BETTER LAWN - - HARVESTS

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BEST WISHES FOR THE NEW YEAR

The Marysville staff takes this means of extending the very best wishes for the year ahead to all members. President Jacklin has been unstinting with his helpfulness, and our routine operations would quickly grind to a halt without the diligence of Secretary-Treasurer Russell. So as 1978 draws to an end, we thank the officers in particular, and all the members in general, for the fine support enjoyed in 1978. We hope that the holidays were most pleasant, and that 1979 will be a year full of successes and satisfaction for all.

Sincerely,

Diana Scheiderer
Robert Schery

INSTITUTE MEETING RESCHEDULED

Because of various complications the Lawn Institute meeting announced by ASTA for Friday, January 19, in conjunction with the 18th ASTA Garden Seed Industry Conference in San Francisco, has been rescheduled by President Jacklin for later in the month. He has tentatively called for a gathering of the Executive Committee in Marysville, Ohio on Tuesday and/or Wednesday January 30 and 31. Of course any board member is most welcome to attend, and the Executive Committee profits from as much input as is possible. Travel schedules being uncertain at this time of year, some re-scheduling may prove necessary; please let us know if you would like to attend so that we can keep you advised.

JOINT SUPPLEMENT CONTRIBUTION READIED

Twenty seven write-ups and six photographs were sent to Pflaum Associates, as the Institute's contribution to the joint lawn and garden "Supplement" (being sponsored this year principally by American Association of Nurserymen, The Fertilizer Institute, National Swimming Pool Institute, and the Lawn Institute; The Bark Producers Association and American Wood Preservers Institute apparently will participate on a reduced share basis. We are pleased to have encouragement from and financial backing for half of the cost on our contribution, from the Lawn Seed Division of the American Seed Trade Association. It is anticipated that the Supplement will be mailed in February of 1979. It appears in newspaper format, and goes to several thousand dailies, weeklies, and house organs.

INSTITUTE ANNOUNCEMENT CARRIED

Lawn Care Industry, on the front page of its September issue, carried the Institute report "Lawn Institute Re-elects Jacklin as President". Listed also were other officers and offices, as well as board members.

INSTITUTE PRESS KIT BEING PREPARED

The Institute's own spring press kit is currently in preparation, for mailing in early February to select garden writers and newspaper editors nationally. The Institute assumes full responsibility for this, and has built up an enthusiastic following through the years. The PK is designed chiefly to supply information in non-technical form to writers and columnists for incorporation into their own stories.

WINTERSEEDING STORIES APPEAR

The Institute story, "Winter Overseeding: Improving on Nature", appeared in the September/October 1978 issue of the Golf Superintendent, official magazine of the Golf Course Superintendents Association of America. It attempted to review winterseeding in general, emphasizing the use of the new turf-type perennial ryegrasses in particular. An insert entitled "Noteworthy Wintergrasses" listed by name the Lawn Institute's Variety Review Board cultivars, noting that they can be "- - - components of warm season winterseeding blends or mixtures, or of varieties sown as monocultures, especially bermudagrass golf greens".

Also directed towards the winterseeding market was help extended to Rich Hurley, Research Director of Lofts, in preparation of a story entitled "Southern Golf Course Winterseeding", which appeared in the South Florida Green. In this article, too, Variety Review Board cultivars are referred to.

RASEN MANUSCRIPT

A review of the lawn service industry in the United States was sent to Rasen, the International Turfgrass Journal published in Germany, wondering if this might be of interest to Europeans. A tabular listing of Lawn Institute Variety Review Board acceptances was included, new cultivars being a key to improved, less troublesome maintenance.

FLOWER AND GARDEN STORY

A story entitled "Summer Lawn Ministrations" was sent to Flower and Garden Magazine during the quarter, scheduled for appearance in late spring of 1979.

MANUSCRIPT FOR WEEDS, TREES AND TURF

Following the suggestion of President Jacklin, Ron Morris of Weeds, Trees and Turf magazine requested an article dealing with the use of modern cultivars for sod. A manuscript entitled "Accent on Sod Blends and Mixtures" was forwarded to Weeds, Trees and Turf in mid-December.

