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August 1991

The Protection of Lawn and Turf Grasses, 1979 - April 1991

Citations from AGRICOLA Concerning Diseases and Other Environmental Considerations



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The Protection of Lawn and Turf Grasses, 1979 - April 1991

Citations from AGRICOLA Concerning Diseases and Other Environmental Considerations

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FOREWORD

This is the 39th volume in a series of commodity-oriented environmental bibliographies resulting from a memorandum of understanding between the U.S. Department of Agriculture, National Agricultural Library (USDA-NAL), and the U.S. Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP).

This close working relationship between the two agencies will produce a series of bibliographies which will be useful to EPA in the regulation of pesticides, as well as to any researcher in the field of plant or commodity protection. The broad scope of information contained in this series will benefit USDA, EPA, and the agricultural community as a whole.

The sources referenced in these bibliographies include the majority of the latest available information from U.S. publications involving commodity protection throughout the growing and processing stages for each agricultural commodity.

We welcome the opportunity to join this cooperative effort between USDA and EPA in support of the national agricultural community.

JOSEPH H. HOWARD, Director
National Agricultural Library

DOUGLAS D. CAMPT, Director
Office of Pesticide Programs

INTRODUCTION

The citations in this bibliography, The Protection of Lawn and Turf Grasses, are selected from the AGRICOLA database concerning diseases and other environmental considerations from January 1979 to April 1991.

This is the 39th volume in a series of commodity-oriented listings of citations from AGRICOLA jointly sponsored by the U.S. Department of Agriculture, National Agricultural Library (USDA-NAL), and the U.S. Environmental Protection Agency, Office of Pesticide Programs (EPA-OPP). Additional volumes issued recently include The Protection of Tropical and Subtropical Fruits, The Protection of Small Grains, The Protection of Cucurbits, The Protection of Minor Vegetable Crops, The Protection of Peas, Beans, and Lentils, and The Protection of Forestry. The other 1991 volumes will cover The Protection of Stored Grains, The Protection of Nut Crops, The Protection of Tomatoes, Egg Plants, and Peppers, and The Protection of Peanuts.

Entries in the bibliography are subdivided into a series of section headings used in the contents of the Bibliography of Agriculture. Each item appears under every section heading assigned to the cited document. A personal author index and a site index to plants are included with each volume.

The U.S. Environmental Protection Agency contact for this project is Richard B. Peacock, Office of Pesticides and Toxic Substances.

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Errata

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and soilborne diseases, insects, and other seed treatment managed pests of field crops, vegetables, turfgrasses, flowers and nursery crops; commonly treated seeds; seed treatments; pesticides and application equipment used for treating seeds, bulbs, corms and other propagative plant parts; and regulations for labeling, safety measures and environmental precautions for applying, handling, and disposing of seed treatment pesticides and treated seeds. Includes illustrations, a glossary and additional references. This manual does not include specific chemical seed treatment recommendations. Since these change frequently, they are printed in the current Illinois Pest Control Handbook and circulars. "1500-12-86-65956-ML"--P. ii. 27 p. : ill. ; 28 cm. Bibliography: p. 27. (NAL Call No.: DNAL 276 IL623 no.39-4).

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0057

Bermudagrass encroachment into creeping bentgrass as affected by herbicides and plant growth regulators.
CRPSAY. Johnson, B.J. Carrow, R.N. Madison, Wis. : Crop Science Society of America. Bermudagrass (Cynodon spp.) encroachment into creeping bentgrass (Agrostis stolonifera var. palustris Huds.) golf greens is a severe problem where both grasses are grown. Research

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was initiated to determine the effects of dates and frequency of herbicide-plant growth regulator (PGR) treatments on tolerance of creeping bentgrass and encroachment of three bermudagrass cultivars under golf green conditions. Treatments were arranged in a split-plot design with frequency of herbicide-PGR application as main plots and bermudagrass cultivars as subplots. Soil type was an artificial rootzone mix. Creeping bentgrass was injured more when treated with various herbicide-PGR combinations in September than in April. However, creeping bentgrass injury was unacceptable (greater than 30%) with mefluidide

N-2,4-dimethyl-5-(trifluoromethyl)-sulfonyl amino phenyl acetamide applied in sequence with siduron

N-(2-methyl-cyclohexyl)-N-phenylurea or ethofumesate

(+/-)2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methanesulfonate at either date. In general, herbicide-PGR treatments applied in April suppressed foliage and stolon growth of bermudagrass equal to or better than treatments applied in September and April. Bermudagrass growth was effectively suppressed until late May or early June when treated with siduron, siduron with flurprimidol

alpha-(1-methyl-ethyl)-alpha-4-(trifluoromethoxy)-phenyl-5-pyrimidine-methanol, or ethofumesate with flurprimidol. There generally was no difference in foliar growth suppression from treatments applied to 'Tifway', 'Tifgreen', both *C. transvaalensis* Burt-Davy X *C. dactylon* (L.) Pers., and common

bermudagrass, *C. dactylon* (L.) Pers. When chemicals were applied only in April, the length and number of bermudagrass stolons were effectively suppressed for several weeks but stolon growth recovered and increased rapidly from mid-May until June. The suppression of stolon growth of all bermudagrass cultivars in June was as good or better when. *Crop science*, Sept/Oct 1989, v. 29 (5), p. 1220-1227, ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0058

Bermudagrass lawn Calendar.

Bruneau, A.H. Lucas, L.T.; Lewis, W.M.; Brandenburg, R.L.; Sneed, R.E.; DiPaola, J.M.; Peacock, C.H. Raleigh, N.C.: The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University, Apr 1990. (431). 4 p. (NAL Call No.: DNAL S544.3.N6N62).

0059

Bermudagrass Lawns.

Ward, C.Y. Auburn, Ala.: The Service. Circular ANR - Cooperative Extension Service, Auburn University. Subseries: Agriculture and natural resources, horticulture. May 1987. (29). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0060

Bermudagrass management to reduce winter injury--pay now or pay later.

Chalmers, D.R. Far Hills, N.J.: United States Golf Association. USGA Green Section record. May/June 1986, p. 8-10, ill. (NAL Call No.: DNAL 60.18 UN33).

0061

Broadleaf and viney weed control.

Daniel, W. H. 1980. This publication is a reference for herbicide useage on broadleaf and viney weeds. Topics included are when to apply, how to apply, label information, sprayer care, and tips for weed control. A conversion table is included. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: AY-9).

0062

Burn characteristics of liquid fertilizer sources.

Rathjens, R.G. Blacksburg, Va.: Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show, Nov 1985. (24th), p. 32-37. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

0063

Carpetgrass seedhead suppression with plant growth regulators.

HJHSA. Fry, J.D. Wells, D.W. Alexandria, Va.: American Society for Horticultural Science. *HortScience*, Oct 1990, v. 25 (10), p. 1257-1259. Includes references. (NAL Call No.: DNAL SB1.H6).

0064

Centipedegrass.

Ward, C.Y. Auburn, Ala.: The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (73). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0065

Centipedegrass.

Ward, C.Y. Auburn, Ala.: The Service. Circular ANR - Cooperative Extension Service, Auburn University. Aug 1987. (73). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

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0066

The chemical-free lawn the newest varieties and techniques to grow lush, hardy grass /Warren Schultz.
Schultz, Warren. Emmaus, Pa. : Rodale Press, c1989. xi, 194 p. : ill. ; 24 cm. Includes bibliographical references. (NAL Call No.: DNAL SB433.S367).

0067

Chemical guide to insect, disease, and weed control on turf--1981.
Ascerno, Mark E. Stienstra, Ward C. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1981. This publication gives information for pest control for turfgrass using chemicals. 8 p. (NAL Call No.: Document available from source.).(NAL Call No.: Ext Fol 551).

0068

Chemical renovation of turf.
Hanson, D.L. Elmore, C.L.; Baldwin, R.L. Berkeley, Calif., The Service. California turfgrass culture - University of California, Cooperative Extension Service. Spring/Fall 1980. v. 30 (2/4). p. 12-15. Includes 2 ref. (NAL Call No.: 60.18 S08).

0069

Combination of herbicides for winter and summer weed control in turf (*Digitaria sanguinalis*, *Eleusine indica*, *Cynodon dactylon*).
Johnson, B.J. Madison, Wis., American Society of Agronomy. Agronomy journal. Jan/Feb 1982. v. 74 (1). p. 37-40. Includes 14 ref. (NAL Call No.: 4 AM34P).

0070

Compaction - the subtle stress.
Carrow, R.N. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 36-39. (NAL Call No.: DNAL SB433.34.V8V47).

0071

Compaction effects on root growth.
Carrow, R.N. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 43. (NAL Call No.: DNAL SB433.34.V8V47).

0072

The comparative low temperature hardiness of 19 bermudagrasses (*Turfgrasses* in Texas).
Beard, J.B. Batten, S.M.; Pittman, G. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Jan 1981. Jan 1981. (3831/3851). p. 21-23. (NAL Call No.: 100 T31P).

0073

Comparative rooting of warm season turfgrasses.
Casnoff, D.M. Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1986. v. 21 (9). p. 64. ill. (NAL Call No.: DNAL SB476.G7).

0074

Comparisons of direct and indirect determinations of root weights of several turfgrasses (*Festuca pratensis*, *Lolium perenne*, *Festuca rubra*).
Boberfeld, W.O. von. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 117-121. Bibliography p. 121. (NAL Call No.: SB433.I57 1977).

0075

A contemporary view of thatch.
Turgeon, A.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 8-9. (NAL Call No.: DNAL SB433.34.V8V47).

0076

The continuing saga of *Poa annua*.
Zontek, S.J. Far Hills, N.J. : United States Golf Association. USGA Green Section record. May/June 1987. v. 25 (3). p. 1-5. ill. (NAL Call No.: DNAL 60.18 UN33).

0077

Control of creeping weedy grasses.
Daniel, W. H. 1980. This publication looks at weedy grasses such as Creeping Bentgrass, Nimblewill, Bermuda, Zoysia, Quackgrass and Reed Canary grass and how to contain or kill them. Control measures are given on the back. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: AY-11).

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0078

The control of wind erosion by the establishment of turf under airport conditions /by Robert S. Bell and J.C.F. Tedrow.
Bell, Robert S. 1911-. Tedrow, John C. F. 1917-. Kingston, R.I. : Agricultural Experiment Station of the Rhode Island State College, 1945. Cover title. 22 p. : ill. ; 23 cm. (NAL Call No.: DNAL 100 R34S (2) no.295).

0079

A controlled environment system for turfgrass research (Phytotron).
Augustin, B.J.AGJ0A. Karnok, K.J. Madison : American Society of Agronomy. Agronomy journal. Mar/Apr 1983. v. 75 (2). p. 306-308. Includes references. (NAL Call No.: 4 AM34P).

0080

Controlling lawn and turf insects / John A. Lofgren and Mark E. Ascerno. -.
Lofgren, J. A. Ascerno, Mark E. St. Paul, Minn. Agricultural Extension Service, University of Minnesota 1978. Pesticide Applicator Training Collection ~Cover title. (2) p. : ill. ; 28 cm. --. (NAL Call No.: SB763.M5L6 1978).

0081

Controlling thatch in bermudagrass.
Carrow, R.N. Johnson, B.J. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1987. v. 22 (3). p. 83, 140, 141. (NAL Call No.: DNAL SB476.G7).

0082

Controlling the battle o bermudagrass.
Foy, J.H. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1990. v. 28 (6). p. 13-16. ill. (NAL Call No.: DNAL 60.18 UN33).

0083

Controlling turfgrass pests /Malcolm C. Shurtleff, Roscoe Randell, Thomas W. Fermanian. -.
Shurtleff, M. C. Randell, Roscoe.; Fermanian, Thomas W. Englewood Cliffs, N.J. : Prentice-Hall, c1987. "A Reston book.". xiii, 449 p. : ill. ; 24 cm. Includes bibliographies and index. (NAL Call No.: DNAL SB608.T87S48).

0084

Cool-season grass response to MON-4620 applications site and timing (Tall fescue, Festuca arundinacea, Kentucky bluegrass, Poa pratensis, herbicide, plant growth regulator).
Kaufmann, J.E.PPGGD. Sandbrink, J.U.; Stehling, S.J.; Thibodeau, P.S. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1983. 1983. (10th). p. 61-67. (NAL Call No.: SB128.P5).

0085

Crabgrass and other annual grass control.
Daniel, W. H. 1980. This publication focusses on how to apply chemicals to prevent the growth of weeds either before they emerge or after. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: AY-10).

0086

Crop water stress parameters for turfgrass and their environmental dependability.
Jalali-Farahani, H. Slack, D.C.; Kopec, D.M.; Matthias, A.D. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2595). 36 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

0087

Cruel and unusual punishment for lawns (Turfgrass, management).
Day, T. Pullman, The Center. Advance - Washington State University, College of Agriculture Research Center. 1980. v. 17 (1). p. 6-7. (NAL Call No.: 100 W27A).

0088

Cultivar and seeding rate effects on several physical characteristics of Kentucky bluegrass turf (Poa pratensis).
Brede, A.D. Duich, J.M. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1982. v. 74 (5). p. 865-870. ill. 12 ref. (NAL Call No.: 4 AM34P).

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0089

Curbing those carts.

Foy, J.H. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Mar/Apr 1989. v. 27 (2). p. 4. ill. (NAL Call No.: ONAL 60.18 UN33).

0090

Dandelion control in lawns.

Barnett, Michael. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1980. This publication illustrates and describes the dandelion, and cultural and chemical control of its spread. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-1452).

0091

Denitrification losses from Kentucky bluegrass sod.

AGUOAT. Mancino, C.F. Torello, W.A.; Wehner, D.J. Madison, Wis. : American Society of Agronomy. Denitrification may represent an important mechanism in the fate of N applied to turf. Denitrification losses were directly measured from fertilized 'Baron' Kentucky bluegrass (*Poa pratensis* L.) sod samples sealed in acrylic chambers using the acetylene inhibition technique. Losses were correlated with soil texture, percent soil saturation (SAT), and temperature. Losses from turf on a Hadley silt loam soil and Hadley silt soil (both coarse-silty, mixed, nonacid, mesic Typic Udifluvents) incubated at 22 degrees C did not exceed 0.4 and 0.1%, respectively, of the applied potassium nitrate fertilizer (4.5 g N m⁻²) when soil water levels were less than 75% saturated. Soil saturation increased denitrification losses from the silt loam and silt soils to 2.2 and 5.4% of the applied N, respectively. The relationship between percent soil saturation and denitrification loss was quadratic and highly significant for both soils. The equations are: milligrams of N₂O-N m⁻² 10 d⁻¹ = 1432.50 - 38.96 (percent SAT silt soil) + 0.26 (percent silt soil)² or 130.80 - 5.40 (percent SAT silt loam soil) + 0.05 (SAT silt loam soil)². A linear relationship milligrams of N₂O m⁻² 10 d⁻¹ = 0.49(degrees C) - 9.70 existed between denitrification losses and soil temperatures between 22 and 30 degrees C in the silt soil at 75% of soil saturation. Soil temperatures of 30 degrees C or greater coupled with saturated soil conditions resulted in the greatest losses, equivalent to 44.6 and 92.6% of the applied N to the silt loam and silt soils, respectively. Denitrification losses did not increase at soil temperatures above 30 degrees C. These results indicate that denitrification loss from fertilizers applied to turfgrasses may not be a serious problem unless the soils are saturated and at higher soil temperatures. *Agronomy journal*. Jan/Feb 1988. v. 80 (1). p. 148-153. Includes references. (NAL Call No.: ONAL 4 AM34P).

0092

Disease control in the home lawn.

WAEBA. Beaupre, C.M.S. Vincelli, P.C. Laramie, Wyo. : The Station. B - Wyoming Agricultural Experiment Station. Mar 1990. (937). 2 p. (NAL Call No.: ONAL 100 W99 (1)).

0093

Disease control in the nursery with special reference to woody and herbaceous perennials / author, Charles C. Powell .

Powell, Charles C. Columbus, Ohio? : Ohio Cooperative Extension Service, Ohio State University, 1987 . Abstract: This publication discusses strategies for and steps involved in disease management in the nursery with emphasis on woody and herbaceous perennial ornamentals. It includes information on plant pathogens and the diseases they cause, soil fumigation, lists of common diseases of ornamentals in Ohio, pesticide recommendations, dilution and conversion tables and Ohio Poison Information Centers. Cover title.~ "Agdex 275/636."~ "1/87-4M Revised"--P. i. 24 p. : col. ill. ; 28 cm. (NAL Call No.: DNAL 275.29 OH32 no.571 1987).

0094

Dispel those thatch myths.

Catron, P. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1987. v. 22 (8). p. 72, 74, 76. ill. (NAL Call No.: DNAL SB476.G7).

0095

Early seeding--late germination and high seedling loss.

Harrison, R.L. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 86. (NAL Call No.: ONAL SB433.34.V8V47).

0096

Effect of cultural factors on tall fescue-Kentucky bluegrass sod quality and botanical composition (*Festuca arundinacea*, *Poa pratensis*).

Hall, J.R. III. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 367-377. Bibliography p. 377. (NAL Call No.: SB433.I57 1977).

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0097

The effect of cultural practices on the surface speed of closely mowed greens (Turfgrasses).

Stahnke, G.K. Beard, J.B. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Jan 1981. Jan 1981. (3831/3851). p. 60-63. (NAL Call No.: 100 T31P).

0098

Effect of farm size and level of vertical integration on returns to management in the commercial turfgrass industry.

Lessley, B.V. Strand, I. Amherst, The Council. Journal - Northeastern Agricultural Economics Council. Oct 1979. v. 8 (2). p. 201-210. 2 ref. (NAL Call No.: HD1773.A2N6).

0099

Effect of foliar fertilization on the seed production of Baron and Merit Kentucky bluegrass at Madras, Oregon, in 1982 and 1983.

OASPA. Nelson, J.L. Corvallis, Or. : The Station. Special report - Oregon State University, Agricultural Experiment Station. July 1984. (717). p. 18-23. (NAL Call No.: DNAL 100 OR3M).

0100

The effect of growth retardants on four lawn grasses.

PNWSB. Pennucci, A. Jagschitz, J.A. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. 1985. v. 39. p. 260-265. Includes 4 references. (NAL Call No.: DNAL 79.9 N814).

0101

Effect of management factors upon Kentucky bluegrass--perennial ryegrass mixtures.

Taylor, L.H. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 39-42. (NAL Call No.: DNAL SB433.34.V8V47).

0102

The effect of plant growth retardants on common bermudagrass turf (Cynodon dactylon).

Miller, E.M. King, J.W.; Stutte, C.A. Lake Alfred, Fla., The Society. Proceedings of the Plant Growth Regulator Society of America. 1981. 1981. (8th). p. 2-7. Includes 7 ref. (NAL Call No.: SB128.P5).

0103

Effect of traffic control and wear on bermudagrass.

Henry, M.L. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 77-78. (NAL Call No.: DNAL SB433.34.V8V47).

0104

Effective use of our natural resources (Turf management).

Lucas, M.B. Jr. Far Hills, N.J., United States Golf Association. USGA Green Section record. Mar/Apr 1981. v. 19 (2). p. 5-6. ill. (NAL Call No.: 60.18 UN33).

0105

Effects of amidochlor of shoot growth and seedhead suppression in cool-season turfgrass.

HJHSA. Bhowmik, P.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1987. v. 22 (1). p. 63-65. Includes references. (NAL Call No.: DNAL SB1.H6).

0106

Effects of clipping disposal, nitrogen, and growth retardants on thatch and tiller density in zoysiagrass.

CRPSAY. Soper, D.Z. Dunn, J.H.; Minner, D.D.; Slepser, D.A. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1988. v. 28 (2). p. 325-328. Includes references. (NAL Call No.: DNAL 64.8 C883).

0107

Effects of clipping on growth and physiology of 'Merion' Kentucky bluegrass.

CRPSAY. Krans, J.V. Beard, J.B. Madison, Wis. : Crop Science Society of America. Crop science. Jan 1985. v. 25 (1). p. 17-20. Includes 21 references. (NAL Call No.: DNAL 64.8 C883).

0108

Effects of growth retardants on the shoot and root growth of roadside turfgrasses.

Wakefield, R.C. Fales, S.L. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 303-309. Bibliography p. 308-309. (NAL Call No.: SB433.I57 1977).

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0109

The effects of mowing height and nitrogen fertility levels on the thatch accumulation and growth of two bermudagrasses.

Kim, K.S. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4340). p. 96-98. (NAL Call No.: DNAL 100 T31P).

0110

Effects of plant growth regulators on bahiagrass.

PPGGD. Peacock, C.H. Flanagan, M.S. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1986. (13th). p. 41-45. (NAL Call No.: DNAL SB128.P5).

0111

Effects of pronamide on spring transition of a bermudagrass (*Cynodon dactylon*) green overseeded with perennial ryegrass (*Lolium perenne*).

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 322-326. Includes references. (NAL Call No.: DNAL SB610.W39).

0112

Effects of repeated applications of bensulide and tricalcium arsenate on the control of annual bluegrass (*Poa annua*) and on quality of highland colonial bentgrass (*Agrostis tenuis*) putting green turf.

Goss, R.L. Cook, T.W.; Brauen, S.E.; Orton, S.P. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 247-255. Bibliography p. 255. (NAL Call No.: SB433.I57 1977).

0113

The effects of stage of seedling development on selected physiological and morphology parameters in Kentucky bluegrass (*Poa pratensis*) and red fescue (*Festuca rubra*).

Krans, J.V. Beard, J.B. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 89-95. Bibliography p. 94-95. (NAL Call No.: SB433.I57 1977).

0114

Effects of sulphur on bentgrass turf (*Agrostis tenuis*).

Goss, R.L. Brauen, S.E.; Gould, C.J.; Orton, S.P. Washington, D.C. : The Sulphur Institute. Sulphur in agriculture. 1977. v. 1. p. 7-11. Includes references. (NAL Call No.: S587.5.S9S9).

0115

Effects of uniconazole and mefluidide on root growth of bermudagrass as determined with a rhizotron.

RRMSD. Vadhwa, D.P. Matta, F.B.; Nelson, L. Mississippi State, Miss. : The Station. Research report - Mississippi Agricultural and Forestry Experiment Station. Feb 1990. v. 15 (2). 3 p. ill. Includes references. (NAL Call No.: DNAL S79.E37).

0116

Effects of various amendments on thatch decomposition.

Breitenbeck, G.A. Wells, D.W.; Constantin, R.J. Baton Rouge : The Department. Report of projects - Louisiana Agricultural Experiment Station, Department of Agronomy. 1986? . p. 165-166. (NAL Call No.: DNAL 100 L936).

0117

Electrostatic separation of seed mixtures. 1. High-voltage exposure effects on seed germination (Grass seeds).

Krishnan, P. Brandenburg, N.R.; Berlage, A.G. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1982. Paper presented at the 1982 Summer Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1982. (fiche no. 82-3072). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0118

Establishing vegetative bermudagrass in existing fairways.

Giedd, K.P. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 54-56. (NAL Call No.: DNAL SB433.34.V8V47).

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0119

Evaluation of growth regulators on roadside tall fescue turf.

PNWSB. Lyman, G.T. Watschke, T.L.; Gover, A.E. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held on January 4-6, 1989, Baltimore, Maryland. 1989. v. 43. p. 80-81. (NAL Call No.: DNAL 79.9 N814).

0120

Evaluation of growth retardants for roadside turf (Weed control).

Sawyer, C.D. PNWSB. Wakefield, R.C.; Jagachitz, J.A. Beltsville : The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1983. 1983. (37th). p. 372-375. Includes references. (NAL Call No.: 79.9 N814).

0121

Experiments on the effects of tillage on soil moisture ; Meteorological observations ; Grass and forage garden / by W.O. Atwater .

Atwater, W. O. 1844-1907. Mansfield, Conn. : Storrs School, Agricultural Experiment Station, 1888. Caption titles. 11 p. ; 23 cm. (NAL Call No.: DNAL 100 C76S no.2).

0122

Factors effecting syringing efficiency.

DiPaola, J.M. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 16-19. (NAL Call No.: DNAL SB433.34.V8V47).

0123

Fall disease control on warm season grasses.

Blasingame, D. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1987. v. 22 (8). p. 68, 70. ill. (NAL Call No.: DNAL SB476.G7).

0124

Floralawn St. Augustinegrass.

Dudeck, A.E. Reinert, J.A.; Busey, P. Gainesville : The Institute. Circular S - Florida Agricultural Experiment Stations, Institute of Food and Agricultural Sciences, University of Florida. Apr 1986. (327). 11 p. ill. Includes references. (NAL Call No.: DNAL 100 F66CI).

0125

Frequency of fertilizer applications and centipedegrass performance.

AGJDAT. Johnson, B.J. Carrow, R.N. Madison, Wis. : American Society of Agronomy. Centipedegrass *Eremochloa ophiuroides* (Munro) Hack. is a low-maintenance grass widely used throughout the southeastern United States. Improper fertilization continues to be a major concern and results in centipedegrass decline. With low fertilization, the grass has a pale green color that is often unacceptable to many turfgrass managers. This research was initiated to determine the influence of frequency of annual fertilizer treatments on turfgrass quality. Treatments were arranged in a split plot design with frequency of annual fertilization treatments as main plots and N rates as subplots. Soil type was a Cecil sandy loam (clayey, kaolinitic, thermic Typic Hapludult). The quality of centipedegrass treated with 50 kg N ha⁻¹ in April and repeated at the same rate in July for a total rate of 100 kg ha⁻¹ was equal to or better than that from a single application of 100 kg N ha⁻¹ in April. Centipedegrass quality from split applications (April + July) was also equal to or better than that when a total of 100 kg N ha⁻¹ was split into three or four equal applications over the growing season. The exception occurred in September in 2 of 4 yr when the quality of centipedegrass was better when N was applied in three and four annual applications. Centipedegrass decline measured by quality and stand density occurred in plots treated with 100 kg N ha⁻¹ in April after 3 and 4 yr of consecutive applications. Decline was not evident when N was applied annually at 100 kg ha⁻¹ in split applications. At 0 kg N ha⁻¹ yr⁻¹ centipedegrass failed to provide sufficient growth to maintain an acceptable stand. Also, after two consecutive years without N applications, centipedegrass quality declined, which indicates that some N is necessary every year. *Agronomy journal*. Nov/Dec 1988. v. 80 (6). p. 925-929. Includes references. (NAL Call No.: DNAL 4 AM34P).

0126

Gassing and regrassing.

Walker, T. Far Hills, N.J. : United States Golf Association. USGA Green Section record. July/Aug 1989. v. 27 (4). p. 10-12. ill. (NAL Call No.: DNAL 60.18 UN33).

0127

The gathering storm.

Kelley, P.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 32-35. (NAL Call No.: DNAL SB433.34.V8V47).

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0128

Getting to the root of the problem.

Koski, T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1988. v. 23 (6). p. 10-12, 14. (NAL Call No.: DNAL SB476.G7).

0129

Glyphosate doesn't harm tall fescue.

CAGRA. Downer, A.J. Cudney, D.W. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Jan/Feb 1989. v. 43 (1). p. 13-14. ill. (NAL Call No.: DNAL 100 C12CAG).

0130

Goosegrass (*Eleusine indica*) control bermudagrasses (*Cynodon dactylon*).

Bingham, S.W. Shaver, R.L. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 237-245. Bibliography p. 245. (NAL Call No.: SB433.I57 1977).

0131

The grass is always greener.

Nowels, K.E. St. Louis, Mo. : Solutions Magazine. Solutions. Sept/Oct 1987. v. 31 (6). p. 22-23. ill. (NAL Call No.: DNAL 57.8 S04).

0132

Green coverage and color evaluation of turfgrass by means of light reflection.

Biran, I. Bushkin-Harav, I. Alexandria, Va., American Society for Horticultural Science. HortScience. Feb 1981. v. 16 (1). p. 76-78. 11 ref. (NAL Call No.: SB1.H6).

0133

Growth regulation of turfgrass.

Breuninger, J.M. Watschke, T.L. Champaign, Ill. : Weed Science Society of America. Reviews of weed science. June 1989. v. 4. p. 153-167. Includes references. (NAL Call No.: DNAL SB610.R47).

0134

Growth retardant effects on grasses for roadsides.

Duell, R.W. Schmit, R.M.; Cosky, S.W. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 311-323. Bibliography p.

323. (NAL Call No.: SB433.I57 1977).

0135

Growth retardant effects on three turfgrass species (Kentucky bluegrass (*Poa pratensis*), tall fescue (*Festuca arundinacea*), hard fescue (*Festuca ovina*)).

Christians, N.E. JDSHB. Nau, J. Alexandria : The Society. Journal of the American Society for Horticultural Science. Jan 1984. v. 109 (1). p. 45-47. ill. Includes references. (NAL Call No.: 81 S012).

0136

A guide to lawn/landscape fertilization.

Rathgens, R. Weeds, trees and turf. Jan 1987. v. 26 (1). p. 56-58. ill. (NAL Call No.: DNAL 79.8 W413).

0137

Heat tolerance screening of field-grown cultivars of Kentucky bluegrass and perennial ryegrass (*Poa pratensis*, *Lolium perenne*), environmental stress, Maryland).

Minner, D.D. AGJDA. Dernoeden, P.H.; Wehner, D.J.; McIntosh, M.S. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 772-775. Includes references. (NAL Call No.: 4 AM34P).

0138

Herbicide consideration in renovation.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 93-94. (NAL Call No.: DNAL SB433.34.V8V47).

0139

Herbicide impact on root growth.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 40. (NAL Call No.: DNAL SB433.34.V8V47).

0140

Herbicide X annual fertility programs influence on creeping bentgrass performance.

AGJDAT. Johnson, B.J. Madison, Wis. : American Society of Agronomy. Creeping bentgrass (*Agrostis palustris* Huds.) is increasing in the use of golf greens in the upper South where heat and drought stress occurs. Research was initiated to determine the effects of annual fertilizer programs on performance of creeping

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bentgrass treated with spring and fall-applied herbicides. Treatments were arranged in a split-split block with subunits in strips. Fertilizer programs were the main block and the blocks were stripped by spring and fall herbicide treatments. Soil type was an artificial rootzone mix. Creeping bentgrass performed best the first 26 wk of each year when fertilized at the high (490-20-195 kg NPK ha⁻¹ yr⁻¹) fertility level and best the last 26 wk of each year when fertilized at the medium (294-12-124 kg NPK ha⁻¹ yr⁻¹) fertility level. The quality of creeping bentgrass fertilized annually at the low (98-6-52 kg NPK ha⁻¹ yr⁻¹) fertility level was unacceptable. The quality of creeping bentgrass was reduced less at the medium fertility level than at the low fertility level when treated with oxadiazon (3-2,4-dichloro-5-(1-methylethoxy)phenyl-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-(3H)-one) and bensulide (D,D-bis(1-methylethyl)-S-2-(phenylsulfonyl)-amino ethyl phosphorodithioate + oxadiazon. Ethofumesate (+/-)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methane-sulfonate applied in the fall 1986 maintained the highest quality ratings at the high fertility level until mid-April when the quality was the same whether fertilized at the medium or high level. In most instances in 1987, the quality of creeping bentgrass treated with ethofumesate at the medium fertility level was equally as good as when treated with the same herbicide but at the high fertility level. When fertilizer by herbicide interaction occurred, creeping bentgrass maintained a higher quality at the medium to high fertility level than at the low fertility level. *Agronomy journal*. Jan/Feb 1990. v. 82 (1). p. 27-33. Includes references. (NAL Call No.: DNAL 4 AM34P).

0141

Herbicides for difficult weeds in cool season turfgrasses.

Jagschitz, J.A. Cleveland, Harvest Publishing Co. Weeds, trees and turf. Mar 1981. v. 20 (3). p. 18-19, 62-63. ill. (NAL Call No.: 79.8 W413).

0142

The home lawn.

Ascerno, Mark E. Jr. Klint, Curtis P.; Stienstra, Ward C.; White, Donald B. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1980. This publication examines selecting grasses, seeding, sodding, fertilizing, mowing, raking, watering, aerifying, weeds, thatch and disease control of home lawn. 23 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: EB 366).

0143

Home lawns.

WUEXA. Goss, R.L. Brauen, S.E.; Morrison, K.J.; Chastagner, G.; Syther, R.S.; Antonelli, A.L. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Jan 1988. (O482,rev.). 14 p. ill. (NAL Call No.: DNAL 275.29 W27P).

0144

Home lawns.

WUEXA. Goss, R.L. Morrison, K.J.; Chastagner, G.; Brauen, S.E.; Byther, R.S.; Antonelli, A.L. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Aug 1984. (O482,slightly rev.). 14 p. ill. (NAL Call No.: DNAL 275.29 W27P).

0145

Home lawns for Utah (Management, care, weeds, chemical control).

Jensen, L.A. Burningham, M.S. Logan, Utah, The Service. Leaflet - Utah State University, Cooperative Extension Service. Sept 1979. Sept 1979. (86). 20 p. ill. (NAL Call No.: 275.29 UT1L).

0146

How turf resists drought stress.

Shearman, R.C. Dverland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1987. v. 22 (5). p. 38, 40, 98. ill. (NAL Call No.: DNAL SB476.G7).

0147

Impact of a high-maintenance lawn-care program on nontarget invertebrates in Kentucky bluegrass turf.

EVETEX. Arnold, T.B. Potter, D.A. College Park, Md. : Entomological Society of America. *Environmental entomology*. Feb 1987. v. 16 (1). p. 10-105. Includes references. (NAL Call No.: DNAL QL461.E532).

0148

Improving wear tolerance of sports turf.

Shearman, R.C. Dverland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1989. v. 24 (2). p. 84, 86, 104-107. ill. (NAL Call No.: DNAL SB476.G7).

0149

In search of low-maintenance turf.

CAGRA. Wu, L. Harivandi, M.A. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Jan/Feb 1988. v. 42 (1). p. 16-17. ill. (NAL Call No.: DNAL 100 C12CAG).

0150

Indiana training program for turf technicians.

West Lafayette, Ind. : Produced jointly by Office of the Indiana State Chemist, Purdue University ; Purdue Pesticide Programs, Purdue University ; Carmel, Ind. : Indiana State Lawn Care Association, 1988? . Abstract: This is a training manual for Registered Turf Care Technicians. Topics covered include the biology of grass; weed, insect, disease and vertebrate pests; pesticide product, label, and formulation information; protection; proper application; equipment calibration; legal obligations of pesticide users; and environmentally safe practices. Label interpretation worksheets, area calculation problems, a step-by-step guide on how to treat a lawn, and a glossary are provided. Cover title.~ Caption title: Indiana training program, turf care technicians.~ Category 3b RT.~ PMISC-84. 1 v. (various pagings) : ill. ; 28 cm. (NAL Call No.: DNAL SB608.T87I52).

0151

Influence of cultural factors on species dominance in a mixed stand of annual bluegrass/creeping bentgrass.

CRPSAY. Gaussoin, R.E. Branham, B.E. Madison, Wis. : Crop Science Society of America. Annual bluegrass (*Poa annua* var. *reptans* (Hauskn.) Timm.) is a weedy species that is a component of most close-cut, irrigated fairways. Research was conducted to determine the effect of five management factors and their interactions on the species composition of a mixed stand of annual bluegrass and creeping bentgrass (*Agrostis palustris* Huds.) maintained at 13 mm. Soil was an Dwoosso-Marlette sandy loam (fine-loamy, mixed, mesic, Typic and Glossoboric Hapludalfs). Management factors investigated for 3 yr were irrigation (daily at 75% open pan evaporation (OPE), triweekly at 110% OPE, and at wilt); clipping treatments (returned or removed); N fertility (98 or 293 kg N ha⁻¹ yr⁻¹); plant growth regulator (PGR) treatments (mefluidide, N-2,4-dimethyl-5-(trifluoromethyl)-sulfonyl amino phenyl acetamide, at 0.14 kg ha⁻¹; EL-500, alpha-(1-methylethyl)-alpha-4-(trifluoromethoxy)phenyl 5-pyrimidine methanol, at 1.12 kg ha⁻¹; and a control) and 'Penncross' creeping bentgrass overseeded (49 kg ha⁻¹ yr⁻¹) or not overseeded). Changes in annual bluegrass (AB) populations for each growing season were determined utilizing the point quadrat method. The effect of clipping removal on AB seed in the soil was determined. Returning clippings increased annual bluegrass 12% over plots in

which clippings were removed. Overseeding with creeping bentgrass (CB) increased CB populations 8% compared to plots irrigated daily at 75% OPE and not overseeded. Mefluidide in combination with high N fertility resulted in AB populations 8% higher than control or EL-500 plots at the same fertility level. Mefluidide also increased AB populations relative to control or EL-500 treatments when clippings were removed. The greatest significant decrease in AB (28%) occurred with the treatment combination of clippings removed, overseeded, and no PGR. Removing clippings reduced the number of viable AB seeds in the soil by 60%. Crop science. Mar/Apr 1989. v. 29 (2). p. 480-484. Includes references. (NAL Call No.: DNAL 64.8 C883).

0152

Influence of fertilizer rate, mower type, and thatch control on colonial bentgrass lawn turf (*Agrostis tenuis*).

Skogley, C.R. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich. p. 337-342. Bibliography p. 342. (NAL Call No.: SB433.I57 1977).

0153

Influence of frequency and dates of plant growth regulator applications to centipede grass on seedhead formation and turf quality.

JDSHB. Johnson, B.J. Alexandria, Va. : The Society. Two separate experiments (one and two applications and dates of treatment) were conducted on plant growth regulator (PGR) injury and seedhead suppression of centipede grass *Eremochloa ophiuroides* (Munro) Hack. . Mefluidide caused less injury, to centipede grass than either imazethapyr or flurprimidol + mefluidide. Mefluidide applied at 0.56 kg.ha⁻¹ in each of two applications at 2-week intervals suppressed seedheads of centipede grass for 10 weeks. A single 0.56 kg.ha⁻¹ application of the mefluidide failed to suppress seedheads when applied any time from mid-June until late July. A single treatment with flurprimidol + mefluidide severely injured centipede grass, and seedhead suppression was poor regardless of date of treatment. Centipede grass was severely injured when flurprimidol + mefluidide was applied at 1.68 + 0.28 kg.ha⁻¹ in each of two applications, but seedheads were suppressed for 10 weeks. Imazethapyr applied at 0.30 and followed by 0.15 kg.ha⁻¹ suppressed seedheads 10 weeks after treatment in 1987 and 6 weeks after treatment in 1988 without reducing turf density. When this PGR was applied as a single treatment at 0.30 kg.ha⁻¹, seedhead suppression was generally greater for 8 weeks when applied mid- to late July than mid- to late June. Journal of the American Society for Horticultural Science. May 1990. v. 115 (3). p. 412-416. Includes references. (NAL Call No.: DNAL 81 S012).

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0154

Influence of herbicides on bermudagrass greens overseeded with perennial ryegrass.

JOSHB. Johnson, B.J. Alexandria, Va. : The Society. Two field experiments were initiated to determine the effects of herbicides on turfgrass quality and spring to summer transition from overseeded perennial ryegrass (*Lolium perenne* L.) back to 'Tifway' bermudagrass *Cynodon transvaalensis* Burt-Davy x *Cynodon dactylon* (L.) Pers. . Pendimethalin applied at 3.3 kg.ha⁻¹ in early March hastened the transition from ryegrass to bermudagrass in one of two years, but 1.7 kg.ha⁻¹ applied in each of two applications did not. A single application of pronamide at 0.28 kg.ha⁻¹ hastened the transition of overseeded ryegrass to bermudagrass without severely injuring either turfgrass. Oryzalin, oryzalin + benefin, or paraquat severely reduced the quality of ryegrass, while oxadiazon at 3.3 kg.ha⁻¹, oxadiazon + benefin, glyphosate, metribuzin, or MSMA did not affect transition from overseeded ryegrass to bermudagrass when compared with nontreated turfgrass. This study illustrates the potential for some herbicides to enhance the transition from perennial ryegrass to bermudagrass. Chemical names used: N-butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)benzenamine (benefin); dimethyl 2,3,5,6-tetrachloro-1,4-benzenedicarboxylate (DCPA); (+/-)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methanesulfonate (ethofumesate); N-(phosphonomethyl)glycine (glyphosate); N-2,4-dimethyl-5-(trifluoromethyl)sulfonyl amino phenyl acetamide (mefluidide); 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one (metribuzin); monosodium salt of MAA (MSMA); 4-(dipropylamino)-3,5-dinitrobenzene-sulfonamide (oryzalin); 3-2,4-dichloro-5-(1-methylethoxy)-phenyl)-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-(3H)-one (oxadiazon); 1,1'-dimethyl-4,4'-bipyridinium salts (paraquat); N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamine (pendimethalin); and 3,5-dichloro(N-1,1-dimethyl-2-propynyl)benamide (pronamide). *Journal of the American Society for Horticultural Science*. Sept 1988. v. 113 (5). p. 662-666. Includes references. (NAL Call No.: DNAL 81 S012).

0155

Influence of nitrogen on the response of Tifway' bermudagrass (*Cynodon dactylon*) to flurprimidol.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan 1988. v. 2 (1). p. 53-58. Includes references. (NAL Call No.: DNAL SB610.W39).

0156

Influence of plant growth regulators on transition of bermudagrass putting green overseeded with perennial ryegrass.

JOSHB. Mazur, A.R. Alexandria, Va. : The Society. *Journal of the American Society for Horticultural Science*. May 1988. v. 113 (3). p. 367-373. Includes references. (NAL Call No.: DNAL 81 S012).

0157

Influence of protective covers on reducing winter desiccation of turf.

AGJQAT. Roberts, J.M. Madison, Wis. : American Society of Agronomy. *Agronomy Journal*. Jan/Feb 1986. v. 78 (1). p. 145-147. Includes 10 references. (NAL Call No.: DNAL 4 AM34P).

0158

Insect, weed and disease management on commercial turfgrass.

MUCBA. Smitley, D. Branham, B.; Vargas, J. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Apr 1989. (2178). 31 p. (NAL Call No.: DNAL 275.29 M58B).

0159

Integrated pest management for turfgrass and ornamentals /editors : Anne R. Leslie and Robert L. Metcalf.

