

BETTER LAWN - - - HARVESTS

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ANNUAL REPORT

As announced in a recent mailing, meeting conflicts and inadvertencies required adjournment of the Institute Annual Meeting, normally held in June, until December, in conjunction with the Oregon Seed League. A summary of what would normally be the Director's annual report to the Trustees was promised for Harvests, as a resume of activities for the fiscal year.

Institute activities differ little from past years, because successful programs long have been winnowed and are pursued assiduously. The Institute involves itself chiefly with these proven activities, since the budget does not permit much experimentation with untested, fringe ideas. We continue to gain fantastic "mileage" from very moderate expenditures, for the fat has long been trimmed from our endeavors.

Activities in which the Institute engaged during the fiscal year 1969-70 were mainly:

1. Special consumer information by mail.
2. Press kits for newspapers and editors
3. Stories for magazines and other publications.
4. Cooperation with national, syndicated columnists.
5. Stories for press mailings of others.
6. Membership apprised through Harvests; review of technical literature.
7. Support of and attendance at the International Turfgrass Conference in England.
8. Conferences and meetings.
9. Demonstration and experimental grounds.

ANNUAL REPORT (Continued)

10. Professional contacts (Board of Advisors, Agronomy Meetings, etc.).
11. Correspondence and communications (inquiries, members, business contacts).
12. Photographic library, maintained and enlarged.
13. Authoritative fount of lawn information (books, encyclopedias, Field Museum exhibit, etc.).
14. "Seal of Approval" for lawnseed.
15. Special projects originated and encouraged (bluegrass-bentgrass combinations, Penncross and other varieties, advise on seed mixtures, winterseeding, community colleges, sod industry, highway landscaping, Lawn & Garden week, etc.).

This outline suggests the general range of Institute activities, which will be explained more fully in subsequent paragraphs. But before so doing I want to acknowledge how pleased we are to have had Hercules join with seed associations and industry representatives as a very valued supporter of the Institute. Mr. Osburn of Hercules has kindly agreed to accept a seat on the Board of Trustees.

1. Consumer Information by Mail. A new ploy -- a nationwide campaign offering reprints (discussing lawn grasses and varieties) to anyone sending in a self-addressed, stamped envelope, -- has been most successful this year. The cost to the Institute is minor, -- nothing more than the inserting of inexpensive reprints by the staff. Response was unexpectedly good; we were surprised so many editors permitted our offer to appear in their publications (the offer of reprints was made in conjunction with newspaper items, as an addendum to magazine stories, and through private releases of Institute members). In addition to numerous individual requests, we were surprised to have Nielsen Inquiry Service, in behalf of McGraw-Hill, send us scores of already-addressed mailing labels representing influential (largely corporate and industrial) inquiries made through Modern Manufacturing magazine.

2. Press Kits. Press kits in the now-familiar green grass file folders were mailed autumn and spring, seasons of greatest market interest. In addition to covering letters, were 13 pages of stories and 3 reprints in the autumn issue, 19 pages and 3 reprints in the spring issue. We seem to have successfully convinced writers and editors to husband these stories for parcelling out during the lengthy season, as judged by the sampling that comes to our attention. This saves the cost of multiple less-voluminous mailings. We feel that the success with this money-saving technique reflects the wide recognition the Institute now has. An unique advantage is our ability to include our own reprints in such a kit (something few public relations houses can boast), which lends authority to the stories (and, by implication, endorsement by the top-drawer magazines from which the stories are reprinted). All in all this is one of the Institute's most successful activities, and is built upon a foundation of trust gained through the years. Since we no longer subscribe to a monitoring service, the column-inches of newspaper space gained from the press kits can only be surmised; however, no doubt it is well over the 10,000

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ANNUAL REPORT (Continued)

column-inches that were attained from each mailing when the last check was run by Luce. Considering that paid-for space in a metropolitan newspaper can run on the order of \$20 per column-inch (recently experienced by one member), the dollar value of this type of coverage can be estimated as running into six figures. The "worth" is even more, since when Institute materials are used editorially reader discounting (inevitable for paid advertising) is minimized.

We have inserted as the following page a sampling of Institute stories, which Mrs. Rush has spotted through part of the season in the Columbus, Ohio, Sunday Dispatch. You will notice how often key grass names appear in the titles and text, and how more often than not the Lawn Institute is given credit. Multiply this small sampling by the hundreds of newspapers receiving press kits (their use of the materials has been confirmed by questionnaire post cards), and you cannot help but conclude that remarkable reach is achieved for modest expenditure.

3. Magazine Stories. Another of the Institute's sustaining efforts is the writing of lawn stories for a wide range of magazines and similar publications. During the fiscal year over three dozen custom stories were prepared, submitted and published. Some of these stories, when printed in such major magazines as Better Homes and Gardens or Good Housekeeping, reach 7 or 8 million readers directly, and total readership for the year for all stories is certainly many millions.

But the advantage does not end with magazine readership alone. The majority of these stories are reprinted economically by off-set, and are distributed through our office as mailing stuffers, as give-aways at conventions and meetings, as reminders at public presentations by the Director, and as offerings by member firms and other associations. 22,500 reprints were ordered during the year. We are especially pleased to have had the American Hotel and Motel Association, as well as numerous trade schools and community colleges, utilize Institute stories for informing their members and for teaching purposes. And, as noted earlier, such reprints lend authority to press kits and other Institute activities, backed as they are by the prestige of editorial usage.

In order to provide some idea of the extent to which this activity is carried on, Mrs. Rush has reproduced as the 5 pages following, the Institute's actual working list of reprints that are actively distributed (mostly arranged alphabetically by the magazine in which they appeared), as well as a few of the items which are in press, were not reprinted, or have become inactive for various reasons. The nearly 300 titles listed are a reminder of how influential Institute has been in shaping lawn and turfgrass opinion.

Many of the publications are major shelter magazines, but perhaps even more important are avenues open to specialized industries having commercial incentives through their journals (resort and recreation fields, industrial and commercial properties, highway development, custom maintenance, etc.). Currently the Institute is endeavoring to acquaint landscape designers with the opportunities that modern, quality turfgrasses lend for adding a new dimension to outdoor design and outdoor living, increasingly a focus of professional attention. And, taking advantage of current public awareness of ecology and the environment, we hope also to make clear how turf and

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New Varieties of Lawn Seed Spreading Far, Wide in U.S.

Exciting experiences are in store for people seeding new lawns. Years of turfgrass breeding and testing are bearing fruit in elite new Kentucky bluegrasses, fine fescues, bentgrasses and perennial ryegrasses.

Even more can be expected in the years ahead. Suddenly it has become possible to "design" a lawn for any taste and region, blending from a wealth of varieties having outstanding and complementary characteristics.

Strange new names identify the varieties. Kenblue is a natural Kentucky bluegrass from Kentucky, which joins Arboretum and Park among the self-reliant bluegrasses. For elite lawns Fylking, Pennstar and Sodco follow Merion's lead among the low-growing cultivars; Cougar, Prato and Windsor support Newport and Delta among the intermediates.

The future looks bright. A number of unnamed distinct hybrids, and such as Nugget and fine fescue, are being bred by the fescue breeders. When a wide range of soil conditions, a portion of which are secreted in growing plants which are clear, but apparent in the coarser species, not to be which

FOLLOWING WINTER

Proper Restor

Tests Confirm Hardy Aspects

Few lawns emerge from winter so attractive as they were the previous autumn. Blemishes and scuffs from a variety of causes could not heal while the grass was dormant. Disease may have thinned the stand, traffic crushed the crowns, salt caused injury near drive or

University tests confirm the greater winter hardiness of Kentucky bluegrasses and bentgrasses, compared to annual bluegrass or ryegrass. The latter may be killed by sudden cold, standing water or a number of other causes. The bluegrasses and bentgrasses resist. First o. or a that the bentgrasses is to reseed ba. bentgrass and bolster thin turf. Better seeding can be at half rate recommended for ne. Seed of high qual. Fine-textured. Such various in

Choosing Seed Is Complicated

Lawn seed is not just an seed sowed for lawns. It is a blend of those grasses that grow well together in combination satisfy the field requirements of the shade and persist. Let tree roots and (fine fescues). riant in the soil is good. Others fare. The claim is much. Mixing organic lawn normal abuse, especially the excellent grow.

Civilization, it is said, is sustained by 6 inches of topsoil. Soil is a remarkable asset around the home. Considered rather than one does not let the soil absorb the unnecessary chemicals, or the frost pits. Artificially improve the soil mass to add. Such a machine make good lawn needs thinning as so-called power rakes slice into the turf. Soil scratches from a machine make good lawn needs thinning as so-called power rakes slice into the turf. Soil scratches from a machine make good

Few lawns emerge so attractive as the previous Autumn. and scuffs from a causes could not the grass was de may have risen years. But even if they had, lawnseed would still be one of the best buys around. Millions of seeds to the pound, thousands of seeds "grow up" to grass it is estimated value

Still Bargain

Lawnseed prices haven't risen much in a score of years. But even if they had, lawnseed would still be one of the best buys around. Millions of seeds to the pound, thousands of seeds "grow up" to grass it is estimated value

of course, such as Pennlawn and All are of the species, not to be which

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POPULATION DEFINITE AD
 the pressure of population man. It A new lawn can be planted in the spring with greatest confidence if the seedbed has been cultivated, mixing in plenty of fertilizer (and lime, too, if a soil test shows acidity). Robert W. Schery, the head of the Lawn Institute gives us pointers:
 Soil cultivation may be rotary tiller (almost no one seems to spade sizeable area anymore), or a tractor with cultivating and leveling implements can be hired. Do not rework the soil more than necessary to get it level, for repeated tillage pulverizes aggregates and destroys an impervious water-soak
 The good lawngresses, like "good" weeds, are with us to adapt precisely. They adjust to a wide range of conditions (to a varying density of soil and fertility conditions), a portion of which are secreted in growing plants which are clear, but apparent in the coarser species, not to be which

Tough Competition
 The good lawngresses, like "good" weeds, are with us to adapt precisely. They adjust to a wide range of conditions (to a varying density of soil and fertility conditions), a portion of which are secreted in growing plants which are clear, but apparent in the coarser species, not to be which

BETTER SEED WILL CONTAIN NO CRABGRASS
 The Lawn Institute has studied records of more than 2000 commercial lawns for eye to weed. Since the federal seed act was amended, lawnseed labels were required to state whether the seed was "fine-textured" or "coarse-textured". Fine-textured lawnseed is packaged in narrow leaf

FOR LA
 Quality small, when spaded, crushed, or if these seeds are sown in a lawn, they will grow up to a height of 1 to 2 inches. They are well adapted to dry, sandy soils, and are especially well adapted to areas with long rainy seasons or persistent mists. Such areas generally have an acid soil, too, well tolerated by bentgrass. The seed of bentgrass is very tiny; most varieties run around 8 million seeds to the pound. A pound thus goes a long way and seeding is quite economical.
 The fine fescues, the Ken- perennating grasses, and a few other species are considered to be well adapted to areas with long rainy seasons or persistent mists. Such areas generally have an acid soil, too, well tolerated by bentgrass. The seed of bentgrass is very tiny; most varieties run around 8 million seeds to the pound. A pound thus goes a long way and seeding is quite economical.