STORIES FOR LAWN CARE INDUSTRY MAGAZINE

Scheduled for appearance this winter are two items prepared for Lawn Care Industry, "Lawns, A Concept Proven" and "Recarpeting Urban America." If publishing format is amenable to reprinting, copies will be sent to members after publication.

CHICAGO INQUIRIES

The "Action-Time" service of the Chicago Sun Times listed the Institute as a source of information in getting ready for spring lawn activities. "Action-Time" devotes its attention chiefly to senior citizens on Tuesdays and Fridays, and most inquiries received in early December were from elderly lawn keepers.

LIBRARY REQUESTS CONTINUE

During the quarter a number of requests from libraries and educational institutions were received by the Institute, asking for reprint literature. This results from an offer of informational materials that appeared in Educators Index of Free Materials.

SEED SAMPLES ACCUMULATED

From time to time the Institute receives requests for seed samples, and is constantly involved in completing plantings on demonstration grounds. During December additional supplies, particularly of the turf-type perennial ryegrasses, were requested, and are being accumulated from proprietors. The Marysville office would welcome seed samples of any new cultivars likely to become commercial in the future.

REPRINTS PUT TO GOOD USE

Charles Behnke, County Extension Agent, Urban Horticulture, Cuyahoga County (Cleveland) is being most helpful in furthering the Institute's informational program. He asks for forty copies each of these reprints: Curious About Cultivars, What is the Grass, The Alternative to Lawns, A Guide for Lawns, Part I, II, III, Lawns and Their Tending, The Tidy Lawn, Lawngrasses for Fall Planting, for distribution through his "master gardener training program". This puts Institute information directly in the hands of interested users, with the blessing and inferred recommendation of the Extension Service.

NEW YORK REQUESTS SOURCE MATERIALS

Gail Hayden, Davis Publications, New York, telephoned the Institute asking for background information and source materials for developing a lawn story. Appropriate literature was immediately sent, and an offer extended to provide a custom story.

VARIETY REVIEW BOARD REPORTS

During the quarter VRB Chairman Pepin reported that 'Ensylva' spreading fescue has applied for VRB acceptance, and 'Enmundi' Kentucky bluegrass continues as an active variety.

TRENDS OF THE TIMES

In previous Harvests we have reviewed trends affecting lawn keeping and enjoyment. A panel (mostly Californians) discusses landscaping in general, in Home and Garden Merchandizer, October; authors conclude changes are in store. Particularly envisioned are smaller properties with less total landscaping, but with higher caliber and more expensive undertakings; much attention will be given specialized needs(such as screening small areas for privacy). May tie-in with new top-flight cultivars, especially as sod.

Jim Ditto sends this intelligence from the Los Alamos-Santa Fe, New Mexico area, where water supplies have become a problem (something commonplace in much of the arid southwest). Water costs have quadrupled, and in some areas restrictions apply. In Los Alamos well-established bluegrass lawns are being "sold" for whatever salvage value the sod has, and gravel is substituted in its stead.

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TECHNICAL SECTION

TURFGRASS DIVISION, AGRONOMY SOCIETY, ANNUAL MEETING 1978

As is customary, the leading academic turfgrass research people reported on their progress in a series of papers at the Agronomy Society annual meetings, held this year in Chicago, December 4-7. Because of the location, and lateness of the season, the "tour" of turfgrass installations that is customarily part of these meetings was not undertaken. Perhaps partially on account of this, some of the papers were more superficial than usual (organized to fill the void); others were abstruse, having little practical implication (there were, for example, several papers devoted to describing controlled-environment growth chambers). For what interest it may hold, the formal presentations are reviewed briefly, grouped according to whether they deal primarily with northern grasses, southern grasses, or miscellaneous matters.

Northern Grasses

Carrow, Kansas, compared degrees of soil compaction (accomplished with a roller) on Baron bluegrass, Pennfine ryegrass and Kentucky 31 tall fescue. Quality of all grasses was reduced, but tall fescue was worst hit (its quality reduced about one third, compared to only about one sixth and one seventh for the ryegrass and the bluegrass).