Leslie, Anne R.; Metcalf, Robert L. Washington, D.C. : U.S. Environmental Protection Agency, Office of Pesticide Programs, Field Operations Division, 1989. Abstract: This EPA manual discusses insect resistance, regulatory, environmental and societal problems in controlling turfgrass and ornamental pests with pesticides and the benefits of an integrated pest management approach. It presents research on understanding the pest/site complex and biological turfgrass pest control by endophytic fungi and entomophilic nematodes. Current disease, insect and weed control practices are covered as well as developing IPM programs. "Field Operations Division"--Cover.~ "August 1989"--Cover.~ "This book is the product of a symposium ... entitled "Urban Integrated Pest Management: An Environmental Mandate"--P. v. viii, 337 p. : ill. ; 27 cm. Includes bibliographical references. (NAL Call No.: DNAL SB608.T87I5).

0160

Integrated pest management for warm-season grasses.

Lucas, L.T. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International

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Hotel, Norfolk, Virginia. p. 4-6. (NAL Call No.: DNAL SB433.34.V8P7 1983).

0161

Irrigation and potassium effects on a Kentucky bluegrass fairway turf /by Kimberly S. Erusha.
Erusha, Kimberly S. 1990. Thesis (Ph.D.)--University of Nebraska--Lincoln, 1990. x, 114 leaves : ill. ; 28 cm. Includes bibliographical references. (NAL Call No.: NBU LD3656.5 1990 E787).

0162

Judd Ringer's natural lawn and garden care.
Ringer Research (Firm). Eden Prairie, Minn. : Ringer Research,. Description based on: Spring 1984; title from cover. v. : col. ill. ; 28 cm. (NAL Call No.: DNAL SB115.Z9R55 R).

0163

Landscape management.
Cleveland, Ohio : Harcourt Brace Jovanovich, c1987-. Landscape management. Title from cover. v. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB433.L352).

0164

Lawn care--up close and personal.
Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 109-111. (NAL Call No.: DNAL SB433.34.V8V47).

0165

Lawn care and pest control--a marriage made in heaven or a union headed for the divorce courts.
Moreland, D. Cleveland, Gie. PCT, pest control technology. July 1981. v. 9 (7). p. 33-35. ill. (NAL Call No.: SB950.2.A1P4).

0166

Lawn care programs.
Daniel, W. H. 1980. This publication deals with growing a dense uniform turf. Fertilizing, seeding, weed control, and insect control are discussed on a calendar schedule. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: AY-2).

0167

Lawn maintenance in Alabama.
Sheffer, K.M. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (239). 4 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0168

Lawn servicing.
Overland Park, KS : Intertec Pub. Corp.,. Lawn servicing. Description based on: Aug. 1988; title from cover. (NAL Call No.: DNAL SB454.8.L38).

0169

Lawn weed control.
Nelson, J. E. Document available from: Iowa State University, Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1980. This publication discusses control methods, chemical and mechanical, pre and post emergence herbicides, formulations, sprayer calibration for compressed air sprayers and dry spreaders, and general effective considerations. 8 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: Pm-930).

0170

Lawns--connecting the clues to an accurate diagnosis.
Cinque, M.T. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. July 1986. p. 5-7. (NAL Call No.: DNAL SB317.5.L65).

0171

Lawns and their care.
Scott, K.R. Klingaman, G.L.; Chapman, S.L.; Boyd, J.; King, J.R. Little Rock, Ark. : The Service. EL - University of Arkansas, Cooperative Extension Service. Mar 1988. (309). 12 p. ill. (NAL Call No.: DNAL 275.29 AR4LE).

0172

Lawns, ground cover, and weed control / by David Pycraft. -.
Pycraft, David. New York Simon and Schuster c1980. Includes index. 96 p. : ill. ; 23 x 29 cm. --. (NAL Call No.: SB433.P93).

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0173

Lime responses of Kentucky bluegrass (*Poa pratensis*) and tall fescue (*Festuca arundinacea*) cultivars on an acid, aluminum-toxic soil.

Murray, J.J. Foy, C.D. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 175-183. ill. Bibliography p. 182-183. (NAL Call No.: SB433.I57 1977).

0174

Low-water-use turfgrasses.

Beard, J.B. Kim, K.S. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Jan/Feb 1989. v. 27 (1). p. 12-13. ill. Includes references. (NAL Call No.: DNAL 60.18 UN33).

0175

Maintaining athletic fields.

Indyk, H.W. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (105). 6 p. (NAL Call No.: DNAL S544.3.N5F7).

0176

Maintenance of Bentgrass.

Daniel, W. H. 1977. This publication is aimed at how to grow Bentgrass. Mowing, fertilizing, watering, disease control, insect control, crabgrass control, vertical mowing, reseeding and drainage are the topics included. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: AY-15).

0177

Management that paid off in a tough year.

Zontek, S.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 23-25. (NAL Call No.: DNAL SB433.34.V8V47).

0178

Managing bermudagrass on the transition zone golf course.

Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 23-27. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

0179

Managing economic risk in the lawn service business.

Luckham, W.K. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 76-81. (NAL Call No.: DNAL SB433.34.V8V47).

0180

Managing greens under stress.

Zontek, S.J. Far Hills, N.J. : United States Golf Association. USGA Green Section record. May/June 1988. v. 26 (3). p. 1-4. ill. (NAL Call No.: DNAL 60.18 UN33).

0181

Mealybugs and scales in greenhouses and interior plantscapes /Marilyn Steiner.

Steiner, Marilyn Y. Columbus : Ohio Florists' Association, 1987. Abstract: This article discusses the biology, identification and common species of mealybugs and scale, host symptoms, and nonchemical and chemical control options. It identifies pesticides registered for use in U.S. interior plantscapes and greenhouses to control softscale and mealbugs. Cover title.~ "August 1987.". 6 p. : ill. : 28 cm. (NAL Call No.: DNAL 81 OH36 no.694).

0182

Mefluidide applications for annual bluegrass seedhead suppression based on degree-day accumulation.

AGJOAT. Danneberger, T.K. Branham, B.E.; Vargas, J.M. Jr. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1987. v. 79 (1). p. 69-71. Includes references. (NAL Call No.: DNAL 4 AM34P).

0183

A modular assimilation chamber for carbon exchange rate measurements of turf.

HJHSA. Akers, S.W. Green, R.L. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1987. v. 22 (1). p. 151-153. ill. Includes references. (NAL Call No.: DNAL SB1.H6).

0184

The monsters of Manchester.

Watschke, G.A. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1986. v. 24 (5). p. 1-5. ill. (NAL Call No.: DNAL 60.18 UN33).

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0185

Moss, algae, and slime mold in lawns.

Smith, Tom. Patchan, Greg. & Turf tips for the homeowner. 1981. This publication discusses how to control moss, algae, and slime molds without using chemicals. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, MI 48824. 1 sheet : ill. (NAL Call No.: Extension Bulletin E-1516).

0186

Nematode impact on root growth.

Krusberg, L.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 41-42. (NAL Call No.: DNAL SB433.34.V8V47).

0187

New mesh material enhances sports turf wear.

Beard, J.B. Sifers, S.I. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Jan 1988. v. 23 (1). p. 63. ill. (NAL Call No.: DNAL SB476.G7).

0188

Nitrogen source effect on nitrate and ammonium leaching and runoff losses from green (Turfgrasses, water pollution control fertilizers).

Brown, K.W. AGJDA. Thomas, J.C.; Duple, R.L. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1982. v. 74 (6). p. 947-950. ill. 15 ref. (NAL Call No.: 4 AM34P).

0189

Ornamental & turf pest control.

Mississippi State, Miss. : Cooperative Extension Service, Mississippi State University, 1985? . Abstract: Topics covered in the Mississippi Training for Certification manual for the Ornamental & Turf Pest Control category consist of the identification and control of ornamental and turfgrass pests including diseases, weeds, insects, and vertebrate pests, phytotoxicity, and environmental considerations. Features a Weights and Measures equivalents chart, true/false and multiple choice test questions, and an explanation of required pesticide licenses, permits and certificates in Mississippi. Cover title.~ At head of title: Training for certification.~ This guide has been developed by North Carolina State University under U.S. Environmental Protection Agency (EPA) Contract number 68-01-2903 and has been edited by the Extension Plant Pathology, Entomology and Agronomy Departments to correspond with Mississippi conditions.~ "November 1985"--Colophon. ii, 24, 9, 4 p. ; 28 cm. (NAL Call No.: DNAL SB950.2.M7075 1985).

0190

Ornamental & turf pest control : a training program for the certification of pesticide applicators / prepared by P.L. Smeal ... (et al.). -.

Smeal, Paul Lester. ; 1932-& Pesticide applicator certification training category 3 manual: ornamental & turf pest control.; Ornamental and turf pest control. (Blacksburg) Extension Division, Virginia Polytechnic Institute and State University 1979. Cover title: Pesticide applicator certification training category 3 manual: ornamental and turf pest control ~Pesticide Applicator Training collection ~"April 1979.". v, 81 p. : ill. ; 28 cm. (NAL Call No.: SB761.07 1979).

0191

Ornamental and turf : pesticide applicator manual. -.

Nesheim, O. Norman.; Criswell, Jim T. & Pesticide applicator manual. (Stillwater) Cooperative Extension Service, Oklahoma State University (1978?). Cover title ~Pesticide Applicator Training collection ~This manual was "compiled and edited by O. Norman Nesheim ... and Jim T. Criswell ..." -- P. (84). (6), 83, (1) p. : ill. ; 28 cm. (NAL Call No.: SB950.2.0506).

0192

Ornamental and turf manual.

Helena, Mont. : Montana Dept. of Agriculture, Environmental Management Division, 1986 . Abstract: This manual introduces pesticide applicators to insect pests of ornamentals and discusses the types of insect feeding damage on ornamentals, the biology, damaging stage and host, and non-chemical and chemical methods used to control them. It provides information on turf insect pests, ornamental and turfgrass weed and disease management, and damage on landscape plants. Correct use of pesticides, pesticide properties, environmental concerns, proper herbicide selection, fungicides, equipment calibration and pesticide disposal are covered. Includes illustrations of ornamental insect pest damage, some ornamental and some turfgrass insect pests. Cover title.~ "July, 1986.". iv, 103 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.070752).

0193

Ornamental and turf pest control category 3 / prepared by A.E. Cott ... et al. . --.

Cott, A. E. Ames : Cooperative Extension Service, Iowa State University, 1980? . Cover title.~ At head of title: Iowa commercial pesticide applicator manual.~ "CS-15."~ Pesticide Applicator Training collection.~ "To be used ... in conjunction with ... Apply pesticides correctly, EPA-335.". 1 v. (various pagings) : ill. ; 28 cm. (NAL Call No.: DNAL SB763.I807).

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0194

Ornamental and turf pest control / John R. Hartman ... (et al). -.
Hartman, John R. (Kentucky) University of Kentucky, Cooperative Extension Service 1976. Cover title ~Pesticide Applicator Training collection ~At head of title: Applicator training manual for. 30 p. : ill. ; 28 cm. --. (NAL Call No.: SB763.K407).

0195

Ornamental and turf pest control : safe, effective use of pesticides, a manual for commercial applicators. -.
E. Lansing Michigan State University, Cooperative Extension Service 1981. Cover title ~Pesticide Applicator Training collection ~"March 1981.". 1, 48B (ie 50) p. : ill. ; 28 cm. --. (NAL Call No.: 275.29 M58B no.1032-3 1981).

0196

Ornamental and turf pest control : Texas. -.
College Station, Tex. Texas Agricultural Extension Service, Texas A&M University System (1982). Pesticide Applicator Training Collection ~Cover title ~At head of title: Using pesticides commercial applicator manual ~"5-82.". 58 p. : ill., map ; 28 cm. Bibliography: p. 56-58. (NAL Call No.: SB763.T407 1982).

0197

Ornamental and turf pests L.D. Rodriguez. -.
Rodriguez, L. D. (Kentucky Dept. of Entomology, University of Kentucky?) 1981. Pesticide Applicator Training collection ~Includes script for part I of slides only: Insects. 160 slides : col. + 1 script. (NAL Call No.: Slide no.16).

0198

Ornamental and turfgrass pest control. -.
Berkeley University of California, Division of Agricultural Sciences 1981. Cover title ~"Reprinted July 1981. ~Pesticide Applicator Training collection. 13 p. : ill. ; 28 cm. --. (NAL Call No.: S544.3.C2C3 no.2964).

0199

Ornamental and turfgrass pest control / compiled by Gene Burgess. -.
Burgess, Gene.& Category 3 study questions: ornamental & turg.; Ornamental & turf. (S.l. Agricultural Extension Service, University of Tennessee 1976?). Cover title: Category 3 study questions, ornamental & turf ~Pesticide Applicator Training collection. 21 p. ; 28 cm. (NAL Call No.: SB950.2.T207).

0200

Ornamental horticulture project guide.
Cott, A. E. 1979. States project objectives, lists things members should learn regarding annual flowers and lawn care plus specific activities members might carry out to do the learning. Contents are age graded. Document available from: Publications Distribution, Iowa State University, Ames, Iowa 50011. Publication intended for: General, Member, Elementary, Junior and Senior High Levels. Learning experience: Knowledge, skills, practices. (3) p. : ill. (NAL Call No.: S533.F66I8).(NAL Call No.: 4H-464-MP).

0201

Ornamental, turfgrass, and greenhouse pest control : category 3 / (prepared by Bob Hartzler, Donald Lewis, Laura Sweets). -.
Hartzler, Robert. Lewis, Donald R.; Sweets, Laura.& Iowa commercial pesticide applicator manual. Ames, Iowa Cooperative Extension Service, Iowa State University 1983. Pesticide Applicator Training Collection ~Cover title ~At head of title: Iowa commercial pesticide applicator manual ~"March 1983. ~CS-15. 45 p. : ill. ; 28 cm. (NAL Call No.: SB763.I8H3 1983).

0202

Ornamentals & turf manual / prepared by A.E. Brown .
Brown, A. E. College Park, Md. : University of Maryland Cooperative Extension Service, 1986-87 i.e. 1987 . Abstract: This manual for private and commercial applicators covers Ornamental and Turf Control and its three subcategories, nursery and landscape ornamentals, turfgrass and greenhouse ornamentals. It contains an appendix on restricted-use pesticides and short answer study questions. Cover title. 61 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.07B76).

0203

Ornamentals /prepared by Loren E. Bode ... et al. .
Bode, Loren E. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, in cooperation with the Illinois Natural History Survey, 1985? 1987 printing. Abstract: This Illinois manual on woody plants (ornamentals) is for homeowners, nurserymen, persons dealing with tree and shrub pest problems in public plantings and those seeking certification as Commercial or Public Pest Control Applicators. It provides information on integrated pest management (IPM) practices, suggests methods for controlling insect, weed, and disease pests of trees and shrubs, and describes different types and how to calibrate them. Specific pesticide recommendations are not included but are published in other annually revised Illinois Extension circulars and fact sheets. Includes illustrations of weeds, keys to common

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woody plant diseases and insects, color photographs, a glossary, and additional references. "2M-9-85-61240-SZ; 2M-9-87-67839"--P. ii . 60 p. : ill. (some col.) ; 28 cm. Bibliography: p. 54-56. (NAL Call No.: DNAL 276 IL623 no.39-3).

0204

Ornamentals and turf workbook / prepared by Nancy Nicol ... et al. .
Nicol, Nancy. Urbana, Ill. : Cooperative Extension Service, College of Agriculture, University of Illinois, 1987? . Abstract: This workbook contains questions and calibration problems based on information in Illinois Pesticide Applicator Training Manuals on Turfgrass, 39-1 and Ornamentals, 39-3. It includes questions on insect pests, diseases and weed pests of woody plants and turfgrass and their control. Cover title.~ Chiefly questions relating to information presented in Illinois pesticide applicator training manuals, Turfgrass 39-1 and Ornamentals 39-3. 28 p. ; 28 cm. (NAL Call No.: DNAL SB608.07075).

0205

Ornamentals and turf workbook, 1990-1991 / prepared by Bob Wolf ... et al. .
Wolf, Bob. Urbana, Ill. : Cooperative Extension Service, College of Agriculture, University of Illinois at Urbana-Champaign, 1990? . Abstract: Short answer questions and calibration problems in the 1990-91 workbook correspond to information in Illinois Pesticide Applicator Training Manuals on Turfgrass, 39-1 and Ornamentals, 39-3. It contains questions on diseases, weed control and insect pests of turfgrass and ornamentals. Cover title.~ Chiefly questions related to information presented in Illinois pesticide applicator training manuals, Turfgrass 39-1 and Ornamentals 39-3. 40 p. ; 28 cm. (NAL Call No.: DNAL SB608.07075 1990).

0206

Oxidation statue and gas composition of wet turfgrass thatch and soil (Poa pratensis, anaerobiosis, impaired growth, field studies in New York).
Thompson, D.C.AGJDA. Smiley, R.W.; Fowler, M.C. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 603-609. ill. Includes references. (NAL Call No.: 4 AM34P).

0207

Perspective: lawn care, 1987.
Brooks, J.R. St. Louis, Mo. : Solutions Magazine. Solutions. Sept/Oct 1987. v. 31 (6). p. 23. (NAL Call No.: DNAL 57.8 S04).

0208

Pest management principles for the commercial applicator ornamental and turf pest control /Bob Newman ... et al. .
Newman, Bob. Madison : University of Wisconsin-Extension, 1988. Abstract: Training manual for commercial pesticide applicators in the ornamental and turf pest-control category. Major topics: application of pest management principles for weed, insect, and disease control; toxicity of pesticides; protecting human health and the environment; disposal; equipment calibration; IPM practices; and label information. "January 1988"--P. 4 of cover. viii, 232 p. ; 28 cm. Bibliography: p. 191. (NAL Call No.: DNAL SB603.5.P48 1988).

0209

Pest management principles for the commercial applicator : ornamental and turf pest control / Mark Bello ... (et al.). -.
Bello, Mark.& Ornamental and turf pest control. Madison University of Wisconsin-Extension 1983. Pesticide Applicator Training collection. vii, 232 p. ; 28 cm. Bibliography: p. 215-216. (NAL Call No.: SB603.5.P48).

0210

Pest management principles for the commercial applicator ornamental and turf pest control study guide /Bob Newman ... et al. .
Newman, Bob. Madison : University of Wisconsin-Extension, 1988. Abstract: This study guide accompanies Pest Management Principles for the Commercial Applicator: Ornamental and Turf Pest Control. It contains multiple choice questions and answers on a variety of subjects including laws and regulations, formulations, safety, application principles, and resistance to pesticides. Cover title.~ "January 1988"--P. 4 of cover. 34 p. ; 28 cm. (NAL Call No.: DNAL SB603.5.P482 1988).

0211

Pest management principles for the commercial applicator : ornamental and turf pest control study guide. -.
Madison University of Wisconsin-Extension 1983. Cover title ~Pesticide Applicator Training collection. 31, (2) p. ; 28 cm. (NAL Call No.: SB603.5.P482).

0212

Pesticide applicator training manual, category 3 : ornamentals and turf for New Jersey. -.
New Brunswick, N.J. Rutgers--the State University, Cooperative Extension Service (1982). Pesticide Applicator Training Collection ~"A training program for the certification of commercial pesticide applicators. ~"This text was written by New

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York Cooperation Extension Service/Cornell, and adapted for New Jersey.". iv, 161 p. : ill. ; 28 cm. Includes bibliographical references. (NAL Call No.: SB950.2.N5P45).

0213

Pesticide applicator training ornamental pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: Ornamental Pest Control is the subject of this commercial pesticide applicator training manual. It contains ornamental insect pests and diseases color photo identification aids and control information. Ornamental tree and weed identification guides are included. The biology and control of vertebrates, mites, slugs, and nematodes are discussed. Pesticide recommendations, applications, spray equipment and calibrations are covered. Environmental concerns (e.g. controlling pesticide drift) are addressed. Cover title.~ Category 3a. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4624).

0214

Pesticide applicator training turfgrass pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: This study manual prepares commercial pesticide applicators for certification in turfgrass pest control. Color guides facilitate identification of lawn weeds and turfgrass diseases and provide cultural and chemical control recommendations. The recognition, biology, and control of vertebrate and insect pests and nematodes is covered. Proper selection and safe application of pesticides, phytotoxicity, controlling pesticide drift, and minimizing water contamination are discussed. A major topic is spray equipment and calibration. Calibration problems and answers are provided. Cover title.~ Category 3b. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4625).

0215

Pesticides and small animal concerns.

Blodgett, D.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 100-101. (NAL Call No.: DNAL SB433.34.V8V47).

0216

PGRs for turfgrass management.

Duell, R. New Brunswick, N.J. : Plant Growth Regulator Society of America. Quarterly - PGRSA. Literature review. Jan/Mar 1989. v. 17 (1). p. 1-9. ill. Includes references. (NAL Call No.: DNAL QK745.P55).

0217

Physiological response of St. Augustinegrass to irrigation scheduling (Stenotaphrum secundatum, turfgrass management, water stress, Florida).

Peacock, C.H. Dudeck, A.E. Madison : American Society of Agronomy. Agronomy journal. Mar/Apr 1984. v. 76 (2). p. 275-279. ill. Includes references. (NAL Call No.: 4 AM34P).

0218

Plant pathology fact sheet: major diseases of lawns and turf.

Brown, E.A. II. Athens, Ga. : The Service. Leaflet - Cooperative Extension Service, University of Georgia. Oct 1989. (367,rev.). 6 p. ill. (NAL Call No.: DNAL 275.29 G29L).

0219

Poa annua--where are we on controlling it?.

Watschke, T.L. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show. January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 29-30. (NAL Call No.: DNAL SB433.34.V8P7 1983).

0220

Post-dormancy growth of bermudagrass as influenced by low temperatures and selected preemergence herbicides (Cynodon, dimethyl tetrachloroterephthalate, benefin, and oxadiazon).

Breuninger, J.M. Schmidt, R.E. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1981. v. 73 (6). p. 945-949. 21 ref. (NAL Call No.: 4 AM34P).

0221

Preventing injury from Japanese and Asiatic beetle larvae to turf in parks and other large areas /by Walter E. Fleming.

Fleming, Walter E. 1899-. Washington, D.C. : U.S. Dept. of Agriculture, 1936. Caption title.~ "Revision of and supersedes Circular 238, Control of larvae of the Japanese and Asiatic beetles in lawns and golf courses.". 12 p. : ill. ; 23 cm. Bibliography : p. 10-11. (NAL Call No.: DNAL 1 Ag84C no.403).

0222

Principles of chemical weed control in lawns.
Murphy, T.R. Athens, Ga. : The Service.
Bulletin - Cooperative Extension Service,
University of Georgia, College of Agriculture.
Mar 1987. (678,rev.). 24 p. ill. (NAL Call No.:
DNAL 275.29 G29B).

0223

The problem: compaction.
Carrow, R.N. Overland Park, Kan. : Intertec
Publishing Corporation. Grounds maintenance.
June 1987. v. 22 (6). p. 6, 8. (NAL Call No.:
DNAL SB476.G7).

0224

Putting the carbohydrate puzzle together.
Portz, H.L. Blacksburg, Va. : Virginia
Cooperative Extension Service. Proceedings -
Virginia Turfgrass Conference and Trade Show.
May 1982. (21st). p. 4-9. Includes references.
(NAL Call No.: DNAL SB433.34.V8V47).

0225

**Quality and response of four warm-season
lawngrasses to shade conditions.**
AGUOAT. Barrios, E.P. Sundstrom, F.J.; Babcock,
D.; Leger, L. Madison, Wis. : American Society
of Agronomy. Agronomy journal. Mar/Apr 1986. v.
78 (2). p. 270-273. Includes 16 references.
(NAL Call No.: DNAL 4 AM34P).

0226

**Recertification manual for commercial pesticide
applicators : forest, turf, ornamental and
turf, and right-of-way pest control. -.**
E. Lansing Michigan State University,
Cooperative Extension Service 1980. Cover title
~Pesticide Applicator Training collection
~"Feb. 1980.". 12 p. ; 28 cm. --. (NAL Call
No.: 275.29 M58B no.1385 (2,3,6)).

0227

Removing water.
Gibson, H. (ed.). Overland Park, Kan. :
Intertec Publishing Corporation. Grounds
maintenance. Mar 1990. v. 25 (3). p. 20, 22.
ill. (NAL Call No.: DNAL SB476.G7).

0228

**Response of centipedegrass to plant growth
regulator and iron treatment combinations.**
AAREEZ. Carrow, R.N. Johnson, B.J. New York,
N.Y. : Springer. Centipedegrass *Eremochloa*
ophiuroides (Munro) Hack. , a widely used low
maintenance turfgrass in the Southeast,
requires only infrequent mowing except during
seedhead production periods. Recently, plant
growth regulators (PGRs) have been identified
that suppress seedhead development and reduce
mowing, but they may cause turfgrass injury
expressed as loss of green color or leaf tip
reddening. Foliar iron (Fe) was applied at 0,
0.73, and 1.46 kg/ha (0, 0.65, 1.30 lb Fe/A) in
combination with mefluidide, imazethapyr, and
flurprimidol plus mefluidide at 0.56, 0.30,
1.70 + 0.28 kg ai/ha, respectively, to
investigate the potential for Fe to reduce PGR
injury. When mefluidide and flurprimidol plus
mefluidide reduced the degree of green color on
centipedegrass, foliar Fe applied with these
PGRs eliminated the color loss. Injury from
imazethapyr was expressed as leaf tip
reddening, and foliar Fe did not influence this
type of injury. Iron applied with PGRs did not
alter the vegetative retardation or seedhead
suppression abilities of the PGRs. Imazethapyr
was most effective in suppressing seedhead
development. Applied agricultural research.
Winter 1990. v. 5 (1). p. 21-26. Includes
references. (NAL Call No.: DNAL S539.5.A77).

0229

**Response of tall fescue (*Festuca arundinacea*)
to plant growth regulator application dates.**
WETEE9. Johnson, B.J. Champaign, Ill. : The
Society. Weed technology : a journal of the
Weed Science Society of America. Apr/June 1989.
v. 3 (2). p. 408-413. Includes references. (NAL
Call No.: DNAL SB610.W39).

0230

**Response of tall fescue (*Festuca arundinacea*)
to plant growth regulators and mowing
frequency.**
WETEE9. Johnson, B.J. Champaign, Ill. : The
Society. Weed technology : a journal of the
Weed Science Society of America. Jan/Mar 1989.
v. 3 (1). p. 54-59. Includes references. (NAL
Call No.: DNAL SB610.W39).

0231

**Response of three cool-season turfgrass species
to ACP-1900.**
PPGGD. Bhowmik, P.C. Lake Alfred, Fla. : The
Society. Proceedings annual meeting - Plant
Growth Regulator Society of America. 1987.
(14th). p. 341-346. Includes references. (NAL
Call No.: DNAL SB128.P5).

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0232

Response to centipedegrass (*Eremochloa ophiuroides*) to plant growth regulators and frequency of mowing.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan/Mar 1989. v. 3 (1). p. 48-53. Includes references. (NAL Call No.: DNAL SB610.W39).

0233

Restore your lawn.

Pleasant, B. Emmaus, Pa. : Rodale Press, Inc. Organic gardening. Apr 1989. v. 36 (4). p. 74-78. ill. (NAL Call No.: DNAL S605.5.074).

0234

Roadside vegetation management (Turf, wildflowers, shrubs, trees, weed control, United States).

Wakefield, R.C. Sawyer, C.D. Kingston : The Station. Bulletin - Rhode Island. Agricultural Experiment Station. Aug 1982. Aug 1982. (432). 28 p. ill. Includes references. (NAL Call No.: 100 R34S (2)).

0235

Role of a soil fungicide and two nematicides in maintaining bermudagrass and creeping bentgrass turf (*Cynodon dactylon*, *Agrostis palustris*).

Sturgeon, R.V. Jr. Jackson, K.E. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 293-300. Bibliography p. 299-300. (NAL Call No.: SB433.I57 1977).

0236

The role of PGR science in chemical vegetation control.

PPGGD. Kaufmann, J.E. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1986. (13th). p. 2-14. (NAL Call No.: DNAL SB128.P5).

0237

A rolling stone--and healthy turf.

Snow, J.T. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1984. v. 22 (6). p. 7-9. ill. (NAL Call No.: DNAL 60.18 UN33).

0238

Roughing it.

Snow, J.T. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1988. v. 26 (6). p. 1-4. ill. (NAL Call No.: DNAL 60.18 UN33).

0239

Seasonal application of ethephon, flurprimidol, mefluidide, paclobutrazol, and amidochlor as they affect Kentucky bluegrass shoot morphogenesis.

CRPSAY. Diesburg, K.L. Christians, N.E. Madison, Wis. : Crop Science Society of America. Inconsistent efficacy has limited the use of turfgrass growth retardants. A 3-yr field study was conducted to determine if the spring reproductive, summer vegetative, and fall reproduction-inductive growth phases of Kentucky bluegrass (*Poa pratensis* L.) influence its response to turfgrass growth retardants. Amidochlor

N-(acetylamino)-methyl-2-chloro-N-(2,6-diet-hylphenyl)acetamide and mefluidide N-2,4-dimethyl-5-(trifluoromethyl)sulfonyl amino phenyl acetamide were fast acting and most effective in spring with nearly complete growth restriction during the second and third weeks after application. Paclobutrazol (2RS, 3RS)-1-(4-chlorophenyl-4,4-dimethyl-2-(1H-1,2,4-triazol-1-yl)pentan-3-ol and flurprimidol alpha-(1-methylethyl)-alpha-4-(trifluoromethoxy)phenyl-5-pyrimidine methanol were slow acting, with an average of 16% growth reduction, which peaked 5 and 10 wk after treatment, respectively. Ethephon

(2-chlorethyl)phosphonic acid effects were continuous throughout the 10-wk measurement periods, restricting growth an average of 30%. Flurprimidol was most effective in summer, whereas ethephon and paclobutrazol had similar effectiveness across seasons. Mefluidide prevented spring heading completely while amidochlor reduced heading by 79%. Mefluidide was the only chemical to reduce turf quality severley. Ethephon was the only chemical to stimulate internode elongation. Measurement of individual phytomers within shoots from two sampling dates provided a continuous record of plant growth response to treatment over a 6-wk period. Blade growth was affected more strongly than sheath growth by all growth retardants except paclobutrazol. Consistent differences in seasonal plant response to treatments in spite of yearly climate variations support the hypothesis that unique combinations of season with growth phase influences the response of Kentucky bluegrass to turfgrass growth retardants. Crop science. July/Aug 1989. v. 29 (4). p. 841-847. Includes references. (NAL Call No.: DNAL 64.8 C883).

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0240

Seasonal establishment of bermudagrass using plastic and straw mulches.

AGJDAT. Sowers, R.S. Welterlen, M.S. Madison, Wis. : American Society of Agronomy. Bermudagrass *Cynodon dactylon* (L.) Pers. is normally established vegetatively during the early summer in the transition zone, to allow sufficient establishment time before the onset of freezing conditions in the fall. Clear polyethylene covers and straw mulches cause changes in the turfgrass microenvironment that may influence the rate of sprig establishment. The objective of this study was to evaluate the effects of barley (*Hordeum vulgare* L.) straw and clear polyethylene plastic mulch (0.04-mm thickness) on the establishment of 'Midiron', 'Tufcote', and 'Vamont' bermudagrass from sprigs. Separate tests were conducted in the fall of 1983 and 1984 and the summer of 1984 and 1985. Summer spriggings were made in May, June, and July, months generally recommended for planting in the transition zone. Late-season spriggings were made in August, September, and October. Plantings were made on a Sassafras sandy loam (fine-loamy, siliceous, mesic Typic Hapludult). Summer bermudagrass establishment was reduced under straw and polyethylene covers. Injury under plastic occurred to plantings made in May and June, which were exposed to mean soil temperatures above 41 degrees C during the 8-wk cover period. In contrast, plastic mulch stimulated early fall bermudagrass growth and delayed dormancy. August and September plantings remaining under plastic throughout the winter exhibited high winter survival in comparison to unmulched or straw mulched turf, and were nearly 100% established by 1 July of the following year. Spriggings under plastic planted after 20 September exhibited poor establishment by 1 July the following year. These studies showed that plastic covers can be used to extend the establishment season of bermudagrass into the fall; however, plastic covers are detrimental to summer bermudagrass establishment. *Agronomy journal*. Jan/Feb 1988. v. 80 (1). p. 144-148. Includes references. (NAL Call No.: DNAL 4 AM34P).

0241

Selecting turf for shade.

Meyer, W.A. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1988. v. 23 (8). p. 26, 28, 30. ill. (NAL Call No.: DNAL SB476.G7).

0242

Site preparation for lawn establishment.

Smith, Thomas M. Kaufmann, John E.; Rieke, Paul E.; Payne, Kenyon T. & Turf tips for the homeowner. Document available from: Michigan State University, Bulletin Office, P.D. Box 231, East Lansing, Michigan 48824 1980. This discusses proper site preparation for good lawn establishment including sampling, weed control, grading, cultivation, subsurface drainage,

settling, and nutrients. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-1401).

0243

Sod production weed control (Kentucky bluegrasses, perennial ryegrass, California).

Cockerham, S.T. Sacramento : California Weed Conference Office. Proceedings - California Weed Conference. 1982. 1982. (34th). p. 135-136. (NAL Call No.: 79.9 C122).

0244

Sod rooting (New turfgrass installations, washed versus unwashed roots).

Davis, W.B. Pratt, C.A. Berkeley : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. Winter/Spring 1982. v. 32 (1/2). p. 3-5. ill. Includes references. (NAL Call No.: 60.18 SD8).

0245

Soil cultivation and incorporation effects on the edaphic properties of turfgrass thatch.

JOSHB. Danneberger, T.K. Turgeon, A.J. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Mar 1986. v. 111 (2). p. 184-186. Includes 7 references. (NAL Call No.: DNAL 81 S012).

0246

Some effects of temperature and herbicides on growth of two selections of Kentucky bluegrass (*Poa pratensis* L.) / by Charles E. Long. -.

Long, Charles E. 1972. Thesis--Kansas State University, 1972. Photocopy of typescript, Ann Arbor: University Microfilm, 1973. 43 leaves in various foliations. Includes bibliographies. (NAL Call No.: DISS 72-28,844).

0247

Some new chemicals marketed for use on turfgrasses.

Dernoden, P.H. College Park, Md. : The Service. The Agronomist - Cooperative Extension Service, University of Maryland. Apr 1986. v. 23 (4). p. 11-12. (NAL Call No.: DNAL S71.A46).

0248

Sports injuries and turf.

Rogers, M. (ed.). Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Oct 1989. v. 24 (10). p. 36, 38, 69. (NAL Call No.: DNAL SB476.G7).

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0249

Spray systems for turfgrasses calibrating sprayers and mixing pesticides /C.L. Murdock.
Murdock, C. L. Manoa, Honolulu, Hawaii : HITAHR, College of Tropical Agriculture and Human Resources, University of Hawaii, 1986. Cover title.~ "March 1986.". 11 p. : ill. ; 28 cm. (NAL Call No.: DNAL S481.R4 no.066).

0250

Spraying fairways for disease control.
Henry, J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 47-48. (NAL Call No.: DNAL SB433.34.V8V47).

0251

Spring bermudagrass transition (Cynodon dactylon).
Duble, R.L. Elm Grove, Wis., Brantwood Publications. Landscape industry. May/June 1980. v. 25 (4). p. 54-56, 74, 76. ill. (NAL Call No.: 98.8 L232).

0252

St. Augustinegrass.
Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Sept 1987. (262). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0253

Stress proof your turfgrass (Drought, herbicides, mowing, nitrogen fertilizer).
Elm Grove, Wis., Brantwood Publications. Landscape & turf. May/June 1981. v. 26 (4). p. 25, 40. ill. (NAL Call No.: 98.8 L232).

0254

Supplemental boron effects on yield and quality of seven bermudagrasses.
AGJ0AT. Monson, W.G. Gaines, T.P. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 522-523. Includes 8 references. (NAL Call No.: DNAL 4 AM34P).

0255

Survey of Virginia homeowner preferences in lawn care.
Robinson, W.H. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 39-42. (NAL Call No.: DNAL

SB433.34.V8V47).

0256

Tall fescue lawn calendar.
Riordan, T. P. Shearman, R. C.; Bruneau, A. H.; Kinbacher, E. J. & Nebguide. 1981. This calendar includes mowing, fertilizing, watering, pest management, thatch removal, aerification & overseeding of tall fescue. Document available from: Dept. of Ag. Communications, Univ. of Nebraska, Lincoln, NB 68583. 1 sheet. (NAL Call No.: G81-558).

0257

Tall fescue lawns.
Sheffer, K. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (231). 3 p. (NAL Call No.: DNAL S544.3.A2C47).

0258

Ten steps to a healthy lawn.
Johnson, P.H. Emmaus, Pa. : Rodale Press. Rodale's organic gardening. May 1987. v. 34 (5). p. 46-49. ill. (NAL Call No.: DNAL S605.5.R64).

0259

Thatch.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Nov 1986. v. 21 (11). p. 36, 38, 40. ill. (NAL Call No.: DNAL SB476.G7).

0260

Thatch--control and removal.
Peacock, C.H. Meyers, H.G. Gainesville, Fla. : The Service. Circular - Florida Cooperative Extension Service. 1983. (573). 8 p. ill. (NAL Call No.: DNAL 275.29 F66C).

0261

Thatch accumulation in bermudagrass as influenced by cultural practices (Cynodon dactylon X Cynodon transvaalensis, turfgrass, cultivars, effects of aerification, coring, topdressing and vertical mowing).
White, R.H. AGJ0AT. Dickens, R. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 19-22. Includes references. (NAL Call No.: 4 AM34P).

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0262

Thatch control in lawns and turf.

Taylor, Don. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1981. This publication discusses the control and prevention of thatch in lawns and turf. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Hort. FS 40).

0263

Those summertime blues: localized dry spots.

Danneberger, K. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1987. v. 22 (5). p. 30, 32. ill. (NAL Call No.: DNAL SB476.G7).

0264

'Tifdwarf' bermudagrass growth response to carboxin and GA3 during suboptimum temperatures.

HUHSA. Dudeck, A.E. Peacock, C.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1985. v. 20 (5). p. 936-938. Includes 10 references. (NAL Call No.: DNAL SB1.H6).

0265

'Tifway' bermudagrass responses to plant growth regulator application dates.

HUHSA. Johnson, B.J. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1990. v. 25 (4). p. 436-438. Includes references. (NAL Call No.: DNAL SB1.H6).

0266

Tolerance of Bermudagrass and Zoysia cultivars to herbicide treatments (Cynodon dactylon, monosodium methanearsonate, metribuzin).

Johnson, B.J. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. June 1981. June 1981. (378). 8 p. 13 ref. (NAL Call No.: S51.E22).

0267

Training greenhouse workers to handle pesticides safely written and directed by Melanie Zavala ; produced by the Office of Pesticide Information and Coordination. Japanese.

Zavala, Melanie. Davis, Calif. : Visual Media, Division of Agriculture and Natural Resources, University of California, Davis, c1986. Abstract: This video is aimed at non-certified pesticide handlers. It is designed to provide them with part of the training they need in order to handle pesticides safely. The video can also be of use

for greenhouse workers who have only indirect exposure to pesticides. The presentation covers entry of pesticides into the body, poisoning symptoms, protective clothing and equipment, emergency procedures, and common sense protective measures. It also discusses some of the potential dangers of pesticide use in a greenhouse situation and how they can be avoided. This video was developed under a grant from the U.S. EPA. VHS.~ "V/89-D"--Cassette label.~ Narrated in Japanese; titles and credits in English. 1 videocassette (16 min.) : sd., col. ; 1/2 in. (NAL Call No.: DNAL Videocassette no.677).

0268

Training material for commercial/non-commercial pesticide applicators30Ornamental and turf pest control.

Stillwater, Dkla. : Cooperative Extension Service, Dklahoma State University, 1989 . Abstract: This packet of materials, used to prepare applicators for certification, contains manuals on managing turfgrass and ornamental pests, information sheets covering groundwater contamination and the Endangered Species Act, and publications on safety and protective clothing. Title from portfolio.~ Includes contents sheet and various materials. 1 portfolio : ill. ; 33 cm. (NAL Call No.: DNAL SB950.2.D5T77).

0269

Tree, turf and ornamental pesticide guide /by W.T. Thomson.

Thomson, W. T. Fresno, CA : Thomson Publications, c1990. 198 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1990).

0270

Turf--more than aesthetics and sports.

Shoulders, J.F. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 4-8. (NAL Call No.: DNAL SB433.34.V8V47).

0271

Turf growth and performance evaluation based on turf biomass and tiller density.

AGJDAT. Lush, W.M. Madison, Wis. : American Society of Agronomy. Visual rating systems are often used for evaluating turfs because of the absence of biological criteria associated with growth and performance. The purpose of this paper is to examine whether describing turfs quantitatively in terms of their biomass and tiller density can contribute to our understanding of turf growth, and form the basis of an objective, quantitative system of turf assessment. Measurements of the aboveground biomass, and the corresponding

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tiller densities of turfs, were gathered mostly from published work. The data indicate that turfs, like many crowded populations of plants, are governed by a rule of population biology called the power, or thinning, rule. As applied to turfs, conformity to the power rule means that biomass is highest at the lowest tiller densities, with the consequence that very hard-wearing turfs may inevitably be coarse textured. Estimates of the upper limits to biomass at tiller densities commonly found in turfs of different texture, suggest that there is more potential for the improvement of coarse turfs than fine ones. For turf assessment, biomass (alone or divided by tiller density to estimate mean tiller mass), is a useful game to wear resistance. A measure of the fineness of turf texture is proposed. The use of biomass density (biomass divided by turf height) as a predictor of golf ball roll and lie is discussed. When turfs are at full cover, one of the parameters of the power rule, the biomass intercept log c, which can be derived from single measurements of biomass and tiller density, is proposed as a measure of the ability of turfs to accumulate biomass. Log c has the advantage of being independent of tiller density and of differences in nonlimiting management resources. *Agronomy journal*. May/June 1990. v. 82 (3). p. 505-511. Includes references. (NAL Call No.: DNAL 4 AM34P).

0272

Turf management on athletic fields.