COLUMBIA DISPATCH
 SUN., APRIL 26, 1970

Fescues Ideal For Dry Spots
 Although all lawngresses use water at approximately the same rate, some species are more durable than others. Fine fescues, such as Chewillahee and Fovrites for sandy soils, are especially well adapted to areas with long rainy seasons or persistent mists. Such areas generally have an acid soil, too, well tolerated by bentgrass. The seed of bentgrass is very tiny; most varieties run around 8 million seeds to the pound. A pound thus goes a long way and seeding is quite economical.

Bentgrass Suits Damp Acid Soil
 Bentgrasses, species of Agrostis, varieties well adapted to areas with long rainy seasons or persistent mists. Such areas generally have an acid soil, too, well tolerated by bentgrass. The seed of bentgrass is very tiny; most varieties run around 8 million seeds to the pound. A pound thus goes a long way and seeding is quite economical.

Feed Fescues
 Because lawn fescues get along so well on poor soil

STOPPING CRABGRASS
 Spring is the time against summer crabgrass spreading a lawn. A bluegrass lawn venter are applied. Soil warms early, grass to sprout degrees. They growing Ken fine fescue grass. Ind containing a seeding are used stops not the beauty of a lawn does not so much upon how the grass is mowed upon how evenly it is cut. All lawns look best shortly after mowing, but the shaven usually turns ragged more quickly than mowed tall. Mowing should accommodate the kind of grass.
 bentgrass as Highland are relatively low, one-half and 1-inch stems, the stubble will be clipped off. A lawn could be mowed so as not more than about the green fescue grass tw
 grasses varieties with and Pen are high w as sea-ir
 All varieties of certain leaf measure first to some as Fylking grass heights. fact almost any

THE LAWN INSTITUTE ACTIVE REPRINTS

SHELF 1

- 69 - Gobs of Good Grass ----- American Cemetery
- 54 - Fescues Find Favor ----- American Cemetery
- 124 - Saving on Lawn Maintenance ----- American Cemetery
(Quality Turfgrass Brochure & Ag. Yearbook reprints
stored under above reprint).
- 132 - Have a Lawn You Can Play On --- (SHELF 9) ----- American Home (SHELF 9)

SHELF 2

- 81 - What Lawn to Plant Where ----- American Nurserymen
- 71 - Spring Cleanup ----- American Rose Magazine
- 130 - Seed & Feed to Hex the Weed ----- American Rose Annual ('68)

SHELF 3

- 45 - Lawns & Roses Have Needs in Common ----- American Rose Magazine
- 50A - Are You Ready for Lawn Seeding? ----- American Rose Magazine
- 120 - How to Buy Lawn Seed ----- Better Homes & Gardens
- 167 - How to Turn Grass into a Lawn ----- Better Homes & Gardens
Lawns, Their Making & Keeping ----- Brook. Bot. Garden
- 52 - Autumn Lawn Care ----- Building Maintenance & Mod.
- 4 - Plant for Profit ----- Buildings
- 152 - Prepare Now For Spring Lawn Care ----- Buildings

SHELF 4

- 35 - Modern Power Mowers ----- Building Maintenance
- 68 - Put Spring in Your Lawn ----- Building Maintenance
- 127 - Turf Preparation for Summer Heat ----- Building Maintenance
- 141 - Turfgrass, America's Growingest Crop ----- Better Crops With Plant Food
- 155 - Modern Lawn Maintenance ----- Building Maintenance & Mod.

SHELF 5

- 95 - Quality Lawns for Fine Roses ----- Canadian Rose Annual '65
- 154 - Good Seed Makes Good Sod ----- Catholic Inst. Management
- 38 - The Prestige of Quality Turf ----- Concept
- 41 - Fertilizing Lawns in Winter ----- Concept
- 116 - The Lawn Seed Industry Comes of Age ----- Crops and Soils
- 20 - Bluegrass Grassroots Empire ----- Economic Botany
- 157 - Autumn is for Lawn Care ----- Family Handyman
- 131 - Lest Hunger Haunt Your Lawn ----- Fertilizer Solutions
- 79 - Solutions to a Better Lawn ----- Fertilizer Solutions
- 70 - Anemia in Your Garden ----- Flower & Garden

SHELF 6

- 140 - In Praise of Unpampered Turf ----- Flower & Garden
- 81A - Is Thatch a Threat? ----- Flower & Garden
- 36 - Lawn Time Coming Up ----- Flower & Garden
- 89 - Quick Spring Greenup ----- Flower & Garden
- 111 - Improving an Old Lawn ----- Flower & Garden
- 151 - A Stitch in Time ----- Flower & Garden
- 156 - Summer Suggestions for Lawns ----- Flower & Garden

SHELF 7

- 103 - Common Sense Lawn Care ----- Flower Grower
- 64 - Live With Your Lawn & Like it ----- Flower Grower

78 - Turf Tips -----	Flower Grower
Drench Customers - Answer Questions (2 reprints) -----	Flower & Garden Merchandizer
51 - Lawngrass or Weed, Choice is Yours -----	The Gardener
76 - The Grass is Always Greener -----	Golf Business
97A - Seed Selection is Important -----	Goldom
107 - Why Not Bentgrass Blends -----	Goldom
148 - Turfgrass Today -----	Grounds Maintenance

SHELF 8

9 - Patience Pays in Lawn Seeding -----	The Green Thumb
Mr. Dealer, Be Prepared-----	Home & Garden Supply Mer.
48 - Autumn Lawn Seed Sales -----	Home & Garden Mer.
150 - New Lawn Seed Ready to Sprout Profits -----	Home & Garden Mer.
118 - Early Spring Lawn Care -----	Home Garden
162 - Lawn Care Starts This Month -----	Home Garden
164 - Lawn Care Pays Green Dividends -----	Home Garden
169 - A Spotless Summer Lawn Takes Careful Planning -----	Home Garden

SHELF 9

46 - Theories About Lawn Care -----	Horticulture
60 - Springs & Plugs -----	Horticulture
27A - The Story of Bluegrass -----	Horticulture
117 - Where You Can't Have a Lawn -----	Horticulture
114 - Lawns -----	Horticulture
142 - Summer Care of Lawns -----	Horticulture
143 - The Label's the Clue to Lawn Seed -----	Horticulture
158 - Lawn Thatch What It's All About -----	Horticulture
166 - Spring Handbook on Lawns -----	Horticulture

SHELF 10

149 - Winter Feeding of Lawns -----	Horticulture
158 - Lawn Thatch, What It's All About -----	Horticulture
110 - Steps to Assure a Good Lawn -----	House & Garden
88 - Lawngrasses: What Kind for Your Customers? -----	LGO
65 - Advantages of Highland Bentgrass -----	LGO
3 - Fall Offers Ideal Growing Conditions for New Lawns -----	LGO
102 - Quality Bentgrass Proves Compatible -----	LGO
161 - Landscape Turf -----	Landscape Industry
168 - New Look in Lawnsaping -----	Landscape Industry

SHELF 11 - TOP

126 - Quackgrass Can be Controlled -----	LGO
109 - Good Seed Makes Good Sod -----	Mass Turf Council
Lawn Establishment & Care -----	Missouri Bot. Garden
85 - Lawn Care -----	Modern Garden Center
The Story of Oregon Fescue -----	Oregon Chewings Fescue
145 - The Migration of a Plant -----	Missouri Bot. Garden

SHELF 11

98 - The Migration of a Plant -----	Natural History Magazine
30A - Quality Lawn Seed -----	N.Y. Bot. Garden
72 - The Curious Case of Highland Bentgrass -----	N.Y. Bot. Garden
122 - The Lawnmaker's Year -----	N.Y. Bot. Garden
105 - Buying Seed for the Roadside -----	Ohio Short Course
153 - Evaluation of Turfgrass for Roadsides -----	Ohio Short Course

SHELF 12

- 86 - How to Get a Good Buy ----- Parks Maintenance
- The Grass in Your Life ----- Parks & Recreation
- 62 - Thatch and Your Lawn ----- Parker Sweeper
- 123 - Now Lawns ----- Parks Floral
- 129 - What Happens to the Best Lawns in September ----- Parks Floral
- 144 - Autumn Lawns: Up, Up and Away ----- Parks Floral
- 159 - Season to Seed, Feed & Weed ----- Parks Floral

SHELF 13

- 28 - A New Slant in Lawn Fertilizing ----- Popular Gardening
- 93 - Your Outdoor Carpet ----- Popular Gardening
- 2 - Landscape for Casual Living ----- Popular Gardening
- 30 - What You Should Know About Buying Grass Seed ----- Popular Science
- 104 - Lawns in Landscaping ----- Quality Motels Reporter
- 80 - Lawn Care ----- Resort Management
- 108 - Lawn Weeds - Don't Let Them Rob You ----- Resort Management
- 101 - Start Your Lawn Planning Now ----- Resort Management
- 113 - Invest Now in Your Lawns ----- Resort Management
- 121 - Shabby Lawns ----- Resort Management
- 128 - Essentials for Lawn Care ----- Resort Management
- 125 - Bevy of Mowers ----- Resort Management

SHELF 14

- 29 - Best Turf for Athletic Fields ----- Scholastic Coach
- 66 - New Look for Winter Turf ----- Seedsman's Digest
- 147 - Winterseeding: Are Seedsmen Missing a Bet? ----- Seedsman's Digest
- 87 - Lawn Seed Sweepstakes ----- Seed World
- 77 - The Importance of Quality Seed ----- Seed World
- 99 - Lawn Seed and Lawn Weeds ----- Seed World

SHELF 15

- 112 - Southern Turf Newsletter ----- Southern Turf
- 42 - Grass Greets the Guest ----- Tourist Court Journal
- 67 - The Beckoning Green ----- Tourist Court Journal
- 119 - How to Have a Beautiful Lawn at Your Motel ----- Tourist Court Journal
- 34 - The Tree Makes the Lawn King ----- Trees
- 73A - Business Opportunities in Turf Reseeding ----- Weeds Trees & Turf
- 115 - Remarkable Kentucky Bluegrass ----- Weeds Trees & Turf
- 83 - How to Select the Right Turfgrass ----- Weeds & Turf
- 133 - Weed Turf With Fertilizer ----- Weeds Trees & Turf
- 139 - Mechanical Renovation ----- (Shelf 11 - TOP) ----- Weeds Trees & Turf (11-TOP)
- 160 - Winning Turf Combination ----- Weeds Trees & Turf

MAGAZINE BOOKCASE

- 96 - This Remarkable Kentucky Bluegrass ----- Annals, Mo. Bot. Garden
- 92 - Lawn Seed & What's a Weed ----- Am. Hort.
- 84 - Good Lawns & Rose Spendor ----- Am. Rose Annual '64
- 135 - Select Seed Wisely ----- Golf Superintendent
- 146 - Bluegrass/Bent Checks Poa Annua ----- Golf Superintendent
- 91 - Seed for Sod ----- Parks & Recreation
- The Grass Craze ----- Saturday Evening Post
- Turfgrass Portrait Series ----- Weeds Trees & Turf
- Kentucky Bluegrass: Turfgrass Par Excellence ----- Weeds Trees & Turf
- 164 - Penncross ----- Golf Superintendent

