed World.

FINE FESCUES STUDIED

Nittler and Kenny, New York, report on "Response of Seedlings of <u>Festuca rubra</u> Varieties to Environmental Conditions", in the September-October Grop Science. An effort is made to distinguish varieties by seedling characheristics, such as in a study previously done with bluegrass. Results are fairly inconclusive, but it is noted that cool weather causes fine fescue to assume a decumbent growth pattern.

KENTUCKY BLUEGRASS MOWINGS

Dr. E. E. Deal, Maryland, reported to the Land Use and Management Division of the agronomy meeting, on recommended mowing heights for Kentucky bluegrass. Higher mowings greatly increased roots, rhizomes and vigor compared to low mowing, and reduced incidence of weeds. Deal concludes, "Kentucky bluegrass turf in the middle Atlantic region should be mowed 2 to $2\frac{1}{2}$ inches or it will not produce enough top growth, roots and rhizomes to sustain quality turf for extended periods of time."

BENTGRASS ROOT GROWTH

Virginia researchers report in the November-December Agronomy Journal on "Effect of Nitrogen on Winter Root Growth of Bentgrass." Under putting green conditions nitrogen supplied within the period of October-February stimulated winter root growth, but if no nitrogen was applied, or it was supplied on a monthly basis, root growth was retarded. In effect either too much or too little nitrogen inhibited root growth in Penncross bentgrass.

FINE FESCUE ITEM

The December 8 Seed World carried the by-line item from the autumn press kit, "Red Fescue True Blue". "Red or fine fescue may be better known by its varieties, among which are Chewings, Illahee and Pennlawn, all much used in top lawnseed mixtures."

FOLLOW-UP PUBLICITY

One advantage of appearing on turfgrass conference programs is the followup publicity often accorded speakers. Frank Good, Garden Editor for the Wichita Eagle, heard Dr. Schery's presentation at the Kansas turfgrass conference, and had a story in the October 20 Wichita Eagle headlined "Expert Sees No Hope for Miracle Grass". Mr. Good went on to mention the Lawn Institute, stating that there was no one variety suitable to all climates, soil, conditions of maintenance and preference. The more a variety is refined for a specific purpose, the narrower becomes the environment in which it is especially useful.

Mr. Good writes: "Among present bluegrass strains available, is there a 'best' variety for the home lawn? 'No', said Dr. Schery. 'You should hedge your bet by combining three or four varieties recommended for the area'."

BURNING FAVORS GRASS

Missouri researchers investigating tall grass prarie found it fairly efficient as a whole compared to terrestrial vegetation in general. Average energy trapped was 1.21% of sunlight, about 50% accumulated in the roots. Prairie that was burned more than doubled its energy production following the burning. This reflects considerably stepped up biological activity, possibly profiting from fertility residues left from the burned vegetation. However, the long term effects of sustained burning have not been investigated, and it is reasonable to suppose the stimulative effect would not hold when burning is repeatedly practiced. The research was reported in the summer 1967 issue of Ecology.

SEED EXTRACTS STIMULATE-RETARD GERMINATION

Michigan research reported in the summer issue of Ecology, indicated that water extracts of a number of plants influenced seed germination (in this case Jack pine was the test seed). Canadian dogwood was especially active, while red pine and bracken fern also stimulated germination. Inhibiting germination were a dwarf plum, wintergreen and a goldenrod.

IN GOLF PUBLICATION

"Select Seed Wisely", by-line story furnished by the Institute appeared in the November-December 1967 issue of "The Golf Superintendent". Furnishing sound information on quality seed to so influential a group as golf course caretakers should have ramifying influence. Although the editors goofed in captions with the illustrations on the second page, these were corrected before reprinting so that the story should make an excellent inclusion for future press kits, as a handout at appearances, and as an envelope stuffer.

The story opens with the statement, "Never has there been finer lawn seed in wider choice, than is available today." The development of the modern industry is traced, including the newer labeling that calls for the finetextured and coarse-kind categorizations. Standards which enable a purchaser to judge quality are reviewed, and the readily available varieties of Kentucky bluegrass, fine fescue and bentgrass are listed and briefly described. It is pointed out that "most weeds come from residual seed in the soil, and are not carried in lawn seed." The reader is advised, "It's false economy seek 'bargain' for turf having the quality demands of green and fairway."

IN TURF BULLETIN

The Institute story "Lawns Fight Pollution", appeared in the fall 1967 issue of the Massachusettes Turf and Lawn Grass Council, Turf Bulletin. The story begins, "Humble bluegrass, fescue and bent lawns, so taken-for-granted, do more than beautify America. --" The item mentioned grass activity in purifying the atmosphere and utilizing carbon dioxide that otherwise might cause a "greenhouse effect" that might eventually change climates.

IN SEED TRADE NEWS

The October 11 issue of Seed Trade News carried the Institute story, "Lawns Thrive in Autumn". The story mentions, "Your favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass make efficient use of warm days with crisp nights. Crabgrass and other hot-weather weeds are frustrated by the changing seasons, will give a new seeding little trouble in the months ahead."

REPRINTS SPREAD THE WORD

While Dr. Schery was absent on a speaking engagement in mid-November, Mrs. Wolfe compiled a list of requests for reprints during the several days she tended the office. About a dozen sets of reprints were mailed out, beside those distributed by Dr. Schery during his personal appearances. The diversity of recipients indicates how wide is the interest in simply expressed lawn information. Sets were to a horticultural agent, a garden editor, several lawn product specialists and firms engaged in lawn products merchandizing, potential new members, and even a roadside planting specialist in New Zealand. With several of the lawn product firms distributing reprints numbering in the hundreds, secondary distribution of lawn stories can be most helpful.

IN PRAISE OF BLUEGRASS

Dr. William Daniel talking to the Kansas Turfgrass Conference, had this to say about bluegrass fairways (after noting some of the weaknesses of Bermuda, Zoysia, etc.); "Bluegrasses or a blend of cool-season grasses may be the answer. This can be cut at desired height for your area, ---"

BLUEGRASS AND BERMUDA

McKell and Youngner (Institute advisor), California, reported upon the "Carbohydrate Reserves of a Warm Season and a Cold Season Perennial Grass in Relation to Temperature Regimes", at the agronomy meetings. Contrary to the general assumption, Kentucky bluegrass and bermudagrass behaved alike in producing soluble or starch carbohydrates. In both cases carbohydrate accumulated under cooler temperatures.

INSECTICIDE DEGRADATION

Wisconsin researchers report in the winter Agronomy Journal that diazinon, a frequently used insecticide of lawns, degrades at the rate of from 6 to 11% per day on several soils tested. Rate of degradation related to the organic content and the pH.

NEBRASKA PRESENTATION

A resume of a presentation for the Sixth Annual Nebraska Turfgrass Conference to be held in January, was asked of Dr. Schery for pre-printing in a conference "Proceedings". The subject assigned is "Home Lawns". Dr. Schery points out the trend towards greater demands of lawns, including fine textured species (for which the workhorses are Kentucky bluegrass, Oregon fine fescue and bentgrasses such as Highland). But even the most highly recommended variety is no guarantee of lawn success, unless it is properly managed. Schery discusses the fundamental practices that help assure success with these proven lawn species.

HERBICIDE SENSITIVITY

Louisiana researchers, reporting in the October 6 Science, show that cotton seedlings are more sensitive to 3 out of 4 herbicides about daybreak than they are later in the day. Apparently accummulation (or exhaustion) of food reserves in the presence (or absence) or light had an influence. Does this suggest that lawn herbicides would be more effective applied in the morning than the evening?