Taylor, Don. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1981. This publication gives principles and schedules to meet specific needs of fields. 1 sheet. (NAL Call No.: Document available from source.). (NAL Call No.: Hort. FS 53).

0273

Turf pest control category 3B / F. Robert Henderson ... et al.

Henderson, F. Robert. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986. Abstract: Designed for commercial pesticide applicators, this study guide explains how to identify and culturally or chemically control turfgrass diseases, weeds, insect and vertebrate pests. Other topics discussed include proper application of herbicides, fungicides, and insecticides, calibration, and ways to minimize phytotoxicity, pesticide drift and environmental hazards. Color photos of weeds aid identification. Multiple choice study questions follow major sections. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-20, August 1986"--P. 4 of cover. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB608.T87T8 1986).

0274

Turf pest control : category 3B / (Frederick J. Crowe ... et al.). -.

Crowe, Frederick J. & Commercial pesticide applicator certification and recertification study manual. Manhattan Cooperative Extension Service, Kansas State University 1981. Pesticide Applicator Training Collection ~Cover title ~At head of title: Commercial pesticide applicator certification and recertification study manual ~"January 1981" ~S-20. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: SB608.T87T8).

0275

Turf quality of Kentucky bluegrass cultivars and energy relations (Poa pratensis, photosynthate partitioning to roots, comparisons, Rhode Island).

Mehall, B.J. AGJDAT. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. *Agronomy journal*. Jan/Feb 1984. v. 76 (1). p. 47-50. Includes references. (NAL Call No.: 4 AM34P).

0276

Turfgrass chemical update: herbicides.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. *Grounds maintenance*. Mar 1987. v. 22 (3). p. 54, 56, 58, 90. ill. (NAL Call No.: DNAL SB476.G7).

0277

Turfgrass culture and water use.

Shearman, R.C. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. *Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. Literature review*. p. 61-70. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

0278

Turfgrass disease control guide /Howard D. Ohr, Arther H. McCain, Robert M. Endo.

Ohr, Howard D. McCain, Arthur Hamilton.; Endo, Robert M. Berkeley, Calif. : Cooperative Extension, University of California, 1987? Abstract: This is a cultural and chemical control guide for 20 different turfgrass diseases. It describes symptoms, susceptible grasses, and conditions favoring diseases. For applicators and advisors. 1 sheet ; 65 x 28 cm. folded to 28 x 22 cm. (NAL Call No.: DNAL S544.3.C2C3 no.2619 1987).

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0279

Turfgrass establishment after application of preemergence herbicides (Cynodon sp., Lolium perenne, weed control).
Bingham, S.W.AGJOA. Schmidt, R.E. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1983. v. 75 (6). p. 923-926. Includes references. (NAL Call No.: 4 AM34P).

0280

Turfgrass evapotranspiration. II. Responses to deficit irrigation (Poa pratensis, Festuca arundinacea, Buchloe dactyloides, water conservation, stress, effect on urban climate, Colorado).
Feldhake, C.M.AGJOAT. Danielson, R.E.; Butler, J.D. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 85-89. ill. Includes references. (NAL Call No.: 4 AM34P).

0281

Turfgrass evapotranspiration. I. Factors influencing rate in urban environments (Poa, Festuca, Cynodon, Buchloe, lawn water use, Colorado).
Feldhake, C.M.AGJDA. Danielson, R.E.; Butler, J.D. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 824-830. ill. Includes references. (NAL Call No.: 4 AM34P).

0282

Turfgrass pest control recommendations for professionals.
Sparks, B. Hudson, W.; Murphy, T.; Landry, G. Jr.; Brown, E. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Oct 1990. (1984,rev.). 27 p. (NAL Call No.: DNAL 275.29 G29B).

0283

Turfgrass pest control recommendations for professionals: 1989.
Murphy, T. Landry, G. Jr.; Brown, E.; Hudson, W. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Jan 1989. (1984,rev.). 28 p. (NAL Call No.: DNAL 275.29 G29B).

0284

Turfgrass pests /compiler of this manual, W.R. Bowen ; editor, Peggy Anne Davis.
Bowen, W. R.; Davis, Peggy Anne. Dakland, Calif. : Division of Agriculture and Natural Resources, University of California, c1980 (1987 printing). Abstract: This publication includes information on the safe and effective use of pesticide chemicals; measurements and calculations for preparing the sprayer; weed control in large turf areas; insect and related turfgrass pest identification and control; nematode diseases of turfgrass; turfgrass diseases; and rodent damage in turfgrass. It contains many colored and black and white photographs of pests and diseases, metric conversion tables, formulae for area calculations, and a glossary. Intended for landscape pesticide applicators and commercial turfgrass growers and turfgrass advisors. "Specific chemical recommendations ... are made in Guide to turfgrass pest control, Leaflet 2209"--P. 1.~ Publication information on label on p. 2 of cover.~ "3m-rep-8/87-PAD/FB"--P. i. 53 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.T87T87 1980).

0285

Turfgrass renovation.
Lefton, J. West Lafayette, Ind. : The Service. AY - Purdue University Cooperative Extension Service. July 1988. (13,rev.). 2 p. (NAL Call No.: DNAL S544.3.I6P82).

0286

Turfgrass weed control for professional managers.
Murphy, T.R. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. July 1988. (991). 48 p. ill. (NAL Call No.: DNAL 275.29 G29B).

0287

Understanding the turfgrass microclimate.
Watschke, T.L. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1984. (23rd). p. 2-3. (NAL Call No.: DNAL SB433.34.V8V47).

0288

Urease activity in a Kentucky bluegrass turf (Nitrogen fertilizers, Poa pratensis).
Torello, W.A.AGJOA. Wehner, D.J. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 654-656. Includes references. (NAL Call No.: 4 AM34P).

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0289

Use of mulches in erosion control.

Carpenter, D.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 132-133. (NAL Call No.: DNAL SB433.34.V8V47).

0290

Utilization of industrial fermentation residues for turfgrass production.

Wright, W.R. Schauer, P.S.; Huling, R.E. Madison, Wis., American Society of Agronomy. Journal of environmental quality. Apr/June 1982. v. 11 (2). p. 233-236. Includes 11 ref. (NAL Call No.: QH540.J6).

0291

Variations in the growth and development of annual bluegrass (*Poa annua*) populations selected from seven different sports turf areas.

Adams, W.A. Bryan, P.J. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 109-115. ill. Bibliography p. 115. (NAL Call No.: SB433.I57 1977).

0292

Vegetative establishment of three warm-season perennial grasses in late fall and late winter.

AGJDAT. Chamblee, D.S. Mueller, J.P.; Timothy, D.H. Madison, Wis. : American Society of Agronomy. Too much moisture for field entry in late winter or early spring, or drought in late spring and summer create problems for vegetative establishment of warm-season perennial grasses. Late fall planting, in drier months when the plants are dormant, offers an alternative and a possible advantage. The primary objective of this study was to determine the feasibility of late-fall planting of 'Coastal' and 'Tifton 44' bermudagrasses *Cynodon dactylon* (L.) Pers. and 'Carostan' flaccidgrass (*Pennisetum flaccidum* Griseb.) compared with the late-winter date commonly used for central North Carolina. Three field trials in different years were conducted on a Dothan loamy sand (fine-loamy, siliceous, thermic Plinthic Paleudult) using the above cultivars planted in November, December, and March at two planting depths (3.8 and 7.6 cm) and two orientations (horizontal and vertical). In addition, at each planting date in the third trial, sprigs of the grasses were subjected to temperatures of 0, -3, -6, -9, -12, and -15 degrees C in a low temperature stress simulator. Relative order of cold survival was Carostan flaccidgrass greater than Tifton 44 greater than Coastal bermudagrass. Nothing survived the -9 degrees C or lower temperatures. Horizontal plantings of Tifton 44 bermudagrass in December to a depth of 7.6 cm

produced stands in May of 79, 54, and 78% in Exp. 1, 2, and 3, respectively. For the same treatments Coastal bermudagrass produced stands of only 2, 2, and 21%, and Carostan flaccidgrass 77, 76, and 95%. Winter survival of Tifton 44 bermudagrass and Carostan flaccidgrass was markedly improved (71 vs. 32% stand in May for December planting) when placed horizontally at the 7.6-cm depth, compared with 3.8 cm in the two more severe winters. The 7.6-cm horizontal placement of Coastal bermudagrass in March plantings resulted in stands in May of only 36%, compared with 81% from 3.8 cm and 70% from the vertical orientation. Tifton 44 bermudagrass was less sensitive to deeper pl. Agronomy journal. July/Aug 1989. v. 81 (4). p. 687-691. Includes references. (NAL Call No.: DNAL 4 AM34P).

0293

The Virginia Seed Law and its application to lawn service industry.

Brown, D.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 61. (NAL Call No.: DNAL SB433.34.V8V47).

0294

Warm-season grass release on Virginia highway.

White, R.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 105-107. (NAL Call No.: DNAL SB433.34.V8V47).

0295

Weed control in ground covers / Clyde L. Elmore, Wesley A. Humphrey, and W. Douglas Hamilton.

Elmore, Clyde L. Humphrey, Wesley A.; Hamilton, W. Douglas. Berkeley, Calif. : Cooperative Extension, University of California, Division of Agriculture and Natural Resources, 1987? . Abstract: This leaflet, intended for landscape pesticide applicators and advisors, covers the cultural and chemical control methods for weeds in ground covers. It contains a table of herbicides registered for this use. Another table rates the sensitivity of weeds to herbicides used for their control. Table 3 suggests herbicide formulations and application rates. Cover title. 12 p. ; 28 cm. (NAL Call No.: DNAL S544.3.C2C3 no.2782 1987).

0296

Weed control in home lawns.

Murphy, T.R. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Mar 1990. (978). 28 p. ill. (NAL Call No.: DNAL 275.29 G29B).

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0297

Weed control in lawns and other turf / prepared by Agricultural Research Service and Extension Service.

Washington, D.C. U.S. Dept. of Agriculture For sale by the Supt. of Docs., U.S. G.P.D. 1984. "May 1984"--P. 3. 41 p. : ill. ; 22 cm. --. (NAL Call No.: 1 Ag84Hg no.239).

0298

Weed control through improved turfgrass management.

Law, J.T. Mahady, M.M. Sacramento, Calif. : California Weed Conference Dffice. Proceedings - California Weed Conference. 1986. (38th). p. 2-5. (NAL Call No.: DNAL 79.9 C122).

0299

When the answer is renovation.

Copley, K. Dverland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1987. v. 22 (8). p. 6-7, 99. ill. (NAL Call No.: DNAL SB476.G7).

0300

The wide world of geotextiles.

Appleton, B.L. Derr, J.F. Dverland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Apr 1988. v. 23 (4). p. 42, 44, 46, 48. ill. (NAL Call No.: DNAL SB476.G7).

0301

Yards and gardens: thatch and its control (Lawns, turfgrasses).

Goss, R.L. WA. Pullman, Wash., The Service. EM - Cooperative Extension Service, Washington State University. Washington State University. Cooperative Extension Service. Apr 1980. Apr 1980. (3836). 2 p. (NAL Call No.: 275.29 W27MI).

0302

1986 turfgrass pest control /prepared by T.W. Fermanian, M.C. Shurtleff, and R. Randall.

Fermanian, Thomas W. Shurtleff, Malcolm C.; Randall, R. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1985. Cover title. 1 folded sheet (5 p.) ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1076 1986).

0303

1987: the season in review. Great Lakes region. Latham, J.M. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1987. v. 25 (6). p. 8-9. ill. (NAL Call No.: DNAL 60.18 UN33).

0304

1987: the season in review. Mid-Atlantic region.

Zontek, S.J. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1987. v. 25 (6). p. 7. ill. (NAL Call No.: DNAL 60.18 UN33).

0305

1987: the season in review. Southeastern region.

D'Brien, P.M. Foy, J.H. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1987. v. 25 (6). p. 10-11. ill. (NAL Call No.: DNAL 60.18 UN33).

0306

1987: the season in review. Western region.

Gilhuly, L.W. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1987. v. 25 (6). p. 12. (NAL Call No.: DNAL 60.18 UN33).

0307

1987 turfgrass management research report, Hammond Research Station.

Wells, D.W. Constantin, R.J.; Breitenbeck, G.A. Baton Rouge, La. : The Station. LAES mimeo series - Louisiana Agricultural Experiment Station. June 1988. (23). 17 p. (NAL Call No.: DNAL S541.5.L8L34).

0308

1987 weed control recommendations for Kentucky bluegrass and tall fescue lawns and recreational turf.

Green, J.D. Martin, J.R.; Powell, A.J. Jr. Lexington, Ky. : The Service. AGR - University of Kentucky, Cooperative Extension Service. Apr 1987. (78,rev.). 2 p. (NAL Call No.: DNAL S65.K4).

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0309

1988 turfgrass pest control / prepared by T.W. Fermanian ... et al. .

Fermanian, Thomas W. Urbana, Ill. :
University of Illinois at Urbana-Champaign,
College of Agriculture, Cooperative Extension
Service, 1987 . Abstract: Herbicide,
insecticide, and fungicide recommendations for
turfgrass weed, insect and disease control,
pesticide handling and safety, and IPM
(Integrated Pest Management) techniques are
included in this publication. Cover title. 8
p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C
no.1076 1987).

0310

1989 pest control recommendations for turfgrass managers.

Brandenburg, R.L. Bruneau, A.H.; DiPaola, J.M.;
Lewis, W.M.; Lucas, L.T.; Peacock, C.H.
Raleigh, N.C. : The Service. AG - North
Carolina Agricultural Extension Service, North
Carolina State University. Dec 1988. (408). 12
p. (NAL Call No.: DNAL S544.3.N6N62).

0311

1990 turfgrass pest control recommendations for professionals.

Hudson, W. Sparks, B.; Murphy, T.; Landry, G.
Jr.; Brown, E. Athens, Ga. : The Service.
Bulletin - Cooperative Extension Service,
University of Georgia, College of Agriculture.
Jan 1990. (984.rev.). 28 p. (NAL Call No.: DNAL
275.29 G29B).

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0312

A detached culm technique for seed production of tall fescue in isolation from foreign pollen sources.

CRPSAY, Wofford, D.S. Frakes, R.V.; Chilcote, D.O. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1). p. 193-195. Includes 6 references. (NAL Call No.: DNAL 64.8 C883).

0313

The effect of clipping and drying immature grasses on their yield and chemical composition /by M.W. Goodwin.

Goodwin, Marvin W. Newark, Del. : University of Delaware Agricultural Experiment Station, 1940. Cover title. 21 p. : ill. ; 23 cm. Bibliography: p. 20-21. (NAL Call No.: DNAL 100 D37S (1) no.223).

0314

Effect of fertilizer on growth and composition of carpet and other grasses /by R.E. Blaser and W.E. Stokes.

Blaser, Roy Emil, 1912-. Stokes, W. E. 1895-. Gainesville, Fla. : University of Florida Agricultural Experiment Station, 1943. Cover title. 31 p. : ill. ; 23 cm. Bibliography: p. 31. (NAL Call No.: DNAL 100 F66S (1) no.390).

0315

Effect of (long-term subfreezing) seed storage on germination and forage production of seven grass cultivars.

Rincker, C.M. AR-W. Maguire, J.D. Madison, Wis., Crop Science Society of America. Crop science. Nov/Dec 1979. v. 19 (6). p. 857-860. ill. 9 ref. (NAL Call No.: 64.8 C883).

0316

Effect of storage conditions on viability, after-ripening and induction of secondary dormancy of Kentucky bluegrass seed (*Poa pratensis*, germination).

Phaneendranath, B.R. JSTED. Funk, C.R. East Lansing : Association of Official Seed Analysts. Journal of seed technology. 1981. v. 6 (3). p. 9-22. ill. Includes references. (NAL Call No.: SB113.2.U6).

0317

Effects of post-harvest residue removal of Kentucky bluegrass (*Poa pratensis*) on subsequent seed yields.

Ensign, R.D. ID. Hickey, V.G.; Bernardo, M.D. Moscow, Idaho, The Station. Progress report - Agricultural Experiment Station, University of Idaho. Idaho. Agricultural Experiment Station.

Feb 1980. Feb 1980. (210). 17 p. ill. 3 ref. (NAL Call No.: S53.E2).

0318

Effects of post-harvest residue removal on Kentucky bluegrass growth and development: the highlights of eight years of Kentucky bluegrass seed production research (*Poa pratensis*, burning).

Ensign, R.D. Hickey, V.G. Moscow, Idaho, The Station. Progress report - Agricultural Experiment Station, University of Idaho. Dec 1980. Dec 1980. (216). 22 p. 16 ref. (NAL Call No.: S53.E2).

0319

Establishment of Kentucky bluegrass sod following application of herbicides.

HJHSA. Reicher, Z.U. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1989. v. 24 (5). p. 799-801. Includes references. (NAL Call No.: DNAL SB1.H6).

0320

Field sanitation costs for Willamette Valley grass seed producers.

Cross, T.L. Mason, R. Corvallis, Or. : The Station. Circular of information - Agricultural Experiment Station, Oregon State University. Apr 1989. (703). 31 p. Includes references. (NAL Call No.: DNAL 100 OR3C).

0321

Grass seedling emergence, morphology, and establishment as affected by planting depth.

AGUOAT. Newman, P.R. Moser, L.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1988. v. 80 (3). p. 383-387. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

0322

Growth suppression of 'Kenblue' Kentucky bluegrass using plant growth regulators and degree day application timing.

AGUOAT. Branham, B.E. Danneberger, T.K. Madison, Wis. : American Society of Agronomy. Plant growth regulator (PGR) applications for seedhead and vegetative growth suppression have given inconsistent results from year to year when application timing is based on calendar days. Application timing based on growing degree days (GDD) should provide uniform and consistent results over time. These field studies were conducted to determine the window of application, based on GDD, for seedhead and vegetative growth suppression of Kentucky bluegrass. Mefluidide

(PLANT PRODUCTION - FIELD CROPS)

(N- 2,4-dimethyl -5- (trifluoromethyl)-sulfonyl amino phenyl acetamide) at 0.28 kg ha⁻¹ and amidochlor (N- (acetylamino) methyl -2-chloro-N-(2,6-diethylphenyl) acetamide) at 2.8 kg ha⁻¹ were applied to a uniform stand of Kentucky bluegrass *Poa pratensis* (L.) 'Kenblue' at 25, 50, 75, 100, 125, and 150 GDD. Trials were conducted at East Lansing, MI in 1985 and 1986, and Columbus, OH in 1986. Soil type at East Lansing was an Owosso-Marlette sandy loam complex (fine-loamy, mixed, mesic Typic Glossoboric Hapludalf). Soil at Columbus was a Brookston silty-clay loam (fine-loamy, mixed, mesic Typic Agriaquoll). Application of PGR between 25 and 125 GDD provided excellent (greater than 86%) seedhead control. Mefluidide and amidochlor applications at 150 GDD gave 31 and 24% seedhead control, respectively, indicating that seedhead control was lost with this application timing. Clipping weights at East Lansing varied between years with only the 150 GDD application in 1985 and the 75 GDD application in 1986 differing significantly from the other application timings. However, the 75 GDD treatment in 1986 had reduced PGR activity because of rainfall 5 h after application. Application timing of PGR activity appeared to have no significant effect on the degree of vegetative growth suppression. However, GDD timed PGR applications are a valid technique for seedhead control in Kentucky bluegrass. *Agronomy journal*. Sept/Oct 1989. v. 81 (5). p. 749-752. Includes references. (NAL Call No.: DNAL 4 AM34P).

0323

Herbicide effects on growth and forage quality of tall fescue and bermudagrass.

PPGGD. Krueger, W.A. Reynolds, J.H. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1986. (13th). p. 46-52. Includes references. (NAL Call No.: DNAL SB128.P5).

0324

Normal and abnormal germination of grass-fruits / by Jacob Zinn .

Zinn, Jacob, 1886-1921. Orono : Maine Agricultural Experiment Station, 1920. p. 198-216, 4 leaves of plates : ill. ; 23 cm. (NAL Call No.: DNAL 100 M28S (1) no.294).

0325

Postharvest residue burning as a management tool in grass-seed production (in Oregon, to control blind seed disease in perennial ryegrass, *Lolium perenne*).

Chilcote, D.O. Youngberg, H.W.; Young, W.C. III. Boulder, Colo. : Westview Press, 1983. Proceedings of the XVI International Grassland Congress : held at Lexington, Kentucky, U.S.A. June 15-24, 1981 / edited by J. Allan Smith and Virgil W. Hays. p. 254-257. ill. 3 ref. (NAL Call No.: SB197.I5 1981a).

0326

Reduction of insecticide activity by carbon residue produced by burning grass seed fields after harvest.

JEENAI. Kamm, J.A. Montgomery, M.L. Lanham, Md. : Entomological Society of America. Annual burning of straw and stubble harvest on commercial grass seed fields produces carbon residue that is incorporated into the surface layer of soil by winter rains. When intact cores of this layer were removed and treated with chlorpyrifos in the laboratory, the mortality of house crickets, *Acheta domestica* (L.), caged on treated cores from fields burned three consecutive years was 95% and from fields burned 16 consecutive years was 15%. Chemical analysis of treated cores with and without carbon residue indicated similar amounts of chlorpyrifos. Reduced mortality is caused by the strong adsorption of the toxicant by carbon residue that resulted from held burning. Efficacy of diazinon, fonofos, dimethoate, and fenvalerate was also reduced significantly by the carbon residue. In grass seed fields, we suggest that mechanical methods of straw removal, either alone or in combination with alternate year burning, be used to eliminate or slow the rate of accumulation of carbon residue that interferes with activity of insecticides. *Journal of economic entomology*. Feb 1990. v. 83 (1). p. 55-58. Includes references. (NAL Call No.: DNAL 421 J822).

0327

Response of Kentucky bluegrass (*Poa pratensis* L.) to chemical growth retardants.

AAREEZ. Symington, A.G. Craker, L.E.; Hurto, K.A. New York : Springer. Applied agricultural research. 1986. v. 1 (1). p. 37-40. Includes references. (NAL Call No.: DNAL S539.5.A77).

0328

Weed control in conservation tillage systems.

Wiese, A.F. Chandler, J.M. College Station, Tex. : Texas Agricultural Experiment Station, Texas A&M Univ System, 1988. Conservation tillage in Texas / edited by F.M. Hons. Literature review. p. 40-52. ill., maps. Includes references. (NAL Call No.: DNAL S543.T4T43 no.15).

0329

Yield of bermudagrass cultivars as influenced by application of sulfonyleurea herbicides.

Gates, R.N. Lexington, Ky. : The Conference. Proceedings of the Forage and Grassland Conference. 1988. p. 117-120. Includes references. (NAL Call No.: DNAL SB193.F59).

PLANT PRODUCTION - RANGE

0330

Bermudagrass improvement through tissue culture.

Croughan, S.S. Crowley, La. : The Station.
Annual progress report - Louisiana Agricultural
Experiment Station. 1987. (79th). p. 340-344.
(NAL Call No.: DNAL 100 L93 (3)).

0331

Effects of fall clipping on bermudagrass yields the following yuear.

Harris, T.S. Jones, V.L.; Gordon, L. College
Station, Tex. : The Station. PR - Texas
Agricultural Experiment Station. Oct 1984.
(4253). p. 105-111. (NAL Call No.: DNAL 100
T31P).

0332

Influence of temperature on the growth of bermudagrass selections from the Appalachian region (Cynodon dactylon, cold tolerance, West Virginia, Pennsylvania, Kentucky).

Wright, R.J. Perry, H.D.; Carter, M.C.;
Bennett, O.L. New York, N.Y. : Marcel Dekker.
Communications in soil science and plant
analysis. July 1984. v. 15 (8). p. 849-860.
ill. Includes 13 references. (NAL Call No.:
S590.C63).

0333

Studies on seed development and ripening in temperate grasses. II. Effects of temperature on seed development and ripening, and germination behaviour in orchardgrass (Dactylis glomerata) and Italian ryegrass (Lolium multiflorum).

Shimizu, N. Komatsu, T.; Ikegaya, F.
Nishinasuno, Tochigi. Kenkyu hokokuSochi
Shikenjo. Dec 1979. Dec 1979. (15). p. 70-83.
ill. 40 ref. (NAL Call No.: SB199.A1S6).

PLANT BREEDING

0334

Accumulation of pyrrolizidine alkaloids in benomyl-treated tall fescue parents and their untreated progenies (*Festuca arundinacea*).

Jones, T.A. CRPSAY. Buckner, R.C.; Burrus, P.B. II; Bush, L.P. Madison : Crop Science Society of America. Crop science. Nov/Dec 1983. v. 23 (6). p. 1135-1140. Includes references. (NAL Call No.: 64.8 C883).

0335

Agronomic and botanical components associated with seed productivity of Kentucky bluegrass.

CRPSAY. Ensign, R.D. Everson, D.O.; Dickinson, K.K.; Woollen, R.L. Madison, Wis. : Crop Science Society of America. Kentucky bluegrass (*Poa pratensis* L.) is a genetically complex perennial plant and evaluation of early generation breeding material for potential seed productivity is difficult. Twenty eight agronomic and botanical components were studied for their association with seed productivity during a 6-yr field experiment grown near Moscow, ID. The soil was a Latahco silt loam (fine silty mixed, frigid agriaquic Xeric Argialbollo). Using 15 diverse cultivars or experimental strains, our research indicated that several components of the blue-grass plant were important indicators of seed productivity. Seed weight/panicle and seeds/panicle were most highly correlated ($r = 0.68$ and 0.67) with seed yields. Components indicating early stages of maturity, vigor at anthesis, leaf blade length, panicle length, spikelets/panicle, number of panicles/plant, and harvest date were also highly correlated (r greater than 0.54) with seed yields. The magnitude of some correlations varied among years indicating environment-specific associations. Path analysis for each of the 3 yr showed that full heading date, number of panicles, and seed weight/panicle accounted for 65% of the variation in a high seed-yielding year. However, for drought stressed years, the model accounted for approximately 90% of the variation in seed yield. Crop science. Jan/Feb 1989. v. 29 (1). p. 82-86. Includes references. (NAL Call No.: DNAL 64.8 C883).

0336

Association of an endophytic fungus in perennial ryegrass and resistance to the hairy chinch bug (Hemiptera: Lygaeidae).

JEENAI. Mathias, J.K. Ratcliffe, R.H.; Hellman, J.L. Lanham, Md. : Entomological Society of America. Laboratory tests demonstrated that 'Repell,' a cultivar of perennial ryegrass, *Lolium perenne* L., infected with the fungal endophyte, *Acremonium lolii* Latch, Christensen & Samuels, exhibited a high level of insect resistance to the hairy chinch bug, *Blissus leucopterus hirtus* Montandon. First and third instars and adult hairy chinch bugs reared on endophyte-infected plants had significantly lower survival. On endophyte-free 'Repell,' nymphs and adults resided primarily on the leaf sheath. In contrast, on endophyte-infected

'Repell,' nymphs and adults either avoided the plant or resided only on the endophyte-free leaf blade. Nymphs were able to detect the presence of the endophyte in a choice test and consistently selected endophyte-free 'Repell.' These results support field observations of resistance in association with endophyte-infected ryegrass and suggest that the incorporation of endophytes into ryegrass will lead to significant reductions in hairy chinch bug infestations. Journal of economic entomology. Aug 1990. v. 83 (4). p. 1640-1646. Includes references. (NAL Call No.: DNAL 421 J822).

0337

Bermudagrass germplasm adaptation to natural pest infestation and suboptimal nitrogen fertilization.

JOSH. Busey, P. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. July 1986. v. 111 (4). p. 630-634. Includes references. (NAL Call No.: DNAL 81 S012).

0338

Bermudagrass improvement through tissue culture.

Croughan, S.S. Crowley, La. : The Station. Annual progress report - Louisiana Agricultural Experiment Station. 1987. (79th). p. 340-344. (NAL Call No.: DNAL 100 L93 (3)).

0339

Bermudagrass Lawns.

Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Subseries: Agriculture and natural resources, horticulture. May 1987. (29). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0340

The biology and breeding of warm-season grasses for pest resistance.

Holt, E.C. TX. Enkerlin, D. College Station, Tex., The Station. MP - Texas Agricultural Experiment Station. July 1980. July 1980. (1451). p. 458-469. Bibliography p. 466-469. (NAL Call No.: 100 T31M).

0341

Biotechnology and turfgrass research: A glimpse into the future.

McKell, C.M. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Mar/Apr 1987. v. 25 (2). p. 17-20. ill. (NAL Call No.: DNAL 60.18 UN33).

0342

Competitive Al³⁺ inhibition of net Mg²⁺ uptake by intact *Lolium multiflorum* roots. I. Kinetics.

PLPHA. Rengel, Z. Robinson, D.L. Rockville, Md. : American Society of Plant Physiologists. Aluminum impairs uptake of Mg²⁺, but the mechanisms of this inhibition are not understood. The depletion technique was used to monitor net Mg²⁺ uptake from nutrient solution by intact, 23-day-old plants of ryegrass (*Lolium multiflorum* Lam., cv Gulf and Wilo). Activities of Mg²⁺ and monomeric Al species in nutrient solution were calculated and used as the basis for expressing the results. The kinetics of net Mg²⁺ absorption was resolved into (a) a transpiration-dependent uptake component, (b) a metabolically mediated, discontinuous saturable component that is Al³⁺ sensitive and p-chloromercuribenzenesulfonic acid (PCMBs) resistant, and (c) a linear, carbonyl cyanide m-chlorophenylhydrazine resistant, Al³⁺ sensitive component that might be a type of facilitated diffusion. Lowering the pH from 6.0 to 4.2 exerted a noncompetitive inhibition of net Mg²⁺ uptake, while aluminum at 6.6 micromolar Al³⁺ activity exerted competitive inhibition of net Mg²⁺ uptake at pH 4.2. The Al³⁺-induced effect was obvious after 30 minutes. Cultivar-specific ability to retain a higher affinity for Mg²⁺ by postulated transport proteins in the presence of Al³⁺ might be one of the mechanisms of differential Al tolerance among ryegrass cultivars. Plant physiology. Dec 1989. v. 91 (4). p. 1407-1413. Includes references. (NAL Call No.: DNAL 450 P692).

0343

Cultivar and seeding rate effects on several physical characteristics of Kentucky bluegrass turf (*Poa pratensis*).

Brede, A.D. Duich, J.M. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1982. v. 74 (5). p. 865-870. ill. 12 ref. (NAL Call No.: 4 AM34P).

0344

Cultivar variation in Kentucky bluegrass: P and N (phosphorus and nitrogen) nutritional factors (*Poa pratensis*, turfgrasses, Rhode Island).

Mehall, B.J. AGJUA. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 767-772. Includes references. (NAL Call No.: 4 AM34P).

0345

A detached culm technique for seed production of tall fescue in isolation from foreign pollen sources.

CRPSAY. Wofford, D.S. Frakes, R.V.; Chilcote, D.O. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1).

p. 193-195. Includes 6 references. (NAL Call No.: DNAL 64.8 C883).

0346

Distinct variety of Kentucky bluegrass (*Poa pratensis*) (Highly apomictic, good resistance to stripe smut, *Helminthosporium* leafspot, dollarspot, and rust, dense turf, excellent for lawns and as seed producer).

Buker, R.J. Troutman, P.R. (n.p.), The Office. Plant patent - United States Patent Office. Feb 13, 1979. Feb 13, 1979. (4380). 6 p. plate. (NAL Call No.: 156.65 P69).

0347

Effects of sodium chloride on *Cynodon* turfgrasses (Salt tolerance, cultivar comparisons).

Dudeck, A.E. AGJUA. Singh, S.; Giordano, C.E.; Nell, T.A.; McConnell, D.B. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1983. v. 75 (6). p. 927-930. ill. Includes references. (NAL Call No.: 4 AM34P).

0348

An experimental evaluation of the recovery potential of ryegrass populations from genetic stress resulting from restriction of population size.

EVOLA. Polans, N.O. Allard, R.W. Lawrence, Kan. : Society for the Study of Evolution. Evolution. Sept 1989. v. 43 (6). p. 1320-1324. Includes references. (NAL Call No.: DNAL 443.8 EV62).

0349

Field observations on the flowering behavior pattern of four grass genera.

JAUPA. Ramos-Santana, R. Rodriguez, J.E. Rio Piedras, R.R. : University of Puerto Rico, Agricultural Experiment Station. The Journal of agriculture of the University of Puerto Rico. Oct 1989. v. 73 (4). p. 405-410. Includes references. (NAL Call No.: DNAL 8 P832J).

0350

Floralawn St. Augustinegrass.

Dudeck, A.E. Reinert, J.A.; Busey, P. Gainesville : The Institute. Circular S - Florida Agricultural Experiment Stations, Institute of Food and Agricultural Sciences, University of Florida. Apr 1986. (327). 11 p. ill. Includes references. (NAL Call No.: DNAL 100 F66CI).

(PLANT BREEDING)

0351

Genotypic variability in bermudagrass damage by ectoparasitic nematodes.

HJHSA. Tarjan, A.C. Busey, P. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1985. v. 20 (4). p. 675-676. Includes 9 references. (NAL Call No.: DNAL SB1.H6).

0352

Germination and initial growth of Kentucky bluegrass in soluble salts (Poa pratensis, cultivar screeging, stress, saline tolerance).

Horst, G.L. AGJ0A. Taylor, R.M. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 679-681. Includes references. (NAL Call No.: 4 AM34P).

0353

Germination and seedling growth of perennial ryegrasses in soluble salts.

JOSH.B. Horst, G.L. Dunning, N.B. Alexandria, Va. : The Society. A laboratory experiment was conducted with seeds of perennial ryegrass (*Lolium perenne* L.) cultivars germinating and growing on floating mats in saline hydroponic solutions. This study was done to determine the relative intraspecific salt resistances of 48 perennial ryegrasses during germination and seedling growth in saline solutions. Total germination, germination rate, leaf blade length, root length, and total seedling fresh and dry weight were measured after 21 days. Test solutions prepared from deionized water and equal quantities of NaCl and CaCl₂ by weight consisted of 11.6 (low), 19.5 (medium), and 23.5 dS.m⁻¹ (high) salinity. Cultivars had highly significant total germination and germination rate responses to salt stress. Seedling growth responses as measured by blade and root length and weights were also significant. A hydroponic medium with a salt concentration of 23.4 dS.m⁻¹ should provide a suitable stress level for screening ryegrass genotypes for improved germination and seedling salt resistance. At the high salinity level, cultivars that average less than a 50% reduction in growth parameters relative to high-yielding cultivars should be considered. Broad-sense heritability estimates indicate that seedling dry and fresh weight and germination rate would be valuable criteria for use in selection of perennial ryegrasses for salt resistance. Journal of the American Society for Horticultural Science. Mar 1989. v. 114 (2). p. 338-342. Includes references. (NAL Call No.: DNAL 81 S012).

0354

Grass host preferences of *Listronotus bonariensis* (Coleoptera: Curculionidae).

JEENAI. Barker, G.M. Lanham, Md. : Entomological Society of America. Host plant preferences for feeding and oviposition by adult *Listronotus bonariensis* (Kuschel) were determined in multiple-choice experiments in the field and laboratory using 19 grasses. Feeding intensity was negatively correlated with fiber (cellulose + hemicellulose + lignin) content of foliage, possibly indicating an effect of leaf toughness on feeding. Oviposition preferences were correlated with feeding intensity; 29-86% of the variation in egg numbers per plant was accounted for in numbers of feeding scars on these plants. Numbers of eggs deposited in the plants were negatively correlated with the density of intercoastal silica deposits (inclusive of trichomes) in the abaxial surface of the grass sheaths. A causal relationship between silicification and oviposition preference was confirmed in a pot experiment where increased silica uptake and deposition reduced egg-laying on two ryegrass cultivars. The dispersion of eggs in the various grasses also was apparently related to the density and distribution of intercoastal silica deposits and trichomes on the sheath. Feeding and oviposition on 'Grasslands Nui' ryegrass, *Lolium perenne* L., were reduced by plant infection by the endophytic fungus *Acremonium lolii* Latch, Christensen & Samuels. In the absence of *A. lolii* infection, ryegrass cultivars of *L. multiflorum* L. parentage were preferred over *L. perenne* cultivars. These results are briefly discussed in relation to breeding of forage grasses. Journal of economic entomology. Dec 1989. v. 82 (6). p. 1807-1816. ill. Includes references. (NAL Call No.: DNAL 421 J822).

0355

Growth responses, ion relations, and osmotic adaptations of eleven C4 turfgrasses to salinity.

AGU0AT. Marcum, K.B. Murdoch, C.L. Madison, Wis. : American Society of Agronomy. Shortages of fresh water, coupled with soil salinization in many areas have resulted in an increased need for soil tolerant turf grasses. This study was conducted to compare growth and physiological responses of eleven C4 (grasses which utilize the C-4 carboxylic acid pathway in photosynthesis) turfgrasses to salinity. Grasses were grown in solution culture in a glasshouse, with NaCl added to achieve salinities of 0.7, 10, 20, and 30 dS m⁻¹ (0.99, 198, and 298 mM NaCl). Grasses were ranked for salinity tolerance according to their relative top growth reductions with increasing salinity. Tolerant grasses included a Hawaii selection of seashore paspalum (*Paspalum vaginatum* Swartz), two St. Augustinegrasses (*Stenotaphrum secundatum* Walt.), and manilagrass (*Zoysia matrella* L.). Bermudagrasses (*Cynodon* spp. (L.) Pers. Burtt-Davey) tested were generally less tolerant to salinity. Shoot and root Na and Cl concentrations reached very high levels in St. Augustinegrasses, and were relatively high in

seashore paspalum and Japanese lawngrass (*Zoysia japonica* Steud.). In contrast, manilagrass and bermudagrasses maintained low levels of Na and Cl under high salinity which is indicative of ion regulation, due in part to efficient leaf salt glands. Seashore paspalum maintained higher shoot and root K concentrations under high salinity than did other grasses. All grasses adjusted osmotically under increasing salinity. Although *St. Augustine* grasses and seashore paspalum accumulated Na and Cl in the shoots to relatively high levels, they maintained much higher tissue water levels than did other grasses, resulting in intermediate sap osmolalities. *Agronomy journal*. Sept/Oct 1990. v. 82 (5). p. 892-896. Includes references. (NAL Call No.: DNAL 4 AM34P).

0356

Heat shock protein synthesis in turfgrass.
DiMascio, J. Danneberger, K. Far Hills, N.J. : United States Golf Association. USGA Green Section record. July/Aug 1990. v. 28 (4). p. 13-15. ill. (NAL Call No.: DNAL 60.18 UN33).

0357

Heat tolerance screening of field-grown cultivars of Kentucky bluegrass and perennial ryegrass (*Poa pratensis*, *Lolium perenne*, environmental stress, Maryland).
Minner, D.D. AGJDA. Dernoeden, P.H.; Wehner, D.J.; McIntosh, M.S. Madison : American Society of Agronomy. *Agronomy journal*. Sept/Oct 1983. v. 75 (5). p. 772-775. Includes references. (NAL Call No.: 4 AM34P).

0358

The influence of light regimes during floral development on apomictic seed production and on variability in resulting seedling progenies of *Poa ampla* and *Poa pratensis*.
Williamson, C.J. London, Academic Press. *The New phytologist*. Apr 1981. v. 87 (4). p. 769-783. 27 ref. (NAL Call No.: 450 N42).

0359

Kentucky bluegrass (*Poa pratensis* variety Merit Kentucky, high level of resistance to disease, especially leaf spot, *Helminthosporium*, *Sclerotinia homoeocarpa*).
Mayer, E.W. Fuchigami, T.T. (n.p.), The Office. Plant patent - United States Patent Office. Nov 28, 1978. Nov 28, 1978. (4336). 4 p. plate. (NAL Call No.: 156.65 P69).

0360

Perennial ryegrass cultivar evapotranspiration rates.
HJHSA. Shearman, R.C. Alexandria, Va. : American Society for Horticultural Science. *HortScience*. Oct 1989. v. 24 (5). p. 767-769. Includes references. (NAL Call No.: DNAL SB1.H6).

0361

Photosynthesis of grass species differing in carbon dioxide fixation pathways.
Bouton, J.H. Brown, R.H.; Bolton, J.K.; Campagnoli, R.P. Rockville, Md., American Society of Plant Physiologists. *Plant physiology*. Mar 1981. v. 67 (3). p. 433-437. ill. 23 ref. (NAL Call No.: 450 P692).

0362

Polyploid *Stenotaphrum* germplasm: resistance to the polyploid damaging population southern chinch bug.
CRPSAY. Busey, P. Madison, Wis. : Crop Science Society of America. 'Floritam' *St. Augustine* grass *Stenotaphrum secundatum* (Walt.) Kuntze has been widely used in lawns because of its resistance to the southern chinch bug (*Blissus insularis* Barber). The southern chinch bug adapted genetically to Floritam and seriously damaged this cultivar within 12 yr after release. The Floritam-adapted southern chinch bug has been described as the polyploid damaging population (PDP), because polyploid germplasm had previously shown resistance. This study examined polyploid germplasm for resistance to the PDP southern chinch bug. *Stenotaphrum* clones were bioassayed by confining stolon cuttings with PDP southern chinch bugs from different regions. Resistant clones were detected based on reduced southern chinch bug longevity, oviposition rate, and excrement production, compared with Floritam. The most resistant clones were PI 365031, a pambagrass *S. dimidiatum* (L.) Brongn., and FX-2, FX-10, and FX-33 (intercrosses of polyploid *S. secundatum* from Africa). They supported low PDP southern chinch bug oviposition (less than or equal to 5 eggs female⁻¹ wk⁻¹ and less than or equal to 25 eggs lifetime⁻¹). Resistance of FX-33 was verified against PDP southern chinch bugs (representing laboratory colonies and field recollections) in mated pairs and congregations, and against southern chinch bugs that had received different prior food sources. Both FX-33 and FX-10 typified the African polyploid *St. Augustine* grass germplasm by having 2n = 30 chromosomes, bivalent pairing at metaphase I, good crossed seed set, and abundant laminar hairs. *Crop science*. May/June 1990. v. 30 (3). p. 588-593. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

(PLANT BREEDING)

0363

Potassium influence on susceptibility of bermudagrass to Helminthosporium cynodontis toxin.