REPRESENTATIVE ITEMS NOT REPRINTED (1969-70 fiscal year only)
Mostly Trade and House Magazines

With Little Care Grass Seed Will Become Gorgeous Lawn	ASTA
Fescues Unfamiliar	ASTA
Check For Quality	ASTA
Cutting Speeds Lawn Renewal	ASTA
Buy Lawn Seed From Experts	ASTA
Lawn Seed Big Bargain	ASTA
Seed Bentgrass in Moist Regions	ASTA
Seeding Lawns	ASTA
End Winter Lawn Drabness	ASTA
Lawnseed Facts	ASTA
Spring Tonic For Turf	Avant Gardener
Southern Lawn Strategy	Avant Gardener
Winter Feeding of Lawns	The Bull Sheet
Why Not Bentgrass Blends	The Bull Sheet
Bluegrass Stands Guard	Edison Garden News
The Virtues of Bentgrass	Edison Garden News
Lawns	Encyclopedia Americana
Sunn	Encyclopedia Brittanica
Plant & Repair Lawns in Autumn	Family Handyman
Fescue Promotion	Fescue Assoc. Ann. Meet.
Turfgrass Seed Production in the USA	First International Turf Con.
New Lawn Varieties	Florist & Nursery Exchange
New Bluegrass Era Dawns	Flower & Garden
A Guide to Improved Lawns & Gardens	Good Housekeeping
Spring Outdoors	Home Handyman
Gardening Potpourri	Home Handyman
Kentucky Bluegrass	Io. Golf Course Supt. Rpt.
New Grass Seed Breeds Fine Lawns	L & G Supplement
Winter Damaged Lawns Need New Spark of Life	L & G Supplement
Care Brings Healthy Lawns	L & G Supplement
Seeding Lawn Made Easy if Simple Rules Followed	L & G Supplement
Quackgrass Meets Equal in Bluegrass	L & G Supplement
New Grass For Home Green	Misc.
Lawns & Soils, revision	McCalls Garden Book
About Lawns	Ogilvy & Mather
Essentials For Roadside Vegetation	Ohio Short Course
Lawns & Turfs in the United States and Europe	Oregon Seed League
The Better Lawn and Turf Program	Oregon Seed League Proceed.
What's New	Professional Turf News
Natural Growth Repression	Professional Turf News
More on Pest Resistance & Epidemics	Professional Turf News
Concern With Water	Professional Turf News
Plant Responses	Professional Turf News
Chemical Influences	Professional Turf News
Insure Lawn Planting With Fertilizer	Seed World
Advantage of Seed Blends	Seed World
Bulletin Board Suggestions (numerous times)	Seed World
To Seed or Sod	Seed World
Seeding Spring Lawns	Seed World
Spring Lawn Requirements	Seed World
Bluegrass Breeding Shows	Seed World
Lawn Seedbed Importance	Seed World
Lawn Seed Keeps Well	Seed Trade News
New Bluegrass Varieties Good	Seed Trade News
Swede Becomes Good News for Am Bluegrass Buyers	Seed Trade News
New Officers	Seed Trade News
Establishing a Lawn	Southern Gardens

REPRESENTATIVE ITEMS NOT REPRINTED (Continued)

Overseeding For Winter
 New Lawn Seeds Ready to Sprout Profits
 New Turfgrass Varieties
 Grass Seed Blends
 Weeds -- Hit 'em Hard in Autumn
 Fine Fescue, Lawngrass Extraordinary

Southern Turf Nurseries
 Turf Bulletin (Mass. T&LC)
 Turf & Garden Guide
 Turf & Garden Guide
 Turf & Garden Guide
 Weeds Trees & Turf

INACTIVE REPRINTS

Follow These Directions for a Greener, Smoother Lawn
 There is a Difference in Grass Seed
 Power Mowers Make the Job Easier
 Here's How to Build a New Lawn
 What's Ahead for Better Lawns
 Better Lawns Are Autumn Sponsored
 To Keep Them Green All Season
 August Is The Month For Home & Community Lawn Projects
 Have a Carefree Lawn
 Before You Buy Grass Seed
 Program For a Problem-Free Lawn
 Good Lawn Seed Goes With Autumn
 Beauty and the Boast
 How to Nail Down a Thick Lawn Quick
 Lawn Facts & Fancies
 Let the Lawngrass Do Your Weeding
 Summer Tests Your Lawn Program
 Facts On Lawn Feeding
 The Red, White and Blue of Beauty
 What's New in Lawn Building
 Weeding Lawns
 Build Your Lawn
 Don't Let Crabgrass Spoil Your Lawn
 Showcase For Roses
 Lawns Need Food, Too
 Choose Lawn Beauty
 Ten Spring Lawn Problems
 Planting the New Lawn
 Big Bargains in Turf
 Fall Ideal for Lawn Preparation
 Autumn - The Season For Lawn Survival
 Here's What the Lawn Experts Say
 The Lawn, 1962 Model
 Large Area Seeding, A Rundown on Turf
 Selective Chemicals Control Lawn Weeds
 Remake Your Lawn in Autumn
 Beat the Bugs Plan for Pleasure
 Lawn Conscious Prospect Needs Turf Care Advice
 The Many Varieties of Kentucky Bluegrass
 Kentucky Bluegrass Turf
 Air Cushion Mowing
 The Latest News About Lawns
 Lawns in Landscaping
 Give Lawns Fall Care
 Seeded Fairways; Bluegrass
 Shade Grasses
 The Seedy Side

Horticulture
 Horticulture
 Horticulture
 Horticulture
 Horticulture
 Flower & Garden
 Home Garden
 Flower Grower
 Popular Gardening
 Horticulture
 House & Garden
 Home Maint & Improvement
 Garden Journal
 Spencer Chemical Ad
 Popular Gardening
 Flower & Garden
 Better Building Maintenance
 Better Homes & Gardens
 Am. Rose
 Horticulture
 Garden Journal
 Better Building Maintenance
 Horticulture
 American Rose
 Horticulture
 Cem. Maintenance Overseer
 Popular Gardening
 Better Building Maintenance
 American Cemetery
 Farm Store Merchandising
 American Nurseryman
 Flower Grower
 Family Handyman
 Park Maintenance
 Horticulture
 Family Handyman
 American Rose
 Lawn/Garden/Outdoor Living
 Horticulture
 Western Landscaping News
 Weeds Trees & Turf
 Horticulture
 Quality Motels Reporter
 Buildings
 The Bull Sheet
 The Bull Sheet
 Lawn Equipment Journal

ANNUAL REPORT (Continued)

ornamental plantings fit nicely into the ecological scheme (Dr. Schery has been active with the Committee on Environmental Pollution of the American Society of Horticultural Science). In any event, a glance through the previous 5 pages, will show the breadth and depth of this valuable Institute activity.

4. National Columnists. Tying in closely with other activities, are the working relationships enjoyed with prominent gardening columnists, syndicated nationally. We have enjoyed especially pleasant relationships with George Abraham, author of The Green Thumb, appearing nationally in more than a hundred newspapers. George regularly sends the Institute inquiries he receives about lawns, and generally publishes the answers we give in his column (frequently with mention of or credit to the Institute). Oftentimes Institute materials appear in columns of local authorities, including extension experts who need a ready-made insert. But we are especially pleased when nationally recognized personalities, such as Earl Aronson of the Associated Press, select Institute materials for the substance of releases that appear in newspapers all over the country. Reproduced on the ~~next~~ page following is an example of an Aronson column sent in by a reader; you will note his generous inclusion of the offer to supply informational reprints. Note also mention of the Lawn Institute. Such syndicated mentions add immeasurably to the influence the Institute achieves.

5. Other Press Mailings. The Institute has become recognized for its ability to convey sound information in a popular fashion, understandable to non-technical audiences. As a result added opportunities are gained through invitation to prepare articles for such organizations as the National Garden Bureau, and the clip sheet jointly sponsored by the ASTA, the American Nurserymen's Association and other associated trade groups. We are told that the National Garden Bureau "Beautification Supplement" is sent to all major daily and current select weekly newspapers, and that the ASTA clip sheet goes to 17,000 newspapers. In all of these Institute stories and photographs are liberally placed. Additionally, member firms from time to time mail releases nationally, utilizing Institute materials or composed of items provided through Dr. Schery. Again, this extends Institute activities at no cost other than staff time.

6. Harvests. Anyone reading this report is perforce acquainted with the Institute's quarterly newsletter, Harvests. Volumes 16 and 17 for the fiscal year contained a total of 111 pages, composed, mimeographed and mailed to all members and associates from the Marysville office. Adopted newly this year is a scheme for separating a resume of current activities from a technical section that reports upon research and pertinent information from professional journals. Scanning the former shows quickly what the Institute is doing, while the latter may serve as a helpful reference to those engaged in technical aspects of the industry. We feel that this is a type of service we can lend members equivalent to that for which many firms would invest appreciable manpower or hire consultation.

7. International Turfgrass Conference. The Institute made a small donation to help defray expenses of the First International Turfgrass Conference, held in Harrogate, England, in July of 1969, and more importantly, participated actively by sending Director Schery to the conference as a representative and speaker. A review of this conference was given in the October, 1969 issue of

(Continued)

PUBLICITY REACH EXTENDED

The previous Harvests mentioned the fine cooperation of many newspapers around the country including the press kit offer of reprints to anyone sending a self addressed, stamped envelope. In this fashion it has been possible to communicate personally with hundreds of lawn devotees throughout the country, at no cost to the Institute other than the time for folding and inserting reprints. Numerous inquiries have been received almost daily since appearance of the press kit in late winter.

One of the reasons for the wide response, came to light when a reader from Boston sent in the Earl Aronson column duplicated below. Aronson has been very helpful to the Institute through the years, distributing through the Associated Press by-line mention of the Institute. In the years when the Institute followed such mentions through a press clipping service, not infrequently about 40 states would be tallied, including hundreds of appearances of the Aronson column, always generously giving credit to the Institute. This year was apparently no different, and you will notice the reprint offer being included.

Design a Lawn for Your Region

By EARL ARONSON

For you who are about to embark on the experience of seeding a new lawn there is news of new Kentucky bluegrasses, fine fescues, bentgrasses and perennial ryegrasses. These are the result of many years of turfgrass breeding and testing.

Blends of excellent varieties with outstanding and complimentary characteristics make it possible to design a lawn for your region and your taste.

Friend, Dr. Robert W. Schery, of the Lawn Institute of Marysville, Ohio, pointed out some new name varieties for us.

Kenblue is a natural Kentucky bluegrass to join Arbotum and Park among sturdy bluegrasses.

Fylking, Pennstar and Sodco go along with Merion's for

elite lawns with low-growing cultivators.