ROOTING INHIBITED

A study in Virginia, by S. W. Bingham, "Influence of Herbicides on Root Development of Bermudagrass", indicates that almost all crabgrass preventives restrict the rooting of bermudagrass from the stolon nodes when in contact with chemicals such as DCPA. The study was reported in the October 1967 issue of Weeds.

MICHIGAN PRESENTATION

On November 16 Dr. Schery had opportunity to speak at the charter meeting of a landscape contractor group held in Grand Rapids, Michigan. Borden Chemical Company underwrote the travel so that there was no cost to the Institute. An attestation to the enthusiasm of the group can be judged in that only a single member of the association was absent from the meeting.

Four different Institute reprints were distributed, and slides shown. Dr. Schery stressed the importance of selecting fine-textured grasses, as the best basis for attractive appearance and efficient maintenance. For the top bluegrasses, fine fescues and Highland bentgrass there are excellent lawn products applied with minimum labor, developed with these species in mind. Thus somewhat higher initial cost in using quality products actually becomes a long term saving for the landscape contractor, as well as a satisfaction for the client which should enhance the contractor's reputation and profits.

MORE ON UREAFORM

Wisconsin researchers, reporting in the November Crops and Soils, indicate advantages from urea-formaldehyde slow release fertilizer applied to bluegrass, but typical inefficiency. They suggest that up to 50 per cent of the fertilizer might be ureaform, in order to drag out response from a single application, to bluegrass harvested for hay. Any greater amount than this reduces growth and yield too much. Ammonium nitrate was 50% recovered in the grass but ureaform only 17%. The researchers conclude that ureaform is likely to be limited "mostly to lawns --- where cost is not a major factor".

LAWNGRASS MAP PLANNED

During the year several good maps have appeared in Institute articles, indicating the appropriate climatic zones for quality turfgrasses. Notable was the one in Fertilizer Solutions magazine (except that the shading was not correct in the eastern zone), and in color with the article in Better Turf and Garden.

A new map and itemization of the turfgrasses is planned for a late winter or early spring issue of "Better Crops", as an updating of that done for the magazine some years ago and appearing in the "You Can Grow a Good Lawn" handbook. This map has been widely reproduced. Santford Martin, Editor American Potash Institute, would like to tie in lawn quality through proper fertilization as well as choice of grass, something that should work out nicely in the story planned.

METHANE ARSONATES

A research report appears in the October issue of Weeds (volume 15, no. 4) by Auburn University researchers on arsonate persistence. Not much has been published on arsonate persistence and dissipation in the soil although DSMA is the most used chemical for post-emergence control of crabgrass in lawns, and for quick vegetational knockdown. It is known that arsonates are quickly inactivated in the soil, and not a hazard to new seeding. This study pinpoints what soil fractions most strongly absorb DSMA, the degree of leaching that can be expected, and the relationship of the persisting arsonate to the organic fraction of the soil and its oxidation. Results vary considerably with the kind of soil. The study was conducted with radioactively tagged material.

TURFGRASS MINERALS

Current thinking about relatively high levels of potassium in turfgrass is confirmed by a study of Drs. Butler and Hodges at the University of Illinois, reported in HortScience (summer issue). Familiar lawn grasses were analyzed for N, P, K, Ca, Mg, Si, Fe, Mn, Zn, Cu, B, Mo, Na and Al content in the foliage. Kentucky bluegrass ran nearly three times as much N as K, twenty times as much N as P. On the other hand with Highland bentgrass the K was nearly as abundant as the N, and the P half again more than with Kentucky bluegrass. Fine fescue was somewhat intermediate. Although nutrient content of such grasses will vary with treatment and time of year, it is good to have on record such an analysis as this. The data suggests that modern turfgrass fertilizers are being designed to fit removal of nutrients by the grass.

EFFECT OF SAW-DUST ON TURFGRASS GERMINATION

A study on this subject was conducted by Massachusettes researcher, and reported in the Massachusettes Turf and Lawn Grass Council Bulletin. Fresh ash and red oak saw dust seem to have toxic effect on most lawn species, but Merion bluegrass seems more susceptible than Pennlawn fine fescue and Highland bentgrass. Toxicity was noted only in fresh sawdust, and that which has been weathered several months proved a satisfactory medium for germinating seed.

NEBRASKA CONFERENCE

The Lawn Institute, through appearance by Dr. Schery, has been invited to participate in the sixth annual Nebraska turfgrass conference, at the University of Nebraska, Lincoln, January 10-12. Dr. Schery will speak on "Home Lawns".

PHOSPHORUS INFLUENCE

Fertility studies at South Dakota State University, reported in the December Crops and Soils, indicate phosphorus to be instrumental in encouraging the tillering of corn. If the same is true with turfgrasses where tillering is so important for a carpet-like density, the study provides good argument for continuing with liberal supplies of phosphorus in turfgrass fertilizer formulations.

ALL-AMERICAN LAWNS

The Institute story under this title appeared in the October 27 issue of Seed World. Members may recall that the story refers to the American habit of maintaining front yards, in contrast to houses fronting up on the street characteristic of many European countries. The story ends "proven lawngrasses, such as the Kentucky bluegrasses and fine fescues in combination, or Highland bentgrass where low mowing is preferred, get along without a great deal of falderal. And there are plenty of convenience products to meet essential needs. --"

CONTINUING PUBLICITY

It seems surely that "Early Spring Care for Lawns Pays Off", in the February issue of Home and Garden Supply Merchandiser, is derived from a past Lawn Institute press kit kept on file. That is one reason why the kits are issued in file-folder form. The story refers to 75% Kentucky bluegrass and 25% fine fescue as a good seeding mixture, with essentially the reverse percentages for shade.

HELP FROM SEED WORLD

We are grateful to note use of Institute story, "Chemical Lawn Edging" in an issue of Seed World earlier in this year. Seed World has been most helpful in adopting Institute releases.

WARMTH INCREASES EFFECTIVENESS

A story in "Farm Research", Geneva, New York Experimental Station, points out that insecticidal treatment for the European chafer, a serious lawn pest in New York, is far more effective in warm weather (soil temperature around 70° F) than at other times of year. The European chafer has a life cycle much like that of lawn grubs.

INSTITUTE STORY USED

October 13 Seed World used an Institute story as its "Bulletin Board Suggestion" This had to do with thatch. The story opens, "Because the favorite lawn grasses - Kentucky bluegrasses, fine fescues and erect bentgrasses such as Highland - are especially strong as winter cools and days shorten in autumn, this is a good time to remove accumulated thatch from your lawn." It winds up, "But if thatch is removed when the grass is not actively growing, weeds have a greater chance of getting started. One good reason for bolstering the lawns with fresh seed is that good grass is then available to contest the weeds."

NITROGEN AND HEAT DETRIMENTAL

Schmidt and Blaser, Virginia, reporting in Crop Science, detail conclusions advanced at the agronomy meetings, that bentgrass is weakened by carbohydrate reserve exhaustion at higher temperatures, especially when stimulated by nitrogen. Stimulation in cooler times of the year creates a favorable balance of food reserves because photosynthesis outperforms growth (use), as has been documented for forage grasses.

RESIDUE TOXICITY

In managing lawns there often seems to be a favorable growth response from removal of thatch, and sometimes better "take" of a new seeding on bare mineral soil rather than scarified old turf perhaps chemically killed. Moreover, there have been a number of reports of toxic residues from ryegrass foliage inhibiting new seedings.