Smiley, Cornell, presented what were probably the most provocative papers. He showed that pesticide applications increased thatch, partly due to increased acidity (thatch was inversely strongly related to pH). He concludes, "Fungicide programs alter the overall efficiency of turfgrass management procedures, and their selection should be made on the basis of long-term non-target effects as well as on the cost and recognized abilities to control target diseases." Of even more interest was Smiley's hypothesis that fusarium blight of bluegrass, one of the species' most serious diseases, may be incidental to Fusarium itself, but rather a sort of "side-effect". He noted that where Fusarium is more abundant thatch is reduced, yet disease symptoms increase. Field symptoms cannot be induced with fungus isolates. Sometimes fungicides increase the number of Fusaria, but seem to aid the bluegrass nonetheless (as a growth regulant?). Smiley wonders whether the typical symptoms (dying grass) result from stress such as drought, etc., and whether the Fusaria found on the grass are simply colonizing dying tissues without being implicated in their death.

Pennsylvania researchers explored the heat tolerance of Kentucky bluegrass and perennial ryegrass, as compared to Poa annua. Bluegrass proved more tolerant of heat than did perennial ryegrass, which was about the same as Poa annua; there was not much difference in heat tolerance between cultivars of bluegrass, but Loretta ryegrass was far less heat tolerant than Pennfine, Diplomat and Citation.

Missouri researchers, using "marked" water, showed that more water is absorbed by bluegrass from a relatively shallow depth (about 1 1/2 inches) than is the case with perennial ryegrass or tall fescue; all species absorbed more water at higher temperatures.

Petrovic and Rieke, Michigan, used X-ray transmissions to zero in on what actually happens with hollow tine (coring) aerification. Actually, slightly increased density of soil occurs at the sides and the bottom of the coring hole, and this is greater with smaller tines than with larger ones.

King, Arkansas, examined the "wearability" of perennial ryegrass, tall fescue, Chewings fescue and bluegrass. In spring ryegrass rated best, followed by tall fescue, fine

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fescue and bluegrass; in summer fine fescue, tall fescue, ryegrass and bluegrass rated in that order. He concludes that perennial ryegrass "developed good wearability earlier than the other species." When comparing 12 perennial ryegrasses the ratings jumped around. In April Citation, Diplomat, Manhattan and Yorktown led in that order (they were not significantly different), but by autumn Yorktown, Derby, a coded selection and Yorktown II led. King concludes "shifts in rankings and statistical overlap precludes definite conclusion - - - ".

Horst, Texas (El Paso), continues to compare bluegrass cultivars in that difficult climate (irrigation, of course, is necessary). He feels that significant differences do not begin to show up until the third year. The cultivars are watered and fertilized lightly (in the irrigation water, on a weekly basis; clippings collected). He has had good success with the number of the improved cultivars, and concludes that "some cultivars and cultivar blends are suitable for use under southwestern growing conditions.".

Evans and Portz, southern Illinois (Carbondale), like autumn fertilization of bluegrass, at moderate rates (spring feeding brings mowing problems, and has no advantages).

University of Illinois researchers (Champaign) examined soluble and slow-release nitrogen applied to a thatched soil column. As would be expected there was greater leaching and volatilization loss from the soluble (urea) source, and was greater from the thatch than from the soil. The authors conclude that thatch has a lower capacity for retention of nitrogen than soil.

Of incidental interest: In Michigan, lateral buds of Merion and Nugget bluegrasses were only about half as abundant at 95° as at 72° F. Several native grasses were found superior to the usual cultivated ones for re-vegetating arid areas of eastern Washington-Oregon. Tissue nutrients proved interrelated in growth chamber tests in Ohio, utilizing bluegrass and bentgrass. In New York most nitrogen from fertilizer application could be accounted for in the vegetation, although at heavy rates some leaching (into well water) may have occurred. The effects of nutrients and 2,4-D on callus formation with numerous cool-season lawngrass was investigated in Mississippi. Nitrogen uptake by salt-tolerant and sensitive bentgrasses was investigated in Arizona.