Cougar, Prato and Windsor are added to Newport and Delta among intermediates.

"THE FUTURE looks bright for a number of disease-resistant hybrids not yet named, such as those of Dr. Funk at Rutgers University, and for introductions from far away places such as Nugget out of Alaska," Schery advised.

The fine fescues, good companions of Kentucky bluegrass in blends, are reported progressing smartly. Some fine fescue is suggested for sunny sites, but a higher percentage for shade blends and for sandy, infertile soils. Some varieties coming along are Cascade, Highlight, Golfrood, and Wintergreen, and proven

Chewings, Illanee, Pennlawn and Rainier. These are "creeping red" species, not to be confused with the coarser tall fescues popular in the upper south.

Among new bentgrasses progressing, for moist climates where they do well, are Exeter and Holfior, joining widely-used Astoria and Highland among Colonial bentgrasses—the species used most for lawns and fairways.

Penncross and Seaside are creeping bentgrasses used for golf and bowling greens. Newer perennial ryegrasses include Manhattan, NK-100, Norles and Pelo.

YOU CAN PICK up a package at your garden store. If you want a leaflet describing varieties and planting techniques write to the Lawn Institute at Marysville, Ohio,

43040, sending a self-addressed-stamped envelope.

GOOD GRASSES such as blue, fine fescues and bent may compete for lawn space but they don't poison one another as does quackgrass. Quackgrass toxins appear to paralyze partially the ability of roots to absorb minerals, Dr. Schery notes. It will reduce yields of forage crops more than can be accounted for by just the competition for water and minerals.

But Dr. Schery says the pesky quackgrass meets its equal in lawns planted to adapted bluegrasses, fescues and bentgrasses, which in time will overwhelm the quackgrass.

Good grass gets a competitive boost by regular mowing. It stands up to partial defoliation (mowing) done repeatedly better than does quackgrass.

Harvests, and will not be further elaborated upon here. Observations on turfgrass conditions in Europe, as a result of the tour following the conference, are given in a presentation made to the Oregon Seed League meetings in December of 1969, and have appeared in the Proceedings of that gathering (published in June, 1970). We feel it is important that the Institute maintain professional contacts and assume a place of importance by participating in such endeavors.

8. Other Conferences. Dr. Schery, representing the Institute, attends numerous meetings and conventions throughout the year. These are mentioned, and the papers usually reviewed, in a subsequent issue of Harvests. Presentations were given at the Oregon Seed League, the Pennsylvania Nurserymen's Association, the Ohio Short Course on Roadside Development, the Iowa Golf Course Superintendent's Association, the Illinois Landscape Contractors Association, the National Association of Sod Growers of Canada, and others. Occasionally presentations are given to private groups interested in having their personnel become acquainted with turfgrass fundamentals, such as was the case with the John Deere Consumer Products Division sales meeting.

9. Demonstration Grounds. Without direct experience with the grasses the Institute publicizes, and the latest means for their care, Institute stories could be neither authoritative nor convincing. Many pages would be necessary to describe these plantings, the *raison d'etre* for other Institute activities, but suffice to say they are under constant supervision by the Director and a frequent object of interest to visitors. Cost is very modest, since use of the land is donated, and plot care partly subsidized by contributions and materials from sponsors such as Borden and Hercules, or interested outside firms such as Toro.

10. Professional Contacts. The Institute endeavors to maintain contact with professional research personnel, primarily at state colleges. Conventions such as that of the American Society of Agronomy (held last year in Detroit, Michigan) are attended. Reprints, donated seed, and suchlike are frequently sent technical people throughout the country, and communications maintained with the Institute's "Board of Advisors" (research men strategically located in varying climatic zones around the country who have volunteered to exchange information concerning their locality; information so furnished was invaluable, for example, in preparation of Dr. Schery's report to the Roadside Development Short Course on national seeding recommendations). The Institute continues to send multiple press kits and reprints to certain state extension specialists, for distribution through urban county agents. From time to time technical people call at the Institute. The Institute maintains membership in the Ohio Turfgrass Foundation, and is an honorary member of many state turfgrass organizations throughout the country.

11. Communications. It would be tedious to detail all of the correspondence, telephone calls and other communications that are everyday activities of the Institute. We are called upon to supply information, statistical data and opinions, to a wide variety of contacts that includes our own members, trade associations, and individuals who have obtained the Institute's name and address. Organized mass communications with consumers results from Dr. Schery appearing as the "lawn answer man" in the Better Turf & Garden Guide, which invites questions from readers. Dr. Schery also aids in design and preparation of informational brochures for firms and contacts in all sections of the country.

(Continued)

ANNUAL REPORT (Continued)

12. Photographic Library. New photographs are routinely taken when there is something to show on the Institute grounds, to keep a fresh supply of illustrations available for stories and editorial requests. The Institute has also reviewed movies offered by the trade, and recommends such worthwhile films as "Miracle of Grass" offered through Union Pacific and "Greener on Your Side" by Hercules Incorporated. Maintenance of a photographic library has integral ties with many of the activities previously discussed.

13. Lawn Authority. The Lawn Institute is increasingly looked upon as an authority for lawn information. Dr. Schery's two books on this subject are frequently requested and distributed, as is reference to lawn chapters provided by the Institute to various gardening encyclopedias. "Lawns" was especially written up during this fiscal year for Encyclopedia Americana, and the Field Museum of Natural History (Chicago) contacted the Institute about a lawngrass exhibit being prepared for this important public showplace. The Institute is frequently contacted by trade schools, community colleges, grounds maintenance departments, and public or military agencies, requesting advice and information on seeding formulas, seed rates, and similar matters attendant to a useful turf.

14. Seal of Approval. The Seal of Approval was originally devised for use on lawnseed mixtures, and is currently adopted by 8 firms. Royalties of $\frac{1}{2}$ cent per pound for seed sold bearing the Seal are largely returned for support of local advertising. Intensity of Seal usage varies from firm to firm, the amount being privileged information. While not a major activity, this is another of the Institute services offered members who wish to make use of it.

15. Special Projects. The Institute addresses itself to whatever opportunities come along during the year, and tries to provide informative publicity (such as stories on particular grass varieties when requested). As noted in the outline, the Institute has been especially instrumental in furthering the use of northern grasses for wintergrass seeding in the South; the evaluation and publicizing of prominent new varieties; promotion of lawn seeding through participation in such activities as Lawn & Garden Week; encouraging research and release of information from experts around the country; etc.

It perhaps adds indirectly to Institute prestige that Plant Science, of which Dr. Schery was co-author, a new college textbook for agronomy and similar courses, has achieved wide acceptance during the year. Plant Agriculture (under the editorial direction of the same authors) a compilation of readings from Scientific American, has also been published. Grass seed is mentioned in appropriate chapters. Examples of unforeseen opportunities include the preparation of a winterseeding review for Ray Jensen, Tifton, Georgia, and the request for lawn stories from George Jecmen, editor for the Edison Garden News, Commonwealth Edison Company, Illinois.

A report for the year should not end without expressing appreciation to the officers and Oregon staff who has worked so effectively behind the scenes to keep the Institute functioning. President Carnes, especially, has been beset by many unforeseen obligations, and we are deeply indebted to him for his continuing interest in spite of other demands for his time. The Marysville staff appreciates very much encouragement from officers, trustees, and members during the fiscal year.

FOR GOOD HOUSEKEEPING MAGAZINE

Eileen Stukane, staff writer for Good Housekeeping magazine, came to the Institute in spring for checking out information on a lawn item. Apparently the experience was rewarding. Again in mid-April Miss Stukane telephoned for information on summer lawn care. This gave opportunity to mention some of the attributes of the better turfgrasses, viz.:

"With recognized, tolerant lawn species such as the Kentucky bluegrasses and fine fescues, a lawn can be let dry until it is completely brown without killing the grass (although your esthetics are pretty badly upset in the process). Even Highland bentgrass tolerates dry summers quite well. Watering is really more for esthetic considerations than for the health of the grass."

EXTENDED PUBLICITY

A rash of self-addressed envelopes amounting to more than 20 per day hit the Marysville office in early April, requesting reprints. Normally there has been a flurry of such interests from a specific location, as the press kit story offering reprints was used in some local newspaper. The sudden swell of requests excited our curiosity. A note coming in from Two Rivers, Wisconsin may explain the sudden surge. T. T. Deddens of that city asked for reprints she saw mentioned in the "AP Newsfeature article by Earl Aronson".

In the past Earl Aronson has utilized Institute press kit material rather voluminously in his syndicated column, which appears in hundreds of newspapers all over the country, distributed through Associated Press. We suppose that we are again the beneficiary of such extended additional publicity through Aronson's column, even though we have not seen the column ourself (since we no longer subscribe to a clipping service).

FOR FLORISTS NURSERY EXCHANGE

A story on New Lawn Varieties was prepared at the request of Percy Stelle, for the Florists and Nursery Exchange in mid-April. The wealth of fine turfgrasses available today offer many distinctive landscaping possibilities. "Kentucky bluegrasses and Oregon fine fescues have long been the mainstays for the northern two-thirds of the nation. It is not strange that these prize species received much initial attention.) The roster of bluegrass and fescue names felt ready for the big time runs to a half hundred already". Sub-topics discussed include Fine Fescues From Oregon, The Kentucky Bluegrasses, Bentgrasses ("Highland and Holflor bentgrasses are modest in their requirements, ---"), Perennial Ryegrasses ("newly admitted to the fine turf lists are several fine-textured perennial ryegrasses"), and Southern Grasses.

INSTITUTE FAME SPREADS

The Institute is flattered that it is even being recommended as an authority by authorities. An example is a knowledgeable letter from C. M. Stuart of New York, who opens with the explanation, "Our County Extension Service representative has suggested that we write to request your help and recommendations as to the solution of a perplexing problem with our lawn --".

A FESCUE FEATURE

Mrs. Rush spotted in the May 17 Columbus, Ohio Dispatch, the Institute item there entitled Fescue Durable. It is good to see fine fescues gaining headlines in what is basically bluegrass territory. The item begins, "Research has shown fine fescues, a component of top lawnseed blends, are especially durable ---".

INTEREST EXPRESSED FROM ENGLAND

D. Colbeck, Editor of the English journal, Parks and Sports Grounds, wrote this spring requesting any technical or trade publications which the Institute might be responsible for. Mrs. Rush forwarded a press kit, a sample copy of Harvests, and representative reprints. Mr. Colbeck mentions in his letter, " -- we may be able to make mention of this in the news columns of our journal."

INQUIRY SERVICE EXCITES INTEREST

During late spring numerous already-addressed mailing labels were received from the Nielsen Inquiry Service, in behalf of Modern Manufacturing, a McGraw-Hill Market-Directed Publication published in New York. The May issue carried an offer of Institute literature, to be mailed upon request.

The Marysville office is unaware of what stimulated this contact, but the service is certainly without charge to the Institute. We are glad to send an envelope of reprints to the numerous firms, readers of the magazine, which have requested them. This should represent an important institutional market for lawn seed and lawn products.