While turfgrass studies have not been conclusive, evidence mounts of this same phenomenon with agricultural crops. Nebraska and Colorado research reported in the March-April issue of the Agronomy Journal (Presence and Persistence of Phytotoxic Substances in Wheat, Oats, Corn and Sorghum Residues) showed that there were water-soluble materials in the residues from these crops that were toxic to growth of wheat seedlings. Greater toxicity was with wheat, followed by oats, corn and sorghum. Of course weathered residues lost the toxicity, although this took up to 28 weeks with corn and sorghum. The degree of toxicity differed with variety.

USDA TURFGRASS RESEARCH

Investigations being undertaken on turfgrass by the USDA at Beltsville were reviewed in a previous issue of Harvest, following the August 3 field day. A tour from the Agronomy Meetings in mid-October inspected these same plantings. There are relatively few new observations or conclusions.

The search continues for a bermudagrass that is quite winter hardy and wearresistant. Tufcote is pretty good, but some code selections not yet released seem even better.

Bluegrasses and fine fescues looked excellent at time of visit, with rather little difference between varieties. In some areas striped smut is attacking Merion, making it look poorish. None of the fungicides so far tested has proved useful in controlling striped smut.

None of the treatments designed to restrain thatch formation has been particularly successful. Even mechanical removal is effective only for a limited time.

K547 Kentucky bluegrass has now been released as Pennstar; both it and Beltsville 117 are extolled as valuable new additions to the bluegrass coterie.

Respecting the pre-emergence crabgrass trials on bentgrass, Juska reports that calcium arsenate proved the best control for Poa annua. DCPA (Dacthal) injured bentgrass a little, (and prevented runners from rooting well), but had no carry-over in the soil.

BLUEGRASS REPORT

Goss and Law, Washington report in the November-December Agronomy Journal on "Performance of Bluegrass Varieties at Two Cutting Heights and Two Nitrogen Levels". The gist of the research is that there is greater root production under high cut rather than low, and under low nitrogen fertility than high. More leafage, of course, was produced under high nitrogen. Low-growing varieties had a lower shoot-to-root ratio than did Delta and even Park, but it was higher under high nitrogen than under low. The authors believe that a shootto-root ratio of about 7 is nearly ideal, which was achieved by Park bluegrass under low nitrogen fertilization, and by several of the low-growing varieties if cut high (even though well fertilized).

ILLINOIS TURFGRASS CONFERENCE

On December 7-8, the 8th Illinois Turfgrass Conference was held at the University of Illinois, attended by Dr. Schery as a speaker. The Lawn Institute presentation is reviewed separately.

Over 200 were in attendance, including a fair number of sod growers. The program opened with a symposium on turfgrass diseases, by Illinois staff members. Other staff members later reviewed stripe smut, weed control and creeping bentgrasses. Dr. Schery spoke on "Possibilities for Minimum Maintenance", and Dr. Robert Newman of the University of Wisconsin on "Weed Control in Sod Fields". All of the speakers joined for a question-and-answer session to terminate the first day's program.

Papers presented the second day were concerned with insects and insecticides, small nursery operations, budgeting fairway watering, irrigation practices, and additional considerations concerning disease control. Resumes of all in the Proceedings, attractively issued to all attendees by Dr. Butler.

According to the Illinois people there is still no good control for stripe smut, short of some disease resistance according to varieties. High levels of maintenance are conducive to smutting. Research definitely shows attack of the disease to be not only through the coleopteile, but through various buds and growing tips of the grass. This makes it doubly difficult to localize control, since infection can occur at any growing point from spores that are in the soil. The disease is thus not a seedling problem, but a general one which would require systemic treatment.

Bensulide is recommended as about the safest pre-emergent to be used with bentgrass, partially successful in control of Poa annua. There was nothing strikingly new recommended, among weed controls, with combinations of dicamba and 2,4-D (as a spray) generally the most effective in the field tests. Ranking first in prevention of broad-leaf weeds was ½ lb. of dicamba with 1 lb. of amine 2,4-D/A. Dacthal, Betasan and Treflan had the best record among crabgrass pre-emergent herbicides, with Tupersan not far behind. Calcium arsenate was not too effective. The need for preventing planting of "weeds" (as crop in lawn seed) was stressed.

Dr. Butler discussed Penncross and Seaside bents along with a half dozen vegetative selections for the planting of golf greens. Dr. Newman spoke about the sod industry in Wisconsin. He indicated that weeds are an increasing problem, and more difficult to control because of the expense rather than lack of means. Most sod production is on muck soil, which contains little crabgrass but considerable quackgrass. He suggests spot treatment with amitrol, or a two year fallow accompanied by treatment with simazine or atrazine. If the grass is autumn-planted, weather helps in weed control. Also, there should be greater attention to clearing grass and weed growth from border areas, including drainage canals. Dr. Newman referred to Institute publications on quality seed.

Sod webworms were said not to have been much of a problem in Illinois this year. The University conducted tests on insecticide phytotoxicity, and has some evidence that residues can be harmful to grass. Direct chemical burn of foliage does not seem to be a problem, however, when used as recommended. Most products give effective control of sod webworms; carbaryl, diazinon and trichlorfon are suggested.

The presentations on nursery planning, and cost of golf course fairway watering seem of limited general interest to members. Automatic systems for an average course now cost in excess of \$100,000. and cost of the water itself may exceed \$10,000 annually. Over-seeding should probably be budgeted as an annual cost, since, with watering, fairways tend to turn to Poa annua and need constant bolstering. Weed control, fertilization, and other costs increase, too, when irrigation is brought in. In a supplementary paper, Illinois staff members related watering practices to the kind of soil.

Healy and Britton report that an aminoacid (glutamine) was invarably found in the guttation fluid of annual bluegrass and creeping bentgrass receiving nitrogen fertilization. This can be influential in contributing to the severity of disease outbreaks. <u>Curvularia</u> and <u>Fusarium</u> are more pathogenic on annual bluegrass, while <u>Helminthosporium</u> is on creeping bentgrass.

ABOUT FINE FESCUE SOD

There has been a lot of publicity about bluegrass sod, so it is good to note excellent publicity about fine fescue in the Detroit Michigan News, a paper of one of the leading sod producing states and sod-using cities. The News extols and illustrates fine fescue sod as though this were something brand new: " -- it's now possible to buy Pennlawn fescue sod. This creeping red fescue is ideal for shady spots -- the new sod takes minimum maintenance --Pennlawn fescue (which also grows well in the sun) is resistant to powdery mildew. -- Pennlawn is the newest and most recommended creeping red fescue in the area -- the fescues are cool weather grasses just as the bluegrasses and thus look their best in spring and fall -- another advantage is that the fescues -- require less mowing -- mowing only once every two weeks is all that's called for --" It appears as though fine fescues are beginning to be merchandized by the sod industry.

SELF INCOMPATIBILITY IN BERMUDAGRASS

Burton and Hart, reporting in September-October Crop Science, discuss several strains of self-incompatible bermudagrass which if planted in alternate rows should yield F-l hybrid seed. It is questionable, however, whether seed yield would be sufficient to be competitive with other land uses in the Arizona bermuda seed growing area.

FESCUES IN SEED WORLD

The November 24 issue of Seed World carried the Institute story, "Fine Fescue as Roadside Grass" as its Bulletin Board Suggestion for the issue. The story inquires, for the roadside, "Why not Fine or Red Fescue, in varieties such as Creeping Red, Chewings, Illahee and Pennlawn?" The qualifications of the fine fescues are then enumerated.