Roethe, Chicago, outlined commercial lawn care analyses, although it was not clear how exact identification of diseases and insects would prove practically useful under a set program of treatments. In Tennessee both bentgrass and bermudagrass showed tissue abnormalities (in the roots) following treatment with pre-emergence herbicides (benefin and terbutol were most severe on Penncross; DCPA, siduron, and terbutol on Tifgreen). General climatic considerations in the Chicago area were discussed, with the northern lakeshore less "continental" than even a few miles west, and more severely afflicted with Poa annua (but the Poa annua could be held with greater certainty). Ben Warren reviewed sod production in the Chicago area (in Illinois about 12,000 acres are in production, consisting almost entirely of bluegrass blends of modern cultivars). Considerable interest exists in utilizing clippings for stockfeed. Sod technology is constantly being improved.

Southern Grasses

Texas researchers investigated the effects of shade on tall fescue, which performed best under tree shade (shading cloth raised temperatures too high); tall fescue seems to be a good shade species in southeastern Texas.

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In Georgia fine-textured bermudagrasses did better when mowed relatively short (under one inch), coarser ones when mowed tall (about 2 inches); all benefited from high fertility. The effect was not so great with zoysia, and generous fertilization killed centipedegrass. Dethatching increased weeds, but a combination of high fertility and low mowing generally controlled weeds in bermudagrass that was not dethatched.

Alabama research confirmed the disadvantage of nitrogen fertilization for winter survival of centipedegrass, although total amount rather than timing made the difference; phosphorus had little influence on winter survival, but at high levels caused chlorosis. At Tifton, Georgia, cytologic investigations of centipedegrass showed it it be a sexually-reproducing species, with a self-incompatibility system.

Texas research on Floratam st. augustinegrass showed distinct cycles of vegetative growth (early) and root growth (later), with summer root growth as much as an inch per day. Roots continue to grow for 30 days after onset of shoot dormancy, and appear to be alive throughout winter (but renew almost completely in spring). Tifgreen bermudagrass behaves similarly.

Missouri research on twenty bermudagrasses showed no relationship between thatch and winter survival; it was difficult to pinpoint cause of winter injury. In southern Illinois considerable differences between bermudagrass cultivars were noted, with Kansas selections (especially Midiron) being unusually cold-hardy (but restrained in growth, while Tufcote, a rampant grower, was susceptible to winter loss). Responses of cultivars varied with chemical treatments, also.

Johnson, Georgia, could keep bahiagrass out of centipede with atrazine applications of about 1 pound per acre rate, applied three times during the year; sometimes second year treatments would be needed.

In Arizona, bermudagrass was more economical of water usage than tall fescue or st. augustine; tall fescue was especially demanding and suffered high transpiration loss. In another study nitrogen uptake rate was shown to decrease as temperatures decreased; bermudagrass was somewhat more efficient than st. augustine in nitrogen recovery.

In Florida drip-irrigation systems placed underground showed no advantage over more conventional practices; under times of stress overhead irrigation generally resulted in better appearance of the grass.

Miscellaneous

Several papers having to do with growth chambers, spreader calibration, etc. will not be reviewed here, nor will those devoted to commercial sponsorship of research. Bill Small, Mallinckodt, St. Louis, took the EPA to task, reporting on company research that showed cadmium pick-up from spray operations to be almost a hundred-fold less than EPA "surmise". Mallinckodt tests involved simulated respirators carried by an applicator, as well as chemical analysis of clothing and skin. Its conclusion is that EPA over-exaggerates the likely hazard from spray operations.

LAWNGRASSES IN THE SOUTHERN AREA

We were pleased to receive from Dr. Callahan, University of Tennessee, his evaluation of grass cultivars under lawn conditions, as published in the Tennessee Farm and Home Science report 104. The test areas were adequately fertilized.

With bluegrasses, rated for "quality appearance", Adelphi was considerably ahead of the pack, followed by Merion-plus-Baron, Sodco, Baron, and Bonnieblue, all closely bunched. Nugget, Pennstar-plus-Nugget, Kenblue, and Pennstar-plus-Sodco ranked lowest of the cultivars in this test. Nugget and Pennstar, however, rated well in resistance to leafspot disease.