*Bluegrass
reprints
sent
to each
request.*

FOR PROFESSIONAL TURF NEWS

A write-up has been supplied Borden, Professional Turf News, Recent Research Review, to appear during autumn. Progress in seed germination research is reviewed, as is the current flurry of interest in environment. (viz. "A superintendent planting Penncross to a green, or a bluegrass-Highland bentgrass combo to a fairway, experiences less risk than does a farmer ---"). Weed control in border states environments is discussed, based chiefly upon research done in Oklahoma.

SEED WORLD USES STORY

The April 10 issue of Seed World, carried the Institute story Spring Lawn Requirements, with by-line credit. Sample quotations: "You may have heard your golf pro talk about Penncross creeping bentgrass for the green, --- Kentucky bluegrass and fine fescue varieties are much used for lawn mixtures;) and for low-mowed lawn in moist climates Colonial bentgrasses such as Highland and Exeter may be included."

UNIVERSITY OF WISCONSIN REQUEST

Institute literature was requested by Donald G. Schwarz, University of Wisconsin, for use in a compilation of "Career Opportunities" for the guidance of young people.

TEAR SHEET FROM NEW JERSEY

Alice Dustan (Kollar), Garden Editor for the Sunday Newark Star Ledger, very kindly sent in a tear sheet of her column for Sunday, March 22. She generously gave credit to the Institute, viz. "A new lawn can be planted in the spring --- (Robert W. Schery head of the Lawn Institute gives us pointers: --- about 3 lbs. of Kentucky bluegrass - fine fescue blend is all that is needed for 1,000 sq. ft.;) or only half this much of tiny seeded varieties such as Highland bentgrass --- as to the kind of grass seed for New Jersey lawns, usually recommended is Kentucky bluegrass) - fine fescue blends. (Experiments reported by the Lawn Institute show that the Park variety of Kentucky bluegrass generally leads all others in rapidity of establishment ---) of fine fescues, the Pennlawn, Jamestown and Wintergreen varieties rated among the most disease resistant in Michigan tests. Perhaps the most noteworthy feature of fescues --- is their ability to persist on infertile soil with a minimum of attention. True, the fine fescues --- such as Cascade, Highlight, Chewings, Illahee and Pennlawn --- do look more attractive when fertilized --- together, good forms of bluegrass and fescue make the perfect grass blends for a durable lawn in our area."

These are but a few excerpts from the two pages devoted to this feature in the "In The Garden" section of the Sunday supplement.

A STORY FOR SUMMER

We are pleased to have had the Institute story, titled "A 'Spotless' Summer Lawn Takes Careful Planning", appear in the June issue of Home Garden magazine. This tends to be a slack season for new lawn seeding, but a busy one for lawn maintenance. The article advises, "Aid the grass through common sense care, and tackle the emergencies with the appropriate pesticides."

It is pointed out that the sod webworms were less damaging to indigenous Kentucky bluegrass in Kentucky, than to imported cultivars. Insect damage of various types is reviewed, and pesticide control mentioned. Fungicide applications, and proper fertilization, round out some of the more important lawn maintenance matters for summer.

ASHS PROGRAM

Dr. Schery of the Institute received a letter from Dr. Edward J. Ryder, Chairman of the Committee on Environmental Pollution, of the American Society of Horticultural Science. An effort is being initiated to relate professional horticulture to the present concern about environment. It is hoped that this society can encourage ornamental plantings through its professional prestige. Dr. Schery urged the committee not only to "look inward", but to supply information and reassurance to the general public. There is certainly no reason why people should neglect useful and pleasant horticultural endeavors, for fear of environmental hazard from pesticides and fertilizers. There is no better base for reassurance than releases and statements from a society representing the professional horticulturists.

COLUMN APPEARS

We are pleased to have the column "A Review of Recent Research", with Institute by-line, appear in Borden's Professional Turf News, sent to a wide golf course audience.

PENNCROSS STORY APPEARS

The April issue of the Golf Superintendent carried the Institute story, Penncross (the original title, "Penncross, Pick of the Pros", was apparently deleted at the last minute by the editors). The story is attractively presented over 3 consecutive pages, amply illustrated with Institute photos. Unfortunately, a few typographical and editorial mistakes appeared in the text, which, however, can be corrected in the reprinting by the Penncross Association. It is good to have the advantages of Penncross creeping bentgrass called to the attention of golf course superintendents, who are the major market for its seed.

STORY FOR GREENS AND FAIRWAY NEWSLETTER

The story New Turfgrass Varieties was prepared for Borden's newsletter to golf course people. It gives opportunity to mention suitable cultivars for the modern, irrigated fairway, that includes some of the new low-growing bluegrasses perhaps combined with stalwart varieties such as Highland and Holfior bentgrasses. Penncross is suggested for golf greens.

The story opens, ("The Kentucky bluegrasses, favorite lawn and fairway species in the North, and companion fine fescues, sport most new cultivars.) Bentgrasses are no slouch, with several new selections joining Highland, and Penncross." The reprints "Penncross", and "Kentucky Bluegrass: Turfgrass Par Excellence" are offered to those requesting them. Newer varieties which have reached market status are mentioned by name.

FOR FLOWER AND GARDEN

The story, "New Bluegrass Era Dawns", was prepared in April for summer publication in Flower and Garden magazine. The story opens, "Trends now emerging are sure to shape your lawn's future during the decade of the 70's. New developments are perhaps farthest along in the Kentucky bluegrass group, although fine fescues, bentgrasses, and to an extent southern grasses planted vegetatively, are rapidly progressing, too. (So let's turn the spotlight on the pacesetter, bluegrass, fully realizing that fine fescues and other modern cultivars will remain bluegrass' inseparable companions in lawnseed mixtures." The story goes on to name newer varieties and to commend the old favorites as well, for uses to which they are well adapted. Finally, fertilization and mowing are related to the different kinds of grass.

INSTITUTE PHOTOS IN PUBLICATION

Word from McKnight Publishing Company indicates that they have been selected "to produce and distribute books and laboratory material for the industrial arts curriculum project as developed at the Ohio State University. --- we would like --- permission to reproduce your illustrations in the new edition of The World of Construction." The Institute had provided several photos for this project, and is glad to encourage wider dissemination of this information as "Reading 90, Landscaping Homesites". Credit is given the Institute in the captions.

LANDSCAPE STORY

The March/April issue of Landscape Industry carried the Institute story The New Look in Lawnscaping.

The story opens with an historical perspective of lawns and the gradual transition to elite cultivars. (" -- self reliant bluegrasses as Arboretum (Missouri), Kenblue (Kentucky) and Park (Minnesota); fescues such as Chewings, Illahee, Pennlawn and Rainer; and Highland colonial bentgrass. (These are excellent cultivars and serve especially well for turf that can be only moderately tended.) Except with Highland bentgrass they should be mowed relatively tall --- new elite selections of fine turfgrasses are being developed rapidly, especially Kentucky bluegrasses and fine fescues, but also some bentgrasses and perennial ryegrasses. --"

The newer strains are then described, and the landscaper is advised, "this adds up to a new ball game for the landscaping specialist. Grasses are becoming 'specimen plants'". Speaking of the newer bluegrasses such as Fylking, Pennstar and Sodco, the article states "In fact preliminary indications are that these bluegrasses blend very nicely with bentgrasses such as Highland and Holfior."

The story goes on to advocate, "Responsible landscaping should bring maintenance into the landscaping plan." Proper attention for the various grasses and varieties is suggested. The trend towards proprietary varieties is noted, and it is suggested that "landscape people should become familiar with advancing techniques for grass maintenance." The trend towards fine-textured grasses is recognized, and the contrast in tastes between Europe and America reviewed. Finally, the magazine offers a reprint on turfgrass varieties to anyone sending in a self addressed stamped envelope to the Institute (several of which had already been received within a few days of appearance of this story).

IN GOLF COURSE PUBLICATION

We were pleased to have the Bull Sheet, official publication of the Midwest Association of Golf Course Superintendents, carry in its April, 1970 issue the Institute story "Why Not Bentgrass Blends?". This is an adaptation of a story having previously been done for Golfdom magazine. It is especially pertinent at this time, now that there is increasing evidence of compatible combinations of the more open-growing bentgrasses (such as Highland) and the new low-growing bluegrasses (such as Fylking and Pennstar). These seem like promising combinations for the fairway.

The story begins, "There is no more economical way to establish turf than from seed. There is no more luxurious a turf than select bentgrass. There is no more skilled management for taking care of bentgrass than the golf course superintendent, especially in this era of the irrigated fairway. So why not put greater emphasis on seeding fairways with economical mixtures built around Highland colonial bentgrass (Agrostis tenuis) ? This would seem to make sense for courses from Tennessee northward."

EXCELLENT PRESS PICK-UP

We are indebted to past president Ed Mangelsdorf, for spotting in the Friday "Homes and Gardens" section of the St. Louis Post Dispatch for May 8, the use of numerous press kit items. A few were obvious because they carried authorship identification and Institute by-line, while others were simply compounded from press kit text. Among the titles attributable to the press kit are "New Grasses are Available", "Lawn Needs Best Food", "Grass Seed Choices", and "Quackgrass Juice Curbs Plant Growth".

Sample text quotations: "Lawn varieties now available make possible the choosing of grass not only for durability and specific service, but in varying shades and textures", "Years of grass breeding and testing have produced new Kentucky bluegrasses, fine fescues, bentgrasses and perennial ryegrasses. It has become possible to design a lawn for almost any taste and region.", "Kenblue is a natural Kentucky bluegrass --- which joins Arboretum and Park among the self-reliant bluegrasses. For elite lawns Fylking, Pennstar and Sodco follow Merion's lead -- the fine fescues, used with Kentucky bluegrass in blends are progressing similiarly -- Highlight, Golfrood, Wintergreen, Chewings, Illahee, Pennlawn and Rainier -- are not to be confused with the coarser tall fescues --- new lawn bentgrasses --- Exeter, Holfior have already joined the widely used Astoria and Highland --- Penncross and Seaside remain the most seeded creeping bentgrasses."

POTASH INSTITUTE PUBLICITY

The first number of Better Crops With Plant Food for 1970 carried a number of items dealing with turfgrass. A question-answer series appeared on pages 14 and 15, a review of university findings on 28 and 29, and a series of offerings under the heading Know Your Lawngrass inside the back cover (apparently condensed from the Institute piece done for this magazine not long ago). The breakdown is by warm season and cool season lawngrasses. Kentucky bluegrasses are featured, with most of the present-day varieties named.

"WHAT'S NEW" COLUMN INITIATED

A column condensing research noted in the literature, such as appears in the technical section of Harvests, has been made available to the Borden golf course newsletter. Items in the first issue include discussions of grass growth repression, resistance to pests, water quality, grass response ("natural bluegrass , the equivalent of the variety Kenblue, proved more resistant to sod webworm damage than did exotic bluegrass strains brought into Kentucky ---"), and chemical influences upon thatch and Poa annua control.