MARYLAND RESEARCH

The tour group from the Agronomy Meetings had opportunity to visit and review turfgrass research projects at the University of Maryland, The grounds are only a few miles from those of the USDA at Beltsville.

Both cool-season and warm-season species are grown, at moderate maintenance. Tufcote bermudagrass is tested for fertilizer response, and as the base into which overseeding with cool-season grasses is tried. Most of the winter-seedings looked at least fair in mid-October. It was said that ryegrass gives a poor transition in spring, however, - the same as is reported for California. Highland bentgrass looked rather good, somewhat surprising this far North in view of its lateness in Florida. In addition to ryegrass and Highland, fine fescues, tall fescue, Kentucky bluegrass and Poa trivalis are being experimented with.

Management of ten different bentgrass varieties is being studied. Also management of tall fescue for athletic fields. Kentucky bluegrass fine fescue combinations are being tested, under different regimens of fertilization, mowings, and other management factors. Most striking at time of visit was the much greater weed control under high mowing.

Mixtures of 80% bluegrass and 20% fine fescue, for sod, are being tried. Relatively low seeding rates and fertility are reported to provide the "toughest" sod, but high rates give earlier density and better color.

Ryegrasses have generally been disappointing, deteriorating in time and mowing poorly. There has been some difficulty in the spreading of both Zoysia and bermuda when weed preventives are used along with sprigs, especially with simazine (and to some extent Betasan on bermuda). In fact Zytron is the only pre-emergence herbicide considered completely satisfactory. In crabgrass control there was some thinning of fine fescue in young turf by Zytron, Dacthal and Azak. During the summer there was considerable damage to all grasses from billbugs, sod webworms and cutworms.

MALATHION INACTIVATED RAPIDLY

Research by Konrad and co-workers at the University of Wisconsin, indicates that degradation of malathion, a commonly used lawn and garden insecticide, is very rapid. As much as 99% was changed within 24 hours in the tests.

HIGHLAND SEED SENT

Through the courtesy of the Highland Bentgrass Commission several known sources of bentgrass were received at the Institute of which portions were forwarded to Dr. John Madison, University of California, Davis, for his comparison studies in trying to distinguish between bentgrasses.

WINTERSEED SENT

Institute activities in previous years has stimulated interest in winter-seeding southern turfs with fine-textured grasses. There is not a great deal more to be gained from extensive efforts, but it is hoped to keep up research interests in the more promising market areas such as Florida. Accordingly this year a gift of trial seed was sent to Dr. Burt, Fort Lauderdale, Florida, for inclusion in his testing. Three varieties of bluegrass, fine fescue and Highland bentgrass were furnished. Some years ago appreciable quantities of seed were furnished to Dr. Horn, at the Gainesville campus of the University of Florida, some of which were not planted until last winter. Additionally, Dr. Horn secured privately a number of Kentucky bluegrass varieties in order to compare whether there were varietal differences of advantage to winter-seeding. One would presume that differences are not great, but it is interesting that at least four Kentucky bluegrasses rated ahead of <u>Poa trivalis</u> (Arista, N 4-154, Prato and Park).

ILLINOIS PRESENTATION

Dr. Schery, on behalf of the Lawn Institute, covered minimum maintenance turf as his assigned topic at the 8th Turfgrass Conference of the University of Illinois December 7-8. The event is sponsored by the College of Agriculture and the Illinois Turfgrass Foundation. An epitomization of the talk appears in the Conference Proceedings.

Dr. Schery emphasized that minimum maintenance does not mean neglect, but rather common sense management. The intensity of effort would be different on a golf course, for example, than a roadside. It was pointed out that the best long term economies are not from using little product or inexpensive seed, but rather wise selection of such proven varieties as Kentucky bluegrass, fine fescue and bentgrass as fit the particular circumstances. Dr. Schery mentioned mowing, fertilization, and weed control as three keys to minimum maintenance, and related these to the different grasses and their varieties.

Quality grasses and blends were discussed, a series of slides depicted the species, and production scenes in Oregon and the Mid-West were included. Reprints handed out included "Gobs of Good Grass" and "Lest Hunger Haunt Your Lawn". The latter, members may recall, has as its final half of the story an itemization of Kentucky bluegrass, fine fescue and bentgrass varieties, with brief discussions of each.

WEEDS, TREES AND TURF

The by-line Institute story entitled "Weed Turf with Fertilizer" appeared in the November issue of Weeds, Trees and Turf. The story opens, "Everyone wants a lawn of fine-textured grasses such as Kentucky bluegrass, fine fescues or bentgrass. There is no better way to achieve success than to sow quality seed of fine textured species --" Results at the Lawn Institute are cited, showing that where bluegrass turf was heavily fertilized, the percentage of grass increased remarkably at the expense of weeds. A photograph showed the test area.

FLORATURF RELEASE PLANNED

The bermudagrass variety under observation in Florida for a number of years under the designation No-Mow, (accession FB-137) is planned for release this coming spring under the name of Floraturf, according to the Florida turf authorities.

"SHADE GRASSES" APPEARS

The November issue of The Bull Sheet (the official bulletin of Midwest Association of Golf Course Superintendents) carried the Lawn Institute story on "Shade Grasses".

The story opens with a paragraph stating, "For the Northern half of the country lawngrass blends that are shade tolerant almost always depend upon fine fescues (Festuca rubra). Bluegrasses and bentgrasses stand moderate shade, especially if compensated by high mowing and frequent enough feeding and watering to accommodate both grass and trees. --- Really, one doesn't need a university test to realize how well fine fescues are adapted to dry shade: just walk around the block and note what is growing under trees. Mowed tall, fine fescues persist well. --- At the Lawn Institute, Chewings, Illahee and Rainier have all performed about equally as well as has Pennlawn."

The story finishes with a listing and thumbnail aketch of fine fescues currently on the market.

GRASSES MENTIONED

The advantage of commercial help "in spreading the word" is evident in the story that appeared in the September 27 Seed Trade News, called to our attention by Griswold Seed Company. This was placed by Borden Chemical Company, one of the Institute's sponsors, and reported upon findings on the Institute grounds. The Lawn Institute is mentioned, and additionally such quotes from Dr. Schery as "We especially recommend autumn fertilization for bluegrass fine fescue lawns, and find high-phosphate analyses excellent for new seed beds, too."

MORE AIRPORT CINEMA

The 8th free movie lounge sponsored by Modern was recently opened at the Detroit airport. Harvests has commented from time to time on this burgeoning trend where sponsored films are shown waiting passengers (Unusually influential and affluent). We wish that the Institute had the income to sponsor a revised issue of "Bluegrass Beauty"!

INSTITUTE PHOTO RELEASES

The Institute has furnished several of its photographs to the Industrial Arts Cirriculum Project, of the Ohio State University. This project, funded by the U.S. Office of Education is developing a National School Curriculum that will result in a series of textbooks, workbooks and laboratory manuals or teachers' guides. The photos will be used in these projects, giving credit to source.

DEPARTMENT OF COMMERCE REQUEST

The Business and Defense Service Administration of the U.S. Department of Commerce has requested of the Institute a list of its membership, to be held in confidence. This is to facilitate routing of requests that involve specific companies.

STORIES ON "SEEDED FAIRWAYS" AND "BLUEGRASS"

Appearing in the Bulletin of the Midwest Association of Golf Course Superintendents (the "Bull Sheet"), volume 20, October 1967, were the two Lawn Institute stories respectively headlined "Seeded Fairways" and "Bluegrass". Both carried Institute by-line.