Callahan seems to regard perennial ryegrasses as temporary cover in eastern Tennessee, and his tests are not inclusive of many up-to-date cultivars. Of those examined, Pennfine was markedly superior to common, Pelo, NK-200 and NK-100. "Medalist" mixtures containing bluegrasses and Seaside bentgrass gave good cover, but were dominated by the bentgrass (particularly) and bluegrass. "Medalist" blends, especially the combination of Pennfine-and-NK-200, ranked second only to Pennfine alone.

Tall fescues are much used in the transition zone for more durable summer turf, tolerating drought and high temperatures. However, none of the newly bred "turf-type" selections were outstanding in the Callahan trials, and none quite so good as the traditional pasture cultivar "Kentucky 31'.

Creeping bentgrass comparisons involved both seeded and vegetatively propagated cultivars. Traditional vegetative types (mostly from northern sources) did not do well except for Arlington C-1. Rating best for "quality" was Penncross. The ARC-1 selection from Florida shows good promise, and is recommended for trial. Seaside rated well, and Emerald medium-high, among other seeded bentgrasses.

AGRONOMY SOCIETY PRESENTATIONS OF TANGENTIAL INTEREST

Neely, Illinois, tested fertilization on 20 species of trees in various parts of the state. Response came only from nitrogen. Ferric citrates, implanted, were quite effective in countering iron chlorosis.

Wisconsin researchers investigated salt tolerance of grasses and legumes for roadside planting. Legumes were all inferior to the better grasses. Among the most tolerant grasses were Puccinellia lemmoni, Sporobolus airoides, Alopecurus arundinacea, perennial ryegrass (especially NK-200), and redtop (Agrostis alba). Only slightly less tolerant were Seaside bentgrass, quackgrass, tall fescue, 'Ruby' fine fescue, and Poa trivalis.

Using radio-active materials, persistence of atrazine and trifluralin in the soil was examined by Florida researchers. Degradation rates were low for light-rate treatments, and decreased as concentration of herbicide increased. A significant fraction of the pesticides remained bound to the soil.

The influence of earthworm activity was investigated in New Zealand. Where an insecticide (carbaryl) had been used, surface run-off increased twofold, with a threefold reduction in infiltration rate because of accumulation of litter at the soil surface in the absence of earthworm activity. Where earthworms were not restricted by insecticide, there was some increase of particulate sediment from worm casts, but all things considered nutrient losses were greater when earthworm activity was restricted.

RENOVATION DISCUSSED

Dr. John Street, Illinois, discusses turf renovation rather thoroughly in the September Park Maintenance. Nothing radically new is suggested, but it may be of interest to note some of the Illinois conclusions.

Renovation is suggested over reseeding-with-cultivation because it supports usage sooner (even continually), and is less laborious. Erosion is reduced, weed influx is lessened, and the need for mulching minimized.

The familiar admonition of correcting the causes for previous grass failure is advanced, and modern equipment for "once-over" seeding is discussed. Street makes the ecological observation that weed species are indicative of previous troubles; ground ivy and chickweed suggests too much shade; knotweed, goosegrass, and spurge too much compaction and poor drainage; bentgrass poor drainage; etc. Street advocates core removal aerification as part of renovation. He mentions Manhattan, Pennfine, Citation and Derby ryegrasses as useful for quick establishment with new seedings.

Street notes that at the University of Illinois, Touchdown, Brunswick and A-34 bluegrasses have proven most tolerant to close mowing, and thus suffer least weed incursion when mowed at 3/4 inch. He states, "Nugget, Merion, Fylking and Pennstar Kentucky bluegrasses are Fusarium blight susceptible. Therefore these varieties should never be planted as a monostand. Blending several adapted cultivars is highly recommended".

The use of herbicides for restraining competitive old growth is discussed, and above all the need to introduce seed through the thatch to reach mineral soil. Subsequent fertilization and other care is reviewed. Half normal seeding rate is suggested for renovation where the seed is worked into disced slits in the soil.