COOPERATIVE EFFORT

The Institute was pleased to have had a request from the American Hotel and Motel Association, for literature that could be passed along to its members. A number of reprints were sent to William Bohm, Director of Membership Service & Research, and an offer was extended to furnish such reprints to anyone sending in a self addressed stamped envelope. The Association was also alerted to the availability of Institute books and other literature

GOOD HOUSEKEEPING STORY

A former resident of Marysville, and reader of Good Housekeeping magazine, sent in a tear page of the May issue of that magazine with a notation "Congratulations! Knew you were still in business when I read this --". This was with reference to the item in that issue entitled A Guide to Improved Lawns and Gardens, for which the Institute furnished Good Housekeeping editors information and background materials.

In discussion of lawns, the magazine follows conventional suggestions for fertilization and liming, then suggests sowing fresh grass seed. It adds, "If a new lawn is being planted, the Lawn Institute, a research association supported by grass seed growers, calls attention to special grass varieties. Fylking and Pennstar bluegrasses, for example, are more disease resistant than many other strains. For vigorous growth, grass should be mowed no closer than 1½ inches. Bentgrasses, such as Highland, are best mowed ¾ to 1 inch high. ---". The discussion goes on to review weed and feed products, crabgrass prevention, and so on.

KAERWER PREDICTS

Howard Kaerwer, Northrup-King, predicted most effectively trends in the turfgrass seed industry for the 70's, as one of several experts taking a look at the decade ahead for Turfgrass Times (Jan./Feb. issue). It is nice to have a seedsman exhibiting a wide-ranging and sympathetic understanding of fields affecting lawnseed usage, in contrast to the narrow coverage exhibited by prognosticators for other industries. Kaerwer foresees an accelerating trend towards protected varieties, greater professionalism, and an expanded repertoire of grass types from which to choose; specialization is to be expected in almost all facets of the industry, better quality, a trend towards large well-integrated firms and operations, and a readiness to live pleasantly with synthetic turf.

SEED LEAGUE PROCEEDINGS

The Proceedings for the 29th Annual Meeting of the Oregon Seed Growers League, held during December, 1969, was published in June. A broad series of reports and papers presented at the meetings is included, giving a cross section of the grass seed industry in one of its most important locations throughout the world. We are pleased that the Institute presentation, "Lawns and Turfs in the United States and Europe" is included, partly as a report to Oregon sponsors about the trip to the First International Turfgrass Conference at Harrogate, England. Reprints will be secured, primarily for distribution to Institute Advisors and persons having technical interests, but also available to Institute members not in attendance at the Oregon Seed League Meetings.

PHILLIPS ACADEMY REQUESTS

Roger Cole, Director of Personnel, Phillips Academy, Andover, Massachusetts, came to the Institute with a request for grounds maintenance training aids. An extensive series of reprints was sent.

FINE FESCUE OUTSTANDING

Few areas are more forbidding for crops than the wasteland highlands of Iceland. Almost nothing grows there naturally on the barren glacial outwash. In experiments reported in the Winter, 1969-70 Plants and Gardens (Brooklyn Botanical Garden), several grasses were tried, encouraged through a modest fertilization program for 3 years. Most successful was fine fescue, which by the second summer became a dense, protective cover as productive of hay as were meadowlands near the coast.

PURDUE PROCEEDINGS OUT

The Proceedings of the 1970 Turf Conference, sponsored by the Midwest Regional Turf Foundation at Purdue University, held this year in March, was released in June. This is typically one of the largest and oldest turfgrass conferences in the nation, and its Proceedings comprehensive. Likewise, because fundamental considerations have been treated so frequently in the past, the presentations tend to deal more with new, fringe developments than devotion to turf tending fundamentals. Increasingly there is concern with golf course labor and management (golf carts, special greens, etc.), and tangential matters so far removed as fish management in small ponds.

Bill Jeffers, in an early presentation, summarized nicely "A Quarter Century of Turf Seed". Other experts reviewed the fertilizer industry, speed-up of golf play, and specific experiences on certain golf courses. Maple Bluff course, Madison, Wisconsin planted its greens and tees to Penncross bentgrass, its fairways and banks to a mixture of Seaside, Astoria and Highland bentgrasses, both at the rate of 1 lb./M.

Dr. Lanphear, who has been a consultant to the city of St. Louis on urban landscaping, spoke about the ability of landscaping to reduce pollution. He particularly noted the ability of turfed areas such as parks to greatly reduce thermal pollution, as much as 10 degrees. Natural turf, he finds is 8 to 12 degrees less hot than the artificial turf being established in athletic fields. City buildings absorb 90-95 percent of the solar energy, but foliage only 50-60 percent; grass and trees reflect a goodly portion of the sun's radiation. He noted as well the ability of vegetation to absorb sulfur dioxide from the air.

Dr. Ward, of Mississippi, was a guest speaker, telling of turfgrass research in the South. Several papers related experience in *Poa annua* control using the Purdue recommendation of calcium arsenate. Graduate research at Purdue is currently concerned with determining exact amount of arsenic needed in the soil to control *Poa annua* without being toxic, and means of measuring this. Other papers described attempts at control with pre-emergence herbicides.

Dr. Hodge, Iowa, reviewed in detail stripe smut infection. Dr. Scott, Purdue, spoke about the impact of disease generally. His thesis, "Each disease -- has its own set of environmental conditions that dictate whether or not infection will occur. Pathogens are generally more sensitive to environmental conditions than are host plants. Thus, we have brown patch weather, Pythium weather, & leafspot weather."

Several reports were given on the Purr-Wick system of artificial golf green maintenance. Melvin Roby, Purdue, discussed the value of ion exchange resins for use in this highly unreactive soil substitute. Several papers dealt with athletic field experience and irrigation, equipment, and so on. Vegetative planting of grasses, especially zoysia, was subject for several discussions.

INTENSIFICATION OF PLANT DISEASE

C. E. Yarwood, California, in discussing "Man-Made Plant Diseases" in the April 10 Science, touches upon factors having a bearing upon lawn diseases as well as those of the more familiar crop plants. Yarwood feels that the mechanisms being developed in a high-technology society are still tending to increase the incidence of disease. Most of these are necessary for high productivity, which cannot be sacrificed; therefore we seem destined to live with intensified disease problems with our various crops.

Among the aggravations are: the introduction of plants from one area to another, thus introducing pests as well as putting crop plants into environments where their natural immunity might not prevail; vegetative propagation, such as is manifest in sod marketing, an encouragement to disease; monoculture, the use of genetically alike plants in huge populations.

Yarwood points out that tillage of the soil has been responsible for great increases in certain diseases; in most cases cultivated plants are much more susceptible to disease than uncultivated ones, probably because they grow more lushly. The implications for lawn care are obvious. Fertilization, too, increases disease, a factor well recognized with turf. Irrigation, and modern methods of harvesting and storage, all encourage disease compared to a natural situation.

Even herbicides might encourage disease, because they favor host plants carrying the pathogen. Sometimes plant breeding actually encourages disease, because the breeding program is directed towards a certain end without regard to susceptibilities inadvertently introduced. Site plays an important part, with disease generally finding its way into any environment favorable to it. Man-made diseases, such as from automobile exhausts, road salt and smog, are certainly increasing.

In effect Dr. Yarwood is saying that man's disturbance of the status quo has and is causing plant disease to be more serious, but that in general we cannot now abandon methods which increase productivity and afford luxury. Turf care is caught in this same bind, with the ever-increasing demand for more luxurious lawns bringing with it greater disease hazards.

ROADSIDE PLANTINGS

A previous Harvests reviewed a presentation by Al Dudeck, formerly Institute advisor for Nebraska, on research involving roadside plantings in Nebraska reported to the Agronomy Meetings. A formal report on this research appears in the May/June, 1970 Agronomy Journal. Because seeding rates were on a PLS basis, with less than 3 lbs. of Kentucky bluegrass to the acre (rather than a realistic seeding as might be carried out practically), one would expect little establishment the first year.

It is interesting that Dudeck and Young found that in the second and third year grass stands deteriorated greatly if unfertilized. Especially on the south slopes, the stands were approximately one-third as dense where not fertilized as when fertilized. The Kentucky bluegrass, in spite of the low seeding rate, achieved nearly as much cover as the other leading species (and more than most) on north-facing slopes. Crown vetch, although slow to establish, provided excellent cover even when not fertilized.

HIGHLAND PERFORMS WELL

In trial plantings on the Lawn Institute grounds, combinations of Highland bentgrass with new low-growing bluegrasses continue to show promise. The combination should make a more satisfactory turf for an irrigated fairway, for example, than either species used alone. The inclusion of bluegrass provides better winter color and less disease; the bentgrass supports the bluegrass at the low mowing height required for a modern fairway, contributing density and fine texture.

The oldest combination on the Institute grounds is Highland and Fylking, planted August 26, 1967, 2 parts Fylking to 1 part Highland by weight. The resulting turf has always had an attractive appearance, and after 2½ years the two grasses are pretty well in balance, although there is some tendency recently for certain sections to have a somewhat stronger bentgrass population, and other sections a somewhat stronger bluegrass population. The area is regularly mowed at ½ inch, fertilized and irrigated as for bentgrass.

In other test plantings varying rates of Fylking have been used up to 9 parts bluegrass and 1 part Highland or Holfior. In each instance the bluegrass has been helpful, neither species dominating the population since planting September 2, 1968. As would be expected, evaluation counts relate somewhat to initial seeding, and where about 70 percent Fylking, 30 percent Highland bentgrass (by weight) were used the population is now about equally divided between bluegrass and bentgrass according to tiller count.

OHIO RELEASES

The Ohio Turfgrass Foundation has provided members with additional materials, under covering letter of June 8. Included is a resume of bentgrasses and their ratings, as proved out at the Wooster Experiment Station; a summary of chemical controls for turfgrass diseases; and the North Central Regional Extension Publication No. 26, on Lawn Weeds and Their Control.

Penncross bentgrass is given top rating among seeded bentgrasses, and is joined by Cohansey and Toronto as being the best golf green varieties in the Ohio tests. Pennpar has rated highly so far. Of all bentgrasses tested, Penncross was least invaded by *Poa annua*. Colonial bentgrasses are not favored for golf greens, of course, but among the varieties tested (Astoria, Highland, Exeter, and Holfior) Highland has been slightly superior; Exeter and Holfior have been inferior to both Astoria and Highland.

The fungicide recommendations are given in tabular form, and involve familiar chemical products. There is no effort to provide distinguishing features for the various diseases.

The extension publication no. 26 on lawn weeds has been available for some time to the North Central Region (Ohio the easternmost state in the region), and is excellent for the colored pictures enabling identification of some of the more familiar turf weeds. But the list is by no means inclusive, and especially disappointing is the failure to give control measures along with the discussion of the weeds. Brief discussions of herbicides are given separately, again without indication of their usefulness against specific weeds, and a final table is the only means of determining which chemicals are recommended for which weeds (no rates of application are given, but a separate table does indicate the season of growth and appropriate time for application of both pre-emergence and post-emergence herbicides).

OHIO LAWN AND ORNAMENTALS RESEARCH

The Ohio Agricultural Research and Development Center, issued its Research Summary 40, reflecting OARDC activity during 1969. The first five presentations covered turf and lawns specifically, and later ones often related to lawns as well as ornamentals.