In the former the chief bentgrass varieties available as seed were listed, with brief descriptions. Highland was characterized as " -- the famed workhorse bentgrass from a restricted seasonally-drier area in Oregon, dark bluish-green, economical, readily available." In the text, bentgrass was suggested for modern fairway use as well as Penneross for golf greens. "-lower maintenance is needed for fairway, - - the grass stands close mowing, is not so aggressive (thatch-building) as are the creeping bentgrasses; it is economical and always in good supply. The answer for many golf courses seems to be a colonial bentgrass of which the Highland variety is the most used. -- For irrigated fairways that have turned largely to Poa annua, Highland bentgrass can be seeded as 'insurance' -- even on Kentucky bluegrass - fine fescue turfs mowed close to accommodate tournament demands, bolstering with Highland seems to make sense, for providing 'body' preferable to that from weeds -- "

"Where the fairway is renovated or newly planted consider a mixture of colonial bentgrass with a small percentage of Kentucky bluegrass and fine fescue. --Fine fescue sprouts quickly, yet, unlike aggressive nursegrass, it is acceptable in turf. Bluegrass is a little slower than fine fescue, but should be included too; it often persists even under short mowing -- At the Lawn Institute we have had excellent results from seeding a combination of these grasses, mowed and managed for the bentgrass".

The story on bluegrass was adapted from the press kit, and considered the tremendous rhizoming potentiality of bluegrass as reported by Canadian Researchers. The story concludes, "as a result of rhizoming a beautiful sod can eventuate from even late seeding. -- Park Kentucky bluegrass sprouts very quickly while slower Merion spreads prolifically."

ITEMS FOR PARKER SWEEPER

Parker Sweeper, Springfield, Ohio manufacturer of lawn sweepers, de-thatchers and spreaders, has cooperated generously with the Institute through the years. In addition to furnishing equipment for use on the Institute trial grounds, Mr. Parker has utilized Institute materials from time to time, and distributed nationally a leaflet about thatch that also stressed the advantages of quality lawnseed.

In early October Dr. Schery prepared a fresh set of items for Parker, which are expected to be similarly used in the promotional program. They deal chiefly with thatch removal, but the subject offers ample opportunity to stress fine-textured grasses and to name some of them individually. Thus in "Revitalizing Bluegrass Lawns", the story opens - "Over most of the nation, Kentucky bluegrass is the favorite and most used lawngrass. It is commonly blended with Oregon fine fescues --" Later a few of the premium bluegrass varieties (which tend to thatch under intensive management) are mentioned by name. Finally, mention is made of the use of the Thatch-O-Matic on bentgrass, viz. "Set shallow, they are useful for thinning bentgrass favorites such as Highland --". Another of the stories deals with removal of tall fescue from fine-textured lawns, viz. "Many bluegrass lawns are infested with clumps of tall fescue (the coarse cousin of the elegant fine fescues from Oregon which you know in varieties such as Chewings, Illahee, Highlight, Pennlawn, Rainier, etc.). -handsome Kentucky bluegrasses such as Merion, Fylking, Park and so on are an entirely different 'breed of cat' than the rough tall fescues."

One of the items concludes, "Bolster seed distributed after the sweeping up of loosened thatch should be of high quality, - fine-textured (labeling today categorizes lawngrasses as 'fine-textured' or 'coarse kinds') --". Another place, " -- and most trailing grasses thatch more than do Kentucky bluegrasses, Oregon fine fescues and colonial bentgrasses such as Highland."

SOME HELPFUL MENTIONS

In sorting the autumn press clippings, it was not always possible to distinguish clearly whether ideas voiced are original or adopted from the press kit. Typical of the mentions are these:

From the Ft. Wayne Indiana News Sentinel, "Red and Chewings fescue and rough bluegrass (which is really a fine-textured grass similar in appearance to Kentucky bluegrass) are often mixed with Kentucky bluegrass for planting in shady areas".

The Columbus, Ohio Dispatch headlines "Bluegrass Sources Important". The story states, " -- if you plant Kentucky bluegrass -- the source of the seed may have a large part determining its success. -- common Kentucky is a natural blend of many strains, --- 'common' imported from European countries is not an acceptable lawngrass because it contains weed seed and is highly susceptible to leaf spot."

In Atlanta, Georgia, Charles Hudson, writing for the Journal, continues to mention winter seeding with fine-textured grasses; " -- but plan to get your lawn seeded to grass seed mixtures, as quickly as possible - fescues, blue-grass and ryegrass --".

In Harrodeburg, Kentucky, The Herald understandably plugs for bluegrass: "Kentucky bluegrass is the best bluegrass." But it adds " -- creeping red fescues often added for shady and dry locations, -- avoid ryegrass. Ryegrass competes too much with other grasses, thus causing -- failure". Kenblue, naturally, is mentioned.

Out in Kansas, the Johnson County Herald, published in Shawnee Mission, advises, "Fall is the recommended time for heavy application of fertilizer for lawns in order to keep bluegrass strong and healthy during the winter. Unlike some other grasses, bluegrass remains alive throughout the winter months, and its brilliant green during these times while other plants have lost their leaves is a source of much of its attraction."

TOTAL PRESS USAGE

Final tally on the autumn press kit in terms of clippings received through the clipping service show Institute materials used in nearly 500 instances. These appearances accounted for over 4,000 column inches of newspaper space during September and October.

PRESS KIT IN NEW ENGLAND

Checking the items derived from the autumn press kit, here is a resume of what was used in New England. The Portland, Maine Telegram, circulation over 100,000, utilized two items, one crediting the Institute (viz. "Your favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass make efficient use of the warm days and crisp nights -- bluegrasses, fescues and bentgrasses are not bothered by frost"). The Laconia, New Hampshire Citizen utilized the Aronson compendium, advising fine fescues for shade, Kentucky bluegrasses (including Merion and Park) for an excellent sod, and Highland bentgrass where watering and feeding can be regular

More abundant were appearances in Massachusettes and Connecticut. Norwood had 3 appearances, Westwood 2, Saigus 1, (all Boston metropolitan area). The Boston Herald-Traveler and the Boston Parkway Transcript each carried a story. The Fitchburg Sentinal (Worcester metropolitan area) had two different Aronson columns, and the Greenfield Recorder Gazette two others (viz. " -- from Dr. Robert W. Schery, Director of the Lawn Institute -- comes this advice --Kentucky bluegrass or Highland bentgrasses should be fertilized at least once or twice in autumn. Shade grown fine fescue should be given enough fertilizer for both grass and trees"). Attleboro (New Bedford metropolitan area), and Pittsfield were other appearances.

Connecticut newspapers made great use of the Aronson items, in Hartford, Bristol, Norwich, Stamford, Bridgeport and Waterbury. The Waterbury Republican also showed some nice headlines directly from the Institute (viz. "Fine Fescue Best Grass in Shade" "Watering Often Aids Bentgrass"), Sample text; "The fine fescues that come from Oregon in such elite varities as Chewings, Illahee, Highlight and Pennlawn are the turf world's shadiest characters.", "If you have always wanted a luxurious deep-blue lawn of Highland bentgrass, but have found watering a bentgrass too time consuming, --", "It's the season when prime turfgrasses such as the Kentucky bluegrasses and fine fescues grow best.", and "Kentucky bluegrass in numerous varieties such as Merion, Newport and Park is the perennial lawngrass". The New Britian Herald used the Institute title, "Fescue Lawns Shadiest Characters", and in a separate article reported, "Fine fescues, (Chewings, Illahee, Pennlawn); do remarkably well in the shade, and endure poorish, dry soils even if provided only limited feedings, Kentucky bluegrasses, (Merion, Park) spread by underground rhizomes -- bentgrasses such as Highland do remarkably well in cool humid locations -- " Waterbury heard "Red and Chewings fescues -- are often mixed with Kentucky bluegrass for planting in shaded areas."