CRPSAY. Richardson, M.D. Croughan, S.S. Madison, Wis. : Crop Science Society of America. Inadequate K fertilization of bermudagrass, *Cynodon dactylon* (L.) Pers., can lead to stand loss and increased disease symptoms. This study was conducted to determine the relationship between fungal leaf spot (*Helminthosporium cynodontis* Marig.) susceptibility and K status of hybrid bermudagrass. Grazer' and Tifton 78' bermudagrass were grown in washed sand under six K fertilization rates (10, 30, 70, 100, 200, and 400 mg kg⁻¹) in a greenhouse. Plants were clipped three times at 28-d intervals and the K concentration in the tissue was determined. Prior to the final clipping, 4 mL of culture filtrate containing toxin (CFT) produced by *H. cynodontis* was sprayed in a fine mist on each plant. Plants were rated for disease severity according to leaf spot coverage after approximately 36 h. A curvilinear relationship was observed between disease severity and tissue K concentration. Leaf spotting increased when tissue K levels decreased below about 25 g/kg. Tifton 78 maintained higher tissue K levels at all fertilization rates due to lower biomass production and comparable amounts of K removed. Varietal differences should be considered when determining proper K fertilization rates from tissue analysis. *Crop science*. Sept/Oct 1989. v. 29 (5). p. 1280-1282. Includes references. (NAL Call No.: DNAL 64.8 C883).

0364

Predicting cold tolerance in perennial ryegrass from subcrown internode length (*Lolium perenne*, *Lolium hybridum*, *Poa pratensis*, cultivar comparisons).

Wood, G.M. Cohen, R.P. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. July/Aug 1984. v. 76 (4). p. 516-517. Includes references. (NAL Call No.: 4 AM34P).

0365

Predicting cold tolerance in perennial ryegrass through alcohol bath freezing of seedling plants.

AGJOAT. Cohen, R.P. Wood, G.M. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. May/June 1986. v. 78 (3). p. 560-563. Includes 12 references. (NAL Call No.: DNAL 4 AM34P).

0366

Registration of 'Spartan' hard fescue.

CRPSAY. Pepin, G.W. Wiley, W.K.; King, D.E.; Duell, R.W.; Funk, C.R. Madison, Wis. : Crop Science Society of America. *Crop science*. Nov/Dec 1988. v. 28 (6). p. 1020. Includes references. (NAL Call No.: DNAL 64.8 C883).

0367

Registration of 'Victory' chewings fescue.

CRPSAY. Pepin, G.W. Wiley, W.K.; King, D.E.; Clarke, B.B.; Funk, C.R. Madison, Wis. : Crop Science Society of America. *Crop science*. Nov/Dec 1988. v. 28 (6). p. 1020-1021. Includes references. (NAL Call No.: DNAL 64.8 C883).

0368

Restore your lawn.

Pleasant, B. Emmaus, Pa. : Rodale Press, Inc. *Organic gardening*. Apr 1989. v. 36 (4). p. 74-78. 111. (NAL Call No.: DNAL S605.5.074).

0369

Role of drought stress in the development of summer patch in field-inoculated Kentucky bluegrass.

PHYTA. Kackley, K.E. Grybauskas, A.P.; Dernoeden, P.H.; Hill, R.L. St. Paul, Minn. : American Phytopathological Society. Field plots of Kentucky bluegrass (*Poa pratensis*) at two sites were treated with either live or killed inoculum of *Magnaporthe poae* (isolate ATCC 60239) and subjected to either a non-drought-stress (> -0.05 MPa) or drought-stress (< -0.05 MPa) treatment. Studies at site I were conducted on 1- and 2-yr-old stands of either the cultivar Aspen (resistant) or S-21 (susceptible). At site II, studies were conducted for one season on a 6-yr-old blend seeded as equal parts of Merion, Vantage, and Sydsport. Disease developed in the first year at both sites only in those plots receiving live inoculum. Disease was more severe in non-drought-stressed plots. There was no significant difference in disease development between cultivars at site I. In the second year at site I, disease developed where both live and killed inoculum had been placed. There was no significant difference in disease severity between stress treatments; however, there was consistently more disease in non-drought-stressed plots. Aspen was injured less than S-21 in the second year. Summer patch was more severe when soil water potentials were high, and drought stress was not a key predisposing factor in the development of this disease. *Phytopathology*. July 1990. v. 80 (7). p. 655-658. Includes references. (NAL Call No.: DNAL 464.8 P56).

0370

Root and rhizome growth of Kentucky bluegrass following application of pendimethalin.

HJHSA. Cooper, R.J. Bhowmik, P.C.; Spokas, L.A. Alexandria, Va. : American Society for Horticultural Science. *HortScience*. Jan 1990. v. 25 (1). p. 84-86. Includes references. (NAL Call No.: DNAL SB1.H6).

0371

Salinity affects germination and growth of tall fescue cultivars (Salt tolerance).

Horst, G.L. Beadle, N.B. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1984. v. 109 (3). p. 419-422. Includes references. (NAL Call No.: 81 S012).

0372

Smut of turfgrass.

MUCBA. Vargar, J.M. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Apr 1985. (1329). 2 p. ill. (NAL Call No.: DNAL 275.29 M58B).

0373

St. Augustinegrass.

Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Sept 1987. (262). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0374

Tall fescue gaining popularity as a turfgrass.

CAGRA. Ali Harivandi, M. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Sept/Oct 1987. v. 41 (9/10). p. 9-11. ill. (NAL Call No.: DNAL 100 C12CAG).

0375

Testing Kentucky bluegrass seed for varietal purity using growth chamber produced seedlings.

Nittler, L.W. Ithaca, N.Y., The Station. Search agriculture - New York State Agricultural Experiment Station, Ithaca. 1980. 1980. (4). 16 p. ill. 22 ref. (NAL Call No.: S95.E23).

0376

Tissue culture in grasses and cereals (Genetic manipulations).

Green, C.E. (New York) : Rockefeller Foundation, 1981. Genetic engineering for crop improvement : a Rockefeller Foundation conference, May 12-15, 1980 / edited by Kenneth O. Rachie and Judith M. Lyman. p. 107-122. Includes 3 p. ref. (NAL Call No.: SB123.G37).

0377

Transport processes of two Lolium X Festuca hybrid derivatives differing in potassium concentration.

CRPSAY. Brauer, D. Leggett, J.E.; Egli, D.B. Madison, Wis. : Crop Science Society of America. To facilitate the development of forages with mineral composition optimal for ruminant production, knowledge of the biochemical and physiological processes determining genotypic differences in nutrient uptake is needed. Experiments were conducted to identify the mechanism(s) that regulated the difference in leaf blade K concentration between two selections of Lolium X Festuca hybrid derivatives. Selection differences in rates of K uptake were estimated by measuring Rb uptake by excised roots, and the selectivity of cation uptake for K over Na was determined using intact tillers grown in modified Hoagland's solutions containing varying ratios of K:Na. Differences in Rb uptake by excised roots were of sufficient magnitude to explain differences in leaf blade K concentration. Results indicated differences in K and Na uptake between these two selections reflected an alteration in cation uptake selectivity by roots. Perturbing the plasma membrane integrity by Ca depletion treatments eliminated the difference between selections in K uptake but not in Na uptake. Differences in K uptake were associated with differences in the stimulation of the plasma membrane ATPase by K. These results were interpreted in terms of at least two transport processes contributing to the differences in leaf blade cation concentrations, one process on the plasma membrane affecting K accumulation and another affecting Na accumulation, possibly on the tonoplast membrane. Crop science. July/Aug 1989. v. 29 (4). p. 1012-1018. Includes references. (NAL Call No.: DNAL 64.8 C883).

0378

Turf growth and performance evaluation based on turf biomass and tiller density.

AGJOAT. Lush, W.M. Madison, Wis. : American Society of Agronomy. Visual rating systems are often used for evaluating turfs because of the absence of biological criteria associated with growth and performance. The purpose of this paper is to examine whether describing turfs quantitatively in terms of their biomass and tiller density can contribute to our understanding of turf growth, and form the basis of an objective, quantitative system of turf assessment. Measurements of the aboveground biomass, and the corresponding tiller densities of turfs, were gathered mostly from published work. The data indicate that turfs, like many crowded populations of plants, are governed by a rule of population biology called the power, or thinning, rule. As applied to turfs, conformity to the power rule means that biomass is highest at the lowest tiller densities, with the consequence that very hard-wearing turfs may inevitably be coarse textured. Estimates of the upper limits to biomass at tiller densities commonly found in turfs of different texture, suggest that there

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is more potential for the improvement of coarse turfs than fine ones. For turf assessment, biomass (alone or divided by tiller density to estimate mean tiller mass), is a useful gauge to wear resistance. A measure of the fineness of turf texture is proposed. The use of biomass density (biomass divided by turf height) as a predictor of golf ball roll and lie is discussed. When turfs are at full cover, one of the parameters of the power rule, the biomass intercept $\log c$, which can be derived from single measurements of biomass and tiller density, is proposed as a measure of the ability of turfs to accumulate biomass. $\log c$ has the advantage of being independent of tiller density and of differences in nonlimiting management resources. *Agronomy journal*. May/June 1990. v. 82 (3). p. 505-511. Includes references. (NAL Call No.: DNAL 4 AM34P).

0379

Turf quality of Kentucky bluegrass cultivars and energy relations (*Poa pratensis*, photosynthate partitioning to roots, comparisons, Rhode Island).

Mehall, B.J. AGUOAT. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. *Agronomy journal*. Jan/Feb 1984. v. 76 (1). p. 47-50. Includes references. (NAL Call No.: 4 AM34P).

0380

Two *Zoysia japonica* Steud. populations selected under high soil temperatures compared with an unselected base population.

Kenna, M.P. Engelke, M.C. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4328). p. 56-58. Includes references. (NAL Call No.: DNAL 100 T31P).

0381

Water-use efficiency of grasses grown under controlled and field conditions.

AGUOAT. Frank, A.B. Barker, R.E.; Berdahl, J.D. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. May/June 1987. v. 79 (3). p. 541-544. Includes references. (NAL Call No.: DNAL 4 AM34P).

0382

1987 turfgrass management research report, Hammond Research Station.

Wells, D.W. Constantin, R.J.; Breitenbeck, G.A. Baton Rouge, La. : The Station. LAES mimeo series - Louisiana Agricultural Experiment Station. June 1988. (23). 17 p. (NAL Call No.: DNAL S541.5.L8L34).

PLANT ECOLOGY

0383

Allelopathic effects of Kentucky bluegrass on northern red oak and yellow-poplar.

JOARD. Kolb, T.E. Urbana, Ill. : International Society of Arboriculture. Journal of arboriculture. Nov 1988. v. 14 (11). p. 281-283. Includes references. (NAL Call No.: DNAL SB436.J6).

0384

Competitive interactions between Cynodon dactylon and Acacia smallii seedlings at different nutrient levels.

AMNAA. Cohn, E.J. Van Auken, D.W.; Bush, J.K. Notre Dame, Ind. : University of Notre Dame. American midland naturalist. Apr 1989. v. 121 (2). p. 265-272. Includes references. (NAL Call No.: DNAL 410 M58).

0385

Ecological aspects of weed control in turf.

Youngner, V.B. Sacramento, Ca., California Weed Conference Office. Proceedings - California Weed Conference. p. 92-96. 14 ref. (NAL Call No.: 79.9 C122).

0386

Influence of temperature on the growth of bermudagrass selections from the Appalachian region (Cynodon dactylon, cold tolerance, West Virginia, Pennsylvania, Kentucky).

Wright, R.J. Perry, H.D.; Carter, M.C.; Bennett, O.L. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. July 1984. v. 15 (8). p. 849-860. ill. Includes 13 references. (NAL Call No.: S590.C63).

0387

Post-dormancy growth of bermudagrass as influenced by low temperatures and selected preemergence herbicides (Cynodon, dimethyl tetrachloroterephthalate, benefin, and oxadiazon).

Breuninger, J.M. Schmidt, R.E. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1981. v. 73 (6). p. 945-949. 21 ref. (NAL Call No.: 4 AM34P).

0388

Some effects of temperature and herbicides on growth of two selections of Kentucky bluegrass (Poa pratensis L.) / by Charles E. Long. -.

Long, Charles E. 1972. Thesis--Kansas State University, 1972. Photocopy of typescript, Ann Arbor: University Microfilm, 1973. 43 leaves in various foliations. Includes bibliographies. (NAL Call No.: DISS 72-28,844).

PLANT STRUCTURE

0389

Anatomy, morphology, and growth of tall fescue rhizomes.

CRPSAY. Jernstedt, J.A. Bouton, J.H. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1985. v. 25 (3). p. 539-542. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0390

Existence of salt glands on leaves of Kallar grass (*Leptochloa fusca* L. Kunth.).

JPNUDS. Wieneke, J. Sarwar, G.; Roeb, M. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. May 1987. v. 10 (7). p. 805-820. ill. Includes references. (NAL Call No.: DNAL QK867.J67).

0391

Grass seedling emergence, morphology, and establishment as affected by planting depth.

AGUOAT. Newman, P.R. Moser, L.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1988. v. 80 (3). p. 383-387. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

0392

Investigations of root hair size, number and distribution of seven species of warm-season turfgrasses.

Green, R.L. Beard, J.B.; Oprisko, M.J. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4656). p. 1-4. ill. Includes 70 references. (NAL Call No.: DNAL 100 T31P).

0393

Isolation and culture of protoplasts of grasses.

IRCYA. Vasil, I.K. New York, N.Y. : Academic Press. International review of cytology. Literature review. 1983. (suppl.16). p. 79-88. Includes references. (NAL Call No.: DNAL 442.8 IN82).

0394

Morphological and physiological plant parameters of bermudagrass cultivars with low nitrogen requirements.

Sifers, S.I. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4518). p. 22. Includes references. (NAL Call No.: DNAL 100 T31P).

0395

Summer drought response and rooting depth of three cool-season turfgrasses.

HJHSA. Sheffer, K.M. Dunn, J.H.; Minner, D.D. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1987. v. 22 (2). p. 296-297. Includes references. (NAL Call No.: DNAL SB1.H6).

0396

Trichomes: a potential defense against grass bugs.

UTSCB. Campbell, W.F. Ling, Y.H. Logan : The Station. Utah Science - Utah Agricultural Experiment Station. Spring 1985. v. 46 (1). p. 6-9. ill. (NAL Call No.: DNAL 100 UT1F).

0397

Turfgrass morphological characteristics associated with the evapotranspiration rate.

Kim, K.S. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4662). p. 18-19. Includes references. (NAL Call No.: DNAL 100 T31P).

PLANT NUTRITION

0398

Biotechnology and turfgrass research: A glimpse into the future.

McKell, C.M. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Mar/Apr 1987. v. 25 (2). p. 17-20. ill. (NAL Call No.: DNAL 60.18 UN33).

0399

Carbohydrate quantification and relationships with N (nitrogen) nutrition in cool-season turfgrasses.

Westhafer, M.A. Law, J.T. Jr.; Duff, D.T. Madison, Wis., American Society of Agronomy. Agronomy journal. Mar/Apr 1982. v. 74 (2). p. 270-274. Includes 27 ref. (NAL Call No.: 4 AM34P).

0400

Competitive Al³⁺ inhibition of net Mg²⁺ uptake by intact *Lolium multiflorum* roots.

PLPHA. Rengel, Z. Rockville, Md. : American Society of Plant Physiologists. Rhizotoxicity of Al is more pronounced in younger plants. Effects of Al on nutrient uptake by plants of different age are poorly understood. The depletion technique was used to monitor net Mg²⁺ uptake from nutrient solutions by intact 15- and 35-day-old plants of two ryegrass (*Lolium multiflorum* Lam.) cultivars. Lowering the pH from 6.0 to 4.2 decreased the maximum net ion influx without affecting Km. Aluminum at 6.6 micromolar Al³⁺ activity increased Km indicating competitive inhibition. The effects of pH and 6.6 micromolar Al³⁺ on net Mg²⁺ uptake were much larger in 15- than in 35-day-old plants. Aluminum at 26 micromolar Al³⁺ activity competitively inhibited net Mg²⁺ uptake by 35-day-old plants, while causing time- and external Mg²⁺ activity-dependent net Mg²⁺ efflux from 15-day-old plants. The equilibrium constant (K_i) of a reversible combination of postulated plasmalemma Mg²⁺ transporter and Al³⁺ was calculated to be 2 and 5 micromolar Al³⁺ activity for 15-day-old plants of Wilo and Gulf ryegrass, respectively, and 21 micromolar Al³⁺ activity for 35-day-old plants of both cultivars. The Al³⁺-mediated increase in Km was larger for 15-day-old plants of the Al-sensitive cultivar 'Wilo', than of the more Al-tolerant cultivar 'Gulf', while Al³⁺ affected 35-day-old plants of both cultivars to the same extent. Plant physiology. July 1990. v. 93 (3). p. 1261-1267. Includes references. (NAL Call No.: DNAL 450 P692).

0401

Competitive Al³⁺ inhibition of net Mg²⁺ uptake by intact *Lolium multiflorum* roots. I. Kinetics.

PLPHA. Rengel, Z. Robinson, D.L. Rockville, Md. : American Society of Plant Physiologists. Aluminum impairs uptake of Mg²⁺, but the mechanisms of this inhibition are not

understood. The depletion technique was used to monitor net Mg²⁺ uptake from nutrient solution by intact, 23-day-old plants of ryegrass (*Lolium multiflorum* Lam., cv Gulf and Wilo). Activities of Mg²⁺ and monomeric Al species in nutrient solution were calculated and used as the basis for expressing the results. The kinetics of net Mg²⁺ absorption was resolved into (a) a transpiration-dependent uptake component, (b) a metabolically mediated, discontinuous saturable component that is Al³⁺ sensitive and p-chloromercuribenzenesulfonic acid (PCMBs) resistant, and (c) a linear, carbonyl cyanide m-chlorophenylhydrazone resistant, Al³⁺ sensitive component that might be a type of facilitated diffusion. Lowering the pH from 6.0 to 4.2 exerted a noncompetitive inhibition of net Mg²⁺ uptake, while aluminum at 6.6 micromolar Al³⁺ activity exerted competitive inhibition of net Mg²⁺ uptake at pH 4.2. The Al³⁺-induced effect was obvious after 30 minutes. Cultivar-specific ability to retain a higher affinity for Mg²⁺ by postulated transport proteins in the presence of Al³⁺ might be one of the mechanisms of differential Al tolerance among ryegrass cultivars. Plant physiology. Dec 1989. v. 91 (4). p. 1407-1413. Includes references. (NAL Call No.: DNAL 450 P692).

0402

Cultivar variation in Kentucky bluegrass: P and N (phosphorus and nitrogen) nutritional factors (*Poa pratensis*, turfgrasses, Rhode Island).

Mehall, B.J. AGJOA. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 767-772. Includes references. (NAL Call No.: 4 AM34P).

0403

Early spring and late autumn response to applied nitrogen in four grasses. 1. Yield, number of tillers and chemical composition.

Wilman, D. Cambridge, Cambridge University Press. The journal of agricultural science. Apr 1980. v. 94 (pt.2). p. 425-442. ill. Bibliography p. 441-442. (NAL Call No.: 10 J822).

0404

Effect of acidity and N source on the growth and thatch accumulation of Tifgreen bermudagrass and on soil nutrient retention.

AGJOAT. Sartain, J.B. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 33-36. Includes references. (NAL Call No.: DNAL 4 AM34P).

(PLANT NUTRITION)

0405

Effect of foliar fertilization on the seed production of Merit Kentucky bluegrass in 1984.
OASPA, Nelson, J.L. Corvallis, Or. : The Station. Special report - Oregon State University, Agricultural Experiment Station. July 1985. (747). p. 51-56. Includes 2 references. (NAL Call No.: ONAL 100 OR3M).

0406

Effect of N fertilization on earthworm and microarthropod populations in Kentucky bluegrass turf.

AGUOAT. Potter, D.A. Bridges, B.L.; Gordon, F.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1985. v. 77 (3). p. 367-372. Includes references. (NAL Call No.: ONAL 4 AM34P).

0407

Effects of N, temperature, and moisture stress on the growth and physiology of creeping bentgrass and response to chelated iron (Agrostis palustris, turfgrass).

Schmidt, R.E. Snyder, V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 590-594. ill. Includes references. (NAL Call No.: 4 AM34P).

0408

Foliar N-uptake by eight turfgrasses grown in controlled environment.

JOSH. Wesely, R.W. Shearman, R.C.; Kinbacher, E.J. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Sept 1985. v. 110 (5). p. 612-614. Includes references. (NAL Call No.: ONAL 81 S012).

0409

Influence of inoculum placement depth on endomycorrhizal fungal infection and perennial ryegrass shoot growth.

JOSH. Frank, J.B. Petrovic, A.M.; Mudge, K.W. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Mar 1987. v. 112 (3). p. 282-286. Includes references. (NAL Call No.: DNAL 81 S012).

0410

Influence of overwatering and fertilization on nitrogen losses from home lawns.

JEVQAA. Morton, T.G. Gold, A.J.; Sullivan, W.M. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1988. v. 17 (1). p. 124-130. Includes references. (NAL Call No.: DNAL QH540.J6).

0411

Lime responses of Kentucky bluegrass (Poa pratensis) and tall fescue (Festuca arundinacea) cultivars on an acid, aluminum-toxic soil.

Murray, J.J. Foy, C.O. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 175-183. ill. Bibliography p. 182-183. (NAL Call No.: SB433.I57 1977).

0412

Management of herbicide and fertility levels on weeds and Kentucky bluegrass turf (Poa pratensis, Digitaria sanguinalis, Taraxacum officinale, Corticium fuciforme).

Johnson, B.J. Bowyer, T.H. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1982. v. 74 (5). p. 845-850. 17 ref. (NAL Call No.: 4 AM34P).

0413

Photosynthesis of grass species differing in carbon dioxide fixation pathways. V. Response of Panicum maximum, Panicum milioides, and tall fescue (Festuca arundinacea) to nitrogen nutrition.

Bolton, J.K. Brown, R.H. Bethesda, Md., American Society of Plant Physiologists. Plant physiology. July 1980. v. 66 (1). p. 97-100. ill. 20 ref. (NAL Call No.: 450 P692).

0414

Potassium--a miracle element?.

Shearman, R.C. New York : United States Golf Association. USGA Green Section record. July/Aug 1985. v. 23 (4). p. 5-6. ill. (NAL Call No.: DNAL 60.18 UN33).

0415

Potassium fertilizer influences on Coastal bermudagrass yield and nutrient uptake and on available soil potassium levels.

CSOSA2. Robinson, D.L. Miller, M.S.; Cherney, D.J.R. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. June 1990. v. 21 (9/10). p. 753-769. Includes references. (NAL Call No.: DNAL S590.C63).

0416

Potassium influence on susceptibility of bermudagrass to Helminthosporium cynodontis toxin.

CRPSAY. Richardson, M.D. Croughan, S.S. Madison, Wis. : Crop Science Society of America. Inadequate K fertilization of

bermudagrass, *Cynodon dactylon* (L.) Pers., can lead to stand loss and increased disease symptoms. This study was conducted to determine the relationship between fungal leaf spot (*Helminthosporium cynodontis* Marig.) susceptibility and K status of hybrid bermudagrass. Grazer' and Tifton 78' bermudagrass were grown in washed sand under six K fertilization rates (10, 30, 70, 100, 200, and 400 mg kg⁻¹) in a greenhouse. Plants were clipped three times at 28-d intervals and the K concentration in the tissue was determined. Prior to the final clipping, 4 mL of culture filtrate containing toxin (CFT) produced by *H. cynodontis* was sprayed in a fine mist on each plant. Plants were rated for disease severity according to leaf spot coverage after approximately 36 h. A curvilinear relationship was observed between disease severity and tissue K concentration. Leaf spotting increased when tissue K levels decreased below about 25 g/kg. Tifton 78 maintained higher tissue K levels at all fertilization rates due to lower biomass production and comparable amounts of K removed. Varietal differences should be considered when determining proper K fertilization rates from tissue analysis. *Crop science*. Sept/Oct 1989. v. 29 (5). p. 1280-1282. Includes references. (NAL Call No.: DNAL 64.8 C883).

0417

Response of Kentucky bluegrass turf to fertilizers containing dicyandiamide.

CSOSA2. Waddington, D.V. Landschoot, P.J.; Hummel, N.W. Jr. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Paper presented at the "Second Dicyandiamide Workshop," December 4-5, 1987, Atlanta, Georgia. Dec 1989. v. 20 (19/20). p. 2149-2170. Includes references. (NAL Call No.: DNAL S590.C63).

0418

Seedling Kentucky bluegrass growth responses to chelated iron and biostimulator materials.

AGUOAT. Goatley, J.M. Jr. Schmidt, R.E. Madison, Wis. : American Society of Agronomy. Enhanced growth of seedling turfgrasses with biostimulator materials or chelated Fe could accelerate the rate of establishment. Field experiments in the spring and fall of 1987 and in the greenhouse in the winter of 1988 were designed to measure seedling Kentucky bluegrass (*Poa pratensis* L.) growth responses to foliar applications of benzyladenine (BA, 6-benzylaminopurine), propiconazole 1- 2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxol-an-2-yl methyl-1H-1,2,4-triazol , triadimefon 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4--triazol-1-yl)-2-butanone , or a fortified seaweed extract (SWE, containing 500 mg L⁻¹ of glycol kinetin and 500 microgram L⁻¹ gibberellins) applied alone or in combination with chelated Fe (8% Fe-phosphate citrate). The seaweed extract (0.03 mL product m⁻²) significantly increased root and shoot growth 6 wk after treatment (WAT) in the spring

experiment, and 4 and 6 WAT in the winter greenhouse experiment. The SWE also increased the gross CO₂ exchange rate (CER) on a land area basis 4 and 6 WAT in the winter experiment. Propiconazole (42 mg m⁻²) significantly increased seedling leaf number 6 WAT in the fall experiment. Triadimefon (150 mg m⁻²) or BA (6 mg m⁻²) applications generally were not as effective in increasing seedling growth as were the SWE or propiconazole. Foliar Fe applications (112 mg m⁻²), either alone or in combination with biostimulators, significantly increased root and shoot growth and gross CER on a land area basis 4 and 6 WAT in the winter greenhouse experiment. Applications of Fe increased root dry weight 6 WAT in the spring field experiment. Growth responses to individual biostimulator and Fe combinations were highly variable among experiments, suggesting possible interactions between the growth response mechanisms of the treatments. *Agronomy journal*. Sept/Oct 1990. v. 82 (5). p. 901-905. Includes references. (NAL Call No.: DNAL 4 AM34P).

0419

Supplemental boron effects on yield and quality of seven bermudagrasses.

AGUOAT. Monson, W.G. Gaines, T.P. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. May/June 1986. v. 78 (3). p. 522-523. Includes 8 references. (NAL Call No.: DNAL 4 AM34P).

0420

Temperature influences on mineral nutrient distribution in two Kentucky bluegrass cultivars (*Poa pratensis*).

Kaufman, J.E. Aldous, D.E. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 135-143. Bibliography p. 143. (NAL Call No.: SB433.I57 1977).

0421

Transport processes of two *Lolium X Festuca* hybrid derivatives differing in potassium concentration.

CRPSAY. Brauer, D. Leggett, J.E.; Egli, D.B. Madison, Wis. : Crop Science Society of America. To facilitate the development of forages with mineral composition optimal for ruminant production, knowledge of the biochemical and physiological processes determining genotypic differences in nutrient uptake is needed. Experiments were conducted to identify the mechanism(s) that regulated the difference in leaf blade K concentration between two selections of *Lolium X Festuca* hybrid derivatives. Selection differences in rates of K uptake were estimated by measuring Rb uptake by excised roots, and the selectivity of cation uptake for K over Na was determined using intact tillers grown in modified

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Hoagland's solutions containing varying ratios of K:Na. Differences in Rb uptake by excised roots were of sufficient magnitude to explain differences in leaf blade K concentration. Results indicated differences in K and Na uptake between these two selections reflected an alteration in cation uptake selectivity by roots. Perturbing the plasma membrane integrity by Ca depletion treatments eliminated the difference between selections in K uptake but not in Na uptake. Differences in K uptake were associated with differences in the stimulation of the plasma membrane ATPase by K. These results were interpreted in terms of at least two transport processes contributing to the differences in leaf blade cation concentrations, one process on the plasma membrane affecting K accumulation and another affecting Na accumulation, possibly on the tonoplast membrane. Crop science. July/Aug 1989. v. 29 (4). p. 1012-1018. Includes references. (NAL Call No.: DNAL 64.8 C883).

0422

Urease activity in a Kentucky bluegrass turf (Nitrogen fertilizers, *Poa pratensis*).

Torello, W.A. AGJOA. Wehner, D.J. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 654-656. Includes references. (NAL Call No.: 4 AM34P).

PLANT PHYSIOLOGY AND BIOCHEMISTRY

0423

Absorption and translocation of root-absorbed haloxyfop in soybean, red fescue, and tall fescue.

Aguero, R. Appleby, A.P. S.I. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 432. (NAL Call No.: DNAL 79.9 W52R).

0424

Absorption, translocation, and metabolism of sethoxydim in centipede grass and goosegrass.

JOSH B. McCarty, L.B. Higgins, J.M.; Corbin, F.T.; Whitwell, T. Alexandria, Va. : The Society. Absorption, translocation, and metabolism of foliar-applied ¹⁴C-labeled sethoxydim (¹⁴C-sethoxydim) in sethoxydim-tolerant centipede grass *Eremochloa ophiuroides* (Munro) Hack. and sethoxydim-sensitive goosegrass *Eleusine indica* (L.) Gaertn. were determined. The distribution of ¹⁴C in treated leaves indicated that similar amounts (approximately 3%) were found in the epicuticular wax fraction (chloroform wash) of both species after 6 hours. After 2 hours, 16% of the applied ¹⁴C-sethoxydim was absorbed in the treated leaf by centipede grass, but only 2% was absorbed by goosegrass. After 2 hours, centipede grass also readily translocated greater amounts of ¹⁴C than goosegrass (4.3% vs. 0.4%). Six hours after treatment, however, no differences were found in amounts absorbed by the treated leaf and translocated to apical and basal leaves. Because sethoxydim-tolerant centipede grass absorbed and translocated similar amounts of ¹⁴C compared to the sethoxydim-sensitive goosegrass, these two mechanisms do not appear to be a means of tolerance. The major difference found between the two species was in the metabolism of sethoxydim. After 6 hours, 81% to 98% of the ¹⁴C in goosegrass extracts remained as ¹⁴C-sethoxydim. In contrast, only 1% of the ¹⁴C found in apical leaves, basal leaves, and roots of centipede grass was identified as ¹⁴C-sethoxydim. These data indicated that differences in tolerance to sethoxydim between these two species were based on metabolism. *Journal of the American Society for Horticultural Science*. July 1990. v. 115 (4). p. 605-607. Includes references. (NAL Call No.: DNAL 81 S012).

0425

Accumulation of pyrrolizidine alkaloids in benomyl-treated tall fescue parents and their untreated progenies (*Festuca arundinacea*).

Jones, T.A. CRPSAY. Buckner, R.C.; Burrus, P.B. II; Bush, L.P. Madison : Crop Science Society of America. *Crop science*. Nov/Dec 1983. v. 23 (6). p. 1135-1140. Includes references. (NAL Call No.: 64.8 C883).

0426

Adventitious root initiation in kleingrass in relation to seedling size and age.

CRPSAY. Tischler, C.R. Voight, P.W.; Holt, E.C. Madison, Wis. : Crop Science Society of America. Successful establishment of grasses depends on initiation and growth of adventitious roots. This study was undertaken to determine the minimum size and/or age requirement for adventitious root development in kleingrass (*Panicum coloratum* L.) seedlings, and also to determine which of these two factors is more important in controlling or regulating adventitious root development. Shoot mass was modified independently of age through use of populations having different seed mass. These were 'Selection 75' (low seed mass), 'Verde' (intermediate seed mass), and 79-35 (greatest seed mass). Seeds were planted in soil in plastic cones and were germinated and grown in a growth chamber. Resulting plants were sampled at 5, 6, 8, 10, 12, and 14 d after emergence. Shoot masses of the three entries (at all sampling dates) were in the same relative order as seed masses of the entries, and Selection 75 initiated adventitious roots at the lowest shoot mass. Seedling age at first adventitious root development was not related to seed weight differences. However, Verde and 79-35 were superior to Selection 75 in primary root length, number of adventitious roots, and length of longest adventitious root (data averaged over all sampling days). Because seedling age in kleingrass is apparently more important than seedling mass in influencing adventitious root initiation, selecting for rapid seedling growth will not necessarily shorten the interval between planting and development of the first adventitious root. However, selection for rapid seedling growth may concomitantly improve other root characteristics. *Crop science*. Jan/Feb 1989. v. 29 (1). p. 180-183. Includes references. (NAL Call No.: DNAL 64.8 C883).

0427

Allelopathic effects of *Artemisia tridentata* leaves on germination and growth of two grass species.

Groves, C.R. Anderson, J.E. Notre Dame, Ind., University of Notre Dame. *American midland naturalist*. July 1981. v. 106 (1). p. 73-79. ill. 11 ref. (NAL Call No.: 410 M58).

0428

Amino acid composition of ryegrass in relation to nitrogen fertilization and soil water status (*Lolium perenne*).

Jensen, H.E. JPNUD. New York : Marcel Dekker. *Journal of plant nutrition*. 1982. v. 5 (9). p. 1109-1120. Includes references. (NAL Call No.: QK867.J67).

(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0429

Anatomy, morphology, and growth of tall fescue rhizomes.

CRPSAY, Jernstedt, J.A. Bouton, J.H. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1985. v. 25 (3). p. 539-542. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0430

Annual bluegrass seedhead emergence as predicted by degree-day accumulation.

AGJOAT, Danneberger, T.K. Vargas, J.M. Jr. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1984. v. 76 (5). p. 756-758. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

0431

Anti-senescence activity of chemicals applied to Kentucky bluegrass.

JOSHB, Goatley, J.M. Jr. Schmidt, R.E. Alexandria, Va. : The Society. This study was conducted to determine the potential anti-senescence activity of certain chemicals by monitoring changes in gross CO₂ exchange with senescence of excised leaves of Kentucky bluegrass (*Poa pratensis* L.). One day following foliar applications of benzyladenine (BA), triadimefon, and propiconazole, with and without chelated Fe (8% Fe phosphate citrate), Kentucky bluegrass leaves were excised, floated on distilled water in petri dishes, and placed in a darkened growth chamber. Gross CO₂ exchange rates (CER) were recorded 1, 4, 7, and 10 days after excision (DAE). Foliar applications of Fe, BA, triadimefon, or propiconazole applied alone induced an anti-senescence response. Combinations of Fe with the chemicals delayed excision-induced leaf senescence, but no significant increase in anti-senescence activity was obtained from the Fe and chemical combinations as compared to the materials applied alone. Journal of the American Society for Horticultural Science. July 1990. v. 115 (4). p. 654-656. Includes references. (NAL Call No.: DNAL 81 S012).

0432

Application of Penman equation wind function: discussion (Alta fescue grass

evapotranspiration, Festuca, solar radiation). Hargreaves, G.H. New York : American Society of Civil Engineers. Journal of irrigation and drainage engineering. June 1983. v. 109 (2). p. 277-278. Includes references. (NAL Call No.: 290.9 AM3PS (IR)).

0433

Approaches to water conservation in turfgrasses (Regulating evapotranspiration, or water use).

Johns, D. Beard, J.B. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Jan 1981. Jan 1981. (3831/3851). p. 13-15. ill. (NAL Call No.: 100 T31P).

0434

An assessment of water use by turfgrasses.

Beard, J.B. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. p. 45-60. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

0435

An assessment of wear tolerance among bermudagrass cultivars for recreational and sports turf use.

Beard, J.B. Batten, S.M.; Almodares, A. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Jan 1981. Jan 1981. (3831/3851). p. 24-26. (NAL Call No.: 100 T31P).

0436

Bermudagrass improvement through tissue culture.

Croughan, S.S. Crowley, La. : The Station. Annual progress report - Louisiana Agricultural Experiment Station. 1987. (79th). p. 340-344. (NAL Call No.: DNAL 100 L93 (3)).

0437

Bermudagrass improvement through tissue culture.

Croughan, S.S. Crowley, La. : The Station. Annual progress report - Louisiana Agricultural Experiment Station. 1985. (77th). p. 384-385. (NAL Call No.: DNAL 100 L93 (3)).

0438

Bermudagrass improvement through tissue culture.

Crowley, La. : The Station. Annual progress report - Louisiana Agricultural Experiment Station. 1986. (78th). p. 290-293. (NAL Call No.: DNAL 100 L93 (3)).

(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0439

Blaney-Criddle coefficients for western turf grasses (Evapotranspiration).

Borrelli, J. Pochop, L.O.; Kneebone, W.R.; Pepper, I.L.; Danielson, R.E.; Hart, W.E.; Youngner, V.B. New York : American Society of Civil Engineering, c1981. Proceedings of the specialty conference Water Forum '81 : host, San Francisco Section, ASCE, San Francisco, California, August 10-14, 1981 / sponsored by the Environmental Engineering Division ... (et al.). p. 81-88. 14 ref. (NAL Call No.: TD201.W334 1981).

0440

Blue light effects on the growth of *Lolium multiflorum* Lam. leaves under natural radiation.

NEPHA. Casal, J.J. Alvarez, M.A. New York, N.Y. : Cambridge University Press. The New phytologist. May 1988. v. 109 (1). p. 41-45. Includes references. (NAL Call No.: DNAL 450 N42).

0441

Callus induction and plantlet formation from mature embryo explants of Kentucky bluegrass (*Poa pratensis*).

McDonnell, R.E. Conger, B.V. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1984. v. 24 (3). p. 573-578. ill. Includes references. (NAL Call No.: 64.8 C883).

0442

Canopy temperature based irrigation scheduling indices for Kentucky bluegrass turf.

CRPSAY. Throssell, C.S. Carrow, R.N.; Milliken, G.A. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1987. v. 27 (1). p. 126-131. Includes references. (NAL Call No.: DNAL 64.8 C883).

0443

Carbohydrate quantification and relationships with N (nitrogen) nutrition in cool-season turfgrasses.

Westhafer, M.A. Law, J.T. Jr.; Duff, D.T. Madison, Wis., American Society of Agronomy. Agronomy journal. Mar/Apr 1982. v. 74 (2). p. 270-274. Includes 27 ref. (NAL Call No.: 4 AM34P).

0444

Carbon balance in grasses.

Redmann, R.E. Reekie, E.G. Norman : University of Oklahoma Press, c1982. Grasses and grasslands : systematics and ecology / edited by James R. Estes, Ronald J. Tylr, Jere N. Brunken. Literature review. p. 195-231. Includes 9 p. ref. (NAL Call No.: QK495.G74G74 1982).

0445

Cold acclimation and deacclimation in cool-season grasses.

White, D.B. Smithberg, M.H. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 149-154. ill. Bibliography p. 154. (NAL Call No.: SB433.I57 1977).

0446

Cold hardiness in warm season turfgrasses.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Nov 1990. v. 25 (1). p. 22, 56, 58. (NAL Call No.: DNAL SB476.G7).

0447

Cold hardiness of bermudagrass and *Paspalum vaginatum* Sw. (*Cynodon* spp.).

Ibitayo, O.O. Butler, J.D.; Burke, M.J. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1981. v. 16 (5). p. 683-684. 5 ref. (NAL Call No.: SB1.H6).

0448

Colonization of bentgrass turf by *Curvularia lunata* after leaf clipping and heat stress.

PLDIDE. Muchovej, J.J. Couch, H.B. St. Paul, Minn. : American Phytopathological Society. Plant disease. Oct 1987. v. 71 (10). p. 873-875. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0449

Comparative assessment of wilting tendency of warm season turfgrasses.

Kim, K.S. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4331). p. 66-68. (NAL Call No.: DNAL 100 T31P).

(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0450

Comparative drought resistances among major warm-season turfgrass species and cultivars.
Kim, K.S. Sifers, S.I.; Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4521). p. 28-30. Includes references. (NAL Call No.: DNAL 100 T31P).

0451

The comparative heat dissipation from three typical urban surfaces: asphalt, concrete, and a bermudagrass turf.
Beard, J.B. Johns, D. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4329). p. 59-62. (NAL Call No.: DNAL 100 T31P).

0452

The comparative low temperature hardiness of 19 bermudagrasses (Turfgrasses in Texas).
Beard, J.B. Batten, S.M.; Pittman, G. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Jan 1981. (3831/3851). p. 21-23. (NAL Call No.: 100 T31P).

0453

Comparative rooting of warm season turfgrasses.
Casnoff, D.M. Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1986. v. 21 (9). p. 64. ill. (NAL Call No.: DNAL SB476.G7).

0454

Comparative turfgrass evapotranspiration rates and associated plant morphological characteristics.
CRPSAY. Kim, K.S. Beard, J.B. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1988. v. 28 (2). p. 328-331. Includes references. (NAL Call No.: DNAL 64.8 C883).

0455

Comparative water-use rates and efficiencies, leaf diffusive resistances, and stomatal action of healthy and stripe-smutted Kentucky bluegrass.
CRPSAY. Nus, J.L. Hodges, C.F. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1986. v. 26 (2). p. 321-324. Includes references. (NAL Call No.: DNAL 64.8 C883).

0456

Comparisons of direct and indirect determinations of root weights of several turfgrasses (*Festuca pratensis*, *Lolium perenne*, *Festuca rubra*).
Boberfeld, W.O. von. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 117-121. Bibliography p. 121. (NAL Call No.: SB433.I57 1977).