M. H. Niehaus review "Varieties and Varietal Development in Kentucky Bluegrass". Testing and selection is just beginning in Ohio, and this paper is mainly a review of well-known generalities. Moser and Davis discuss "Bentgrass Varieties". In general Toronto, Cohansey and Penncross have been the most competitive bentgrasses in the Wooster tests. R. W. Miller discusses "Fertilization of Lawns"; suggested programs are advanced for heavy feeding grasses (Merion and Windsor bluegrass, bentgrass), intermediate levels (natural Kentucky bluegrass) and low levels (fescues).

E. W. Stroube deals with "Controlling Weeds in Turf"; he follows the familiar procedures using phenoxy herbicides for broadleaf weeds, others for grasses, and includes a table indexed by weed as well as some sketches of weeds. R. R. Muse reviews "Kentucky Bluegrass Melting-Out Fungicide Trial"; Bromosan and Dyrene were efficient in controlling the disease, but most others (including Benlate) of little effectiveness. Muse suggests at least two fungicide applications early in the season, and probably a third in June.

Other discussions dealt with naturalistic plantings, rose gardens, Pruning recommendations, chemical control of growth and flowering, ornamental shrubs, fertilization and mulching of ornamentals, unusual trees, the Cotton-easter genus, dwarf apple trees, tree diseases, and a discussion based largely upon turfgrass experience by R. W. Miller entitled "Plant-Water Relationships". Miller reviewed the physiological importance of water for grass growth, noting that excessive soil moisture gave good foliar production but poor root growth. He noted that low oxygen content of the soil has a greater influence than accumulation of carbon dioxide in the rootzone. Water loss was related to humidity, temperature, wind, leaf cuticle, grass species, mowing practices, irrigation, fertility, pests, traffic and soil aeration.

T. R. Henderlong and R. R. Davis review "Winter Nitrogen Fertilization of Merion Kentucky Bluegrass". This mainly concerns recommendations first advanced in Virginia relating to fertilization late in the season, which Ohio experience tends to support. Two reprints were appended to the summary, having to do with "Herbicides Control Weeds in Pot-Grown Shrubs" and "Plant Growth Regulators For Woody Ornamentals".

All in all Research Summary 40 is more a status report upon the state of the art and the interests being followed at the Ohio experiment station than it is discussion of novel research findings. Nevertheless, it constitutes a useful condensation of information expressed understandably for the public.

BERMUDAGRASS HARDINESS

Davis and Gilbert report in the Jan./Feb., 1970 issue of Crop Science that bermudagrass selections tested in North Carolina gradually increased in winter hardiness from autumn through the winter months, until the plants could withstand more than 10 degrees colder temperature at the end of the period than at the beginning. The increase in hardiness has associated with it changes in type of proteins noted by electrophoresis.

PESTICIDE SYMPOSIUM

On April 17 the Ohio Academy of Science at its annual meeting, Wittenberg University, Springfield, Ohio, conducted a symposium on Environmental Quality -- The Role of Pesticides. Invited speakers were from the staff at Ohio State University, Drs. T. M. Stockdale, moderator, D. L. Goleman, Tony Peterle, and G. R. Stairs panelists. Questions from the audience and discussion followed the initial presentations by the panelists.

Goleman provided background information, indicating the ways in which pesticides serve mankind, and statistics concerning their use. He felt that there is no question but that they will continue to be much used, although pains must be taken to restrict those which are especially upsetting to the environment. He pointed out that never has the ratio of death from pesticide exceeded 1 per million compared to twice this from aspirin and 200 times this from automobiles. Many of the deaths are apparently suicides rather than accidents and most accidents result from failure to follow product directions.

Dr. Peterle dealt with technical findings largely on insecticides, including Ohio State research on the levels of DDT in such remote places as the antarctic. He believes that the build-up is reaching alarming proportions so far as the environment is concerned, but is not yet to levels likely to be harmful to the health of man. Birds seem especially susceptible to side-effects of pesticide application, and Dr. Peterle cited convincing documentation of damage to bird populations. He recognized that there are many other causes for declining populations, however, aside from pesticides.

Dr. Stairs reviewed the interrelationships between crop, pest, and environment, but had no novel suggestions to offer on how man might better control pests than through discriminating use of pesticides. He feels that eventually there will be more information on how pests may be regulated by their own predators and pathogens. Goleman had already hypothesized that the insecticide "of the future" well might be a virus, specific for the pest being controlled, short-lived in the environment, -- and expensive.

The moderator and panel provided a well-rounded, unbiased review of the situation, and it was of interest to note the audience reaction. The audience, containing many young people, was decidedly anti-pesticide and pro-environment, to judge by questions, reactions and applause. An effective public relations approach is going to be difficult for the pesticide industry where such built-in antagonism exists.

PHOTOSYNTHETIC EFFICIENCY

Chen et al, reporting in the May Weed Science, discuss the recent concept of plants being grouped as either of high photosynthetic capacity or low. The photosynthetic capacity ties in with numerous biochemical processes. This report supports the idea that plants with high photosynthetic capacity compete well, becoming the dominant plants and weeds of the world. In this group are many of the grass plants including tribes in which turfgrasses are found. With some exceptions the major grain crops have a "high carbon dioxide compensation concentration" and would presumably fend poorly for themselves. The major broadleaf weed families (Amaranthaceae, Chenopodiaceae, Portulacaceae, and Euphorbiaceae) exhibit a high photosynthetic capacity similar to that of most grasses.

OHIO RESEARCH

Since organization of the Ohio Turfgrass Foundation, members have received from time to time a number of summaries on turf care, mostly written up by Dr. Robert W. Miller. A late spring mailing provided a calendar of "problems" for the year, a key for identifying some of the more familiar lawn diseases, and a review of broadleaf weed control. The latter contained a few tables of data accumulated through the Ohio Experiment Station, but otherwise offered only suggestions for weed control already familiar.

In comparisons undertaken in the extreme southern portion of Ohio, the elite bluegrasses (viz. Merion, Pennstar) remained most dense, and with fewest weeds, presumably because they were most resistant to leafspot. Windsor was intermediate, and "common" least satisfactory.

A rather gratuitous and theoretical table of how many weeds would be planted in grass seed having up to 3 percent weed content comprised the next table. Miller advocated the use of fertilizer to keep the turf dense enough to effectively fight weeds. In a table of data accumulated at Wooster, Ohio, there were no weeds in Merion bluegrass when provided 10 lbs. of nitrogen per year, but 2.2 weeds per sq. ft. in Merion not fertilized (with intermediate weed frequency at intermediate fertilization rates).

A table showing weed infestation of Kentucky bluegrass at Wooster confirms that higher mowing helps control weeds. There were 10 to 20 times fewer weeds in Merion, Pennstar, Delta, Park and common bluegrasses mowed at 2 inches as compared to 3/4 inch.

Miller reviewed rather thoroughly the use of herbicides. A table depicts the almost complete control of knotweed if used early (April 17) as compared to late (June 29); however, dicamba was quite effective later, although silvex and 2,4-D were not. The release concludes with a table of common turf weeds, indicating which of the phenoxy materials or dicamba is appropriate for their control, at what time of year.

MERION BLUEGRASS ROOTING

Wisconsin researchers report in the May/June issue of Agronomy Journal, on a novel means of measuring bluegrass root activity. Radioactive phosphorus was introduced into various soil positions, and the uptake measured by a radiation counter. The findings support in general conventional conclusions, except that there seem to be more active roots at deeper levels than is suggested by root measurements.

The tracer studies indicate that there is progressively less root activity as one goes deeper into the soil, with up to 3 times as much root activity at any level as at an equally spaced level below it. Root growth essentially ceases about 2½ feet deep, and is more evident in tall-mowed than short-mowed Merion. There is progressive increase in root activity through the season, with least activity in spring and greatest in autumn. Eighty-five percent of the activity occurs in the top 50 cm. of soil. Laterally, roots picked up nutrients fairly well for about 5 inches horizontal distance, but almost no activity occurs beyond 1 foot. The study confirmed that root growth continues during the cold weather of autumn.

OKLAHOMA REPORT

Progress Report P-632, "Turfgrass Production and Management", by Huffine, Coltharp and Gillham, Oklahoma State University, was received in May. Research on weed control, cultural practices, and plant breeding are reported.

Use of bensulide for prevention of *Poa annua* was encouraging, but it is felt that a 5 year program would be needed to achieve nearly complete control. 15-20 lbs. a.i. per acre was found best, with late August application (on Seaside bent) especially encouraging. Several pre-emergence chemicals were effective in holding down *Poa annua* in bermudagrass. Balan and Betasan gave longer lasting control than did Dacthal (3 months only). Late August treatment gave better control than did late September application. Tests with paraquat for *Poa annua* control indicated that time of application (day or night) was immaterial, and that rates as light as $\frac{1}{2}$ lb. a.e./A were adequate if a surfactant was used. 1-2 gals. of water/M was generally the most satisfactory gallonage.

Studies on the timing of thatch removal indicated that almost any time between early February and mid-March was satisfactory, on several improved bermudagrass varieties. Growth suppressors were not phytotoxic to several named bermuda varieties, but did not give appreciable growth suppression. Susceptibility of differing varieties and species of turfgrass to a range of herbicides varied widely. Oklawn centipedegrass was severely damaged by the arsonates. Numerous additions were made to the bermudagrass breeding population, and progress continued in selecting fine fescues from parent clones that had survived two very severe droughts in Oklahoma.

RATE OF SILVEX DISAPPEARANCE

Bailey et al report in the May issue of Weed Science on the degradation of silvex. When the herbicide was applied to ponds, 90 percent of the ester was hydrolyzed within 24 hours, and 99 percent by 2 days. There were no silvex residues in water at the end of 3 weeks. Traces of silvex had disappeared completely in bottom sediments by the end of the 5th week. It certainly appears that biodegradation of silvex proceeds rapidly under natural conditions, and that there should be no cause for fear of persistence in lawns when this material is used as a broadleaf weed killer.

TEMPERATURE INFLUENCE ON NITROGEN

A report in the March/April Agronomy Journal by Georgia researchers, confirms that nitrogen applied to sod is rather little changed (to nitrate) when the temperature is cool, but that sod does not prevent nitrification when temperatures are warm. Invariably more applied nitrogen could be recovered from sodded soil than from cultivated soil no matter the temperature. This sort of response is noted in lawns, with which the efficiency of nitrogen fertilization is usually greater at cooler seasons.

CANADA THISTLE ECOTYPES

Hodgson, Montana, found differing ecotypes of Canada thistle (brought in from other parts of the country) to respond quite differently to 2,4-D and amitrol treatment.