BENTGRASS REPORT

The USGA Green Section Record, September/October, discusses the sponsored bentgrass testing in Washington State. This is one of the most extensive tests ever undertaken, with at least 160 entries, tested for various attributes both in Western and Eastern Washington, and rated separately for four different familiar diseases. The report is an interim one, but some early conclusions are advanced. "In general, - - - selections from northern climates had the greatest resistance to Fusarium, but paradoxically, two of the best were MCC-3 from Oklahoma and ARC-1 from Florida, both palustris types. In general, the stolonized bents were more resistant to Fusarium than the seeded types, but the reverse was true with resistance to Typhula". Kingstown velvet bent performed very well, but may need additional care. Some excellent selections displayed winter dormancy, and were thus suitable for continental climates but not for "evergreen" western slopes. The most promising seeded bentgrasses for western Washington were reported to include Bardot, Emerald, Penncross, Tracenta, Kingstown and Novobent. Bardot, Penncross and Tracenta are also showing promise in eastern Washington, along with nine others.

REPORT ON CENTIPEDEGRASS

Hanna and Burton, Georgia, report in the September/October Crop Science on fundamental studies concerning breeding behavior of centipedegrass. They conclude that the species reproduces sexually, but that a self-incompatibility system is at least somewhat manifest. This, of course, could be a hindrance in development of seed-producing lines.

INCREASED BLUEGRASS TILLERING

Ackerson and Chilcote, Oregon, report in the September-October Crop Science on the effect of TIBA on encouraging tillering in Merion and Pennstar Kentucky bluegrasses. As is well known, defoliation (clipping) reduces the tendency for a bluegrass plant to produce tillers, to a degree proportional to intensity of defoliation. This research indicated that especially with Merion, TIBA sprays can offset the negative influence of clipping, and increase tillering even beyond that of unclipped plants. TIBA (triiodobenzoic acid) has been utilized as an agent for releasing lateral buds of wheat.

CALIFORNIA TURFGRASS RATINGS

The report of Victor A. Gibeault given to the 1978 Turfgrass Landscape Institute at Anaheim, California, was printed in the October Western Landscaping News. Of interest are two tables, one for Kentucky bluegrass cultivars, the other for perennial ryegrasses. The scorings are for 1976-78, broadly averaged. The plantings were at the California South Coast Field Station, and Dr. Schery's impression on a visit there a year ago has been given in a previous Harvests.

Best rating (8-7 range) Kentucky bluegrasses for the cooler months were Parade, Rugby, Adelphi, Majestic, Bonnieblue, Senic and Enmundi. Rathings during the warmer months were slightly lower, with Majestic, Rugby, Pacific, Enmundi, Parade, Senic, Adelphi, Vantage, A-34, Noble, Merion, Bonnieblue, Windsor, and Sydsport all above 6. Most other familar cultivars rated more poorly than did common.

The perennial ryegrasses Derby, Pennfine, Manhattan, Diplomat and Clipper were the top five for both cool and warm weather. Yorktown and Citation followed for cool weather, Citation for warm. Lamora, Ensporta and Wendy were least satisfactory.

MORE ON BENTGRASS FERTILIZATION

Waddington et al, Pennsylvania, reports in the Sept/Oct Agronomy Journal on fertilization of Penncross creeping bentgrass. Several familiar fertilizers (mainly used as a source of nitrogen) were examined, supplemented experimentally with phosphorus and potassium. No measurable difference occurred from supplementary phosphorus, but potassium fertilization increased growth, decreased chlorosis early in spring, and sometimes reduced summer wilting (as did certain of the fertilizers). Urea fertilization restricted dollarspot infection. Phosphorus and potassium favored increase of annual bluegrass, as did Milorganite (which increased soil phosphorus), but urea and ureaform did not.

SEEDLING EMERGENCE

A study by Wright el al, Virginia, reported in the Sept./Oct. Agronomy Journal related to temperature and moisture needed for fast sprouting of grasses (and legumes), primarily to give quick cover (as on roadsides). With even moderate moisture and room temperature, perennial and annual ryegrasses emerged in three-four days, and weeping lovegrass was about as rapid. Within five-six days, creeping red fescue, Kentucky 31 fescue, and crown vetch were mostly emerged. A few days longer was required under drier conditions. Most Kentucky bluegrass was emerged in seven-eight days in the test. The authors make the point that differing mixtures should be used to achieve most rapid coverage, depending upon time of year and moisture conditions. Extremely rapid species (such as Abruzzi rye and German millet) might be used at light rates to stabilize soil until the slower perennial species can predominate.