0457

Competitive Al³⁺ inhibition of net Mg²⁺ uptake by intact *Lolium multiflorum* roots.
PLPHA. Rengel, Z. Rockville, Md. : American Society of Plant Physiologists. Rhizotoxicity of Al is more pronounced in younger plants. Effects of Al on nutrient uptake by plants of different age are poorly understood. The depletion technique was used to monitor net Mg²⁺ uptake from nutrient solutions by intact 15- and 35-day-old plants of two ryegrass (*Lolium multiflorum* Lam.) cultivars. Lowering the pH from 6.0 to 4.2 decreased the maximum net ion influx without affecting Km. Aluminum at 6.6 micromolar Al³⁺ activity increased Km indicating competitive inhibition. The effects of pH and 6.6 micromolar Al³⁺ on net Mg²⁺ uptake were much larger in 15- than in 35-day-old plants. Aluminum at 26 micromolar Al³⁺ activity competitively inhibited net Mg²⁺ uptake by 35-day-old plants, while causing time- and external Mg²⁺ activity-dependent net Mg²⁺ efflux from 15-day-old plants. The equilibrium constant (K_i) of a reversible combination of postulated plasmalemma Mg²⁺ transporter and Al³⁺ was calculated to be 2 and 5 micromolar Al³⁺ activity for 15-day-old plants of Wilo and Gulf ryegrass, respectively, and 21 micromolar Al³⁺ activity for 35-day-old plants of both cultivars. The Al³⁺-mediated increase in Km was larger for 15-day-old plants of the Al-sensitive cultivar 'Wilo', than of the more Al-tolerant cultivar 'Gulf', while Al³⁺ affected 35-day-old plants of both cultivars to the same extent. Plant physiology. July 1990. v. 93 (3). p. 1261-1267. Includes references. (NAL Call No.: DNAL 450 P692).

0458

Competitive interactions between *Cynodon dactylon* and *Acacia smallii* seedlings at different nutrient levels.
AMNAA. Cohn, E.J. Van Auken, O.W.; Bush, J.K. Notre Dame, Ind. : University of Notre Dame. American midland naturalist. Apr 1989. v. 121 (2). p. 265-272. Includes references. (NAL Call No.: DNAL 410 M58).

0459

Complications in nitrogen fertilization of turfgrass / by John R. Street. -
Street, John R. (Ohio Reprinted by Ohio Extension Service, Ohio State University 1982).
Caption title ~Reprint from American Lawn Applicator, May/June 1982 ~Pesticide Applicator Training collection. p. 10-15 : ill. ; 28 cm.
Bibliography: p. 15. (NAL Call No.: SB608.G857).

0460

Composition and vitality of quack grass roots /by A.J. Pinckney.
Pinckney, A. J. Fargo : Agricultural Experiment Station, North Dakota Agricultural College, 1945. 16 p. : charts ; 22 cm. Bibliography: p. 16. (NAL Call No.: DNAL 100 N813 no.334).

0461

Controlling turf with Embark (diethanolamine salt of (N-(2,4-dimethyl-5(((trifluoromethyl)-sulfonyl) amino) phenyl) acetamide, chemical growth regulators).
Hield, H. Hemstreet, S.; Younger, V.B.; Gibeault, V.A. Elm Grove, Wis., Brantwood Publications. Landscape industry. July/Aug 1980. v. 25 (5). p. 40-41. ill. (NAL Call No.: 98.8 L232).

0462

Cool-season turfgrass responses to drought stress.
CRPSAY. Aronson, L.J. Gold, A.J.; Hull, R.J. Madison, Wis. : Crop Science Society of America. Crop science. Nov/Dec 1987. v. 27 (6). p. 1261-1266. Includes references. (NAL Call No.: DNAL 64.8 C883).

0463

Creeping bentgrass, Kentucky bluegrass and annual bluegrass seed germination response to elevated temperature (Agrostis palustris, Poa pratensis, Poa annua).
Eggers, J.L. Ormrod, D.P. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1982. v. 17 (4). p. 624-65. 9 ref. (NAL Call No.: SB1.H6).

0464

Criteria for visual prediction of low water use rates of bermudagrass cultivars.
Sifers, S.I. Beard, J.B.; Kim, K.S. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4519). p. 22-23. Includes references. (NAL Call No.: DNAL 100 T31P).

0465

Cultivar variation in Kentucky bluegrass: P and N (phosphorus and nitrogen) nutritional factors (Poa pratensis, turfgrasses, Rhode Island).
Mehall, B.J. AGJOA. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 767-772. Includes references. (NAL Call No.: 4 AM34P).

0466

A detached culm technique for seed production of tall fescue in isolation from foreign pollen sources.
CRPSAY. Wofford, D.S. Frakes, R.V.; Chilcote, D.O. Madison, Wis. : Crop Science Society of America. Crop science. Jan/Feb 1986. v. 26 (1). p. 193-195. Includes 6 references. (NAL Call No.: DNAL 64.8 C883).

0467

Development of a cold stress simulator to be used in screening (turfgrass cultivars) for cold hardiness.
Beard, J.B. TX. DiPaola, J.M.; Batten, S.M. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Texas. Agricultural Experiment Station. Feb 1980. Feb 1980. (3667/3678). p. 36-40. ill. (NAL Call No.: 100 T31P).

0468

Dewfall and evapotranspiration determination during day- and nighttime on an irrigated lawn.
JAMOA. Severini, M. Moriconi, M.L.; Tonna, G.; Olivieri, B. Boston : American Meteorological Society. Journal of climate and applied meteorology. Aug 1984. v. 23 (8). p. 1241-1246. Includes references. (NAL Call No.: DNAL QC851.J6).

0469

Did your turf survive the December cold blast?.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1990. v. 25 (3). p. 36, 38, 117. ill. (NAL Call No.: DNAL SB476.G7).

0470

Differences in tolerance of Bermudagrass and zoysiagrass cultivars to herbicides (Cynodon spp., Zoysia spp.).
Johnson, B.J. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 217-225. Bibliography p. 225. (NAL Call No.: SB433.I57 1977).

(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0471

Differential growth responses of fractionated turfgrass seed leachates.

HJHSA. Buta, J.G. Spaulding, D.W.; Reed, A.N. Alexandria, Va. : American Society for Horticultural Science. HortScience. Dec 1987. v. 22 (6). p. 1317-1319. Includes references. (NAL Call No.: DNAL SB1.H6).

0472

Differential sensitivity of turfgrass organs to water stress.

HJHSA. Nus, J.L. Hodges, C.F. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1986. v. 21 (4). p. 1014-1015. Includes references. (NAL Call No.: DNAL SB1.H6).

0473

Drought resistance comparisons among major warm-season turfgrasses.

Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1988. v. 26 (5). p. 12-15. ill. (NAL Call No.: DNAL 60.18 UN33).

0474

Effect of environmental stress on response of Kentucky bluegrass (*Poa pratensis* L.) to chemical growth retardants.

AAREEZ. Symington, A.G. Craker, L.E.; Hurto, K.A. New York : Springer. Applied agricultural research. 1986. v. 1 (1). p. 41-44. Includes references. (NAL Call No.: DNAL S539.5.A77).

0475

Effect of gibberellic acid on plant height, seed weight and germination of Kentucky bluegrass (*Poa pratensis*).

Phaneendranath, B.R. Willemsen, R.W. (s.l.). The Association. The News letter of the Association of Official Seed Analysts. Feb 1981. v. 55 (1). p. 44-51. 11 ref. (NAL Call No.: 61.9 AS7N).

0476

Effect of sample preparation and pH on the cation exchange capacity of thatch (*Poa pratensis*, turfgrass, edaphic properties).

Danneberger, T.K. AGJ0AT. Turgeon, A.J.; Peck, T.R. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 155-156. ill. Includes references. (NAL Call No.: 4 AM34P).

0477

Effect of storage conditions on viability, after-ripening and induction of secondary dormancy of Kentucky bluegrass seed (*Poa pratensis*, germination).

Phaneendranath, B.R. JSTED. Funk, C.R. East Lansing : Association of Official Seed Analysts. Journal of seed technology. 1981. v. 6 (3). p. 9-22. ill. Includes references. (NAL Call No.: SB113.2.J6).

0478

Effect of water stress on in vitro heat tolerance of turfgrass leaves.

Becwar, M.R. HJHSA. Wallner, S.J.; Butler, J.D. Alexandria : American Society for Horticultural Science. HortScience. Feb 1983. v. 18 (1). p. 93-95. ill. Includes references. (NAL Call No.: SB1.H6).

0479

Effects of a reapplication of growth retardants in a two year study on Kentucky bluegrass (*Poa pratensis*, herbicides).

Dernoeden, P.H. Wehner, D.J. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 312-321. 2 ref. (NAL Call No.: 79.9 N814).

0480

Effects of amidochlor of shoot growth and seedhead suppression in cool-season turfgrass.

HJHSA. Bhowmik, P.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1987. v. 22 (1). p. 63-65. Includes references. (NAL Call No.: DNAL SB1.H6).

0481

Effects of clipping disposal, nitrogen, and growth retardants on thatch and tiller density in zoysiagrass.

CRPSAY. Soper, D.Z. Dunn, J.H.; Minner, D.D.; Sleper, D.A. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1988. v. 28 (2). p. 325-328. Includes references. (NAL Call No.: DNAL 64.8 C883).

0482

Effects of four growth regulators on photosynthate partitioning in 'Majestic' Kentucky bluegrass.

CRPSAY. Hanson, K.V. Branham, B.E. Madison, Wis. : Crop Science Society of America. Crop science. Nov/Dec 1987. v. 27 (6). p. 1257-1260. Includes references. (NAL Call No.: DNAL 64.8 C883).

(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0483

Effects of N and growing season on root-rhizome characteristics of turf-type bermudagrasses.
AGJDAT. Horst, G.L. Baltensperger, A.A.; Finkner, M.D. Madison, Wis. : American Society of Agronomy. Agronomy journal. Mar/Apr 1985. v. 77 (2). p. 237-242. Includes 13 references. (NAL Call No.: DNAL 4 AM34P).

0484

Effects of N, temperature, and moisture stress on the growth and physiology of creeping bentgrass and response to chelated iron (*Agrostis palustris*, turfgrass).
Schmidt, R.E. Snyder, V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 590-594. ill. Includes references. (NAL Call No.: 4 AM34P).

0485

Effects of salinity on seashore paspalum turfgrasses.
AGJDAT. Dudeck, A.E. Peacock, C.H. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 47-50. Includes 13 references. (NAL Call No.: DNAL 4 AM34P).

0486

The effects of stage of seedling development on selected physiological and morphology parameters in Kentucky bluegrass (*Poa pratensis*) and red fescue (*Festuca rubra*).
Krans, J.V. Beard, J.B. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 89-95. Bibliography p. 94-95. (NAL Call No.: SB433.157 1977).

0487

Embryogeny of *Cortaderia selloana* (ornamental grass) and *Cortaderia jubata* (weed) (Gramineae).
Costas-Lippmann, M. AR-W. Chicago, University of Chicago Press. Botanical gazette. Dec 1979. v. 140 (4). p. 393-397. ill. 15 ref. (NAL Call No.: 450 B652).

0488

Endogenous growth regulators in turfgrass seeds.
PPGGD. Buta, J.G. Spaulding, D.W. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1984. (11th). p. 70-76. Includes references. (NAL Call No.: DNAL SB128.P5).

0489

Establishment and rooting of zoysiagrass (*Zoysia japonica*) as affected by preemergence herbicides.
WEESA6. Fry, J.D. Dernoeden, P.H.; Murray, J.J. Champaign, Ill. : Weed Science Society of America. Weed science. May 1986. v. 34 (3). p. 413-418. Includes references. (NAL Call No.: DNAL 79.8 W41).

0490

Ethylene-induced chlorosis in the pathogenesis of *Bipolaris sorokiniana* leaf spot of *Poa pratensis*.
Hodges, C.F. Coleman, L.W. Rockville, Md. : American Society of Plant Physiologists. Plant physiology. June 1984. v. 75 (2). p. 462-465. ill. Includes 28 references. (NAL Call No.: 450 P692).

0491

An evaluation of germination media for turfgrass salinity studies.
JOSHB. Dudeck, A.E. Peacock, C.H.; Sheehan, T.J. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Mar 1986. v. 111 (2). p. 170-183. Includes 14 references. (NAL Call No.: DNAL 81 S012).

0492

Evaluation of paclobutrazol plant growth regulator on Tifway II hybrid bermudagrass.
Cockerham, S.T. Jackson, N.E. S.1. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 379-380. (NAL Call No.: DNAL 79.9 W52R).

0493

Existence of salt glands on leaves of Kallar grass (*Leptochloa fusca* L. Kunth.).
JPNUDS. Wieneke, J. Sarwar, G.; Roeb, M. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. May 1987. v. 10 (7). p. 805-820. ill. Includes references. (NAL Call No.: DNAL QK867.J67).

0494

The fate of mefluidide in relation to the control of tiller development.
PPGGD. Field, R.J. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1984. (11th). p. 209-213. Includes references. (NAL Call No.: DNAL SB128.P5).

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0495

The fate of nitrogenous fertilizers applied to turfgrass.

JEVQAA. Petrovic, A.M. Madison, Wis. : American Society of Agronomy. Maintaining high quality surface and groundwater supplies is a national concern. Nitrate is a widespread contaminant of groundwater. Nitrogenous fertilizer applied to turfgrass could pose a threat to groundwater quality. However, a review of the fate of N applied to turfgrass is lacking, but needed in developing management systems to minimize groundwater contamination. The discussion of the fate of N applied to turfgrass is developed around plant uptake, atmospheric loss, soil storage, leaching, and runoff. The proportion of the fertilizer N that is taken up by the turfgrass plant varied from 5 to 74% of applied N. Uptake was a function of N release rate, N rate and species of grass. Atmospheric loss, by either NH₃ volatilization or denitrification, varied from 0 to 93% of applied N.

Volatilization was generally less than 36% of applied N and can be reduced substantially by irrigation after application. Denitrification was only found to be significant (93% of applied N) on fine-textured, saturated, warm soils. The amount of fertilizer N found in the soil plus thatch pool varied as a function of N source, release rate, age of site, and clipping management. With a soluble N source, fertilizer N found in the soil and thatch was 15 to 21% and 21 to 26% of applied N, respectively, with the higher values reflecting clippings being returned. Leaching losses for fertilizer N were highly influenced by fertilizer management practices (N rate, source, and timing), soil texture, and irrigation. Highest leaching losses were reported at 53% of applied N, but generally were far less than 10%. Runoff of N applied to turfgrass has been studied to a limited degree and has been found seldom to occur at concentrations above the federal drinking water standard for NO₃(-). Where turfgrass fertilization poses a threat to groundwater quality, management strategies can allow the turfgrass manager to minimize or eliminate NO₃(-) leaching. Journal of environmental quality. Jan/Mar 1990. v. 19 (1). p. 1-14. Includes references. (NAL Call No.: DNAL QH540.J6).

0496

Field observations on the flowering behavior pattern of four grass genera.

JAUPA. Ramos-Santana, R. Rodriguez, J.E. Rio Piedras, R.R. : University of Puerto Rico, Agricultural Experiment Station. The Journal of agriculture of the University of Puerto Rico. Oct 1989. v. 73 (4). p. 405-410. Includes references. (NAL Call No.: DNAL 8 P832J).

0497

Four-year response of a Kentucky bluegrass-red fescue turf to plant growth retardants.

AGJ0AT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. Agronomy journal. Sept/Oct 1984. v. 76 (5). p. 807-813. Includes 32 references. (NAL Call No.: DNAL 4 AM34P).

0498

Freezing resistance and cold acclimation in turfgrasses (Injury).

Rajashekar, C.HJHSA. Tao, D.; Li, P.H. Alexandria : American Society for Horticultural Science. HortScience. Feb 1983. v. 18 (1). p. 91-93. ill. Includes references. (NAL Call No.: SB1.H6).

0499

Freezing resistance of perennial turfgrasses.

Gusta, L.V. Butler, J.D.; Rajashekar, C.; Burke, M.J. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1980. v. 15 (4). p. 494-496. ill. 5 ref. (NAL Call No.: SB1.H6).

0500

Fungicide effects on thatch depth, thatch decomposition rate, and growth of Kentucky bluegrass.

AGJ0AT. Smiley, R.W. Fowler, M.C.; Kane, R.T.; Petrovic, A.M.; White, R.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 597-602. Includes references. (NAL Call No.: DNAL 4 AM34P).

0501

Germination and growth of tall fescue cultivars in soluble salts.

Horst, G.L. Dunning, N.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4317). p. 17-20. Includes references. (NAL Call No.: DNAL 100 T31P).

0502

Germination and seedling growth of perennial ryegrasses in soluble salts.

J0SHB. Horst, G.L. Dunning, N.B. Alexandria, Va. : The Society. A laboratory experiment was conducted with seeds of perennial ryegrass (*Lolium perenne* L.) cultivars germinating and growing on floating mats in saline hydroponic solutions. This study was done to determine the relative intraspecific salt resistances of 48 perennial ryegrasses during germination and seedling growth in saline solutions. Total germination, germination rate, leaf blade length, root length, and total seedling fresh

and dry weight were measured after 21 days. Test solutions prepared from deionized water and equal quantities of NaCl and CaCl₂ by weight consisted of 11.6 (low), 19.5 (medium), and 23.5 dS.m⁻¹ (high) salinity. Cultivars had highly significant total germination and germination rate responses to salt stress. Seedling growth responses as measured by blade and root length and weights were also significant. A hydroponic medium with a salt concentration of 23.4 dS.m⁻¹ should provide a suitable stress level for screening ryegrass genotypes for improved germination and seedling salt resistance. At the high salinity level, cultivars that average less than a 50% reduction in growth parameters relative to high-yielding cultivars should be considered. Broad-sense heritability estimates indicate that seedling dry and fresh weight and germination rate would be valuable criteria for use in selection of perennial ryegrasses for salt resistance. *Journal of the American Society for Horticultural Science*, Mar 1989, v. 114 (2), p. 338-342. Includes references. (NAL Call No.: DNAL 81 S012).

0503

Germination of grass seeds after 8 years of weekly removal from subfreezing storage.
CRPSAY. Rincker, C.M. Madison, Wis. : Crop Science Society of America. *Crop science*. Jan/Feb 1986, v. 26 (1), p. 165-166. Includes 9 references. (NAL Call No.: DNAL 64.8 C883).

0504

Gibberellins, endogenous and applied, in relation to flower induction in the long-day plant *Lolium temulentum*.
PLPHA. Pharis, R.P. Evans, L.T.; King, R.W.; Mander, L.N. Rockville, Md. : American Society of Plant Physiologists. *Plant physiology*. Aug 1987, v. 84 (4), p. 1132-1138. Includes references. (NAL Call No.: DNAL 450 P692).

0505

Grass seedling emergence, morphology, and establishment as affected by planting depth.
AGJOAT. Newman, P.R. Moser, L.E. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. May/June 1988, v. 80 (3), p. 383-387. Includes references. (NAL Call No.: DNAL 4 AM34P).

0506

Green coverage and color evaluation of turfgrass by means of light reflection.
Biran, I. Bushkin-Harav, I. Alexandria, Va., American Society for Horticultural Science. *HortScience*. Feb 1981, v. 16 (1), p. 76-78. 11 ref. (NAL Call No.: SB1.H6).

0507

Growth inhibiting compounds in tall fescue involved in allelopathy of turfgrasses--abscisic acid and phenolics.
PPGGD. Buta, J.G. Spaulding, D.W. Lake Alfred, Fla. : The Society. *Proceedings annual meeting - Plant Growth Regulator Society of America*. Includes abstract. 1987, (14th), p. 61. (NAL Call No.: DNAL SB128.P5).

0508

Growth responses, ion relations, and osmotic adaptations of eleven C₄ turfgrasses to salinity.
AGJOAT. Marcum, K.B. Murdoch, C.L. Madison, Wis. : American Society of Agronomy. Shortages of fresh water, coupled with soil salinization in many areas have resulted in an increased need for soil tolerant turf grasses. This study was conducted to compare growth and physiological responses of eleven C₄ (grasses which utilize the C-4 carboxylic acid pathway in photosynthesis) turfgrasses to salinity. Grasses were grown in solution culture in a glasshouse, with NaCl added to achieve salinities of 0.7, 10, 20, and 30 dS m⁻¹ (0.99, 198, and 298 mM NaCl). Grasses were ranked for salinity tolerance according to their relative top growth reductions with increasing salinity. Tolerant grasses included a Hawaii selection of seashore paspalum (*Paspalum vaginatum* Swartz), two St. Augustinegrasses (*Stenotaphrum secundatum* Walt.), and manilagrass (*Zoysia matrella* L.). Bermudagrasses (*Cynodon* spp. (L.) Pers. Burt-Davey) tested were generally less tolerant to salinity. Shoot and root Na and Cl concentrations reached very high levels in St. Augustinegrasses, and were relatively high in seashore paspalum and Japanese lawngrass (*Zoysia japonica* Steud.). In contrast, manilagrass and bermudagrasses maintained low levels of Na and Cl under high salinity which is indicative of ion regulation, due in part to efficient leaf salt glands. Seashore paspalum maintained higher shoot and root K concentrations under high salinity than did other grasses. All grasses adjusted osmotically under increasing salinity. Although St. Augustinegrasses and seashore paspalum accumulated Na and Cl in the shoots to relatively high levels, they maintained much higher tissue water levels than did other grasses, resulting in intermediate sap osmolalities. *Agronomy journal*. Sept/Oct 1990, v. 82 (5), p. 892-896. Includes references. (NAL Call No.: DNAL 4 AM34P).

0509

Hastening the germination of Bermuda grass seed by the sulfuric acid treatment.
AGJOAT. Bryan, W.E. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. Oct/Nov 1918, v. 10 (7/8), p. 279-281. plates. (NAL Call No.: DNAL 4 AM34P).

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0510

Heat shock protein synthesis in turfgrass.
DiMascio, J. Danneberger, K. Far Hills, N.J. :
United States Golf Association. USGA Green
Section record. July/Aug 1990. v. 28 (4). p.
13-15. ill. (NAL Call No.: DNAL 60.18 UN33).

0511

Heat tolerance of Kentucky bluegrasses (*Poa pratensis*) perennial ryegrasses (*Lolium perenne*) and annual bluegrass (*Poa annua* L., cultivars, stress).
Wehner, D.J. Watschke, T.L. Madison, Wis.,
American Society of Agronomy. Agronomy journal.
Jan/Feb 1981. v. 73 (1). p. 79-84. 13 ref. (NAL
Call No.: 4 AM34P).

0512

Human interference with grass systematics.
Harlan, J.R. Norman : University of Oklahoma
Press, c1982. Grasses and grasslands :
systematics and ecology / edited by James R.
Estes, Ronald J. Tyr1, Jere N. Brunken.
Literature review. p. 37-50. Includes 4 p. ref.
(NAL Call No.: QK495.G74G74 1982).

0513

In search of low-maintenance turf.
CAGRA. Wu, L. Harivandi, M.A. Berkeley, Calif.
: The Station. California agriculture -
California Agricultural Experiment Station.
Jan/Feb 1988. v. 42 (1). p. 16-17. ill. (NAL
Call No.: DNAL 100 C12CAG).

0514

Influence of inoculum placement depth on endomycorrhizal fungal infection and perennial ryegrass shoot growth.
JOSHB. Frank, J.B. Petrovic, A.M.; Mudge, K.W.
Alexandria, Va. : The Society. Journal of the
American Society for Horticultural Science. Mar
1987. v. 112 (3). p. 282-286. Includes
references. (NAL Call No.: DNAL 81 S012).

0515

The influence of light regimes during floral development on apomictic seed production and on variability in resulting seedling progenies of *Poa ampla* and *Poa pratensis*.
Williamson, C.J. London, Academic Press. The
New phytologist. Apr 1981. v. 87 (4). p.
769-783. 27 ref. (NAL Call No.: 450 N42).

0516

Influence of plant growth regulators on transition of bermudagrass putting green overseeded with perennial ryegrass.
JOSHB. Mazur, A.R. Alexandria, Va. : The
Society. Journal of the American Society for
Horticultural Science. May 1988. v. 113 (3). p.
367-373. Includes references. (NAL Call No.:
DNAL 81 S012).

0517

Influence of prestress environment on annual bluegrass heat tolerance.
CRPSAY. Martin, D.L. Wehner, D.J. Madison, Wis.
: Crop Science Society of America. Crop
science. May/June 1987. v. 27 (3). p. 579-585.
Includes references. (NAL Call No.: DNAL 64.8
C883).

0518

Influence of temperature on the growth of bermudagrass selections from the Appalachian region (*Cynodon dactylon*, cold tolerance, West Virginia, Pennsylvania, Kentucky).
Wright, R.J. Perry, H.D.; Carter, M.C.;
Bennett, D.L. New York, N.Y. : Marcel Dekker.
Communications in soil science and plant
analysis. July 1984. v. 15 (8). p. 849-860.
ill. Includes 13 references. (NAL Call No.:
S590.C63).

0519

Influence of water content on the rate of thatch decomposition in warm season turfgrasses.
Breitenbeck, G.A. Baton Rouge : The Department.
Report of projects - Louisiana Agricultural
Experiment Station, Department of Agronomy.
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0520

Influence of water quality on turfgrass.
Butler, J.D. Rieke, P.E.; Minner, D.D. Oakland,
CA : Cooperative Extension, Univ of Calif, Div
of Agric and Natural Resources, c1985.
Turfgrass, water conservation / technical
editors, Victor A. Gibeault and Stephen T.
Cockerham. Literature review. p. 71-84. ill.
Includes references. (NAL Call No.: DNAL
SB133.T8).

0521

Influence of high salt levels on the germination and growth of five potentially utilizable plants for median turfing in northern climates.
St.-Arnaud, M. Vincent, G. Washington, D.C. :
Horticultural Research Institute. Journal of
environmental horticulture. Dec 1988. v. 6 (4).

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p. 118-121. Includes references. (NAL Call No.: DNAL SB1.J66).

0528

Kentucky bluegrass photosynthate partitioning following scheduled mowing.

JOSHB. Hull, R.J. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Sept 1987. v. 112 (5). p. 829-834. Includes references. (NAL Call No.: DNAL 81 S012).

0522

Investigations of root hair size, number and distribution of seven species of warm-season turfgrasses.

Green, R.L. Beard, J.B.; Oprisko, M.J. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4656). p. 1-4. ill. Includes 70 references. (NAL Call No.: DNAL 100 T31P).

0529

Leaf blade stomatal characterizations and evapotranspiration rates of 12 cool-season perennial grasses.

HJHSA. Green, R.L. Beard, J.B.; Casnoff, D.M. Alexandria, Va. : American Society for Horticultural Science. HortScience. July 1990. v. 25 (7). p. 760-761. Includes references. (NAL Call No.: DNAL SB1.H6).

0523

Iron fertilization of Kentucky bluegrass.

CSOSA2. Wehner, D.J. Haley, J.E. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. 1990. v. 21 (7/8). p. 629-637. Includes references. (NAL Call No.: DNAL S590.C63).

0530

Leaf blade stomatal characterizations and potential evapotranspiration rates of 12 cool-season, C-3 turfgrasses.

Green, R.L. Beard, J.B.; Casnoff, D.M. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4512). p. 8-9. Includes references. (NAL Call No.: DNAL 100 T31P).

0524

Isoenzyme polymorphism in St. Augustinegrass (Stenotaphrum secundatum, turfgrass identification, Florida).

Green, R.L. Dudeck, A.E.; Hannah, L.C.; Smith, R.L. Madison, Wis., Crop Science Society of America. Crop science. Sept/Oct 1981. v. 21 (5). p. 778-782. ill. 13 ref. (NAL Call No.: 64.8 C883).

0531

Leaf blade stomatal characterizations of ten warm season C4 perennial grasses and their association to the water use rate.

Casnoff, D.M. Beard, J.B.; Verwers, D.G.; Griggs, S.D. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4315). p. 12. Includes references. (NAL Call No.: DNAL 100 T31P).

0525

Isolated plot technique for studying growth of turfgrasses.

AGUOAT. Brede, A.D. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1987. v. 79 (1). p. 5-8. Includes references. (NAL Call No.: DNAL 4 AM34P).

0532

Limitations of photosynthesis in Lolium perenne after chilling.

JOSHB. Moon, J.W. Jr. Kopec, D.M.; Fallahi, E.; Mancino, C.F.; Slack, D.C.; Jordan, K. Alexandria, Va. : The Society. Photosynthesis was reduced by 85% to 90% in perennial ryegrass (*Lolium perenne* L. cv. Derby) following a one-day chilling exposure at 8C day (450 micromole.s-1.m-2 PPF) and 5C night. Seven days of recovery at 22/17C day/night were required for full recovery of photosynthesis. More than 75% of the limitation in photosynthesis following chilling was due to non-stomatal factors, and reduced initial slopes of CO2 assimilation vs. intercellular CO2 indicate that photosynthetic capacity was reduced for 5 days following chilling. Carbon dioxide assimilation at saturating intercellular CO2 (>500 micromole.mol-1) was also reduced by chilling, indicating again that stomatal limitations were a minor contributor to the

0526

Isolation and culture of protoplasts of grasses.

IRCYA. Vasil, I.K. New York, N.Y. : Academic Press. International review of cytology. Literature review. 1983. (suppl.16). p. 79-88. Includes references. (NAL Call No.: DNAL 442.8 IN82).

0527

Kentucky bluegrass lateral growth and stem rust response to soil compaction stress.

HUHSA. Shearman, R.C. Watkins, J.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1985. v. 20 (3,sectionI). p. 388-390. Includes 6 references. (NAL Call No.: DNAL SB1.H6).

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photosynthetic reduction observed under ambient CO₂. Journal of the American Society for Horticultural Science. May 1990. v. 115 (3). p. 478-481. Includes references. (NAL Call No.: DNAL 81 S012).

0533

Low-water-use turfgrasses.

Beard, J.B. Kim, K.S. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Jan/Feb 1989. v. 27 (1). p. 12-13. ill. Includes references. (NAL Call No.: DNAL 60.18 UN33).

0534

Luxury water use by bermudagrass turf.

AGUOAT. Kneebone, W.R. Pepper, I.L. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1984. v. 76 (6). p. 999-1002. Includes references. (NAL Call No.: DNAL 4 AM34P).

0535

Mefluidide-Chlorsulfuron-2,4-D surfactant combinations for roadside vegetation management.

JPGRDI. Morre, D.J. Tautvydas, K.J. New York, N.Y. : Springer. Journal of plant growth regulation. 1986. v. 4 (4). p. 189-201. Includes references. (NAL Call No.: DNAL QK745.J6).

0536

Minimum temperature requirements for seed germination of turfgrasses.

Beard, J.B. TX. Almodares, A. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Texas. Agricultural Experiment Station. Feb 1980. Feb 1980. (3667/3678). p. 13-15. ill. (NAL Call No.: 100 T31P).

0537

Minimum temperatures for turfgrass seed germination.

Beard, J.B. Overland Park, Kan., Intertec. Grounds maintenance. Feb 1980. . v. 15 (2). p. 32, 34, 36. ill. (NAL Call No.: SB476.G7).

0538

Modeling phosphorus transport in grass buffer strips.

JOEEDU. Lee, D. Dillaha, T.A.; Sherrard, J.H. New York, N.Y. : American Society of Civil Engineers, Environmental Engineering Division. Journal of environmental engineering. Apr 1989.

v. 115 (2). p. 409-427. Includes references. (NAL Call No.: DNAL 290.9 AM3PS (EE)).

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A modular assimilation chamber for carbon exchange rate measurements of turf.

HJHSA. Akers, S.W. Green, R.L. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1987. v. 22 (1). p. 151-153. ill. Includes references. (NAL Call No.: DNAL SB1.H6).

0540

Morphological and physiological plant parameters of bermudagrass cultivars with low nitrogen requirements.

Sifers, S.I. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4518). p. 22. Includes references. (NAL Call No.: DNAL 100 T31P).

0541

Nitrogen- and water-use efficiency of several cool-season grasses receiving ammonium nitrate for 9 years.

AGUOAT. Power, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. Mar/Apr 1985. v. 77 (2). p. 189-192. Includes 11 references. (NAL Call No.: DNAL 4 AM34P).

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Nitrogen cycling in seven cool-season perennial grass species.

AGUOAT. Power, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 681-687. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Normal and abnormal germination of grass-fruits / by Jacob Zinn .

Zinn, Jacob, 1886-1921. Orono : Maine Agricultural Experiment Station, 1920. p. 198-216, 4 leaves of plates : ill. ; 23 cm. (NAL Call No.: DNAL 100 M28S (1) no.294).

0544

Nutrient concentration of bermudagrass as related to Mehlich I and Mehlich II soil extractable nutrients.

McCray, J.M. Sartain, J.B. S.I. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1985. v. 44. p. 59-63. ill. Includes 12 references. (NAL Call No.: DNAL 56.9 S032).

0545

Oxidation statue and gas composition of wet turfgrass thatch and soil (*Poa pratensis*, anaerobiosis, impaired growth, field studies in New York).

Thompson, D.C. AGJOA. Smiley, R.W.; Fowler, M.C. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 603-609. ill. Includes references. (NAL Call No.: 4 AM34P).

0546

Penicillium contamination of grass seed germination tests.

McGee, D.C. East Lansing, Association of Official Seed Analysts. Journal of seed technology. 1979. v. 4 (2). p. 18-23. 4 ref. (NAL Call No.: SB113.2.J6).

0547

Perennial ryegrass cultivar evapotranspiration rates.

HUHSA. Shearman, R.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1989. v. 24 (5). p. 767-769. Includes references. (NAL Call No.: DNAL SB1.H6).

0548

PGRs for turfgrass management.

Duell, R. New Brunswick, N.J. : Plant Growth Regulator Society of America. Quarterly - PGRSA. Literature review. Jan/Mar 1989. v. 17 (1). p. 1-9. ill. Includes references. (NAL Call No.: DNAL QK745.P55).

0549

Photographic technique for grass seedling root systems.

AGJOAT. Newman, P.R. Moser, L.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1988. v. 80 (3). p. 548-549. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

0550

Photosynthesis as an index of turfgrass growth following application of herbicides.

HUHSA. Willard, T.R. Peacock, C.M.; Shilling, D.G. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1990. v. 25 (4). p. 451-453. Includes references. (NAL Call No.: DNAL SB1.H6).

0551

Photosynthesis of grass species differing in carbon dioxide fixation pathways.

Bouton, J.H. Brown, R.H.; Bolton, J.K.; Campagnoli, R.P. Rockville, Md., American Society of Plant Physiologists. Plant physiology. Mar 1981. v. 67 (3). p. 433-437. ill. 23 ref. (NAL Call No.: 450 P692).

0552

Photosynthesis of grass species differing in carbon dioxide fixation pathways. V. Response of *Panicum maximum*, *Panicum milioides*, and tall fescue (*Festuca arundinacea*) to nitrogen nutrition.

Bolton, J.K. Brown, R.H. Bethesda, Md., American Society of Plant Physiologists. Plant physiology. July 1980. v. 66 (1). p. 97-100. ill. 20 ref. (NAL Call No.: 450 P692).

0553

Photosynthesis of grass species differing in carbon dioxide fixation pathways. IV. Analysis of reduced oxygen response in *Panicum milioides* and *Panicum schenckii*.

Brown, R.H. USDA. Bethesda, Md., American Society of Plant Physiologists. Plant physiology. Feb 1980. v. 65 (2). p. 346-349. ill. 24 ref. (NAL Call No.: 450 P692).

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Photosynthesis of grass species differing in carbon dioxide fixation pathways. VI. Differential effects of temperature and light intensity on photorespiration in C3, C4, and intermediate species (*Panicum* spp.).

Brown, R.H. Morgan, J.A. Rockville, Md., American Society of Plant Physiologists. Plant physiology. Oct 1980. v. 66 (4). p. 541-544. ill. 21 ref. (NAL Call No.: 450 P692).

0555

Physiology of tall fescue as related to utilization.

Bush, L.P. Fayetteville, Ark. : The Station. Special report - Agricultural Experiment Station, Division of Agriculture, University of Arkansas. Literature review. June 1984. (116). p. 24-34. Includes 41 references. (NAL Call No.: DNAL 100 AR42S).

0556

Physiology of water use and water stress.

Youngner, V.B. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. p. 37-43.

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ill. Includes references. (NAL Call No.: DNAL SB133.T8).

0557

Plant growth stimulation in bioassays by grass seed extracts (Allelopathic activity, phytotoxicity, tall fescue, annual ryegrass and Kentucky bluegrass).

Buta, J.G.PPGGD. Spaulding, D.W.; Madhusudana Rao, M.; Anderson, J.D. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1983. 1983. (10th). p. 123-125. Includes references. (NAL Call No.: SB128.P5).

0558

Plant interaction among *Poa annua*, *Poa pratensis*, and *Lolium perenne* turfgrasses.

AGJDAT. Brede, A.D. Duich, J.M. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 179-184. ill. Includes 14 references. (NAL Call No.: DNAL 4 AM34P).

0559

Plant morphological and soil physical characterizations of turfgrass root zones augmented with randomly oriented interlocking mesh matrices.

Beard, J.B. Sifers, S.I.; Walker, J.R. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4670). p. 32-33. Includes references. (NAL Call No.: DNAL 100 T31P).

0560

Pollination systems in *Paspalum dilatatum* Poir. (Poaceae): an example of insect pollination in a temperate grass.

Adams, D.E. Perkins, W.E.; Estes, J.R. Columbus, Ohio, Botanical Society of America. American journal of botany. Mar 1981. v. 68 (3). p. 389-394. ill. 27 ref. (NAL Call No.: 450 AM36).

0561

Potassium fertilizer influences on Coastal bermudagrass yield and nutrient uptake and on available soil potassium levels.

CSOSA2. Robinson, D.L. Miller, M.S.; Cherney, D.J.R. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. June 1990. v. 21 (9/10). p. 753-769. Includes references. (NAL Call No.: DNAL S590.C63).

0562

Predicting cold tolerance in perennial ryegrass from subcrown internode length (*Lolium perenne*, *Lolium hybridum*, *Poa pratensis*, cultivar comparisons).

Wood, G.M. Cohen, R.P. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 516-517. Includes references. (NAL Call No.: 4 AM34P).

0563

Predicting cold tolerance in perennial ryegrass through alcohol bath freezing of seedling plants.

AGJDAT. Cohen, R.P. Wood, G.M. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 560-563. Includes 12 references. (NAL Call No.: DNAL 4 AM34P).

0564

Predicting turfgrass evapotranspiration from canopy temperature.

Slack, D.C. Jalali-Farahani, H.; Kopec, D.M.; Matthias, A.D. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2521). 21 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

0565

Prediction of Kentucky bluegrass root growth using degree-day accumulation.

CRPSAY. Koski, A.J. Street, J.R.; Danneberger, T.K. Madison, Wis. : Crop Science Society of America. The ability to predict the progression of turfgrass root formation would be of interest to both researchers and turfgrass practitioners. This capability would allow for improved evaluation of the effects that the timing of various management practices could have on turfgrass root production. The purpose of this study was to develop a model, based on accumulated degree-days (ADD) calculated from soil temperature, which could predict the accumulation of Baron' Kentucky bluegrass (*Poa pratensis* L.) root growth during the period of January to June. Temperature at the 10 cm depth (fine quartz sand) and cumulative root length (CRL) data collected in the rhizotron facility at The Ohio State University during 1981, 1982, and 1985 were used to develop the model. Within the confined cultural and environmental conditions of this study, the model accounted for 95% of the observed variation in CRL and the actual equation was: $CRL = 5.269 + 0.032(ADD) + 0.0000138(ADD^2)$. Under field conditions, other factors besides temperature

and heat unit accumulation would be expected to display strong and independent effects on turfgrass root growth. The development of a widely usable model would include provisions for variations in edaphic conditions and for the great diversity of management practices and maintenance intensity levels which are utilized today. *Crop science*. Sept/Oct 1988. v. 28 (5). p. 848-850. Includes references. (NAL Call No.: DNAL 64.8 C883).

0566

Pregermination of Italian ryegrass and tall fescue seed.

CRPSAY. Dudeck, A.E. Peacock, C.H. Madison, Wis. : Crop Science Society of America. *Crop science*. Jan/Feb 1986. v. 26 (1). p. 177-179. Includes references. (NAL Call No.: DNAL 64.8 C883).

0567

Putting the carbohydrate puzzle together.

Portz, H.L. Blacksburg, Va. : Virginia Cooperative Extension Service. *Proceedings - Virginia Turfgrass Conference and Trade Show*. May 1982. (21st). p. 4-9. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

0568

Pyrrolizidine alkaloid levels in tall fescue seed as influenced by seed age, location, and variety (*Festuca arundinacea*, *Acremonium coenophialum*, *Epichloe typhina*, summer syndrome, tall fescue toxicity).

Jones, T.A. Buckner, R.C.; Burrus, P.B. II. East Lansing, Mich. : Association of Official Seed Analysts. *Journal of seed technology*. 1983. v. 8 (1). p. 47-54. Includes references. (NAL Call No.: SB113.2.J6).

0569

Quality and response of four warm-season lawngrasses to shade conditions.

AGJ0AT. Barrios, E.P. Sundstrom, F.J.; Babcock, D.; Leger, L. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. Mar/Apr 1986. v. 78 (2). p. 270-273. Includes 16 references. (NAL Call No.: DNAL 4 AM34P).

0570

A quantitative assessment of the benefits from irrigated turf on environmental cooling and energy savings in urban areas.

Johns, D. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4330). p. 63-65. (NAL Call No.: DNAL 100 T31P).

0571

Relative hardiness to freezing of laminae, roots and tillers of tall fescue.

Pearce, R.S. London, Academic Press. *New phytologist*. Mar 1980. v. 84 (3). p. 449-463. ill. Bibliography p. 462-463. (NAL Call No.: 450 N42).

0572

Reproductive biology of *Ammophila breviligulata* (Foredune, perennial grass).

Krajnyk, I. AMNAA. Maun, M.A. Notre Dame : University of Notre Dame. *American midland naturalist*. Oct 1982. v. 108 (2). p. 346-354. 2 p. ref. (NAL Call No.: 410 M58).

0573

Resistances to evapotranspiration from a St. Augustinegrass turf canopy (*Stenotaphrum secundatum*, environmental factors, mathematical models).

Johns, D. AGJ0A. Beard, J.B.; Van Bavel, C.H.M. Madison : American Society of Agronomy. *Agronomy journal*. May/June 1983. v. 75 (3). p. 419-422. Includes references. (NAL Call No.: 4 AM34P).