In Rhode Island the beadline read "Use Variety of Seeds for Planting", with the admonishment "It is often sensible to mix your seed to cover various areas of the landscape. Veteran seeders blend bluegrasses, fescues and other finetextured species in the best proportions for the climate".

NORTH ATLANTIC COVERAGE

The gardening public is largely concentrated in the North Atlantic states. We are pleased that these states represent the greatest total pickup of Institute press material, as recorded by the clipping service.

In New York Bea Jones headlined her story in the Garden City News Day (circulation nearly 400,000), "Choice of Lawnseed Important, Too". A Lawn Institute photo was used, with credit. Also in the New York Metropolitan area, the Institute was credited in the Jamaica Long Island Press (circulation almost 400,000), in the Langhan's column, "The Lawn Institute has this to say: " -- your favorite Kentucky bluegrasses and fine fescues make efficient use of the warm days with crisp nights".

The Aronson adoptions were responsible for at least 26 appearances in the area, including the Yonkers Herald-Statesman, the Nyack Journal-News, the Port Chester Item, the White Plains Reporter-Dispatch, the Tarrytown News, the Ossining Citizen-Register, the Batavia News, the Peekskill Star, the Olean Times-Herald, and the Amsterdam Recorder, among others. George Abraham, for whom the Institute services inquiries for his "The Green Thumb" column, advised -"picture the attractive narrow-leaf lawngrasses such as the Kentucky bluegrasses, fine fescues or possibly bentgrasses, --" in the Mamaroneck Times, Olean Times-Herald, Tarrytown News, Nyack Journal-News, Port Chester Item, Ossining Citizen-Register, White Plains Reporter-Dispatch, New Rochelle Standard-Star and Great Neck Record. This particular "Green Thumb" column was also strong upstate, in Geneva, Glenns Falls, Syracuse, Amity, Utica, Rochester, Jamestown, Watertown and Buffalo metropolitan areas. Aronson's stories appeared in Elmira, Ithaca, Geneva, Oswego, and Schenectady, up state.

The Albany Times-Union gave the Institute a byline, in its "Autumn Lawn Starts Season". This is a much used story mentioning the fine fescue grasses as making efficient use of weather then. The Lockport Union-Sun and Journal (Buffalo metropolitan area) headlines - "Fescues Fine in Shady Areas", beginning the story "the fine fescues that come from Oregon are the turf world's greatest --, according to the Lawn Institute." The Syracuse Herald-Journal carried the short item beginning, "Fine fescues (Chewings, Illahee and Pennlawn) do very well in the shade, -- Kentucky bluegrass (Merion, Park) make an excellent firm sod -- bentgrasses such as Highland --".

The Elmira Telegram uses Institute information, viz., "Kentucky bluegrass is notably tolerant of herbicides, and fine fescues (Chewings, Illahee, Pennlawn) almost equally so. -- Highland has proved quite resistant to damage in Lawn Institute tests." The Buffalo News, adapting the "balance" story, printed," -but there's no grass that mows more neatly and accepts punishment more gracefully than a bluegrass, -- the lawns that really get used are mostly planted to bluegrass." In Schenectady, Durniak's column in the Gazette adopts Institute text without change, viz., "Your favorite Kentucky bluegrasses and fine fescues --, with less dense bluegrasses, thatch does not build up abundantly -- most fine fescues (Chewings, Illahee, Pennlawn) don't thatch any faster than does bluegrass".

In the Yonkers Herald-Statesman: "I took this matter up with Dr. Robert Schery, Director of the Lawn Institute, --". The Parrish Mirror, the Phoenix Register, the Mexico Independent, the Syracuse Pennysaver and the Central Square Citizen all used the seed count gambit, "there are over 2 million seeds to a pound of bluegrass --". In Elmira, the Telegram advises, " -- Kentucky bluegrasses fine for sunnier locations and good soil. Red fescues are particularly suited for dry soil. --".

New Jersey represents almost equally as important a market as New York. So much of the Rutgers extension release reads like Institute press materials, that it is sometimes hard to make the distinction. In any event, excellent advice appeared in many papers, to seed lawns in autumn. Widely read in the state, too, was the Aronson story, appearing in Plainfield, Bricktown, New Brunswick, Newton, Flemington and Willingboro. We are especially grateful to the Newark papers, in which the News (circulation over 400,000) on two occasions used items with Institute credit, referring to Kentucky bluegrass and fine fescue by name. A five column story under the authorship of Alice Dustan appeared in the Star-Ledger, in which she writes, "We are reminded by Dr. Robert W. Schery, Director of the Lawn Institute -that popular Kentucky bluegrasses, Oregon Fine fescues, Highland bentgrasses all make efficient use of warm days -- Dr. Schery suggests, -- a blend of several quality grasses".

Curtis Schick, in the News, adopts more of the Institute information, and advises "Give fescues their due -- in fact fescues are so highly thought of for their fast germination and staying power, that they are included in some Highland bentgrass seeding -- always make sure that fine fescues are included with the Kentucky bluegrasses --- when seeding a home lawn -- don't confuse the fine fescues with the coarse tall fescues. Under modern labeling practices fine fescues will be listed on the seed box among the 'fine-textured' grasses -Chewings, Illahee and Pennlawn are fine-textured -- highly valued for their performance in quality lawnseed planting." The Swensons write, "Anyone Can Have a Great Lawn", in the Plainfield Courier-News, stating, "Kentucky bluegrass, Merion Kentucky bluegrass, fine fescues or Highland bentgrass do well". The Morristown Record picks up the thatching story, "Some bluegrasses, such as Park, and most fine fescues do not thatch heavily", and epitomizes the "different grasses" story indicating that "fine fescues (Chewings, Illahee and Pennlawn) do very well in the shade -- Kentucky bluegrasses (Merion, Park) make an excellent sod -- bentgrasses, such as Highland, --". The Trenton Times cites "Your Favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass --".

In Pennsylvania we liked the Institute headline in the Johnstown Tribune-Democrat, "Avoid Bargains in Grass Seed". The story says, " -- autumn is the best time to plant northern Kentucky bluegrass and Oregon fine fescues and bentgrass." With credit to the Institute, the Erie Times prints, "Autumn is Ideal for the Gardner", and advises "Kentucky bluegrasses, Oregon fine fescues and Highland bentgrasses make excellent use of the warm days". In the Pittsburg metropolitan area, the satellite papers carried, "-- from Dr. Robert Schery, Director of the Lawn Institute -- comes this advice about lawn building". In the Hanover Sun, " -- the favorite lawngrasses - Kentucky bluegrasses and fine fescues --". The Lansford Record uses an Institute photograph with caption, and mentions, "Lawn fescues are attractive but rugged even on unfertilized, dry soils and in shady spots -- Kentucky bluegrasses form an especially sturdy sod". The Washington Observer-Reporter gives the Institute a by-line, and "your favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass --".