ISSUE HEAVY ON TURF

The November issue of Grounds Maintenance emphasizes turfgrass strongly. A number of the articles are by Dr. Beard of Texas. Of particular interest to members may be "Kentucky Bluegrass Cultivar Update", which cites twenty-five of the newer varieties by name, giving a sort of sterotype description, adaptation, listing of pests and "other comments". The citations are not very useful for rating one cultivar against another, but can be helpful when seeking general information about a particular named variety.

Other articles deal with: the beginnings of turf usage, and Vargas(Michigan) stresses the need for fungicidal spraying of Poa annua to prevent anthracnose. Turf care budgeting is covered, as is means for handling petroleum spills on turf. One article is on franchised lawn service, another on recycling grass clippings with "mulching mowers". Dr. Baumgardt reviews native grasses for low maintenance, but recognizes their disadvantages for traditionally kept lawns and sportsfields (which must be low mowed, and green in colder weather). Fertilization through irrigation systems is given lengthy treatment by Snyder and Burt, Florida.

"RASEN" RECEIVED

The September/October issue of Rasen (Turf/Gazon) was received in late November, edited by Dr. Boeker, Bonn, Germany. Included in this issue was one report in English, by Turgeon and Black, Illinois, showing that yellow nutsedge in turf gains strongly when free of bluegrass competition (very low mowing; insufficient, or over-fertilization that brought on disease of the bluegrass, favored the nutsedge).

English summaries of the German reports note successful seeding of West Berlin street-sides as an alternative to herbicidal control of weeds (which caused pollution), but that dog usage is hard on the turf. In the Moselle Valley fairy ring, Marasmius, has been of increasing severity, but seems controllable with benodanil (a fungicide). Another study reports on the change of sod after transfer to sportsfields (principally to Poa annua, and poor-wearing components). Dr. Boeker examines the different turfgrass species (article with no English summary).

TURFGRASS CULTIVARS FOR ACID SOILS

Murray, and Foy, USDA, report in the September/October Agronomy Journal on research pointing up the differences between cultivars in adaptability to acid eastern soil (acidity causing aluminum toxicity). It is not always feasible to correct acidity by liming, so that the problem sometimes might be better handled through tolerant cultivars. Among the bluegrasses, Fylking was very little bothered by strong acidity (pH 4.6), while Ram I, Plush, Enmundi, Parade, Nugget, Bonnieblue, and Glade also were affected in only a minor way. On the other hand common bluegrasses suffered greatly; particularly Windsor, Kenblue, Arboretum and Troy. Fairly severely strickened were Adelphi, Park and Merion. These rankings were based upon topgrowth, but rootgrowth was similarly restricted. Most fine fescues suffered from acidity less than bluegrasses; at a pH of 4.3 Highlight, Banner and Koket were rather little bothered, but common creeping red was severely stricken. Tall fescues also suffered severely at this low pH, the Kentucky 31 cultivar being the least affected, Fawn and Goar being most sensitive.

FERTILIZER AS AN ECOLOGICAL FORCE

Backelaar and Odum, Georgia, report upon responses to fertilization of volunteer growth in abandoned fields, in the "Summer" issue of Ecology. Fertilization did in the field what it is suppose to do in lawns, - encourage dominant species at the expense of secondary ones, resulting in a more simplified system (i.e. trending toward a monoculture). Most of the species gaining ground from fertilization were grasses, the "losers" being largely broadleaf weeds (but also sedges, wild onion and little bluestem). All species averaged, total net production almost doubled under fertilization.

GROUNDS PLANTINGS

An excellent late autumn growing season brought Institute demonstration plantings into winter in fine shape. In fact seldom has turf on the grounds remained so free from winter discoloration going into the new calendar year. Late fertilization (end of September) was probably a main cause for this. It has been especially gratifying to see the new perennial ryegrasses performing so well at this time of year, since usually they begin to lose color vis-a-vis bluegrasses when the first severe weather comes. We have experienced no winter loss of "turf-type" perennial ryegrasses in recent years, although good snow cover has afforded protection. So far weather has been "open" this winter.