0574

Respiration, carbohydrate content, and leaf growth of tall fescue (*Festuca arundinacea*).

Moser, L.E. Volenec, J.J.; Nelson, C.J. Madison, Wis., Crop Science Society of America. *Crop science*. July/Aug 1982. v. 22 (4). p. 781-786. ill. 29 ref. (NAL Call No.: 64.8 C883).

0575

Response of centipedegrass to plant growth regulator and iron treatment combinations.

AAREEZ. Carrow, R.N. Johnson, B.J. New York, N.Y. : Springer. *Centipedegrass Eremochola ophiuroides* (Munro) Hack. , a widely used low maintenance turfgrass in the Southeast, requires only infrequent mowing except during seedhead production periods. Recently, plant growth regulators (PGRs) have been identified that suppress seedhead development and reduce mowing, but they may cause turfgrass injury expressed as loss of green color or leaf tip reddening. Foliar iron (Fe) was applied at 0, 0.73, and 1.46 kg/ha (0, 0.65, 1.30 lb Fe/A) in combination with mefluidide, imazethapyr, and flurprimidol plus mefluidide at 0.56, 0.30, 1.70 + 0.28 kg ai/ha, respectively, to investigate the potential for Fe to reduce PGR injury. When mefluidide and flurprimidol plus mefluidide reduced the degree of green color on centipedegrass, foliar Fe applied with these PGRs eliminated the color loss. Injury from imazethapyr was expressed as leaf tip reddening, and foliar Fe did not influence this

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type of injury. Iron applied with PGRs did not alter the vegetative retardation or seedhead suppression abilities of the PGRs. Imazethapyr was most effective in suppressing seedhead development. Applied agricultural research. Winter 1990. v. 5 (1). p. 21-26. Includes references. (NAL Call No.: DNAL S539.5.A77).

0576

Response of four tall fescue cultivars grown at two nitrogen levels to low soil water availability.

Belesky, D.P. Wilkinson, S.R.; Pallas, J.E. Jr. Madison, Wis., Crop Science Society of America. Crop science. Jan/Feb 1982. v. 22 (1). p. 93-97. Includes 2 p. ref. (NAL Call No.: 64.8 C883).

0577

Response of Kentucky bluegrass turf to fertilizers containing dicyandiamide.

CSOSA2. Waddington, D.V. Landschoot, P.J.; Hummel, N.W. Jr. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Paper presented at the "Second Dicyandiamide Workshop," December 4-5, 1987, Atlanta, Georgia. Dec 1989. v. 20 (19/20). p. 2149-2170. Includes references. (NAL Call No.: DNAL S590.C63).

0578

Response of 32 bermudagrass clones to reduced light intensity.

HJHSA. Gaussoin, R.E. Baltensperger, A.A.; Coffey, B.N. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1988. v. 23 (1). p. 178-179. Includes references. (NAL Call No.: DNAL SB1.H6).

0579

Responses of C4 grasses to atmospheric CO2 enrichment. II. Effect of water stress.

CRPSAY. Sionit, N. Patterson, D.T. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1985. v. 25 (3). p. 533-537. Includes 26 references. (NAL Call No.: DNAL 64.8 C883).

0580

Restore your lawn.

Pleasant, B. Emmaus, Pa. : Rodale Press, Inc. Organic gardening. Apr 1989. v. 36 (4). p. 74-78. ill. (NAL Call No.: DNAL S605.5.074).

0581

The role of PGR science in chemical vegetation control.

PPGGD. Kaufmann, J.E. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1986. (13th). p. 2-14. (NAL Call No.: DNAL SB128.P5).

0582

Root growth of southern turf cultivars as affected by herbicides (Zoysia spp., Cynodon dactylon).

Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. Sept 1980. v. 28 (5). p. 526-528. 8 ref. (NAL Call No.: 79.8 W41).

0583

Root interaction between Bromus tectorum and Poa pratensis: a three-dimensional analysis.

Bookman, P.A. Mack, R.N. Durham, N.C., Ecological Society of America. Ecology : a publication of the Ecological Society of America. June 1982. v. 63 (3). p. 640-646. 1 p. ref. (NAL Call No.: 410 EC7).

0584

Root-rhizome growth response of turf-type bermudagrasses to nitrogen and growing season.

Horst, G.L. Baltensperger, A.A. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4318). p. 21-26. Includes references. (NAL Call No.: DNAL 100 T31P).

0585

Salinity affects germination and growth of tall fescue cultivars (Salt tolerance).

Horst, G.L. Beadle, N.B. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1984. v. 109 (3). p. 419-422. Includes references. (NAL Call No.: 81 S012).

0586

Salinity effects on perennial ryegrass germination.

HJHSA. Dudeck, A.E. Peacock, C.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1985. v. 20 (2). p. 268-269. Includes 13 references. (NAL Call No.: DNAL SB1.H6).

0587

Salinity effects on three turf bermudagrasses.
 HJHSA. Francois, L.E. Alexandria, Va. :
 American Society for Horticultural Science.
 HortScience. Aug 1988. v. 23 (4). p. 706-708.
 Includes references. (NAL Call No.: DNAL
 SB1.H6).

0588

Salt influence on germination and seedling survival of six cool season turfgrass species (Poa, Lolium, Ageratum, Festuca, Puccinellia).
 Harijandi, M.A. Butler, J.D.; Soltanpour, P.M.
 New York, N.Y., Marcel Dekker. Communications
 in soil science and plant analysis. 1982. v. 13
 (7). p. 519-529. 7 ref. (NAL Call No.:
 S590.C63).

0589

Salt tolerance of grasses and legumes for roadside use.
 AGJOAT. Greub, L.J. Drolsom, P.N.; Rohweder,
 D.A. Madison, Wis. : American Society of
 Agronomy. Agronomy journal. Jan/Feb 1985. v. 77
 (1). p. 76-80. Includes 18 references. (NAL
 Call No.: DNAL 4 AM34P).

0590

Seasonal and species variation in baseline functions for determining crop water stress indices in turfgrass.
 CRPSAY. Horst, G.L. O'Toole, J.C.; Faver, K.L.
 Madison, Wis. : Crop Science Society of
 America. Empirically based relationships
 between canopy minus air temperature (Tc-Ta)
 regressed on vapor pressure deficit (VPD) have
 been described as measures of crop water stress
 indices (CWSI) and indicators for irrigation
 scheduling. This study was conducted to
 determine seasonal and turfgrass species
 variation in empirical-baseline functions.
 Empirical and energy-balance CWSI functions
 also were compared to determine which was the
 most accurate estimate of CWSI over the range
 of turfgrass species and conditions studied.
 Field experiments were conducted to compare
 CWSI relationships derived during different
 climatic seasons and four different turfgrass
 species: buffalograss, *Buchloe dactyloides*
 (Nutt.) Engelm. cv. Texoka; common
 bermudagrass, *Cynodon dactylon* (L.) Pers. cv.
 Arizona common; St. Augustinegrass *Stenotaphrum*
secundatum (Water) Kuntze cv. Raleigh; and,
 tall fescue *Festuca arundinacea* Schreber cv.
 Falcon. Data were collected in midsummer of
 1986 and late summer of 1987 from plots
 irrigated with a linear-gradient irrigation
 system. The CWSI relationships were calculated
 from the two lowest canopy temperatures in each
 plot during 7 July to 1 Aug. 1986 and 30 Aug.
 to 11 Sept. 1987. Differences between CWSI
 baseline functions from 1986 and 1987 for
 common bermudagrass, buffalograss, and tall
 fescue were highly significant (P less than

0.01). Mean values of net radiation, VPD, and
 wind speed also were significantly different (P
 less than 0.01) for the seasons. Vapor pressure
 deficit usually accounted for more than 50% of
 the variability in Tc-Ta across seasons and
 turfgrass species. Using the energy-balance
 method to calculate CWSI and comparing these
 values with empirical calculated CWSI values
 reduced the portion of index differences that
 were greater than 0.1. Crop science. Sept/Oct
 1989. v. 29 (5). p. 1227-1232. Includes
 references. (NAL Call No.: DNAL 64.8 C883).

0591

Seasonal application of ethephon, flurprimidol, mefluidide, paclobutrazol, and amidochlor as they affect Kentucky bluegrass shoot morphogenesis.

CRPSAY. Diesburg, K.L. Christians, N.E.
 Madison, Wis. : Crop Science Society of
 America. Inconsistent efficacy has limited the
 use of turfgrass growth retardants. A 3-yr
 field study was conducted to determine if the
 spring reproductive, summer vegetative, and
 fall reproduction-inductive growth phases of
 Kentucky bluegrass (*Poa pratensis* L.) influence
 its response to turfgrass growth retardants.
 Amidochlor

N-(acetylamino)-methyl-2-chloro-N-(2,6-diet-
 hylphenyl) acetamide and mefluidide
 N-2,4-dimethyl-5-(trifluoromethyl)sulfonyl
 amino phenyl acetamide were fast acting and
 most effective in spring with nearly complete
 growth restriction during the second and third
 weeks after application. Paclobutrazol (2RS,
 3RS)-1-(4-chlorophenyl-4,4-dimethyl-2-(1H-1,2,-
 4-triazol-1-yl)pentan-3-ol and flurprimidol
 alpha-(1-methylethyl)-alpha-4-(trifluorometh-
 oxy)phenyl-5-pyrimidine methanol were slow
 acting, with an average of 16% growth
 reduction, which peaked 5 and 10 wk after
 treatment, respectively. Ethephon
 (2-chlorethyl)phosphonic acid effects were
 continuous throughout the 10-wk measurement
 periods, restricting growth an average of 30%.
 Flurprimidol was most effective in summer,
 whereas ethephon and paclobutrazol had similar
 effectiveness across seasons. Mefluidide
 prevented spring heading completely while
 amidochlor reduced heading by 79%. Mefluidide
 was the only chemical to reduce turf quality
 severely. Ethephon was the only chemical to
 stimulate internode elongation. Measurement of
 individual phytomers within shoots from two
 sampling dates provided a continuous record of
 plant growth response to treatment over a 6-wk
 period. Blade growth was affected more strongly
 than sheath growth by all growth retardants
 except paclobutrazol. Consistent differences in
 seasonal plant response to treatments in spite of
 yearly climate variations support the
 hypothesis that unique combinations of season
 with growth phase influences the response of
 Kentucky bluegrass to turfgrass growth
 retardants. Crop science. July/Aug 1989. v. 29
 (4). p. 841-847. Includes references. (NAL Call
 No.: DNAL 64.8 C883).

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0592

Seed germination of tall fescue and Kentucky bluegrass as affected by adhesives (*Festuca arundinacea*, *Poa pratensis*, turfgrasses).

Hathcock, A.L. Dernoeden, P.H.; Murray, J.J.; Wehner, O.J. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1984. v. 19 (3,sec.1). p. 442-443. Includes references. (NAL Call No.: SB1.H6).

0593

Seed yield of Kentucky bluegrass as affected by postharvest residue removal (*Poa pratensis*, seed crop management).

Ensign, R.O. AGJDA. Hickey, V.G.; Bernardo, M.O. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 549-551. Includes references. (NAL Call No.: 4 AM34P).

0594

Selenium accumulation and selenium-salt cotolerance in five grass species.

CRPSAY. Wu, L. Huang, Z.Z.; Burau, R.G. Madison, Wis. : Crop Science Society of America. Crop science. May/June 1988. v. 28 (3). p. 517-522. Includes references. (NAL Call No.: ONAL 64.8 C883).

0595

Shading effects on assimilation rate and internal CO₂ of tall fescue leaves.

Allard, G. Nelson, C.J.; Pallardy, S.G. Columbia, Mo. : The Interdisciplinary Plant Biochemistry and Physiology Program. Current topics in plant biochemistry and physiology : Proceedings of the ... Plant Biochemistry and Physiology Symposium held at the University of Missouri, Columbia. 1987. v. 6. p. 166. Includes references. (NAL Call No.: ONAL QK861.P55).

0596

Short-term changes in leaf carbon isotope discrimination in salt- and water-stressed C₄ grasses.

PLPHA. Bowman, W.O. Hubick, K.T.; Caemmerer, S. von; Farquhar, G.O. Rockville, Md. : American Society of Plant Physiologists. Online carbon isotope discrimination (O.C.I.O.) and leaf gas exchange measurements were made with control and salt-stressed *Zea mays* and *Andropogon glomeratus*, two NAQP-ME type C₄ grasses. Linear relationships between O.C.I.O. and pi/pa (the ratio of intercellular to atmospheric CO₂ partial pressure) were found for control plants which agreed well with theoretical models describing carbon isotope discrimination in C₄ plants. These data provided estimates of phi, the proportion of CO₂ fixed by phosphoenolpyruvate carboxylase which leaks out

of the bundle sheath and the component of fractionation due to diffusion in air. Salt-stressed plants had wider variation in O.C.I.O. for the same or less range in pi/pa. Additional work indicated O.C.I.O. changed independently of pi/pa in both water- and salt-stressed plants, suggesting a possible diurnal change in phi as plant water status changed linked to a decrease in the activity of the C₃ photosynthetic pathway relative to C₄ pathway activity. The possible effect of stress-induced changes in phi on organic matter gamma 13C of C₄ plants is apt to be most apparent in chronically stressed environments. Plant physiology. May 1989. v. 90 (1). p. 162-166. Includes references. (NAL Call No.: ONAL 450 P692).

0597

Short-term growth responses of tall fescue to changes in soil water potential and to defoliation (*Festuca arundinacea*, drought, relative humidity).

Wolf, O.O. Parrish, O.J. Madison, Crop Science Society of America. Crop science. Sept/Oct 1982. v. 22 (5). p. 996-999. ill. 18 ref. (NAL Call No.: 64.8 C883).

0598

Sod rooting (New turfgrass installations, washed versus unwashed roots).

Oavis, W.B. Pratt, C.A. Berkeley : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. Winter/Spring 1982. v. 32 (1/2). p. 3-5. ill. Includes references. (NAL Call No.: 60.18 S08).

0599

Soil moisture availability effects on seed germination and germinated seed survival of selected warm season grasses.

Frasier, G.W. Washington, O.C.? : U.S. Dept. of Agriculture, 1987. Proceedings of Symposium "Seed and Seedbed Ecology of Rangeland Plants" : 21-23 April 1987, Tucson, AZ / by G. W. Frasier, R. A. Evans. p. 192-198. Includes references. (NAL Call No.: ONAL aSB193.55.S9 1987).

0600

Soil/water relationships in turfgrass.

Carrow, R.N. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. p. 85-102. ill. Includes references. (NAL Call No.: ONAL SB133.T8).

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0601

Spring bermudagrass transition (*Cynodon dactylon*).

Duble, R.L. Elm Grove, Wis., Brantwood Publications. Landscape industry. May/June 1980. v. 25 (4). p. 54-56, 74, 76. ill. (NAL Call No.: 98.8 L232).

0602

Strategies of seedling development in warm-season grass (*Andropogon gerardii*, *Sorghastrum nutans*, *Panicum virgatum*, *Bothriochloa caucasica*, weed competition).

Moser, L.E. Nelson, C.J. Boulder, Colo. : Westview Press, 1983. Proceedings of the XVI International Grassland Congress : held at Lexington, Kentucky, U.S.A. June 15-24, 1981 / edited by J. Allan Smith and Virgil W. Hays. p. 381-383. ill. 4 ref. (NAL Call No.: SB197.I5 1981a).

0603

Subzero temperature stress physiology of herbaceous plants.

Li, P.H. Westport, Conn. : Avi. Horticultural reviews. Literature review. 1984. v. 6. p. 373-416. Includes references. (NAL Call No.: DNAL SB317.5.H6).

0604

Summer drought response and rooting depth of three cool-season turfgrasses.

HJHSA. Sheffer, K.M. Dunn, J.H.; Minner, D.D. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1987. v. 22 (2). p. 296-297. Includes references. (NAL Call No.: DNAL SB1.H6).

0605

Synergistic growth retardation of grasses with mefluidide/PGR (plant growth regulator) combinations (on blue-grass, johnsongrass, and bermudagrass).

Tautvydas, K.J. PPGGD. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1983. 1983. (10th). p. 51-56. Includes references. (NAL Call No.: SB128.P5).

0606

Tall fescue growth in greenhouse, growth chamber, and field plots amended with sewage sludge compost and fertilizer.

SOSCAK. Tester, C.F. Baltimore, Md. : Williams & Wilkins. Soil science. Dec 1989. v. 148 (6). p. 452-458. Includes references. (NAL Call No.: DNAL 56.8 S03).

0607

Tall fescue turf performance under a tree shade.

HJHSA. Wu, L. Huff, D.; Davis, W.B. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1985. v. 20 (2). p. 281-282. Includes 6 references. (NAL Call No.: DNAL SB1.H6).

0608

Tall fescue turf performance under a tree shade gradient.

Wu, L. Huff, D.; Davis, W.B. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1984. v. 34 (4). p. 19-20. (NAL Call No.: DNAL 60.18 S08).

0609

Taxonomic patterns in protein amino acid profiles of grass leaves and caryopses.

Yeoh, H.H. Watson, L. Washington, D.C. : Smithsonian Institution Press, 1988. Grass systematics and evolution : an international symposium held at the Smithsonian Institution, Washington, D.C., July 27-31, 1986 / edited by Thomas R. Soderstrom ... et al. . p. 88-96. Includes references. (NAL Call No.: DNAL QK495.G74G73).

0610

Technique to measure rooting of sods grown in small containers.

AGJOAT. Schmidt, R.E. White, R.H.; Bingham, S.W. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 211-216. ill. Includes 9 references. (NAL Call No.: DNAL 4 AM34P).

0611

Temperature and the content of specific soluble sugars of *Poa pratensis* infected by *Ustilago striiformis* or *Urocystis agropyri* (Kentucky bluegrass, stripe smut, flag smut).

Madsen, J.P. BOGAA. Hodges, C.F.; Nus, J.L. Chicago : University of Chicago Press. Botanical gazette. Sept 1983. v. 144 (3). p. 407-411. Includes references. (NAL Call No.: 450 B652).

0612

Temperature influences on mineral nutrient distribution in two Kentucky bluegrass cultivars (*Poa pratensis*).

Kaufman, J.E. Aldous, D.E. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard,

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editor. Munich). p. 135-143. Bibliography p. 143. (NAL Call No.: SB433.I57 1977).

0613

Testing Kentucky bluegrass seed for varietal purity using growth chamber produced seedlings.
Nittler, L.W. Ithaca, N.Y., The Station. Search agriculture - New York State Agricultural Experiment Station, Ithaca. 1980. 1980. (4). 16 p. ill. 22 ref. (NAL Call No.: S95.E23).

0614

Thatch accumulation in Kentucky bluegrass cultivars and blends (*Poa pratensis*, total cell wall, verdure).
Shearman, R.C.HJHSA. Bruneau, A.H.; Kinbacher, E.J.; Riordan, T.P. Alexandria : American Society for Horticultural Science. HortScience. Feb 1983. v. 18 (1). p. 97-99. Includes references. (NAL Call No.: SB1.H6).

0615

Tillering differences after close clipping in Russian wildrye and tall fescue (Axillary buds, regrowth, *Elymus junceus*, *Festuca arundinacea*).
Laude, H.M. Fox, R.E. Madison, Crop Science Society of America. Crop science. Sept/Oct 1982. v. 22 (5). p. 978-980. ill. 10 ref. (NAL Call No.: 64.8 C883).

0616

Tissue culture in grasses and cereals (Genetic manipulations).
Green, C.E. (New York) : Rockefeller Foundation. 1981. Genetic engineering for crop improvement : a Rockefeller Foundation conference, May 12-15, 1980 / edited by Kenneth O. Rachie and Judith M. Lyman. p. 107-122. Includes 3 p. ref. (NAL Call No.: SB123.G37).

0617

Tolerance of perennial ryegrass and tall fescue seedlings to fenoxaprop.
AGJDAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1987. v. 79 (6). p. 1035-1037. Includes references. (NAL Call No.: DNAL 4 AM34P).

0618

Transport processes of two *Lolium X Festuca* hybrid derivatives differing in potassium concentration.
CRPSAY. Brauer, D. Leggett, J.E.; Egli, D.B. Madison, Wis. : Crop Science Society of America. To facilitate the development of forages with mineral composition optimal for

ruminant production, knowledge of the biochemical and physiological processes determining genotypic differences in nutrient uptake is needed. Experiments were conducted to identify the mechanism(s) that regulated the difference in leaf blade K concentration between two selections of *Lolium X Festuca* hybrid derivatives. Selection differences in rates of K uptake were estimated by measuring Rb uptake by excised roots, and the selectivity of cation uptake for K over Na was determined using intact tillers grown in modified Hoagland's solutions containing varying ratios of K:Na. Differences in Rb uptake by excised roots were of sufficient magnitude to explain differences in leaf blade K concentration. Results indicated differences in K and Na uptake between these two selections reflected an alteration in cation uptake selectivity by roots. Perturbing the plasma membrane integrity by Ca depletion treatments eliminated the difference between selections in K uptake but not in Na uptake. Differences in K uptake were associated with differences in the stimulation of the plasma membrane ATPase by K. These results were interpreted in terms of at least two transport processes contributing to the differences in leaf blade cation concentrations, one process on the plasma membrane affecting K accumulation and another affecting Na accumulation, possibly on the tonoplast membrane. Crop science. July/Aug 1989. v. 29 (4). p. 1012-1018. Includes references. (NAL Call No.: DNAL 64.8 C883).

0619

Tree roots: where are they?.
McDaniel, A.R. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1988. v. 23 (2). p. 86, 88. ill. (NAL Call No.: DNAL SB476.G7).

0620

Tree, turf and ornamental pesticide guide /by W.T. Thomson.
Thomson, W. T. Fresno, CA : Thomson Publications, c1990. 198 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1990).

0621

Turf growth and performance evaluation based on turf biomass and tiller density.
AGJDAT. Lush, W.M. Madison, Wis. : American Society of Agronomy. Visual rating systems are often used for evaluating turfs because of the absence of biological criteria associated with growth and performance. The purpose of this paper is to examine whether describing turfs quantitatively in terms of their biomass and tiller density can contribute to our understanding of turf growth, and form the basis of an objective, quantitative system of turf assessment. Measurements of the aboveground biomass, and the corresponding tiller densities of turfs, were gathered mostly

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from published work. The data indicate that turfs, like many crowded populations of plants, are governed by a rule of population biology called the power, or thinning, rule. As applied to turfs, conformity to the power rule means that biomass is highest at the lowest tiller densities, with the consequence that very hard-wearing turfs may inevitably be coarse textured. Estimates of the upper limits to biomass at tiller densities commonly found in turfs of different texture, suggest that there is more potential for the improvement of coarse turfs than fine ones. For turf assessment, biomass (alone or divided by tiller density to estimate mean tiller mass), is a useful game to wear resistance. A measure of the fineness of turf texture is proposed. The use of biomass density (biomass divided by turf height) as a predictor of golf ball roll and lie is discussed. When turfs are at full cover, one of the parameters of the power rule, the biomass intercept $\log c$, which can be derived from single measurements of biomass and tiller density, is proposed as a measure of the ability of turfs to accumulate biomass. $\log c$ has the advantage of being independent of tiller density and of differences in nonlimiting management resources. *Agronomy journal*. May/June 1990. v. 82 (3). p. 505-511. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Turf quality of Kentucky bluegrass cultivars and energy relations (*Poa pratensis*, photosynthate partitioning to roots, comparisons, Rhode Island).

Mehall, B.J.AGJOAT. Hull, R.J.; Skogley, C.R. Madison : American Society of Agronomy. *Agronomy journal*. Jan/Feb 1984. v. 76 (1). p. 47-50. Includes references. (NAL Call No.: 4 AM34P).

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Turfgrass evapotranspiration. I. Factors influencing rate in urban environments (*Poa*, *Festuca*, *Cynodon*, *Buchloe*, lawn water use, Colorado).

Feldhake, C.M.AGJOA. Danielson, R.E.; Butler, J.D. Madison : American Society of Agronomy. *Agronomy journal*. Sept/Oct 1983. v. 75 (5). p. 824-830. ill. Includes references. (NAL Call No.: 4 AM34P).

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Turfgrass growth, nitrogen use, and water use under soil compaction and nitrogen fertilization (*Lolium perenne*, stress).

Sills, M.J.AGJOA. Carrow, R.N. Madison : American Society of Agronomy. *Agronomy journal*. May/June 1983. v. 75 (3). p. 488-492. Includes references. (NAL Call No.: 4 AM34P).

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Turfgrass herbicide tolerance.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1986. v. 21 (6). p. 38, 42. (NAL Call No.: DNAL SB476.G7).

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Turfgrass in winter.

Watschke, T.L. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Nov 1990. v. 25 (1). p. 26, 52. (NAL Call No.: DNAL SB476.G7).

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Turfgrass irrigation efficiency.

Hariyandi, M.A. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1984. v. 34 (4). p. 21-23. Includes references. (NAL Call No.: DNAL 60.18 S08).

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Turfgrass morphological characteristics associated with the evapotranspiration rate.

Kim, K.S. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4662). p. 18-19. Includes references. (NAL Call No.: DNAL 100 T31P).

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Two *Zoysia japonica* Steud. populations selected under high soil temperatures compared with an unselected base population.

Kenna, M.P. Engelke, M.C. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4328). p. 56-58. Includes references. (NAL Call No.: DNAL 100 T31P).

0630

Uptake and assimilation of NO_3^- and NH_4^+ by nitrogen-deficient perennial ryegrass turf.

PLPHA. Bowman, D.C. Paul, J.L. Rockville, Md. : American Society of Plant Physiologists. *Plant physiology*. Dec 1988. v. 88 (4). p. 1303-1309. Includes references. (NAL Call No.: DNAL 450 P692).

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Urease activity in a Kentucky bluegrass turf (Nitrogen fertilizers, *Poa pratensis*).
Torello, W.A. AGJOA. Wehner, D.J. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 654-656. Includes references. (NAL Call No.: 4 AM34P).

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Use of the third youngest leaf to estimate leaf area in Kentucky bluegrass (Turfgrass).
Eggen, J.L. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1980. v. 72 (6). p. 1061-1063. 8 ref. (NAL Call No.: 4 AM34P).

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Variations in Km(CO₂) of ribulose-1,5-bisphosphate carboxylase among grasses.
Yeoh, H.H. Badger, M.R.; Watson, L. Rockville, Md., American Society of Plant Physiologists. Plant physiology. Dec 1980. v. 66 (6). p. 1110-1112. 30 ref. (NAL Call No.: 450 P692).

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Variations in the growth and development of annual bluegrass (*Poa annua*) populations selected from seven different sports turf areas.
Adams, W.A. Bryan, P.J. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 109-115. ill. Bibliography p. 115. (NAL Call No.: SB433.I57 1977).

0635

Water consumption and growth rate of 11 turfgrasses as affected by mowing height, irrigation frequency, and soil moisture (Species and cultivar differences, under warm semi-arid zone conditions).
Biran, I. Bravdo, B.; Bushkin-Harav, I.; Rawitz, E. Madison, Wis., American Society of Agronomy. Agronomy journal. Jan/Feb 1981. v. 73 (1). p. 85-90. 26 ref. (NAL Call No.: 4 AM34P).

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Water-use efficiency of grasses grown under controlled and field conditions.
AGJOAT. Frank, A.B. Barker, R.E.; Berdahl, J.D. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1987. v. 79 (3). p. 541-544. Includes references. (NAL Call No.: DNAL 4 AM34P).

0637

Yield, quality and K/(Ca+Mg) (potassium (calcium plus magnesium)) ratio of tall fescue breeding lines on amended and nonamended minesoil (*Festuca arundinacea*, Missouri).
Hanson, R.G. CSOSA. Tucker, M.; Coble, A.D.; Sleper, D.A. New York : Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (12). p. 1081-1094. 24 ref. (NAL Call No.: S590.C63).

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Brandenburg, R.L. Bruneau, A.H.; DiPaola, J.M.; Lewis, W.M.; Lucas, L.T.; Peacock, C.H. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Dec 1988. (408). 12 p. (NAL Call No.: DNAL S544.3.N6N62).

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Studies on seed development and ripening in temperate grasses. II. Effects of temperature on seed development and ripening, and germination behaviour in orchardgrass (*Dactylis glomerata*) and Italian ryegrass (*Lolium multiflorum*).
Shimizu, N. Komatsu, T.; Ikegaya, F. Nishinasuno, Tochigi. Kenkyu hokoku Sochi Shikenjo. Dec 1979. (15). p. 70-83. ill. 40 ref. (NAL Call No.: SB199.A1S6).

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Uptake and translocation of sodium in two cultivars of *Lolium perenne*. GERMAN.
Berlinger, H. Schacherer, A.; Haeder, H.E. Weinheim, Chemie. Zeitschrift fur Pflanzenernahrung und Bodenkunde. = Journal of plant nutrition and soil science. Dec 1979. v. 142 (6). p. 815-823. ill. 20 ref. (NAL Call No.: 384 Z343A).

PLANT TAXONOMY AND GEOGRAPHY

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Taxonomic patterns in protein amino acid profiles of grass leaves and caryopses.

Yeoh, H.H. Watson, L. Washington, D.C. : Smithsonian Institution Press, 1988. Grass systematics and evolution : an international symposium held at the Smithsonian Institution, Washington, D.C., July 27-31, 1986 / edited by Thomas R. Soderstrom ... et al. . p. 88-96. Includes references. (NAL Call No.: DNAL QK495.G74G73).

(20%) after rules for the four species were modified. A demonstrated advantage of WEEDER over the printed key was its ability to be easily modified to increase its usefulness. The mean percentage of correctly identified grasses by all participants increa. Agronomy journal. Mar/Apr 1989. v. 81 (2). p. 312-316. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Weed survey--southern states: grass crops subsection.

SWSPBE. Elmore, C.D. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 395-410. (NAL Call No.: DNAL 79.9 S08 (P)).

0643

WEEDER: an advisory system for the identification of grasses in turf.

AGJQAT. Fermanian, T.W. Michalski, R.S. Madison, Wis. : American Society of Agronomy. To effectively control weeds found in a turf it is first necessary to correctly identify them. A computer program, WEEDER, was built using the artificial intelligence system AGASSISTANT to provide a means for effectively identifying grass weed and turf species through the recognition of selected variables. WEEDER has a rule-based, non-hierarchical knowledge base concerning 37 grass species commonly found in turfs throughout the USA. Each species is represented by 11 or fewer variables. In order to measure the value of WEEDER for identifying unknown grasses in comparison to a commonly used method, the dichotomous identification key, 41 volunteers were assigned to one of two groups; (i) those with any previous experience in plant diagnosis or any formal training in plant science; and (ii) those with no experience or training. Each individual identified four unknown grasses; creeping bentgrass (*Agrostis palustris* Huds.); perennial ryegrass (*Lolium perenne* L.); zoysiagrass (*Zoysia japonica* L.); and large crabgrass (*Digitaria sanguinalis* L. Scop.) using WEEDER or a printed identification key. The maximum mean of either group to identify a grass species was 55% of the specimens, which were examined by participants with plant science training using WEEDER. Participants with some plant science training had a higher mean identification of each species (23% identified) than participants with no training (18%) when using the identification key. Little difference in their ability to identify the unknown species was found between the two groups when they were using WEEDER. There was a significant increase in the mean ability of all participants to identify an unknown grass using WEEDER (50%) rather than the identification key

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0644

Basic guidelines for sod production in Florida.
McCarty, L.B. Cisar, J.L. Gainesville, Fla. :
The Service. Bulletin - Florida Cooperative
Extension Service, University of Florida. Oct
1989. (260). 13 p. ill. Includes references.
(NAL Call No.: DNAL 275.29 F66).

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Beautiful lawns -- without chemicals with Mike Talbot.
Talbot, Mike. Barre, MA : Natural Organic
Farmers Association, c1988. VHS.~ Cassette
label title. 1 videocassette (120 min.) : sd.,
col. ; 1/2 in. (NAL Call No.: DNAL
Videocassette no.599).

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Bermudagrass Lawns.
Ward, C.Y. Auburn, Ala. : The Service. Circular
ANR - Cooperative Extension Service, Auburn
University. Subseries: Agriculture and natural
resources, horticulture. May 1987. (29). 4 p.
(NAL Call No.: DNAL S544.3.A2C47).

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Holt, E.C. TX. Enkerlin, D. College Station,
Tex., The Station. MP - Texas Agricultural
Experiment Station. July 1980. July 1980.
(1451). p. 458-469. Bibliography p. 466-469.
(NAL Call No.: 100 T31M).

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Centipedegrass.
Ward, C.Y. Auburn, Ala. : The Service. Circular
ANR - Alabama Cooperative Extension Service,
Auburn University. In subseries: Horticulture.
June 1988. (73). 4 p. (NAL Call No.: DNAL
S544.3.A2C47).

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Centipedegrass.
Ward, C.Y. Auburn, Ala. : The Service. Circular
ANR - Cooperative Extension Service, Auburn
University. Aug 1987. (73). 4 p. (NAL Call No.:
DNAL S544.3.A2C47).

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Chemical control of ornamental, tree and turf disease in Wyoming.
Roth, D. Laramie, Wyo., The Station. Bulletin -
B - Wyoming. Agricultural Experiment Station.
June 1979. June 1979. (698.2). 17 p. (NAL Call
No.: 100 W99 (1)).

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Chemical control of turfgrass diseases--1980.
Hartman, J.R. Nesmith, W.C.; Williams, A.S.;
Powell, A.J. Lexington, The Service. PPA -
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Service. Aug 1980. Aug 1980. (1). 2 p. (NAL
Call No.: S540.A2K4).

0652

Choosing spray nozzles.
Reed, T. Overland Park, Kan. : Intertec
Publishing Corporation. Grounds maintenance.
May 1988. v. 23 (5). p. 36, 70, 72. ill. (NAL
Call No.: DNAL SB476.G7).

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A common sense approach to lawn care (Pest problems).
Bruneau, A.H. Bishop, D.M. Lincoln, The
Station. Farm, ranch and home quarterly -
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Call No.: 100 N27N).

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Contract maintenance of athletic fields.
Barksdale, R.B. Blacksburg, Va. : Virginia
Cooperative Extension Service. Proceedings -
Virginia Turfgrass Conference and Trade Show.
Nov 1985. (24th). p. 51-55. (NAL Call No.: DNAL
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Control of Poa annua summer decline, 1979 (Bluegrass (annual) (Poa annua), summer decline; cause undetermined).
Worf, G.L. Miller, M. (s.l.), The Society.
Fungicide and nematicide tests; results -
American Phytopathological Society. 1980. v.
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0656

Controlling lawn grass diseases.

Wells, J.C. Lucas, L.T.; Duncan, H.E. Raleigh, N.C., The Service. AG - North Carolina State University, Agricultural Extension Service. Apr 1980. Apr 1980. (215). 2 p. ill. (NAL Call No.: S544.3.N6N62).

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Cruel and unusual punishment for lawns (Turfgrass, management).

Day, T. Pullman, The Center. Advance - Washington State University, College of Agriculture Research Center. 1980. v. 17 (1). p. 6-7. (NAL Call No.: 100 W27A).

0658

Demonstration and research pest control category 10 / Charles E. Long, Erick B. Nilson, Jerry Condray .

Long, Charles E. Nilson, Erick B.; Condray, Jerry. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1987 . Abstract: This certification study guide provides information on pesticide laws, pesticide-organism interactions, Integrated Pest Management (IPM), environmental hazards and safety, and liability concerns. Practice multiple choice questions follow each section. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-17, September 1987"--P. 4 of cover. 16 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.2.K2D4 1987).

0659

Electrostatic (pesticide) spraying of turfgrass.

Anantheswaran, R.C. Law, S.E. Far Hills, N.J., United States Golf Association. USGA Green Section record. Nov/Dec 1979. v. 17 (6). p. 1-4. ill. 5 ref. (NAL Call No.: 60.18 UN33).

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The Encyclopedia of natural insect & disease control the most comprehensive guide to protecting plants--vegetables, fruit, flowers, trees, and lawns--without toxic chemicals /edited by Roger B. Yepsen, Jr.

Yepsen, Roger B. Emmaus, Pa. : Rodale Press, c1984. Rev. ed of: Drganic plant protection, c1976.~ Includes index. 490 p. : ill. (some col.); 24 cm. (NAL Call No.: DNAL SB974.D73 1984).

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Field burning and the environment (Grass seed, controlling diseases and weeds).

Yarris, L. Washington, D.C., The Service. Agricultural research - United States Agricultural Research Service. Sept 1981. v. 30 (3). p. 12. (NAL Call No.: 1.98 AG84).

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0663

General manual / authors, H. Leroy Brooks ... et al. .

Brooks, Leroy. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986 . Abstract: This study guide designed to prepare commercial pesticide applicators for the General Certification exam includes information on the certification process; identification and control of pests; pesticide formulations; equipment and calibration; pesticide labels, safety, and regulations; and environmental protection. It defines pest control items. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "January 1986"--P. 4 of cover.~ "S-12"--P. 4 of cover. 104 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB965.G4 1986).

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The grass may be greener, but.

NYFLAV. Petrovic, A.M. Hummel, N.W. Jr. Ithaca, N.Y. : New York Agric. Exp. Stations and New York State College of Agric. & Life Sciences. New York's food and life sciences quarterly. 1987. v. 17 (1). p. 24-26. ill. Includes references. (NAL Call No.: DNAL S95.E2).

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WUEXA. Goss, R.L. Brauen, S.E.; Morrison, K.J.; Chastagner, G.; Syther, R.S.; Antonelli, A.L. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Jan 1988. (O482,rev.). 14 p. ill. (NAL Call No.: DNAL 275.29 W27P).

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Home lawns.

WUEXA. Goss, R.L. Morrison, K.J.; Chastagner, G.; Brauen, S.E.; Byther, R.S.; Antonelli, A.L. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Aug 1984. (O482, slightly rev.). 14 p. ill. (NAL Call No.: DNAL 275.29 W27P).

0667

Indiana training program for turf technicians.

West Lafayette, Ind. : Produced jointly by Office of the Indiana State Chemist, Purdue University ; Purdue Pesticide Programs, Purdue University ; Carmel, Ind. : Indiana State Lawn Care Association, 1988? . Abstract: This is a training manual for Registered Turf Care Technicians. Topics covered include the biology of grass; weed, insect, disease and vertebrate pests; pesticide product, label, and formulation information; protection; proper application; equipment calibration; legal obligations of pesticide users; and environmentally safe practices. Label interpretation worksheets, area calculation problems, a step-by-step guide on how to treat a lawn, and a glossary are provided. Cover title.~ Caption title: Indiana training program, turf care technicians.~ Category 3b RT.~ PMISC-84. 1 v. (various pagings) : ill. ; 28 cm. (NAL Call No.: DNAL SB608.T87I52).

0668

Influence of water on pest activity.

Colbaugh, P.F. Elmore, C.L. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. Literature review. p. 113-129. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

0669

Insect, weed and disease management on commercial turfgrass.

MUCBA. Smitley, D. Branham, B.; Vargas, J. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Apr 1989. (2178). 31 p. (NAL Call No.: DNAL 275.29 M58B).

0670

Insects and diseases of lawns.

Jones, B.F. Johnson, D.R.; McDaniel, M.C. Little Rock, Ark. : The Service. Leaflet EL - Arkansas University, Cooperative Extension Service. Dec 1983. Dec 1983. (414, rev.). 11 p. ill. (NAL Call No.: 275.29 AR4LE).

0671

Integrated pest management for turf.

Gibeault, V.A. Bowen, W.R.; Ohr, H.D.; Thomason, I.J.; Cress, F. Berkeley, Calif., The Service. California turfgrass culture - University of California, Cooperative Extension Service. Spring 1981. v. 31 (2). p. 13-15. (NAL Call No.: 60.18 S08).

0672

Integrated pest management for turfgrass and ornamentals / editors : Anne R. Leslie and Robert L. Metcalf.

Leslie, Anne R.; Metcalf, Robert L. Washington, D.C. : U.S. Environmental Protection Agency, Office of Pesticide Programs, Field Operations Division, 1989. Abstract: This EPA manual discusses insect resistance, regulatory, environmental and societal problems in controlling turfgrass and ornamental pests with pesticides and the benefits of an integrated pest management approach. It presents research on understanding the pest/site complex and biological turfgrass pest control by endophytic fungi and entomophilic nematodes. Current disease, insect and weed control practices are covered as well as developing IPM programs. "Field Operations Division"--Cover.~ "August 1989"--Cover.~ "This book is the product of a symposium ... entitled "Urban Integrated Pest Management: An Environmental Mandate"--P. v. viii, 337 p. : ill. ; 27 cm. Includes bibliographical references. (NAL Call No.: DNAL SB608.T87I5).

0673

Integrated pest management offers turf care alternative.

Fothergill, J. Overland Park, Kan., Intertec. Grounds maintenance. Aug 1981. v. 16 (8). p. 30, 32, 34. ill. (NAL Call No.: SB476.G7).

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Lawn care--up close and personal.

Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 109-111. (NAL Call No.: DNAL SB433.34.V8V47).

0675

Lawn disease control guide.

Watkins, John E. Shearman, Robert C.; Bruneau, Arthur H. & NebGuide. 1981. This publication discusses common turfgrass diseases and their control. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583. 4 p. : ill. (NAL Call No.: Not available at NAL.). (NAL Call No.: C74-107).

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0676

Lawns--connecting the clues to an accurate diagnosis.

Cinque, M.T. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. July 1986. p. 5-7. (NAL Call No.: ONAL SB317.5.L65).

0677

Maintaining athletic fields.

Indyk, H.W. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (105). 6 p. (NAL Call No.: ONAL S544.3.N5F7).

0678

Managing turf diseases with computer models.

Shane, W. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1990. p. 54, 91-92, 94. (NAL Call No.: ONAL SB476.G7).

0679

Minor lawn diseases & problems.

Brown, E.A. II. GA. Athens, Ga., The Service. Leaflet - Cooperative Extension Service, University of Georgia. Mar 1980. Mar 1980. (138). 2 p. ill. (NAL Call No.: 275.29 G29L).