SEED LONGEVITY IN SOIL

Rampton and Ching, Oregon, report in the March/April Agronomy Journal on studies that have been discussed somewhat at Oregon Seed League Meetings. Seeds of various species were buried in the soil at various depths and for varying lengths of time. Viability has been checked at intervals. In general viability of deeply buried seed was better than that shallowly buried. Illahee fine fescue lost viability more quickly than almost all other crop species. Chewings fescue was completely non-viable by the 3rd year. Perennial ryegrass showed minor viability into the 4th year, but annual ryegrass into the 7th year. Highland Colonial bentgrass exhibited considerable viability in the 7th year, reflecting this variety's well-known ability to hold germination. Kentucky bluegrass exhibited only slight viability after 3 years in the soil. The authors suggest that for species such as the fescue, which lose viability quickly, that shorter waiting periods prior to replanting for certification may be in order.

TURF BREEDER LOOKS AHEAD

Dr. Reed Funk, Rutgers, was responsible for the Turfgrass Times "Forecast" concerning turfgrasses for the 70's. Probably the foremost hybridizer of fine turf in the United States, Dr. Funk is in an excellent position to assess needs and probabilities.

Funk sees turfgrass breeding as enjoying expansion and greater status in the decade ahead. He visualizes the need for a number of specific characteristics to be bred into the "turf of the future". Perhaps paramount is disease resistance, in his area especially against *Helminthosporium* and stripe smut. But breeders will have to range even more widely, selecting for such things as insect resistance and herbicide tolerance, heretofore given little attention.

Funk looks for creation of varieties that are more shade tolerant than at present (perhaps through crossing *Poa pratensis* with *Poa trivialis* and *Poa nemoralis*?), selection for low growth and dwarfness, varieties responding in a predictable fashion to different environments, cultivars in differing color shades, and varieties developed for tolerance to specific problem soils. He foresees compatible "social communities" of grasses, in which blends are not made at random, but customized from particular cultivars.

All of this, Funk believes, will be given impetus from further advances in the art of turfgrass breeding.

PHENOXY TRANSLOCATION

Research by Basler et al, reported in the May issue of Weed Science, confirms earlier conclusions that high humidity affects the transport of herbicides within plants, a reaction not due to influence of foliar penetration of the herbicide. One would expect better control of clover in lawns treated with 2,4,5-T, for example, when relative humidity was high rather than when low.

PHYTOTOXICITY OF BENSULIDE AND TRIFLURALIN

Research reported by Menges and Hubbard, Texas, in the March issue of Weed Science, show that the familiar pre-emergence herbicides sometimes used for crabgrass have a wide range of toxicity in the soil. As little as one part per million of bensulide was toxic to 50 percent of barnyardgrass, but more than 1,000 ppm were needed to control carrot. Soil type influenced the effectiveness of the herbicides.

GRASS TOLERANCE TO SUBMERSION

Beard and Martin, Michigan, report in the March/April Agronomy Journal on research investigating ability of certain grasses to withstand submersion under water, at several temperatures. Creeping bentgrass (Toronto) showed the greatest tolerance, Kentucky bluegrass and annual bluegrass intermediate tolerance, and fine fescue (Penmlawn) intolerance. All species were more tolerant of submersion if the water was cool than if the water was warm. With warm water even the tolerant species showed some injury in 3 to 4 days, and intolerant species as soon as removed from the submersion tank (after 1 day submersion). Nearly 3 weeks of continuous submersion was required to completely kill Toronto creeping bentgrass in warm water, although the grass showed 70 percent survival after the same length of time when the water temperature was cool. Other observations showed Penncross to be even more tolerant. None of the Penmlawn fine fescue survived after submersion of more than 5 days in warm water. This supports the observation that fine fescue is often lost in waterlogged soils during warm weather.

BLUEGRASSES REVIEWED

The June issue of Grounds Maintenance carried an article by Malcolm Shurtleff, Illinois, on "New Disease Resistant Turf Varieties". The discussion is a rambling one, and it is doubtful that Shurtleff (or anyone else) could be well apprised of resistance of the many cultivars now available to even the more familiar diseases. Apparently many of the statements are simply based upon information provided by originators. The table accompanying the article lists only 11 bluegrasses, 3 of which are vegetatively propagated, and several others not available on the current market. Warren's A-20 rated well, as did Fylking and Pennstar; Cougar, Prato and Windsor were mostly "fair", while Merion, strangely, rated "poor" in every category except leafspot resistance.

BIOLOGICAL CONTROL OF NUTSEDGE

Keeley et al report in the May issue of Weed Science, on use of the insect Pactra verutana for control of yellow nutsedge. The research was done in California. The insect significantly suppressed yellow nutsedge if the attack was early enough in the season (even then plants were often able to produce tubers and new vegetative growth). Under natural conditions the insect failed to infest the nutsedge early enough to be a really practical nutsedge control.

TWENTY-EIGHTH SHORT COURSE

The Ohio Department of Highways and the Department of Landscape Architecture of Ohio State University, have jointly issued the Proceedings for the 28th Short Course on Roadside Development held in Columbus, Ohio last October. The Institute's participation in the Short Course was detailed in the year-end issue of Harvests.

The Proceedings afford a record of the presentations given during the week. Of value to compilers of a mailing list are the 14 pages of names and addresses showing Short Course registrations for 1969. As would be expected the majority of registrants are from Ohio, but 38 additional states are represented and 3 foreign countries.

The majority of the presentations are not of especial interest to seedsmen, involving conservation, esthetic aspects of highway landscaping and roadway design. Several papers, however, relate to roadside planting and maintenance, and have a bearing upon roadside seeding. Container grown plants for the highway are discussed, as is highway fertilization, use of additives for better controlled spraying, plant establishment, mulches for turf, de-icing chemicals, and so on. A few of these will be commented upon briefly as reviewed in the Proceedings.

Roberts and Chittenden telling of research done while at Iowa State University, found bromegrass and Kentucky 31 fescue among the most salt tolerant species to de-icing chemicals. However, there are so many variables, such as concentration of salt, whether the soil is frozen (and the salt soaks into the soil), ionic condition of the plant itself, and so on, that definite levels of salt toxicity are difficult to define. Sometimes the effect is one of worsening the soil condition rather than directly affecting the growing plant.

Gene Bieber, Mississippi, reported on mulches in his state. None were superior to liberal rates of straw (2 tons per acre or so). Excelsior and wood fiber mulches offer the advantage, however, of not containing weed seed, such as may be carried by hay. Bulky mulches, such as excelsior and straw, had the advantage of holding down soil temperature during summer.

Mulches for landscape plantings were discussed by Harleigh Kemmerer of Princeton University, ditch liners by Richard Burgess of Connecticut, the effects of de-icing chemicals on woody plants by N. L. Lacasse of Pennsylvania State University; and tree bracing, packaged fertilizers, new planting techniques, etc., by other experts. The Proceedings is rounded out by general remarks and discussions by senior landscape architects from the various states, each reviewing progress in his area. The discussion for Iowa, by Dolling and Landers, is especially thorough on the use of numerous types of grasses and forbs, including many native prairie species. A thorough discussion of a liquid fertilization program for ornamentals is given by Sengpiel of North Dakota, including 4 pages of diagrams. In most instances, however, state discussions deal more with engineering features than maintenance.

NUTRITIONAL REQUIREMENTS FOR BERMUDAGRASS

Menn and McBee report in the March/April Agronomy Journal on tests conducted in Texas to determine at what levels of nutrition deficiency symptoms show up with Tifgreen bermudagrass. Nutrient levels as determined by tissue tests were compared with appearance ratings. Appearance suffered when nitrogen levels became lower than 22500 ppm; when phosphorus dropped below 2000 ppm; and when potassium dropped below 18000 ppm.

SYNERGISM OF 2,4,5-T AND AMMONIUM NITRATE

A study by Brady, reported in the March issue of Weed Science, showed that the absorption of 2,4,5-T was greatly increased by the addition of ammonium nitrate to the spray solution. The test was on trees, but similar observations have been made on herbs.

SEEDLING DROUGHT TOLERANCE

Wright and Dobrenz, Arizona, report in the Jan./Feb., 1970 issue of Crop Science that boer lovegrass seedlings showing the highest water use were also those most tolerant of drought.

INSTITUTE IN AVANT GARDENER

The February, 1970 issue of The Avant Gardener, published by the Horticultural Data Processors of New York, devoted its third page to discussion of "The Spring Bulletins of The Lawn Institute --- provide tips for timing of turf chores: --" It is always nice to be regarded both as literate and as an authority.

ADVICE FOR NEW YORK

The New York state cooperative extension service, out of Cornell University, advised in its release of March 30, under the heading "Spring Lawn Care", to "reseed bare spots -- seed Kentucky bluegrasses in sunny areas and red fescues in shady locations."

IN PROFESSIONAL TURF NEWS

Borden Chemical Company has initiated its new Greens and Fairways Professional Turf News. We are pleased that material from Institute Harvests, given by-line, was found useful for the "Agronomy Meeting Roundup" and for spot usage in the first issue.

IN SEED TRADE NEWS

The March 11 issue of Seed Trade News carried the Institute story, Lawn Seed Keeps Well. Sample quotation: "Kentucky bluegrass usually holds up slightly better than fine fescue. At the Lawn Institute, Marysville, Ohio, Highland bentgrass was held for years and still found able to make a good stand.

WHAT THEY ARE SAYING:

"We never really thanked you adequately for your part in making the 1970 ILCA Seminar a roaring success. We've heard many good comments on your presentation and the Board of Directors wanted to be sure that you know how much it is appreciated. Please stay in touch, and we look forward to working with you again in the future."

James Berry, Ex. Sec.
Illinois Landscape Contractors Association

"I enjoy reading your popular articles."

Felix V. Juska, Turf-Research Agronomist
Beltsville, Maryland

"I am in receipt of your letter of March 24th with enclosure, and should like to thank you for your comments. The trouble you have taken in this matter is very much appreciated."

R. K. Clifton, G. Gascoyne Seeds
Worcester, England

"Please send leaflet describing varieties and planting techniques. --"

Richard B. Turpin, Public Svs. Div. Chief
City of Danville, Virginia

"Good luck and thank you for such excellent reading and learning."

Mr. & Mrs. Walter Vogel
(Press Kit request)

"'Doc' Abraham of 'Green Thumb' advises that you have a bulletin on 'Thatching'. Would you please send a copy? Thank you."

H. L. Goodemote
Enon, Ohio 45323

"I just had the opportunity to read your article in the 'Landscape Industry' publication for March/April 1970. As you might expect, I found the article to be completely to my liking, inasmuch as you were taking the direction that I feel will become an important trend in the not too distant future."

Howard E. Kaerwer, Jr., Manager
Northrup, King & Co.

"Please accept our very sincere thanks for your most helpful and informative letter of May 19th. You have given us a great deal of useful material to work with and we will be guided by your suggestions and recommendations."

Charles M. Stuart
DeWitt, New York

"Again, many many thanks to you. Please be advised that if we can cooperate with you in any way whatsoever on any project, we would be pleased to do so."

Joseph A. Hartman, President
Nursery Specialty Products

"Thank you for your letter of June 15th and the material on lawn care. This information is ideal and will definitely fill the majority of my needs. It is my intention to screen all of our member inquiries and only ask your advice when necessary. We will mention that the Lawn Institute has been our source of information."

William G. Bohm
American Hotel & Motel Association