The Aronson compilations appeared in Scranton, Williamsport, Allentown, Summerset, Lock Haven, Meadville, Homestead, Elwood City, Phoenixville, Chester, Butler, Hazelton, Lansdale, Erie, Easton, Jersey Shore, Reading, Greenville, and Oil City. The Swenson story ("Kentucky bluegrass, Merion bluegrass, fine fescue or Highland bentgrass do well") appeared in Wilkes-Barre. Direct quote of Institute material occurred in Beaver, Bloomsburg and Bristol.

Southward in Maryland information attributable to Institute sources shows up thrice in the Hagerstown Herald, twice in the Cumberland Times, once each in the Baltimore Evening Sun and the Baltimore News American: also in the Annapolis Capital and the Ellicott City Times. Equally in the line of fire are Charlestown, Clarksburg and Fairmont, West Virginia.

MIDWESTERN PRESS KIT PICKUP

Perhaps because Ohio is the home state for the Institute office, there seems to have been more than usual byline credit in the use of Institute kit materials there. We were credited in the Columbus Dispatch, the Youngstown Vindicator, the Elyria Chronicle-Telegram, the Cleveland Plain Dealer, the Cincinnati Enquirer and the Findlay Republican - Courier. Some of the helpful headlines were: "Bluegrass Care Easier in Fall" "Label Tells True Story", "Kentucky Bluegrass Fine; Annual Bluegrass, a Pest", "Whole Nation Grows Bluegrass", "Approval Seal to Seed Blends", "Bluegrass Has European Roots", "Kentucky Bluegrass Best for Fall Sowing", "Fescue Touch Up for the Lawn", "Fine Bluegrass Varieties", "For Shade Better Sow Fine Fescue", "Bluegrass Color from Fertilizer", "Bluegrass Suits Special Purposes" and "Bentgrass Boom". Of three stories in the Columbus Dispatch, the gist was, "Kentucky bluegrass, in numerous varieties such as Merion, Newport and Park is the perennial lawngrass", and "Outstanding in this category are Kentucky bluegrass varieties, and the finer red fescues such as Chewings, Illahee, Pennlawn and Ranier. Bentgrasses such as Highland also fall in this group." In Elyria, "A 'seal of approval' is granted by the Lawn Institute to seed blends that are primarily fine-textured, --" And in Findlay, "The Lawn Institute notes that quality seed such as that of Kentucky bluegrass, fine fescue and Highland bentgrass." Elyria also learned that "it's hard to improve upon Kentucky bluegrass", "certain selections of Kentucky bluegrass and varieties of fine fescue persist in 90% shade", "Kentucky bluegrass lawns mow neatly compared to ryegrass i plantings from cheap seed mixtures", and "the dark green color so attractive in Kentucky bluegrass --".

The Cincinnati Enquirer used five Institute stories, giving such advice as "Kentucky bluegrasses and the Oregon fine fescues, favorite fine-textured lawngrasses for most of the nation, are well suited to high mowing --", "Close clipping is hard on most Kentucky bluegrass and fine fescue varieties, but not so on bentgrass. Creeping bentgrasses such as Penneross perform remarkably well --- while lawn bentgrasses such as Highland are excellent mowed less than an inch tall, -- Highland is much used to overseed fairways and lawns that are closely mowed", "The fine fescues that come from Oregon in such elite varieties as Chewings, Illahee, Highlight and Pennlawn --", "Don't confuse fine fescues with coarse tall fescues, hay grasses that must be grouped among the 'coarse kinds'", and "because the favorite lawngrasses -Kentucky bluegrasses, fine fescues and erect bentgrasses such as Highland are especially strong -- ". The Cleveland audience read, "advice of -- the Lawn Institute -- adequate feeding in autumn accomplishes more for lawn species such as the Kentucky bluegrasses, fine fescues and bentgrasses than does equivalent care at any other time of the year". Dayton read, "your favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass make efficient use of the warm days with crisp nights." The Abraham column appeared in Willoughby and Coshocton, while the Aronson story was in Youngstown, Massilon, Mt. Vernon, Hamilton, and Kent.

In Michigan, Institute stories were carried on three occasions in the Lansing State-Journal, and on four occasions in the Grand Rapids Press. Ann Arbor and Flint favored us twice. The Detroit Free Press heralded, "Fescues Fine for Shade", and other headlines included "Bluegrass not Heavy Thatcher", "Choose Right Kind of Seed for Your Lawn", "Bluegrasses Meet Varied Needs", while a number of headlines recommended autumn seeding. Credit was often given, such as in Grand Rapids, "Schery, who directs activities at the Better Lawn and Turf Institute, insists the combination is tailor-made to the growing needs of good lawn grasses - Kentucky blue, the fine leaved fescues and Highland bentgrass." Flint readers are reminded, " -- Highland, a popular bentgrass, does not thatch quickly --" Additional quotes would be much the same as reported for other states. In Michigan coverage was also helped by the Mullison column in Midland, Bay City, Saginaw and Ann Arbor; and by Aronson in Kalamazoo, Battle Creek, Ypsilanti, Lansing, Monroe, Utica, Flint, Owosso, Adrian and Cheboygan.

In Indiana Aronson pickups were noted in Michigan City, Rushville, Bloomington, Huntington, New Castle, Bedford, and Anderson. Direct Institute quotations occurred in Marion (three appearances), Evansville and South Bend (two appearances in each), as well as Indianapolis. Some of the headlines: "Fine Fescues Grow in Shade", "Grasses Suitable for Lawns Listed", "Three Types of Grass do Well in Shade", and "Grasses Tolerate Shade". There was heavy pickup of the story advocating lawn making in autumn, viz. "Your favorite Kentucky bluegrasses Oregon fine fescues and Highland bentgrasses make efficient use --"

The Institute didn't receive a lot of direct credit in Illinois, but what occurred was good: the Chicago Tribune (circulation over a million) and the Cairo Citizen. The Swenson column appeared in Danville, and Aronson in Decatur, Rockford, Joliet, Jacksonville and Champaign, **as** well as a few smaller locations. Columnists in the Chicago area used material that sounds of Institute origin, in satellite newspapers carrying identical articles reading, "Kentucky bluegrasses make efficient use of the warm days".

In Wisconsin, the Sheboygan Press twice used Institute stories with full byline (the text mentioning, "Kentucky bluegrasses and Oregon fine fescues, favorite fine-textured lawngrasses for most of the nation, --", and "The favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass --"), while Wisconsin Rapids, Green Bay, Wausau, Oshkosh, Appleton, Marinette and several smaller locations heard of the Institute chiefly through the columnists.

In Minnesota, the Minneapolis Tribune used three Institute stories, each with a Marysville dateline, "Kentucky bluegrass and fine fescue seed was sent by the Lawn Institute --", and two headlines, "Bentgrass Is Good for Fairway Turf" and "Boon for Big Lawns". The latter suggests that "Fine fescues are attractive lawngrasses often chosen for extensive grounds, such as cemeteries -- Chewings, Illahee, Pennlawn and other varieties remain presentable even when not watered or fertilized, according to the Lawn Institute.". Duluth and St. Paul had similar advice.