0680

Ornamental and turf pest control category 3

/ prepared by A.E. Cott ... et al. . --. Cott, A. E. Ames : Cooperative Extension Service, Iowa State University, 1980? . Cover title.~ At head of title: Iowa commercial pesticide applicator manual.~ "CS-15."~ Pesticide Applicator Training collection.~ "To be used ... in conjunction with ... Apply pesticides correctly, EPA-335." 1 v. (various pagings) : ill. ; 28 cm. (NAL Call No.: ONAL SB763.I807).

0681

Ornamental and turf pest control / John R. Hartman ... (et al).

Hartman, John R. (Kentucky) University of Kentucky, Cooperative Extension Service 1976. Cover title ~Pesticide Applicator Training collection ~At head of title: Applicator training manual for. 30 p. : ill. ; 28 cm. --. (NAL Call No.: SB763.K407).

0682

Ornamental and turf pest control : safe, effective use of pesticides, a manual for commercial applicators. -.

E. Lansing Michigan State University, Cooperative Extension Service 1981. Cover title ~Pesticide Applicator Training collection ~"March 1981." i, 48B (ie 50) p. : ill. ; 28 cm. --. (NAL Call No.: 275.29 M58B no.1032-3 1981).

0683

Ornamental and turf pest control : Texas. -.

College Station, Tex. Texas Agricultural Extension Service, Texas A&M University System (1982). Pesticide Applicator Training Collection ~Cover title ~At head of title: Using pesticides commercial applicator manual ~"5-82." 58 p. : ill., map ; 28 cm. Bibliography: p. 56-58. (NAL Call No.: SB763.T407 1982).

0684

Ornamental and turfgrass pest control.

Raleigh : North Carolina Agricultural Extension Service, North Carolina State University, 1983? . Abstract: Designed to prepare commercial applicators for licensing in North Carolina in Ornamental and Turf Pest Control, this manual covers specific standards. Federal core certification requirements must be met, as well, to obtain a commercial pesticide applicators license in N.C. Information on ornamental and turfgrass diseases and pests, control measures, and environmental concerns such as phytotoxicity and controlling drift is included. It contains weights and measurement equivalents, illustrations, and black and white photographs. At head of title: Pesticide training manual.~ "... revision of the federal manual Apply Pesticides Correctly -- A Guide for Commercial Applicators -- Ornamental and Turfgrass Pest Control."~ "August, 1983." 24 p. : ill. ; 28 cm. (NAL Call No.: ONAL SB608.07076).

0685

Ornamental, turfgrass, and greenhouse pest control : category 3 / (prepared by Bob Hartzler, Donald Lewis, Laura Sweets). -.

Hartzler, Robert. Lewis, Donald R.; Sweets, Laura.& Iowa commercial pesticide applicator manual. Ames, Iowa Cooperative Extension Service, Iowa State University 1983. Pesticide Applicator Training Collection ~Cover title ~At head of title: Iowa commercial pesticide applicator manual ~"March 1983. ~CS-15. 45 p. : ill. ; 28 cm. (NAL Call No.: SB763.I8H3 1983).

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0686

Pest control in turf.

Lockerman, R.H. McCollum, W.A.; Morrill, W.L.; Riesselman, J.H. Bozeman, Mont., The Service. Circular - Montana State University, Cooperative Extension Service. Dec 1980. Dec 1980. (1252). 6 p. (NAL Call No.: 275.29 M76CI).

0687

Pest management principles for the commercial applicator ornamental and turf pest control /Bob Newman ... et al. .

Newman, Bob. Madison : University of Wisconsin-Extension, 1988. Abstract: Training manual for commercial pesticide applicators in the ornamental and turf pest-control category. Major topics: application of pest management principles for weed, insect, and disease control; toxicity of pesticides; protecting human health and the environment; disposal; equipment calibration; IPM practices; and label information. "January 1988"--P. 4 of cover. viii, 232 p. ; 28 cm. Bibliography: p. 191. (NAL Call No.: DNAL SB603.5.P48 1988).

0688

Pest management principles for the commercial applicator ornamental and turf pest control study guide /Bob Newman ... et al. .

Newman, Bob. Madison : University of Wisconsin-Extension, 1988. Abstract: This study guide accompanies Pest Management Principles for the Commercial Applicator: Ornamental and Turf Pest Control. It contains multiple choice questions and answers on a variety of subjects including laws and regulations, formulations, safety, application principles, and resistance to pesticides. Cover title.~ "January 1988"--P. 4 of cover. 34 p. ; 28 cm. (NAL Call No.: DNAL SB603.5.P482 1988).

0689

Pesticide applicator training ornamental pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: Ornamental Pest Control is the subject of this commercial pesticide applicator training manual. It contains ornamental insect pests and diseases color photo identification aids and control information. Ornamental tree and weed identification guides are included. The biology and control of vertebrates, mites, slugs, and nematodes are discussed. Pesticide recommendations, applications, spray equipment and calibrations are covered. Environmental concerns (e.g. controlling pesticide drift) are addressed. Cover title.~ Category 3a. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4624).

0690

Pesticide applicator training regulatory pest control .

West Lafayette, Ind. : Purdue University, 1988?. Abstract: The training manual on regulatory pest control examines regulated pests and quarantines and the fumigants, herbicides, and insecticides used in their control. Major topics include controlling insect pests and diseases on ornamentals, weeds, nematodes, common household pests, blackbirds, pigeons and mice and rats. Detailed information on fumigation (i.e. space and structural), gas masks, protective clothing, safety practices, toxicology, sprayer equipment and calibration is presented. Cover title.~ Category 9. 1 v. (various pagings) : ill. (some col.) ; 30 cm. (NAL Call No.: DNAL SB951.P4631).

0691

Pesticide applicator training turfgrass pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: This study manual prepares commercial pesticide applicators for certification in turfgrass pest control. Color guides facilitate identification of lawn weeds and turfgrass diseases and provide cultural and chemical control recommendations. The recognition, biology, and control of vertebrate and insect pests and nematodes is covered. Proper selection and safe application of pesticides, phytotoxicity, controlling pesticide drift, and minimizing water contamination are discussed. A major topic is spray equipment and calibration. Calibration problems and answers are provided. Cover title.~ Category 3b. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4625).

0692

Seed production of Kentucky Bluegrass as influenced by insects, fertilizers, and sod management.

KAEBA. Spencer, J.T. Jewett, H.H.; Fergus, E.N. Lexington, Ky. : The Station. Bulletin - Kentucky Agricultural Experiment Station. Documents available from: Agriculture Library, Agricultural Science Center - North, University of Kentucky, Lexington, Kentucky 40546-0091. June 1949. (535). 44 p. ill. Includes references. (NAL Call No.: DNAL 100 K41 (2)).

0693

Seeing the unseen.

Foy, J.H. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Mar/Apr 1987. v. 25 (2). p. 5. ill. (NAL Call No.: DNAL 60.18 UN33).

(PROTECTION OF PLANTS)

0694

Spray units are becoming multi-use, more efficient (Turf, shade trees industry).
Messinger, R. Cleveland, Harvest Publishing Co. Weeds, trees and turf. Mar 1981. v. 20 (3). p. 22-24, 26. ill. (NAL Call No.: 79.8 W413).

0695

Spring root dieback of warm-season turfgrasses.
DiPaola, J.M. Beard, J.B. Far Hills, N.J., United States Golf Association. USGA Green Section record. July/Aug 1980. v. 18 (4). p. 6-9. ill. (NAL Call No.: 60.18 UN33).

0696

St. Augustinegrass.
Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Sept 1987. (262). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0697

Tall fescue lawns.
Sheffer, K. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (231). 3 p. (NAL Call No.: DNAL S544.3.A2C47).

0698

Turf pest control category 3B / F. Robert Henderson ... et al. .
Henderson, F. Robert. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986 . Abstract: Designed for commercial pesticide applicators, this study guide explains how to identify and culturally or chemically control turfgrass diseases, weeds, insect and vertebrate pests. Other topics discussed include proper application of herbicides, fungicides, and insecticides, calibration, and ways to minimize phytotoxicity, pesticide drift and environmental hazards. Color photos of weeds aid identification. Multiple choice study questions follow major sections. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-20, August 1986"--P. 4 of cover. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB608.T87T8 1986).

0699

Turf pest control : category 3B / (Frederick J. Crowe ... et al.). -.
Crowe, Frederick J. & Commercial pesticide applicator certification and recertification study manual. Manhattan Cooperative Extension Service, Kansas State University 1981. Pesticide Applicator Training Collection ~Cover title ~At head of title: Commercial pesticide applicator certification and recertification study manual ~"January 1981" ~S-20. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: SB608.T87T8).

0700

Turfgrass pest management: A guide to major turfgrass pest in Oklahoma.
Kenna, M. Pinkston, K.; Andrews, M.; Criswell, J.; Taylor, R.; Downs, W.; Cuperus, G.; Barber, J.; Price, R.; Montgomery, D. Stillwater, Dkla. : The Service. Circular E - Dklahoma State University, Cooperative Extension Service. Nov 1988. (879). 53 p. ill. Includes references. (NAL Call No.: DNAL 275.29 DK41C).

0701

Turfgrass pests /compiler of this manual, W.R. Bowen ; editor, Peggy Anne Davis.
Bowen, W. R.; Davis, Peggy Anne. Dakland, Calif. : Division of Agriculture and Natural Resources, University of California, c1980 (1987 printing). Abstract: This publication includes information on the safe and effective use of pesticide chemicals; measurements and calculations for preparing the sprayer; weed control in large turf areas; insect and related turfgrass pest identification and control; nematode diseases of turfgrass; turfgrass diseases; and rodent damage in turfgrass. It contains many colored and black and white photographs of pests and diseases, metric conversion tables, formulae for area calculations, and a glossary. Intended for landscape pesticide applicators and commercial turfgrass growers and turfgrass advisors. "Specific chemical recommendations ... are made in Guide to turfgrass pest control, Leaflet 2209"--P. 1.~ Publication information on label on p. 2 of cover.~ "3m-rep-8/87-PAD/FB"--P. i . 53 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.T87T87 1980).

0702

Urban integrated pest management in Kentucky: a case study.
Hartman, J.R. Gerstle, J.L.; Timmons, M.; Raney, H. Washington, D.C. : Horticultural Research Institute. Journal of environmental horticulture. Dec 1986. v. 4 (4). p. 120-124. Includes 6 references. (NAL Call No.: DNAL SB1.J66).

(PROTECTION OF PLANTS)

0703

1988-89 pest management guide for home ornamental plants.

Luna, J.M. (tech. coordinator). Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. Jan 1988. (456-004,rev.). 59 p. (NAL Call No.: DNAL S544.3.V8V52).

0704

1988-89 pest management guide for turfgrass.

Luna, J.M. (tech. coordinator). Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. Jan 1988. (456-009,rev.). 23 p. (NAL Call No.: DNAL S544.3.V8V52).

0705

1989 pest control recommendations for turfgrass managers.

Brandenburg, R.L. Bruneau, A.H.; DiPaola, J.M.; Lewis, W.M.; Lucas, L.T.; Peacock, C.H. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Dec 1988. (408). 12 p. (NAL Call No.: DNAL S544.3.N6N62).

PESTS OF PLANTS - GENERAL AND MISC.

0706

Category 3 : ornamental/turf pest control, manual 89 / assembled by Members of Extension Pesticide Training Team. -.
(Columbia) University of Missouri, Cooperative Extension Service 1981. This manual was developed in cooperation with the Missouri Department of Agriculture and the Coop Extension Service, University of Missouri
~Pesticide Applicator Training collection. 109 p. in various pagings : ill. (some col.) ; 29 cm. (NAL Call No.: SB950.2.M8C37).

0707

Certification training manual for ornamental and turf pest control / assembled by Cooperative Extension Service. -.
Las Cruces, N.M. available from New Mexico Dept. of Agriculture, Division of Pesticide Management (1980?). Cover title ~Pesticide Applicator Training collection. 1 v. (various pagings) : ill. (some col.) ; 28 cm. Includes bibliographical references. (NAL Call No.: SB950.2.N6C4).

0708

Chemical guide to insect, disease and weed control on turf, 1980.
Ascerno, M.E. Jr. MN. Klint, C.P.; Stienstra, W.C. St. Paul, Minn., The Service. Extension folder - Agricultural Extension Service, University of Minnesota. Minnesota. University. Agricultural Extension Service. 1980. 1980. (551). 15 p. (NAL Call No.: 275.29 M66EX).

0709

Commercial applicator recertification, 1980.
Mississippi State, Miss. Mississippi State University, Cooperative Extension Service (1980). Pesticide Applicator Training Collection ~Title from container ~Beta format. 10 videocassettes (ca. 60 min. each) ; sd., col. ; 1/2 in. (NAL Call No.: Videocassette no.2).

0710

Common weeds of turfgrass / (prepared by John C. Harper). -.
Harper, John. University Park, Pa. College of Agriculture, Pennsylvania State University (1980?). Caption title ~Pesticide Applicator Training collection. 20 p. ; 28 cm. (NAL Call No.: SB608.G8H37).

0711

Controlling pocket gopher damage to lawns, gardens, and golf courses.
Kuhn, L.W. Corvallis : The Service. Extension circular - Oregon State University, Extension Service. Aug 1983. Aug 1983. (1115). 4 p. ill. (NAL Call No.: 275.29 DR32C).

0712

Ground squirrels: their ecology and control (Pests of turf and crops in Wisconsin).
Craven, S.R. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. 1983. 1983. (3238). 4 p. ill. Includes references. (NAL Call No.: S544.3.W6W53).

0713

Guide to turfgrass pest control.
Elmore, C.L. McHenry, W.B.; McCain, A.H.; Endo, M.; Raabe, R.D.; Dhr, H.D.; Bowen, W.R.; Morishita, F.S.; Allen, W.W.; Radewald, J.D. Berkeley, Calif., The Service. Leaflet - University of California, Cooperative Extension Service. Jan 1981. Jan 1981. (2209). 18 p. (NAL Call No.: S544.3.C2C3).

0714

Lawn and turf pest control : (a guide for commercial applicators) / prepared by: M.S. Khan. -.
Khan, M. S. Washington, D.C. University of the District of Columbia, Cooperative Extension Service 1983. Pesticide Applicator Training collection ~Cover title: Pesticide applicator training manual: lawn & turf pest control 1983. iii, 29, (1) p. : ill. ; 28 cm. Bibliography: p. (30). (NAL Call No.: SB608.G8K5).

0715

Manipulating feeding sites reduces damage caused by Canada geese.
FOPSA. Conover, M.R. New Haven, Conn. : The Station. Frontiers of plant science - Connecticut Agricultural Experiment Station. Spring 1985. v. 37 (2). p. 2-3. (NAL Call No.: DNAL 100 F92).

0716

Moles.
WUEXA. Askham, L.R. Baumgartner, D.M. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Jan 1988. (1028,rev.). 3 p. ill. (NAL Call No.: DNAL 275.29 W27P).

(PESTS OF PLANTS - GENERAL AND MISC.)

0717

Moles.

WUEXA. Askham, L.R. Baumgartner, D.M. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. May 1986. (1028). 4 p. ill. (NAL Call No.: DNAL 275.29 W27P).

0718

North Dakota insect control guide : for use in 1982 only / North Dakota Cooperative Extension Service. -.

Fargo, N.D. The Service (1982). Pesticide Applicator Training collection ~Dne volume specializes in ornamental and turf pest control and the other volume on greenhouse pest control ~Cover title: North Dakota State University ~Includes leaflets and pamphlets ~Includes bibliographical references. 2 v. : ill. ; 30 cm. (NAL Call No.: SB950.2.N9N675).

0719

Ornamental & turf pest control : a training program for the certification of pesticide applicators / prepared by P.L. Smeal ... (et al.). -.

Smeal, Paul Lester,; 1932-& Pesticide applicator certification training category 3 manual: ornamental & turf pest control.; Ornamental and turf pest control. (Blacksburg) Extension Division, Virginia Polytechnic Institute and State University 1979. Cover title: Pesticide applicator certification training category 3 manual: ornamental and turf pest control ~Pesticide Applicator Training collection ~"April 1979.". v, 81 p. : ill. ; 28 cm. (NAL Call No.: SB761.D7 1979).

0720

Ornamental and turf : pesticide applicator manual. -.

Nesheim, D. Norman.; Criswell, Jim T.& Pesticide applicator manual. (Stillwater) Cooperative Extension Service, Dklahoma State University (1978?). Cover title ~Pesticide Applicator Training collection ~This manual was "compiled and edited by D. Norman Nesheim ... and Jim T. Criswell ..." -- P. (84). (6), 83, (1) p. : ill. ; 28 cm. (NAL Call No.: SB950.2.D5D6).

0721

Ornamental and turf pest control. --.

Athens, Ga. : Cooperative Extension Service, The University of Georgia, College of Agriculture, 1982. Cover title. 34 p. : ill. ; 28 cm. --. (NAL Call No.: DNAL SB950.A1S62 no.10 1982).

0722

Ornamental and turf pest control / compiled by V. Rodney Coleman ; contributing authors: Ed A. Brown ... et al. .

Coleman, V. Rodney.; Brown, Edward Angus, 1948-. Athens Ga. : Cooperative Extension Service, University of Georgia, College of Agriculture, 1987. Abstract: This manual provides information to aid in preparation for certification examinations in ornamental and turf pest control and/or interiorscapes. Its four major sections are: Drnamentals, Turf, Trees and Interiorscapes. It includes pest identification, selection and application of pesticides, and safety information. Cover title.~ "This manual was developed in cooperation with the Georgia Department of Agriculture.". 49 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.A1S62 no.10 1987).

0723

Ornamental and turf pest control / Dr. Wayne Currey ... (et al.). -.

Currey, Wayne. Gainesville Cooperative Extension Service, University of Florida (1978?). Pesticide Applicator Training collection. iii, 44 p. : ill. ; 28 cm. (NAL Call No.: SB950.2.F6D6).

0724

Ornamental and turf pests L.D. Rodriguez. -.

Rodriguez, L. D. (Kentucky Dept. of Entomology, University of Kentucky?) 1981. Pesticide Applicator Training collection ~Includes script for part I of slides only: Insects. 160 slides : col. + 1 script. (NAL Call No.: Slide no.16).

0725

Ornamental and turfgrass pest control / compiled by Gene Burgess. -.

Burgess, Gene.& Category 3 study questions: ornamental & turg.; Drnamental & turf. (S.l. Agricultural Extension Service, University of Tennessee 1976?). Cover title: Category 3 study questions, ornamental & turf ~Pesticide Applicator Training collection. 21 p. ; 28 cm. (NAL Call No.: SB950.2.T2D7).

0726

Ornamental and turfgrass pest identification and control / (compiled by Landon C. Miller). -.

Miller, Landon Carl. Clemson, S.C. Clemson University, Cooperative Extension Service 1979. Cover title ~Pesticide Applicator Training collection. 70 p. : ill. ; 28 cm. --. (NAL Call No.: SB950.2.S6M5).

(PESTS OF PLANTS - GENERAL AND MISC.)

0727

Pest management principles for the commercial applicator : ornamental and turf pest control / Mark Bello ... (et al.). -
Bello, Mark.& Ornamental and turf pest control. Madison University of Wisconsin-Extension 1983. Pesticide Applicator Training collection. vii, 232 p. ; 28 cm. Bibliography: p. 215-216. (NAL Call No.: SB603.5.P48).

0728

Pest management principles for the commercial applicator : ornamental and turf pest control study guide. -
Madison University of Wisconsin-Extension 1983. Cover title ~Pesticide Applicator Training collection. 31, (2) p. ; 28 cm. (NAL Call No.: SB603.5.P482).

0729

Pesticide applicator training manual, category 3 : ornamentals and turf for New Jersey. -
New Brunswick, N.J. Rutgers--the State University, Cooperative Extension Service (1982). Pesticide Applicator Training Collection ~"A training program for the certification of commercial pesticide applicators. ~"This text was written by New York Cooperation Extension Service/Cornell, and adapted for New Jersey.". iv, 161 p. : ill. ; 28 cm. Includes bibliographical references. (NAL Call No.: SB950.2.N5P45).

0730

Pre-emergence herbicides for turf / by John R. Street and Gary Clayton. -
Street, John R. Clayton, Gary. (Ohio Reprinted by Ohio State University, Ohio Extension Service 1982?). Reprint of article from Grounds Maintenance, February 1982 ~Caption title ~Pesticide Applicator Training collection. p. 22-26, 101-(102) ; 28 cm. (NAL Call No.: SB951.4.S77).

0731

Protecting our turf, the politics of pesticides.
SWSPBE. Dietz, D.H. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. 1986. (39th). p. 10-20. (NAL Call No.: DNAL 79.9 S08 (P)).

0732

TIPS: an integrated plant management project for turfgrass managers.
McCarty, L.B. Roberts, D.W.; Miller, L.C.; Brittain, J.A. Madison, Wis. : American Society of Agronomy. Journal of agronomic education. Fall 1990. v. 19 (2). p. 155-159. maps. Includes references. (NAL Call No.: DNAL S530.J6).

0733

Turf insect pest control guide.
Mahr, D.L. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. July 1984. (2934). 5 p. (NAL Call No.: DNAL S544.3.W6W53).

PESTS OF PLANTS - INSECTS

0734

Advances in turfgrass entomology : a collection of papers presented at the Symposium on Turfgrass Insects, October 14-15, 1980, Columbus, Ohio / editors, H.D. Niemczyk, B.G. Joyner. -

Niemczyk, H. D.; Joyner, B. G. Columbus, Ohio Chemlawn 1982. x, 150 p. : ill. ; 29 cm. Includes bibliographies. (NAL Call No.: SB608.G8S92 1980).

0735

Ants.

Bennett, G.W. Gibb, T.J. West Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. In subseries: Department of Entomology--Household & Public Health Insects. Oct 1987. (22,rev.). 2 p. (NAL Call No.: DNAL SB844.I6P8).

0736

Association of an endophytic fungus in perennial ryegrass and resistance to the hairy chinch bug (Hemiptera: Lygaeidae).

JEENAI. Mathias, J.K. Ratcliffe, R.H.; Hellman, J.L. Lanham, Md. : Entomological Society of America. Laboratory tests demonstrated that 'Repell,' a cultivar of perennial ryegrass, *Lolium perenne* L., infected with the fungal endophyte, *Acremonium lolii* Latch, Christensen & Samuels, exhibited a high level of insect resistance to the hairy chinch bug, *Blissus leucopterus hirtus* Montandon. First and third instars and adult hairy chinch bugs reared on endophyte-infected plants had significantly lower survival. On endophyte-free 'Repell,' nymphs and adults resided primarily on the leaf sheath. In contrast, on endophyte-infected 'Repell,' nymphs and adults either avoided the plant or resided only on the endophyte-free leaf blade. Nymphs were able to detect the presence of the endophyte in a choice test and consistently selected endophyte-free 'Repell.' These results support field observations of resistance in association with endophyte-infected ryegrass and suggest that the incorporation of endophytes into ryegrass will lead to significant reductions in hairy chinch bug infestations. *Journal of economic entomology*. Aug 1990. v. 83 (4). p. 1640-1646. Includes references. (NAL Call No.: DNAL 421 J822).

0737

Audience for residential turf grass pest management programs.

Ravlin, F.W. Robinson, W.H. College Park, Md. : The Society. *Bulletin of the Entomological Society of America*. Fall 1985. v. 31 (3). p. 45-50. Includes references. (NAL Call No.: DNAL 423.9 EN8).

0738

The bermudagrass mite and its control.

Short, D. Gainesville, Fla. : The Service. Circular - Florida Cooperative Extension Service. 1972? . (365). 4 p. ill. (NAL Call No.: DNAL 275.29 F66C).

0739

Bermudagrass mites in lawns.

Ali, A.D. Harivandi, M.A. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21436). 2 p. ill. (NAL Call No.: DNAL S544.3.C2C3).

0740

Billbugs in lawns.

Ali, A.D. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21437). 2 p. ill. (NAL Call No.: DNAL S544.3.C2C3).

0741

Biological and mechanical controls for lawn grubs.

Daar, S. Berkeley, Calif. : Bio-Integral Resource Center. Common sense pest control quarterly. Summer 1989. v. 5 (3). p. 14. Includes references. (NAL Call No.: DNAL SB950.A1C62).

0742

Biological, mechanical, and chemical control of turfgrass-infesting Scarabs in Colorado.

SENTD. Cranshaw, W.S. Zimmerman, R.J. College Station, Tex. : Southwestern Entomological Society. *The Southwestern entomologist*. Dec 1989. v. 14 (4). p. 351-355. Includes references. (NAL Call No.: DNAL QL461.S65).

0743

Biological observations of glassy cutworm (Lepidoptera: Noctuidae) in western Oregon.

PPETA9. Kamm, J.A. San Francisco, Calif. : Pacific Coast Entomological Society. *The Pan-Pacific entomologist*. Jan 1990. v. 66 (1). p. 66-70. Includes references. (NAL Call No.: DNAL 421 P193).

0744

The biology and control of turf grubs /Joseph B. Polivka.
Polivka, J.B. Wooster, Ohio : Ohio Agricultural Experiment Station, 1959. Cover title. 30 p. : ill. ; 23 cm. Bibliography: p. 30. (NAL Call No.: DNAL 100 OH3S (2) no.829).

0745

Biology, distribution, and taxonomy of billbug turf pests (Coleoptera: Curculionidae).
EVETEX. Johnson-Cicalese, J.M. Wolfe, G.W.; Funk, C.R. Lanham, Md. : Entomological Society of America. The seasonal distributions and biology of four species of billbug on New Jersey turfs during 1986 and 1987 were examined; *Sphenophorus parvulus* Gyllenhal, a common pest of turfgrass, and three additional species, *S. venatus* s.l. (Say), *S. minimus* Hart, and *S. inaequalis* (Say), that had previously been overlooked as pests of cool-season turfgrasses in New Jersey. Linear pitfall trap collections of adults indicated: (1) a nearly equal overall abundance of the four species, (2) greater activity of *S. inaequalis* in the early spring and autumn, and (3) continued activity of *S. venatus* through the summer. The abundance of *S. venatus* adults throughout the summer, and continuous egg laying of all four species through August suggested a partial second generation. Larvae of all four species were found damaging cool-season turfgrasses during July. Laboratory-rearing work found little difference in the number of days for egg hatching and pupation, but a longer larval period for *S. venatus*. To facilitate identification and study by turfgrass specialists, an illustrated key to eight known billbug turf pests is provided and their geographic distributions in the United States are reviewed. Environmental entomology. Aug 1990. v. 19 (4). p. 1037-1046. ill., maps. Includes references. (NAL Call No.: DNAL QL461.E532).

0746

Biology of the fiery skipper, *Hylephila phyleus* (Lepidoptera: Hesperiiidae), a turfgrass pest in Hawaii.
PHESA. Tashiro, H. Mitchell, W.C. Honolulu : The Society. Proceedings of the Hawaiian Entomological Society. Mar 1, 1985. v. 25. p. 131-138. ill. Includes references. (NAL Call No.: DNAL 420 H312).

0747

Biology of the Japanese beetle (Coleoptera: Scarabaeidae) in eastern Massachusetts.
JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1986. v. 79 (2). p. 387-391. Includes references. (NAL Call No.: DNAL 421 J822).

0748

Bionomics and control of insects affecting Washington grass seed fields / Clifford S. Crawford and Robert F. Harwood .
Crawford, Clifford S. (Clifford Smeed), 1932-. Harwood, Robert F. 1927-. Pullman, Wash. : Washington Agricultural Experiment Stations, Institute of Agricultural Sciences, Washington State University, 1964. Cover title. 25 p. : ill. ; 28 cm. Bibliography: p. 24-25. (NAL Call No.: DNAL 100 W27T no.44).

0749

The bluegrass billbug and its control.
Vasvary, L.M. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (078). 2 p. (NAL Call No.: DNAL S544.3.N5F7).

0750

Bluegrass billbug (*Sphenophorus parvulus*): biology and control (*Poa pratensis*).
Kennedy, M.K. Lawrence, R.L. East Lansing, Mich. The Service. Extension bulletin E - Michigan State University, Cooperative Extension Service. Mar 1981. Mar 1981. (E-1484). 4 p. ill. (NAL Call No.: 275.29 M58B).

0751

Chemical control of southern chinch bug in St. Augustinegrass: 1987 test.
Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4664). p. 22-23. Includes references. (NAL Call No.: DNAL 100 T31P).

0752

Chinch bug damage to Bermudagrass.
JESCEP. Lynch, R.E. Some, S.; Dicko, I.; Wells, H.D.; Monson, W.G. Tifton, Ga. : The Entomological Science Society. Journal of Entomological Science. Apr 1987. v. 22 (2). p. 153-158. Includes references. (NAL Call No.: DNAL QL461.G4).

0753

Chinch bugs : biology and control.
Kennedy, M. Keith. Lawrence, Roberta L. & Turf tips for the homeowner. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1981. This publication illustrates and discusses the biology of the chinch bug, and it's cultural and chemical control. 3 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-1485).

(PESTS OF PLANTS - INSECTS)

0754

Chinch bugs (*Blissus leucopterus*, *Blissus leucopterus leucopterus*): biology and control (Grasses).

Kennedy, M.K. Lawrence, R.L. East Lansing, Mich., The Service. Extension bulletin E - Michigan State University, Cooperative Extension Service. Mar 1981. Mar 1981. (E-1485). 3 p. ill. (NAL Call No.: 275.29 M58B).

0755

Chinch bugs in lawns.

Ali, A.D. Harivandi, M.A. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21438). 2 p. ill. (NAL Call No.: DNAL S544.3.C2C3).

0756

Chinch bugs in lawns.

Short, D. Gainesville, Fla. : The Service. Circular - Florida Cooperative Extension Service. 1972? . (368). 8 p. ill. (NAL Call No.: DNAL 275.29 F66C).

0757

Clover mite control around the home.

Vasvary, L.M. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (093,rev.). 2 p. ill. (NAL Call No.: DNAL S544.3.N5F7).

0758

Compatibility of three entomogenous nematodes (*Rhabditida*) in aqueous solutions of pesticides used in turfgrass maintenance.

JEENAI. Zimmerman, R.J. Cranshaw, W.S. Lanham, Md. : Entomological Society of America. Aqueous solutions of nine pesticides used in turfgrass maintenance were tested for compatibility with entomogenous nematodes. A range of sensitivity among pesticide-nematode combinations was observed. The fungicides chlorothalonil, benomyl, and pentachloronitrobenzene (PCNB) and the herbicide dicamba were nontoxic to *Neoplectana carpocapsae* Weiser (=Steinernema feltiae) (*Rhabditida*: Steinernematidae), *N. bibionis* Bovien, and *Heterorhabditis* sp. "HP-88" (*Rhabditida*: Heterorhabditidae). The carbamate insecticides carbaryl and bendiocarb were highly toxic to *Heterorhabditis* sp. "HP-88" but were less toxic to *N. carpocapsae*. *N. bibionis* was more highly sensitive to chlorpyrifos than were the other nematode species. Diazinon was significantly toxic only to *Heterorhabditis* sp. "HP-88" (48 h exposure). The inorganic mercurial fungicide Calo-Clor was highly toxic to all species tested; *Heterorhabditis* sp. "HP-88" were particularly sensitive. Generally, entomogenous nematode

applications appear to be compatible with most of the turfgrass pesticides tested, although previous applications of persistent inorganic fungicides may preclude the use of the nematodes. *Journal of economic entomology*. Feb 1990. v. 83 (1). p. 97-100. Includes references. (NAL Call No.: DNAL 421 J822).

0759

Competition between and relative feeding impact of masked chafer and Japanese beetle grubs: confounding effects of a parasite.

Clark, J.D. Potter, D.A. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986. Apr 1987. (303). p. 34-35. (NAL Call No.: DNAL 100 K41PR).

0760

Control of ants in turf and soil /John C. Schread, Gordon C. Chapman.

Schread, John C. Chapman, Gordon C. New Haven : Connecticut Agricultural Experiment Station, 1948. 23 p. : ill. ; 23 cm. Bibliography: p. 23. (NAL Call No.: DNAL 100 C76St (1) no.515).

0761

Control of grasshoppers (*Melanoplus sanguinipes*) on lawns, Bozeman, Montana, August 1978.

Mazuranich, P.C. AR-W-AR-W. Onsager, J.A. Reprints. United States. Dept. of Agriculture. Science and Education Administration. Agricultural Research. (NAL Call No.: aS21.A8U5/AR).

0762

Control of sod webworms in lawns.

KAEBE. Jewett, H.H. Lexington : The Station. Bulletin - Kentucky, Agricultural Experiment Station. Documents available from: Agriculture Library, Agricultural Science Center - North, University of Kentucky, Lexington, Ky. 40546-0091. Apr 1939. (391). p. 89-106. ill. Includes 8 references. (NAL Call No.: DNAL 100 K41 (2)).

0763

Control of southern chinch bug in St. Augustinegrass: 1985 test.

Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. May 1987. (4524). p. 34-35. Includes references. (NAL Call No.: DNAL 100 T31P).

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0764

Control of southern chinch bug in St. Augustinegrass: 1986 Test 1.
Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4668). p. 27-29. Includes references. (NAL Call No.: DNAL 100 T31P).

0765

Control of turfgrass pests.
Street, John R. Powell, Charles C.; Miller, Richard L. 1981. This publication discusses turfgrass pests and includes tables on weeds, diseases, and insect pests and their controls, insecticide precautions, and dilution rates. Document available from: Ext. Office of Information, Ohio State University, 2120 Fyffe Road, Columbus, OH 43210. 12 p. (NAL Call No.: Not available at NAL.)(NAL Call No.: L187).

0766

Controlling burrowing and common sod webworms on lawns and turf.
Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. July 1987. (171). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0767

Controlling fall armyworms on lawns and turf.
Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. In subseries: Pest Management. Apr 1988. (172). 1 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling fall armyworms on lawns and turf.
Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. July 1987. (172). 1 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling imported fire ants in home lawns.
Cobb, P.B. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Pest Management. May 1989. (175). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling imported fire ants in home lawns.
Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Pest Management. Apr 1988. (175). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling insects.
Niemczyk, H.D. Cobb, P. Cleveland : Harcourt Brace Jovanovich Publications. Weeds, trees and turf. Mar 1987. v. 26 (3). p. 46, 48-49, 52, 56, 60, 62, 66-67, 74. ill. (NAL Call No.: DNAL 79.8 W413).

0772

Controlling insects in lawns and turfgrasses.
Thompson, L.C. KS. Thompson, H.E.; Brooks, H.L.; Kuhlman, D.K. Manhattan, Kan., The Service. C - Kansas State University Cooperative Extension Service. Apr 1979. Apr 1979. (598). 22 p. ill. (NAL Call No.: 275.29 K13EX).

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Controlling lawn & garden insects /project editor, Susan A. Roth ; writer, L. Patricia Kite ; artist, Amy Bartlett Wright ; photographers, Saxon Holt, Ron West ; associate and photo editor, Pamela Peirce ; graphic design, Finger Vesik Smith.
Roth, Susan A.; Kite, L. Patricia.; Wright, Amy Bartlett. San Francisco, CA : Chevron Chemical Co., c1987. "Created and designed by the editorial staff of Drtho Books."~ Includes index. 95 p. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB931.C76).

0774

Controlling lawn and turf insects / John A. Lofgren and Mark E. Ascerno. -.
Lofgren, J. A. Ascerno, Mark E. St. Paul, Minn. Agricultural Extension Service, University of Minnesota 1978. Pesticide Applicator Training Collection ~Cover title. (2) p. : ill. ; 28 cm. --. (NAL Call No.: SB763.M5L6 1978).

0775

Controlling mole crickets on lawns.
Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Pest Management. Feb 1989. (176). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling mole crickets on lawns.

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0777

Controlling southern chinch bugs on lawns and turf.

Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. July 1987. (173). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

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Controlling turfgrass pests /Malcolm C. Shurtleff, Roscoe Randell, Thomas W. Fermanian.

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Shurtleff, M. C. Randell, Roscoe.; Fermanian, Thomas W. Englewood Cliffs, N.J. : Prentice-Hall, c1987. "A Reston book.". xiii, 449 p. : ill. ; 24 cm. Includes bibliographies and index. (NAL Call No.: DNAL SB608.T87S48).

0779

Controlling two-lined spittlebugs on lawns.

Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Agriculture & Natural Resources. Entomology. May 1988. (170). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0780

Controlling white grubs in turf.

Brandenburg, R.L. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. May 1987. (366). 3 p. ill. (NAL Call No.: DNAL S544.3.N6N62).

0781

Controlling white grubs on lawns.

Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Aug 1987. (177). 1 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0782

Controlling white grubs on lawns and turf.

Cobb, P.P. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Entomology. Oct 1990. (177). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0783

Cultural manipulation of coastal burmudagrass (*Cynodon dactylon*) to avoid losses from the fall armyworm (*Spodoptera frugiperda*).

Lynch, R.E. Martin, P.B.; Garner, J.W. Gainesville, Florida Entomological Society. Florida entomologist. Dec 1980. v. 63 (4). p. 411-419. ill. 15 ref. (NAL Call No.: 420 F662).

0784

Cutworms and armyworms in lawns.

Ali, A.D. Harivandi, M.A. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21439). 2 p. ill. (NAL Call No.: DNAL S544.3.C2C3).

0785

Destructive turf insects / by Harry D. Niemczyk. --.

Niemczyk, Harry D. (Wooster, Ohio : H.D. Niemczyk) c1981 (Fostoria, Ohio Gray Printing Co.). 48 p. : ill. (some col.) ; 28 cm. Bibliography: p. 47-48. (NAL Call No.: SB608.T87N52).

0786

Differential susceptibility of Japanese beetle, oriental beetle, and European chafer (*Coleoptera: scarabaeidae*) larvae to five soil insecticides.

JEENAI. Villani, M.G. Wright, R.J.; Baker, P.B. College Park, Md. : Entomological Society of America. Abstract: Efficacy of bendiocarb, chlorpyrifos, diazinon ethoprop, and isofenphos was evaluated against last-instar larvae of European chafer, *Rhizotrogus majalis* (Razoumowsky), Japanese beetle, *Popillia japonica* Newman, and Oriental beetle, *Anomala orientalis* Waterhouse, by incorporating insecticides into soil at one-half New York State recommended rates in a laboratory bioassay. Mortality was assessed at 1,2,3,4, and 5 wk. The experiment was repeated three times with white grubs collected at different times and from different locations in New York. White grub species differed significantly in their response to some of the insecticides; European chafer was generally least susceptible. Diazinon provided high mortality of Oriental beetle and European chafer grubs but very low mortality of Japanese beetles. Isofenphos provided generally low mortality of

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all three grub species, although the levels of mortality varied among species. Ethoprop provided uniform mortality of all three grub species. Results of these studies indicate the need to develop species-specific insecticide recommendations for the white grub complex. Journal of economic entomology. June 1988. v. 81 (3). p. 785-788. Includes references. (NAL Call No.: DNAL 421 J822).

0787

Does lime control Japanese beetle grubs in turf?

Vittum, P.J. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Jan/Feb 1984. v. 22 (1). p. 6-8. ill. (NAL Call No.: DNAL 60.18 UN33).

0788

Effect of Acremonium endophytes on four species of billbug found on New Jersey turfgrasses.

JOSHB. Johnson-Cicalese, J.M. White, R.H. Alexandria, Va. : The Society. Laboratory studies were conducted to determine the effects of Acremonium endophytes on four species of billbug (Coleoptera: Curculionidae: Sphenophorus parvulus Gyllenhal, S. venatus (Say), S. inaequalis Say, and S. minimus Hart) found damaging cool-season turfgrasses in New Jersey. Billbug adults feeding on potted tall fescue (Festuca arundinacea Schreb.) plants infected with Acremonium coenophialum Morgan-Jones and Gams showed significantly greater mortality than billbugs feeding on endophyte-free tall fescue. Little difference was observed in amount of feeding. In petri dish preference tests, billbug adults were given a choice and, again, no significant difference was observed in the amount of feeding on endophyte-free versus endophyte-infected tall fescue tillers. In a third experiment, billbug adults were placed in petri dishes with either tall fescue with or without A. coenophialum or perennial ryegrass (Lolium perenne L.) with or without Acremonium lolii Latch, Christensen, and Samuels. Only small differences were seen in number of eggs laid and amount of feeding. Mortality of all four billbug species, however, was greater on both grasses when endophyte-infected. Journal of the American Society for Horticultural Science. July 1990. v. 115 (4). p. 602-604. Includes references. (NAL Call No.: DNAL 81 S012).

0789

Effect of larval density and soil type on the vertical distribution and survival of Phyllophaga crinita.

SENTD. Stone, J.D. Bueno, R. Jr. College Station, Tex. : Southwestern Entomological Society. The Southwestern entomologist. June 1987. v. 12 (2). p. 101-106. Includes references. (NAL Call No.: DNAL QL461.S65).

0790

Effect of liming on subsequent applications of isofenphos for control of Japanese beetle

(Coleoptera: Scarabaeidae) grubs in turf. JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. Journal of economic entomology. Aug 1985. v. 78 (4). p. 898-901. Includes references. (NAL Call No.: DNAL 421 J822).

0791

Effect of nitrogen fertilization on choice among grasses by the grasshopper Phoetaliotes nebrascensis (Orthoptera: Acrididae).

AESAAI. Joern, A. Alward, R. College Park, Md. : The Society. Annals of the Entomological Society of America. Mar 1988. v. 81 (2). p. 240-244. Includes references. (NAL Call No.: DNAL 420 EN82).

0792

Effect of soil pH (hydrogen-ion concentration) on survival of Japanese beetle and European chafer larvae (Popillia japonica, Rhizotrogus majalis, turfgrass pests).

Vittum, P.J. Tashiro, H. College Park, Md., Entomological Society of America. Journal of economic entomology. Aug 1980. v. 73 (4). p. 577-579. 7 ref. (NAL Call No.: 421 J822).

0793

Effect of soil pH on Japanese beetle (Coleoptera: Scarabaeidae) oviposition in potted turfgrass.