In Iowa, there was a full page in Buildings magazine, Cedar Rapids. We are especially flattered by 7 separate appearances in the Sioux City Journal, several of them with credit. Some of the headlines were: "Fescue Versatility", "Kentucky Bluegrass Conquers the Nation", "Improved Fescues", "Bentgrass for Waterways", "Bluegrass Grows Low in Autumn", "Fertilized Bluegrass Licks Weeds", and "Fine Perennials Control Annual Bluegrass Pest". Representative text includes, "Oregon fine fescue varieties are esteemed because they grow so well in the shade", "Highland bentgrass has been suggested as an economical variety for protecting newly made waterways, --" and "most of the high quality fine fescue seed is produced in Oregon,". The Fort Dodge Messenger and Chronicle used two full stories, and the Muscatine Journal advised "Use Caution When Buying Lawn Seed; Be Sure to Read the Label." In Missouri the Institute was credited in a full page spread in the Sunday Kansas City Star, August 20, done by Marry Hobbs; and there was scattered use of the Swenson, Aronson and Abraham columns (Sedalia, Greenfield, St. Louis). Mainly Missouri coverage was an extension release from the university, which, if not directly adopting Institute text, certainly seems to have been influenced by it. Several Kentucky bluegrass varieties are named and characterized.

PRESS KIT IN SOUTH

Fair use of Institute press kits is made in the Upper South, with occasional mention in the Deep South even though this is climatically off base.

The Wilmington, Delaware News used the Aronson column, quoting the Institute. Stevenson and staff articles in Washington, D.C. may have drawn on Institute information. The Swenson article appeared in Virginia papers. All appeared in Kentucky, including the Louisville Times. In Tennessee Aronson's stories provided several mentions of the Institute.

In North Carolina, Aronson appeared in 11 papers. viz. "Kentucky bluegrasses, Oregon fine fescue and Highland bentgrass make excellent use of the warm days and erisp nights --", in South Carolina 3 times, and in the Valdosta Georgia Times. There were four items each in Mississippi and Arkansas, with West Memphis, Eldorado and Texarkana, Arkansas using variations on the "fine fescues (Chewings, Illahee and Pennlawn) do very well in the shade --" theme. Appearances in Louisana included Alexandria, Monroe, Baton Rouge, and Slidell (the latter, strangely utilizing the seed count item, viz. "There are about 2 million Kentucky bluegrass seeds in a pound, nearly 1 million of fine fescue, and perhaps 8 million of Highland bentgrass.").

PRESS PICKUP IN THE WEST

The wide dissemination given Earl Aronson's Associated Press Newsfeature mentioning the Institute, saw the Institute quoted in a number of western states where there was little direct pickup from the press kit. Texas had a half dozen, and Cklahoma and New Mexico two each (including the Swenson story).

Kansans read "cheap seed contains large amounts of ryegrass; --" in a half dozen or so papers, while two pickups were found in Nebraska. Among the five South Dakota appearances an unsigned "Green Thumbs" column seemed to draw upon the Institute kit, advising "Spread good quality seed, about half the rate you would for a new lawn. Kentucky bluegrass or Highland bentgrass should be fertilized at least once or twice in autumn." Three pickups in North Dakota found the Fargo Forum using a couple of Institute shorts.

In Colorado, in addition to the Aronson column, there appears to be inspiration for the extension service in Institute releases. The Colorado Springs Free Press used an Institute photograph picturing Kentucky bluegrass, the caption reading (in part), "-- will find their efforts richly rewarded by using Kentucky bluegrass." *Boise Morning Statesman, in a column by Margeurite Lewis, read "it's hard to improve upon Kentucly bluegrass -- by combining natural bluegrass and the many improved selections, a blend that can suit almost any location is possible".

*Boise, Lewiston and Pocatello, Idaho all saw the AP Newsfeature while the

In Walla Walla, Washington, Claude Gray advises, "Dr. Robert W. Schery, Director of the Lawn Institute -- gives this advice about lawn building", and goes on to describe features of bluegrass seed and bluegrass growth. The Yakima Republic carried parts of the same story, including, "Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass make excellent use of the warm days ---", while the Longview News used, "fine fescues (Chewings, Illahee, and Pennlawn) do very well in the shade, even with poorish dry soils and limited feeding. Kentucky bluegrasses (Merion, Park) make an excellent firm sod -- bentgrasses such as Highland do well in cool humid areas, --". The Eugene, Oregon Register-Guard used 3 Institute stories, among them "Label Information Tells Seed Mix" and "Starting at the Grassroots". Portland registered 2 uses. In Salem, Oregon, Mark Taylor picked up the "weeding bluegrass by feeding" story. In Eugene, also "because the favorite lawngrasses such as Highland are especially strong as weather cools --".

Fair coverage occurred in California, with Aronson appearing in Palo Alto, Glendale, Napa and Santa Barbara. There were four direct pickups in the Pomona Progress-Bulletin, including "Fine Fescues", and "Bentgrass Bargains". The Santa Barbara News-Press used two short items about winter seeding, viz. "combinations of fine fescue, bluegrass and bentgrass make an excellent putting surface --".

The Riverside California Press, in a pickup entitled "Improve Lawns", advises "Fertilize Kentucky bluegrass or Highland bentgrass at least once if not twice during autumn months". The Merced Sun-Star used the irrigation story, beginning, "If you've always wanted a luxurious, deep-blue lawn of Highland bentgrass, -- ", San Diego may have been climatically off base to advise, in "Lawn Grass Selections Should Match Soils", the use of "fine fescues (Chewings, Illahee, Pennlawn) -- Kentucky bluegrasses -- bentgrasses such as Highland -- ". But up in Walnut Creek (San Francisco metropolitan area) it may be appropriate to consider, "your favorite Kentucky bluegrasses, Oregon fine fescues and Highland bentgrass make efficient use of the warm days and crisp nights -- ".

WKAT THEY ARE SAYING

"We would appreciate being placed on your mailing list for 'Latest Public Information on Better Lawns'. Roy Rasmuseen, when here recently, suggested we write you, especially concerning information on fescues -"

> John D. Williams University of Nebraska

"Certainly want to thank you for your participation in our Eighth Illinois Turfgrass Conference this year. From all indications it was a success and we hope next year to have a program quite similar to the one this year. Again, let me say thank you for your part in this program."

> Dr. J. D. Butler University of Illinois

"Would it be possible to reprint (articles that have appeared in Chicago Golf publication) for a similar bulletin, Divots, of the Miami Valley Golf Course Superintendents Association?"

E. J. Sylvester, Piqua, Ohio

"Very many thanks for your helpful reply to my inquiry concerning publications on Turf Culture."

Dr. Richard H. Powers, New Zealand

"My sincere thanks for allowing me the time -- thank you for your assistance." Richard N. Crowl, Velsicol Chemical Corp.

"We have had a lot of good comments about your article and this is the only way we can tell we are going in the right direction." Fertilizer Solutions Magazine

"I would like to add my own thanks to the gratitude of the directors and members of the Central Plains Turfgrass Foundation for your big assist in making the 18th Central Plains Turfgrass Conference the success that it was. We especially appreciate the publications that you distributed and will be quoting from it in our newsletter, with your permission."

Ray Keen, Kansas

"In addition to being lawn and garden editor for the Denver Rocky Mountain News, I am also engaged in the manufacturing and distributing of a complete line of small package fertilizers and chemicals. We have read your articles with both interests in mind for several years now and think you are doing a fine job in a language Mr. and Mrs. Homemaker can understand." Dale Langford, Denver.

"I enjoyed and appreciated the information you presented at the Central Plains Turf Grass Conference. I am continually looking for up-to-date information that I might use to help the home owner with his lawn."

J. R. Kibby, Extension Agent, Kansas City.

"Thank you for your letter of December 15, 1967 and the editorial material for the 'Beautify Your Corner of America' newspaper supplement. We have turned the material over to the public relations firm who will put the supplement together. It should be distributed to newspapers around the middle part of January."

Bruce Price, American Seed Trade Association.