JEENAI. Vittum, P.J. Morzuch, B.J. Lanham, Md. : Entomological Society of America. The possible effect of soil pH on Japanese beetle, Popillia japonica Newman, oviposition and early-instar survival was investigated in the laboratory. Soils were amended with elemental sulfur or dolomitic limestone to produce a range of pH levels from 3.2 to 7.9. Pots containing one of seven soil pH levels that had been planted with a turfgrass mix were placed in cages and exposed to Japanese beetle adults for 7 or 10 d. Pots were subsequently inspected for eggs and first instars. In six tests conducted over two summers, there was no significant difference in Japanese beetle oviposition preference in pots maintained at pH 5.0-7.9. Journal of economic entomology. Oct 1990. v. 83 (5). p. 2036-2039. Includes references. (NAL Call No.: DNAL 421 J822).

0794

Effect of timing of application on effectiveness of isofenphos, and diazinon on Japanese beetle (Coleoptera: Scarabaeidae) grubs in turf.

JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. Journal of

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economic entomology. Feb 1985. v. 78 (1). p. 172-180. Includes references. (NAL Call No.: DNAL 421 J822).

0795

Efficiency of Japanese beetle (Coleoptera: Scarabaeidae) traps in reducing defoliation of plants in the urban landscape and effect on larval density in turf.

JEENAI. Gordon, F.C. Potter, D.A. College Park, Md. : Entomological Society of America. Journal of economic entomology. Aug 1985. v. 78 (4). p. 774-778. ill. Includes references. (NAL Call No.: DNAL 421 J822).

0796

Endophyte-infected turfgrasses: killer turf.

Hellman, J.L. Mathias, K. Dverland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1990. v. 25 (9). p. 46, 48-50, 52. (NAL Call No.: DNAL SB476.G7).

0797

Endophytic fungi and biological control of insects in turfgrasses.

Hurley, R.H. Funk, C.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 5-7. (NAL Call No.: DNAL SB433.34.V8V47).

0798

Entomogenous nematodes as biological control agents of European chafer and Japanese beetle (Coleoptera: Scarabaeidae) larvae infesting turfgrass.

JEENAI. Villani, M.G. Wright, R.J. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1988. v. 81 (2). p. 484-487. Includes references. (NAL Call No.: DNAL 421 J822).

0799

Evaluation of insecticides for control of masked chafer grubs in Kentucky bluegrass.

McClure, T.W. Gordon, F.C.; Potter, D.A. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986.~ Includes statistical data. Apr 1987. (303). p. 33. (NAL Call No.: DNAL 100 K41PR).

0800

Field evaluation of insecticides for control of turfgrass insect pests in West Virginia--1980-1983.

Weaver, J.E. Morgantown, W.Va. : The Station. Circular - West Virginia University Agricultural and Forestry Experiment Station. Sept 1984. (131). 10 p. Includes references. (NAL Call No.: DNAL 100 W52 (2)).

0801

Field experiments for insecticidal control of sod webworms (Lepidoptera: Pyralidae) in Florida turfgrass (Herpetogramma spp.).

Reinert, J.A. College Park, Md. : Entomological Society of America. Journal of economic entomology. Feb 1983. v. 76 (1). p. 150-153. Includes references. (NAL Call No.: 421 J822).

0802

Field insecticide test for the control of Phyllophaga congrua white grubs, in Texas turfgrass: 1986.

Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4667). p. 26-27. Includes references. (NAL Call No.: DNAL 100 T31P).

0803

Field insecticide tests for control of white grubs in Texas turfgrass: 1985.

Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4669). p. 29-31. Includes references. (NAL Call No.: DNAL 100 T31P).

0804

Garden symphylan / Ohio State University, Cooperative Extension Service, Columbus, Ohio.

1980. This publication discusses the distribution, appearance, life cycle, damage, scouting methods, and control methods of the garden symphylan. Document available from: Ext. Office of Information, Ohio State University, 2120 Fyffe Road, Columbus, OH 43210. 1 sheet. (NAL Call No.: Not available at NAL.)(NAL Call No.: Field Ent Series 12).

0805

Grass host preferences of Listronotus bonariensis (Coleoptera: Curculionidae).

JEENAI. Barker, G.M. Lanham, Md. : Entomological Society of America. Host plant preferences for feeding and oviposition by adult Listronotus bonariensis (Kuschel) were determined in multiple-choice experiments in the field and laboratory using 19 grasses. Feeding intensity was negatively correlated

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with fiber (cellulose + hemicellulose + lignin) content of foliage, possibly indicating an effect of leaf toughness on feeding. Oviposition preferences were correlated with feeding intensity; 29-86% of the variation in egg numbers per plant was accounted for in numbers of feeding scars on these plants. Numbers of eggs deposited in the plants were negatively correlated with the density of intercoastal silica deposits (inclusive of trichomes) in the abaxial surface of the grass sheaths. A causal relationship between silicification and oviposition preference was confirmed in a pot experiment where increased silica uptake and deposition reduced egg-laying on two ryegrass cultivars. The dispersion of eggs in the various grasses also was apparently related to the density and distribution of intercostal silica deposits and trichomes on the sheath. Feeding and oviposition on 'Grasslands Nui' ryegrass, *Lolium perenne* L., were reduced by plant infection by the endophytic fungus *Acremonium lolii* Latch, Christensen & Samuels. In the absence of *A. lolii* infection, ryegrass cultivars of *L. multiflorum* L. parentage were preferred over *L. perenne* cultivars. These results are briefly discussed in relation to breeding of forage grasses. *Journal of economic entomology*. Dec 1989. v. 82 (6). p. 1807-1816. ill. Includes references. (NAL Call No.: DNAL 421 J822).

0806

Greenbug: a potential turf pest.

Bowen, W.R. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1983. v. 33 (1/4). p. 4-5. ill. (NAL Call No.: DNAL 60.18 S08).

0807

Home lawn insect & disease control guide.

Cobb, P.P. Hagan, A.K. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Subseries: Agriculture & natural resources, pest management. Jan 1987. (324). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

0808

Home, yard, and garden / University of Illinois.

Document available from: University of Illinois, Agricultural Publications Office, 1301 Gregory Dr., Urbana, Illinois 61801 1981. This publication includes tables listing insects, insecticides dosage and some suggestions for home, yard and garden. 8 p. : ill. (NAL Call No.: Document available from source.)(NAL Call No.: CIRCULAR 900).

0809

How to control turf insects.

Schuder, Donald L. Document available from: Purdue University, Publication Mailing Room, 301 South Second Street, Lafayette, Indiana 47905 1979. Lists turf insects and their control. 1 sheet : ill. (NAL Call No.: Document available from source.)(NAL Call No.: E-61).

0810

Impact of fall armyworm (Lepidoptera: Noctuidae) host strains on the evaluation of Bermuda grass resistance.

JEENAI. Pashley, D.P. Quisenberry, S.S.; Jamjanya, T. College Park, Md. : Entomological Society of America. *Journal of economic entomology*. Dec 1987. v. 80 (6). p. 1127-1130. Includes references. (NAL Call No.: DNAL 421 J822).

0811

The influence of application timing and posttreatment irrigation on the fate and effectiveness of isofenphos for control of Japanese beetle (Coleoptera: Scarabaeidae) larvae in turfgrass.

JEENAI. Niemczyk, H.D. College Park, Md. : Entomological Society of America. *Journal of economic entomology*. Apr 1987. v. 80 (2). p. 465-470. Includes references. (NAL Call No.: DNAL 421 J822).

0812

Insect and disease control on lawn and turf areas.

Vasvary, L.M. Davis, S.H. Jr. New Brunswick. Leaflet Rutgers, the State University. Cooperative Extension Service. 1980. 1980. (442-I). 8 p. ill. (NAL Call No.: 275.29 N46L).

0813

Insect and mite control on lawns.

Morishita, F.S. Allen, W.W. Berkeley, Calif., The Service. Leaflet - University of California, Cooperative Extension Service. Jan 1982. Jan 1982. (2540). 4 p. (NAL Call No.: S544.3.C2C3).

0814

Insect answers: Lawn billbugs.

WUEXA. Mayer, D.F. Van Denburgh, R. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Sept 1986. (1224,rev.). 2 p. ill. (NAL Call No.: DNAL 275.29 W27P).

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0815

Insect pests of forest trees and diseases of turfgrass. -

Helena Montana Dept. of Agriculture 1981. Cover title ~Pesticide Applicator Training collection ~"January, 1981.". ii, 55 p. : ill. ; 28 cm. (NAL Call No.: SB763.M9I57).

0816

Insect pests of lawns.

Robinson, W.H. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for home ornamental plants / coordinated by J.M. Luna. Jan 1988. (456-004,rev.). p. 47-48. ill. (NAL Call No.: DNAL S544.3.V8V52).

0817

Insect research update 1978-79 (White grubs, pests of turfgrasses, chemical and biological control).

Crocker, R.L. TX. College Station, Tex., The Station. PR - Texas Agricultural Experiment Station. Texas. Agricultural Experiment Station. Feb 1980. Feb 1980. (3667/3678). p. 16-20. ill. 1 ref. (NAL Call No.: 100 T31P).

0818

Insecticidal control of white grubs in Texas turfgrass.

Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4339). p. 91-92. Includes references. (NAL Call No.: DNAL 100 T31P).

0819

Insecticide suggestions to control tree, shrub, lawn, and turf insects in 1980.

Ascerno, M.E. MN. Lofgren, J.A.; Noetzel, D.M.; Harein, P.K.; Cutkomp, L.K. St. Paul, Minn., The Service. Extension folder - Agricultural Extension Service, University of Minnesota. Minnesota. University. Agricultural Extension Service. 1980. 1980. (414). 7 p. (NAL Call No.: 275.29 M66EX).

0820

Insecticides vary in effects on red imported fire ant.

HARAA. Appel, A.G. Cobb, P.P.; Beauchamp, R.R. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Summer 1988. v. 35 (2). p. 13. ill. (NAL Call No.: DNAL 100 AL1H).

0821

Insects and diseases of lawns.

Jones, B.F. Johnson, D.R.; McDaniel, M.C. Little Rock, Ark. : The Service. Leaflet EL - University of Arkansas, Cooperative Extension Service. Sept 1987. (414,rev.). 11 p. (NAL Call No.: DNAL 275.29 AR4LE).

0822

Insects and diseases of lawns.

Jones, B.F. Johnson, D.R.; McDaniel, M.C. Little Rock, Ark. : The Service. Leaflet EL - Arkansas University, Cooperative Extension Service. Dec 1983. Dec 1983. (414,rev.). 11 p. ill. (NAL Call No.: 275.29 AR4LE).

0823

Insects of commercial turfgrass.

Robinson, W.H. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for turfgrass / coordinated by J.M. Luna. Jan 1988. (456-009,rev.). p. 1-6. (NAL Call No.: DNAL S544.3.V8V52).

0824

Integrated pest management--a different approach for the same old problems.

Foy, J.H. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1988. v. 26 (5). p. 9-11. ill. (NAL Call No.: DNAL 60.18 UN33).

0825

Integrated pest management for warm-season grasses.

Lucas, L.T. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 4-6. (NAL Call No.: DNAL SB433.34.V8P7 1983).

0826

Irrigation and use of entomogenous nematodes, *Neoplectana* spp. and *Heterorhabditis heliothidis* (Rhabditida: Steinernematidae and Heterorhabditidae), for control of Japanese beetle (*Coleoptera: Scarabaeidae*) grubs in turfgrass.

JEENAI. Shetlar, D.J. Suleman, P.E.; Georgis, R. College Park, Md. : Entomological Society of America. *Neoplectana carpocapsae* Weiser, N. glaseri Steiner, and *Heterorhabditis heliothidis* (Khan, Brooks, and Hirschman)

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require at least 0.64 cm irrigation after spray application to turf to promote establishment into the soil. Experiments were conducted in microplots (15.25-cm-diameter turf with soil plugs) and on dry golf course turf.

Applications of *N. carpocapsae* and *H. heliothidis* (at 12.35 x 10 nematodes per ha), with irrigation following application and moderate soil moisture, produced 53% and 73% control of Japanese beetle, *Popillia japonica* Newman, larvae in golf course turf. *Journal of economic entomology*. Oct 1988. v. 81 (5). p. 1318-1322. Includes references. (NAL Call No.: DNAL 421 J822).

0827

The Japanese beetle.

Schuder, D.L. Edwards, C.R. Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. Jan 1979. (75). 2 p. ill. (NAL Call No.: DNAL SB844.I6P8).

0828

Japanese beetle grub control, South Windsor, Connecticut, 1979 (*Poa pratensis*, *Popillia japonica*).

Moore, R.E.B. College Park : Entomological Society of America. Insecticide and acaricide tests. 1980. v. 5. p. 197. (NAL Call No.: SB950.A1I49).

0829

Japanese beetle grubs & sod webworms.

Robinson, W.H. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In subseries: Insect Control for the Home Yard. AGL. 1989. (444-766,rev.). 3 p. ill. (NAL Call No.: DNAL S544.3.V8V52).

0830

Japanese beetles: a primer for grounds managers.

Potter, D.A. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1988. v. 23 (5). p. 6-7, 10, 12, 14. ill. (NAL Call No.: DNAL SB476.G7).

0831

Kentucky bluegrass, cutworm control, 1979 (*Poa pratensis*, *Peridroma saucia*).

Schuder, D.L. College Park : Entomological Society of America. Insecticide and acaricide tests. 1980. v. 5. p. 198. (NAL Call No.: SB950.A1I49).

0832

Kentucky bluegrass, sod webworm control, 1979 (*Poa pratensis*, *Crambus trisetus*).

Schuder, D.L. College Park : Entomological Society of America. Insecticide and acaricide tests. 1980. v. 5. p. 199. (NAL Call No.: SB950.A1I49).

0833

Laboratory and field evaluation of isofenphos for scarabaeid grub (Coleoptera: Scarabaeidae) control in turfgrass.

Tashiro, H. JEENA. Spittler, T.D.; Greco, E. College Park : Entomological Society of America. *Journal of economic entomology*. Oct 1982. v. 75 (5). p. 906-913. Includes references. (NAL Call No.: 421 J822).

0834

Laboratory bioassay of *Beauveria bassiana* for the control of *Phyllophaga* sp. white grubs.

Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4665). p. 23-25. Includes references. (NAL Call No.: DNAL 100 T31P).

0835

Lawn billbugs (*Sphenophorus cicatristriatus*, *Sphenophorus sayi*, *Sphenophorus parvula*, damage, control).

Kostermeyer, E. Retan, A.H. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Nov 1983. Nov 1983. (1224,rev.). 2 p. ill. (NAL Call No.: 275.29 W27P).

0836

Lawn insects: how to control them.

XAHGA. Washington, D.C. : The Department. Home and garden bulletin - United States Department of Agriculture. July 1980. (53,slightly rev.). 18 p. ill. (NAL Call No.: DNAL 1 AG84HG).

0837

Lawn maintenance with fewer chemicals.

Clark, R. East Falmouth, Mass. : New Alchemy Institute. *New alchemy quarterly*. Winter 1987. (30). p. 5-6. (NAL Call No.: DNAL S589.7.N48).

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0838

Life history and control of the black turfgrass ataenius (*Ataenius spretulus*).
Niemczyk, H.D. OH. Wegner, G.S. Wooster, The Center. Ohio report on research and development in agriculture, home economics, and natural resources. Ohio. Agricultural Research and Development Center. Nov/Dec 1979. v. 64 (6). p. 85-88. ill., map. (NAL Call No.: 100 OH3S (3)).

0839

Location as a variable for evaluating pesticides against mole crickets (*Scapteriscus vicinus*, *Scapteriscus acletus*, pests of turfgrass).
Short, D.E. Koehler, P.G. Athens, Ga., The Society. Journal of the Georgia Entomological Society. July 1980. v. 15 (3). p. 241-245. 10 ref. (NAL Call No.: QL461.G4).

0840

Management of insects in lawns and other non-commercial turfgrass.
Short, D.E. Reinert, J.A.; Cromroy, H.L. Gainesville, Fla. : The Service. Circular - Florida Cooperative Extension Service. Sept 1985. (427). 24 p. (NAL Call No.: DNAL 275.29 F66C).

0841

Managing mole crickets (*Scapteriscus acletus*, *Scapteriscus vicinus*, damage to turfgrass, control).
Reinert, J. Short, D. Overland Park, Kan., Intertec. Grounds maintenance. Feb 1981. v. 16 (2). p. 16, 18, 20. ill., maps. (NAL Call No.: SB476.G7).

0842

Mole cricket management vs. control.
Burton, T. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Jan/Feb 1989. v. 27 (1). p. 10-11. ill. (NAL Call No.: DNAL 60.18 UN33).

0843

Mole crickets in turf.
Hudson, R.D. Athens, Ga. : The Service. Leaflet - Cooperative Extension Service, University of Georgia. July 1989. (414). 10 p. ill. (NAL Call No.: DNAL 275.29 G29L).

0844

The New Mexico range caterpillar and its control /by V.L. Wildermuth and D.J. Caffrey.
Wildermuth, V. L. 1885-. Caffrey, D. J. Washington, D.C. : U.S. Dept. of Agriculture, 1916. Caption title.~ "September 21, 1916.". 12 p. : ill. ; 24 cm. (NAL Call No.: DNAL 1 Ag84B no.443).

0845

New miticides for control of the bermudagrass stunt mite on bermudagrass (*Cynodon* spp., *Aceria cynodoniensis*).
Reinert, J.A. Cromroy, H.L. Nashville : The Association. Proceedings of SNA Research Conference - annual report - Southern Nurserymen's Association. Aug 1982. Aug 1982. (27th). p. 102-103. Includes references. (NAL Call No.: SB403.S68).

0846

The occurrence of wheat stem maggot, *Meromyza americana* Fitch (Diptera: Chloropidae), in Bermudagrass seed fields in Oklahoma.
JKESA. Arnold, D.C. Ahring, R.M. Lawrence, Kan. : The Society. Journal of the Kansas Entomological Society. Jan 1987. v. 60 (1). p. 158-159. Includes references. (NAL Call No.: DNAL 420 K13).

0847

Ornamental and lawn pest control.
Pinkston, K. Price, R.; Kenna, M. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Mar 1986. (7306). 4 p. ill. (NAL Call No.: DNAL S544.3.0505).

0848

Ornamental and lawn pest control (in Oklahoma).
Pinkston, K. Mitchell, P.J.; Price, R. Stillwater : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Oct 1982. Oct 1982. (7306,rev.). 4 p. ill. (NAL Call No.: S544.3.0505).

0849

Ornamental and turf manual.
Helena, Mont. : Montana Dept. of Agriculture, Environmental Management Division, 1986 . Abstract: This manual introduces pesticide applicators to insect pests of ornamentals and discusses the types of insect feeding damage on ornamentals, the biology, damaging stage and host, and non-chemical and chemical methods used to control them. It provides information on turf insect pests, ornamental and turfgrass weed and disease management, and damage on

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landscape plants. Correct use of pesticides, pesticide properties, environmental concerns, proper herbicide selection, fungicides, equipment calibration and pesticide disposal are covered. Includes illustrations of ornamental insect pest damage, some ornamental and some turfgrass insect pests. Cover title.~ "July, 1986.". iv, 103 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.070752).

0850

Ornamental and turf pest control.

Cott, A. E. Epstein, Abraham H.; Jennings, Vivian M.; Ryan, Stephen O. & Iowa Commercial Pesticide Applicator Manual. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1981. This publication describes diseases, weeds, insects, and ways to apply pesticides without endangering animals, pets, and humans. 61 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: CS-15).

0851

Oviposition of the stalk borer *Papaipema nebris* (Lepidoptera: Noctuidae) among various plants, and plant characteristics for ovipositional preference.

JESCEP. Highland, H.B. Roberts, J.E. Sr. Tifton, Ga. : The Entomological Society of America. Journal of entomological science. Jan 1989. v. 24 (1). p. 70-77. Includes references. (NAL Call No.: DNAL QL461.G4).

0852

Parasitic microorganisms of Japanese beetle (Coleoptera: Scarabaeidae) and associated scarab larvae in Connecticut soils.

EVETEX. Hanula, J.L. Andreadis, T.G. College Park, Md. : Entomological Society of America. The parasites of second- and third-instar Japanese beetles, *Popillia japonica* Newman, and associated scarab larvae were identified in turf samples from 49 locations in Connecticut during the fall of 1986. Four of the seven species of scarab larvae encountered were introduced and accounted for 91% of the sample population. Recovered parasites included three species of protozoa, two bacteria, a rickettsia, and a fungus. The most common protozoa, cephaline eugregarines, were found in the gut of Japanese beetles from 42 locations, and in four other host species. A microsporidium, *Ovavesicula popilliae* Andreadis and Hanula, was found in Japanese beetles from 34 sites. Overall, 25% of the larvae were infected, but prevalence was 80-90% in some locations. An *Adelina* sp. infecting 19% of the Asiatic garden beetles, *Maladera castanea* (Arrow), was found at six locations and in two other scarab species. This is the first record of *Adelina* sp. in these hosts. The bacteria *Bacillus popilliae* Dutky and *B. lentimorbus* Dutky and a rickettsia, *Rickettsiella popilliae*

(Dutky and Gooden) Philip, were also recovered from grubs. *R. popilliae* was recovered from five species. Two of the infected species, the Asiatic garden beetle and the European chafer, *Rhizotrogus majalis* (Razoumowsky), are new records as natural hosts for this pathogen. The incidence of *B. popilliae* (3.5%) was comparable with previous reports from Connecticut. The fungus, *Metarhizium anisopliae* (Metch.), infected 1.2% of the Japanese beetles. Environmental entomology. Aug 1988. v. 17 (4). p. 709-714. ill., maps. Includes references. (NAL Call No.: DNAL QL461.E532).

0853

Pesticide screening test for the southern chinch bug (*Stenotaphrum secundatum*, grass and cereal pest).

Crocker, R.L. Simpson, C.L. College Park, Md., Entomological Society of America. Journal of economic entomology. Dec 15, 1981. v. 74 (6). p. 730-731. Includes 4 ref. (NAL Call No.: 421 J822).

0854

Pine bark beetles in urban areas / by Terry S. Price .

Price, Terry S. Macon, Ga.? : Georgia Forestry Commission, 1987? . Abstract: This pamphlet informs urban tree owners how to identify, prevent and control damage caused by the five species of pine bark beetles in Georgia. Cover title. 1 folded sheet (7 p.) ; 22 cm. (NAL Call No.: DNAL SB608.P65P7).

0855

Polyploid *stenotaphrum* germplasm: resistance to the polyploid damaging population southern chinch bug.

CRPSAY. Busey, P. Madison, Wis. : Crop Science Society of America. 'Floratom' St. Augustinegrass *Stenotaphrum secundatum* (Walt.) Kuntze has been widely used in lawns because of its resistance to the southern chinch bug (*Blissus insularis* Barber). The southern chinch bug adapted genetically to Floratom and seriously damaged this cultivar within 12 yr after release. The Floratom-adapted southern chinch bug has been described as the polyploid damaging population (PDP), because polyploid germplasm had previously shown resistance. This study examined polyploid germplasm for resistance to the PDP southern chinch bug. *Stenotaphrum* clones were bioassayed by confining stolon cuttings with PDP southern chinch bugs from different regions. Resistant clones were detected based on reduced southern chinch bug longevity, oviposition rate, and excrement production, compared with Floratom. The most resistant clones were PI 365031, a pennisetum *S. dimidiatum* (L.) Brongn., and FX-2, FX-10, and FX-33 (intercrosses of polyploid *S. secundatum* from Africa). They supported low PDP southern chinch bug oviposition (less than or equal to 5 eggs

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female-1 wk-1 and less than or equal to 25 eggs lifetime-1). Resistance of FX-33 was verified against PDP southern chinch bugs (representing laboratory colonies and field recollections) in mated pairs and congregations, and against southern chinch bugs that had received different prior food sources. Both FX-33 and FX-10 typified the African polyploid St. Augustinegrass germplasm by having $2n = 30$ chromosomes, bivalent pairing at metaphase I, good crossed seed set, and abundant laminar hairs. Crop science. May/June 1990. v. 30 (3). p. 588-593. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

0856

Preventing injury from Japanese and Asiatic beetle larvae to turf in parks and other large areas /by Walter E. Fleming.

Fleming, Walter E. 1899-. Washington, D.C. : U.S. Dept. of Agriculture, 1936. Caption title.~ "Revision of and supersedes Circular 238, Control of larvae of the Japanese and Asiatic beetles in lawns and golf courses.". 12 p. : ill. ; 23 cm. Bibliography : p. 10-11. (NAL Call No.: DNAL 1 Ag84C no.403).

0857

A rating system for evaluating tawny mole cricket, *Scapteriscus vicinus* Scudder, damage (Orthoptera: Gryllotalpidae).

JESCEP. Cobb, P.P. Mack, T.P. Tifton, Ga. : The Entomological Science Society. Journal of entomological science. Jan 1989. v. 24 (1). p. 142-144. Includes references. (NAL Call No.: DNAL QL461.G4).

0858

Reduction of insecticide activity by carbon residue produced by burning grass seed fields after harvest.

JEENAI. Kamm, J.A. Montgomery, M.L. Lanham, Md. : Entomological Society of America. Annual burning of straw and stubble harvest on commercial grass seed fields produces carbon residue that is incorporated into the surface layer of soil by winter rains. When intact cores of this layer were removed and treated with chlorpyrifos in the laboratory, the mortality of house crickets, *Acheta domesticus* (L.), caged on treated cores from fields burned three consecutive years was 95% and from fields burned 16 consecutive years was 15%. Chemical analysis of treated cores with and without carbon residue indicated similar amounts of chlorpyrifos. Reduced mortality is caused by the strong adsorption of the toxicant by carbon residue that resulted from held burning. Efficacy of diazinon, fonofos, dimethoate, and fenvalerate was also reduced significantly by the carbon residue. In grass seed fields, we suggest that mechanical methods of straw removal, either alone or in combination with alternate year burning, be used to eliminate or slow the rate of accumulation of carbon residue

that interferes with activity of insecticides. Journal of economic entomology. Feb 1990. v. 83 (1). p. 55-58. Includes references. (NAL Call No.: DNAL 421 J822).

0859

Residual activity of dieldrin and chlordane in soil of established turf in Japanese beetle grub control (*Popillia japonica*).

Tashiro, H. Bourke, J.B.; Gibbs, S.D. College Park, Md., Entomological Society of America. Journal of economic entomology. Aug 1981. v. 74 (4). p. 397-399. 8 ref. (NAL Call No.: 421 J822).

0860

Responses by Japanese and oriental beetle grubs (*Coleoptera: Scarabaeidae*) to bendiocarb, chlorpyrifos, and isofenphos.

JEENAI. Baker, P.B. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1986. v. 79 (2). p. 452-454. Includes references. (NAL Call No.: DNAL 421 J822).

0861

Scarabaeid grub (*Rhizotrogus majalis*, *Popillia japonica*) control with fensulfothion and degradation in turf (*Festuca*, *Poa pratensis*) after repeated applications.

Tashiro, H. Spittler, T.D.; Bourke, J.B. College Park, Md., Entomological Society of America. Journal of economic entomology. June 1981. v. 74 (3). p. 255-258. 6 ref. (NAL Call No.: 421 J822).

0862

Seasonal abundance, oviposition activity, and degree-day prediction of adult frit fly (*Diptera: Chloropidae*) occurrence on turfgrass in Ohio.

EVETEX. Tolley, M.P. Niemczyk, H.D. Lanham, Md. : Entomological Society of America. The frit fly (FF), *Oscinella frit* (L.), is a pest of golf course and home lawn turfgrasses. Adult occurrence was monitored with a sweep net and a modified unit area sweep net. There are three and a partial fourth generations per year in northern Ohio (Wooster). Adult peak densities occurred during mid-May, late June, late July-early August, and mid-September in 1984. FF adult peaks were about 2 wk earlier in 1985. There was a slight male bias in sex ratios within sampling nets because of sampling technique and FF behavior. Parous females were determined by examining ovarian morphology. Parasitic nematodes were found within FF abdomens. Five of eight FF adult occurrence periods indicated major ovipositional activity when 40% of adults occurred (approximate time of control treatment). The best linear regression models for predicting 40% adult

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occurrence were a base temperature of 0 degrees C and a 1 March starting date. Degree-day prediction methods may be more reliable for targeting dates to time control programs than calendar dates. *Environmental entomology*. Oct 1988. v. 17 (5). p. 855-862. ill. Includes references. (NAL Call No.: DNAL QL461.E532).

0863

Seasonal activity of *Listronotus maculicollis* (Coleoptera: Curculionidae) on annual bluegrass.

JEENAI. Vittum, P.J. Tashiro, H. College Park, Md. : Entomological Society of America. *Journal of economic entomology*. Aug 1987. v. 80 (4). p. 773-778. Includes references. (NAL Call No.: DNAL 421 J822).

0864

Seed production of Kentucky Bluegrass as influenced by insects, fertilizers, and sod management.

KAEBBA. Spencer, J.T. Jewett, H.H.; Fergus, E.N. Lexington, Ky. : The Station. *Bulletin - Kentucky Agricultural Experiment Station*. Documents available from: Agriculture Library, Agricultural Science Center - North, University of Kentucky, Lexington, Kentucky 40546-0091. June 1949. (535). 44 p. ill. Includes references. (NAL Call No.: DNAL 100 K41 (2)).

0865

Sex attractant for the bluegrass webworm (Lepidoptera: Pyralidae).

JEENAI. Clark, J.D. Haynes, K.F. Lanham, Md. : Entomological Society of America. Blends of (Z)-11-hexadecenal (Z11-16:Ald) and (Z)-9-hexadecenal (Z9-16:Ald) were evaluated for their effectiveness in trapping male bluegrass webworms, *Parapediasia teterrella* (Zincken). Sticky traps baited with rubber septa containing a 20:1 blend of Z11-16:Ald and Z9-16:Ald caught significantly more male bluegrass webworm adults than traps containing 200:3, 2:1, or 1:1 blends, or either compound alone, but not more than a 20:3 blend of the same compounds (Z11-16:Ald/Z9-16:Ald). Males responded to a wide range of doses of the 20:1 blend (0.1-3 mg). This blend of Z11/Z9-16:Ald provides an effective means of detecting the presence of males and may prove to be useful in monitoring the population size of an insect that is otherwise difficult to sample. *Journal of economic entomology*. June 1990. v. 83 (3). p. 856-859. Includes references. (NAL Call No.: DNAL 421 J822).

0866

Short-term effects of insecticidal applications on predaceous arthropods and oribatid mites in Kentucky bluegrass turf.

Cockfield, S.D. EVETB. Potter, D.A. College Park : Entomological Society of America. *Environmental entomology*. Aug 1983. v. 12 (4). p. 1260-1264. Includes references. (NAL Call No.: QL461.E532).

0867

Sod webworm.

Roselle, Robert E. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583 1979. Examines the damage and control measures for sod webworm. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: G 75-231).

0868

Sod webworm : biology and control.

Kennedy, M. Keith. Document available from: Michigan State Univ., Bulletin Office, P.D. Box 231, East Lansing, Michigan 48824 1981. This discusses the biology, control, and identification, and how to diagnose damage from the sod webworm. 4 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: Extension Bulletin E-1480).

0869

Sod webworms (lawn moths) in lawns.

Ali, A.D. Harivandi, M.A. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21441). 2 p. ill. (NAL Call No.: DNAL S544.3.C2C3).

0870

Survey of Virginia homeowner preferences in lawn care.

Robinson, W.H. Blacksburg, Va. : Virginia Cooperative Extension Service. *Proceedings - Virginia Turfgrass Conference and Trade Show*. Nov 1985. (24th). p. 39-42. (NAL Call No.: DNAL SB433.34.V8V47).

0871

Susceptibility of Kentucky bluegrass cultivars and selection to infestations of and injury by the bluegrass billbug (Coleoptera: Curculionidae) (*Poa pratensis*, *Sphenophorus parvulus*, New Jersey).

Ahmad, S. Funk, C.R. Lawrence, Kan., The Society. *Journal of the New York Entomological Society*. Mar 1982. v. 90 (1). p. 31-34. Includes 3 ref. (NAL Call No.: 420 N48J).

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0872

Susceptibility of 'Tifton 68' and 'Coastal' bermudagrass to the Mexican rice borer.

CRPSAY, Browning, H.W. Hussey, M.A. Madison, Wis. : Crop Science Society of America. Field observations in 1984 indicated a difference between 'Tifton 68' (*Cynodon nlemfuensis* Vanderyst) and 'Coastal' *C. dactylon* (L.) Pers. bermudagrass in susceptibility to the Mexican rice borer, *Eoreuma loftini* (Dyar). Results from random samples verified the differential susceptibility of these two cultivars. In replicated 1-m² plots, an average of 38% of Tifton 68 stolons were damaged by *E. loftini* and 15% contained live borers, compared with 0.8% borer damage in Coastal and the absence of live borers in that cultivar. The recovery of pupae and pupal exuviae demonstrated the ability of *E. loftini* to successfully complete its life cycle on Tifton 68. The transportation of vegetative material of Tifton 68 and its role in the spread of this pest is discussed. Other forage grasses susceptible to damage by *E. loftini* are listed. Crop science. Mar/Apr 1987. v. 27 (2). p. 358-360. Includes references. (NAL Call No.: DNAL 64.8 C883).

0873

Tough guys: controlling fire ants, mole crickets and ground pearls.

Cobb, P. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Jan 1988. v. 23 (1). p. 40, 44, 46. ill. (NAL Call No.: DNAL SB476.G7).

0874

Toxicity of selected insecticides to white grub (*Cyclocephala* spp.) in southern California Kentucky bluegrass plantings.

Bowen, W.R. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1983. v. 33 (1/4). p. 3-4. (NAL Call No.: DNAL 60.18 S08).

0875

Trichomes: a potential defense against grass bugs.

UTSCB. Campbell, W.F. Ling, Y.H. Logan : The Station. Utah Science - Utah Agricultural Experiment Station. Spring 1985. v. 46 (1). p. 6-9. ill. (NAL Call No.: DNAL 100 UT1F).

0876

Trigonotylus doddi (Distant) as a pest of bermudagrass: damage potential, population dynamics, and management by cutting.

Buntin, G.D. Clemson, S.C. : South Carolina Entomological Society. Journal of agricultural entomology. Oct 1988. v. 5 (4). p. 217-224.

Includes references. (NAL Call No.: DNAL SB599.J69).

0877

Turf-eating caterpillars.

Shetlar, D.J. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Nov 1986. v. 21 (11). p. 10-11, 14, 16, 72. ill. (NAL Call No.: DNAL SB476.G7).

0878

Turf insect pest control guide.

Mahr, D.L. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. July 1984. (2934). 5 p. (NAL Call No.: DNAL S544.3.W6W53).

0879

Turf insects.

Schuder, D.L. West Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. In subseries: Ornamental Insects. Oct 1986. (61.rev.). 2 p. ill. (NAL Call No.: DNAL SB844.I6P8).

0880

Turf insects.

Schuder, D.L. Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. Aug 1985. (61.rev.). 2 p. ill. (NAL Call No.: DNAL SB844.I6P8).

0881

Turf pest calendar / prepared by Dr. Dave Langston. -

Langston, Dave. (Tucson University of Arizona, Cooperative Extension Service 1980?). Caption title ~Pesticide Applicator Training collection. 1 leaf : ill. ; 28 cm. (NAL Call No.: SB608.G8L36).

0882

Turfgrass and dichondra pests. -

Dennis, Robert E. (Tucson Cooperative Extension Service, University of Arizona 1980?). Caption title ~Pesticide Applicator Training collection. 4 p. ; 22 x 28 cm. (NAL Call No.: SB608.G8T8).

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0883

Turfgrass chemical update: insecticides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1991. v. 26 (2). p. 52, 54. (NAL Call No.: DNAL SB476.G7).

0884

Turfgrass chemical update: insecticides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1989. v. 24 (2). p. 36, 38. (NAL Call No.: DNAL SB476.G7).

0885

Turfgrass chemical update: insecticides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1988. v. 23 (2). p. 46, 48. (NAL Call No.: DNAL SB476.G7).

0886

Turfgrass chemical update: insecticides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1987. v. 22 (2). p. 22, 24. ill. (NAL Call No.: DNAL SB476.G7).

0887

Turfgrass disorder: sod webworms.
Mahr, D.L. Kachadoorian, R. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Aug 1984. (3271). 2 p. ill. (NAL Call No.: DNAL S544.3.W6W53).

0888

Turfgrass disorder: white grubs.
Mahr, D.L. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Aug 1984. (3275). 3 p. ill. (NAL Call No.: DNAL S544.3.W6W53).

0889

Turfgrass pest control recommendations for professionals.
Landry, G. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Apr 1988. (984). 24 p. (NAL Call No.: DNAL 275.29 G29B).

0890

Understanding the complexities of sod webworm control in Virginia.
Tolley, M.P. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 62-66. (NAL Call No.: DNAL SB433.34.V8V47).

0891

Use of radiography in behavioral studies of turfgrass-infesting scarab grub species (Coleoptera: Scarabaeidae).
Villani, M.G. Wright, R.J. Lanham, Md. : The Society. Bulletin of the Entomological Society of America. Fall 1988. v. 34 (3). p. 132-144. ill. Includes references. (NAL Call No.: DNAL 423.9 EN8).

0892

The vertical migration of white grubs after peak adult flight in west Texas.
SENTD. Bueno, R. Stone, J.D. Jr.; Hinojos, J. College Station, Tex. : Southwestern Entomological Society. The Southwestern entomologist. Mar 1988. v. 13 (1). p. 1-9. Includes references. (NAL Call No.: DNAL QL461.S65).

0893

White grubs in lawns.
Ali, A.D. Harivandi, M.A. Berkeley, Calif. : The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1987. (21442). 2 p. (NAL Call No.: DNAL S544.3.C2C3).

0894

White grubs of Phyllophaga congrua infest tall fescuegrass.
Crocker, R.L. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4666). p. 25-26. Includes references. (NAL Call No.: DNAL 100 T31P).

0895

Yellow sugarcane aphid: insect numbers and feeding damage to bermudagrass and centipedegrass (Sipha flava, Cynodon dactylon, Eremochloa ophiuroides).
Wiseman, B.R. FETMA. Skinner, J.L.; Lynch, R.E. Gainesville : Florida Entomological Society. Florida entomologist. Dec 1982. v. 65 (4). p. 577-578. (NAL Call No.: 420 F662).

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0896

1981 turf insect pest control guide.

Mahr, D.L. Madison, Wis., The Programs.
Publication - Cooperative Extension Programs,
University of Wisconsin Extension. Mar 1981.
Mar 1981. (A2934). 3 p. (NAL Call No.:
S544.3.W6W53).

nuts, and vegetables. Additionally, it lists suggested insecticides for recreation areas, flowers, trees and shrubs, turfgrass, gold courses, commercial Christmas trees, and household pests. It provides basic information about insecticides, calibration, and addresses and telephone numbers of Poison Control Centers in Arkansas. Cover title.~ "United States Department of Agriculture and county governments cooperating."~ Includes index.~ "MP144-9M-1-90RV"--P. 2 of cover. 135 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.2.A82J6).

0897

1982 turf insect pest control guide (Wisconsin).

Mahr, D.L. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Mar 1982. Mar 1982. (A2934). 4 p. Includes references. (NAL Call No.: S544.3.W6W53).

0898

1982 turfgrass pest control.

Fermanian, T. W. Shurtleff, M. C.; Randell, R. Document available from: University of Illinois, Agricultural Publications Office, 1301 Gregory Dr., Urbana, Illinois 61801 1981. This publication gives information on pest control of turfgrass. Products which chemically control weeds, insects, and diseases are listed. 5 p. (NAL Call No.: Document available from source.).(NAL Call No.: Circular 1076).

0899

1988 insect, disease and weed pest management guide commercial application for trees and shrubs /prepared by Roscoe Randell ... et al. .

Randell, Roscoe. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1988 . Abstract: Developed for use by Illinois commercial lawn and tree care personnel, municipal arborists, urban foresters, and nurserymen but not for homeowners or home gardeners, this guide provides pesticide recommendations for controlling insect and disease pests of ornamental trees and shrubs and weeds in landscape plantings. It also contains information on integrated pest management, pesticide classification and names, and safe and proper pesticide use. Caption title.~ "January 1988.". 23 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1264 1988).

0900

1990 insecticide recommendations for Arkansas / prepared by Donald R. Johnson and Bill F. Jones .

Johnson, Donald R. Jones, Bill F. Fayetteville, Ark. : Cooperative Extension Service, University of Arkansas, 1990? . Abstract: This guide contains 1990 insecticide recommendations for Arkansas for insect pests of specific animals, field crops, fruit and

PESTS OF PLANTS - NEMATODES

0901

Acremonium endophyte inhibits root-knot nematode reproduction in tall fescue.
AKFRAC. Elmi, A.A. West, C.P.; Kirkpatrick, T.L.; Robbins, R.T. Fayetteville, Ark. : The Station. Arkansas farm research - Arkansas Agricultural Experiment Station. Nov/Dec 1990. v. 39 (6). p. 3. (NAL Call No.: DNAL 100 AR42F).

0902

Comparative nematicidal efficacies of several commercial products on bermudagrass.
Tarjan, A.C. Frederick, J.J. s.l. : The Society. Proceedings of the ... annual meeting of the Florida State Horticulture Society. June 1985. v. 97. p. 300-304. ill. Includes references. (NAL Call No.: DNAL SB319.2.F6F56).

0903

Control of *Hoplolaimus galeatus* on bluegrass, 1979 (Bluegrass (*Poa pratensis*), lance nematode; *Hoplolaimus galeatus*).
Miller, P.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 235. (NAL Call No.: 464.9 AM31R).

0904

Control of turfgrass nematodes, 1981 (Bermudagrass (*Cynodon dactylon* 'Tifway 419'), sting nematode; *Belonolaimus longicaudatus*, lance nematode; *Hoplolaimus galeatus*, stubby-root nematode; *Trichodorus christiei*, ring nematode; *Macroposthonia* sp.).
Kräusz, J.P. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 189. (NAL Call No.: 464.9 AM31R).

0905

Distribution of plant-parasitic nematodes in putting green turfgrass in Washington (*Helicotylenchus pseudorobustus*, *Criconebella* species, *Paratylenchus nanus*, *Tylenchorhynchus maximus*, correlation with stress damage in *Poa annua*).
Chastagner, G.A. McElroy, F.D. St. Paul, American Phytopathological Society. Plant disease. Feb 1984. v. 68 (2). p. 151-153. ill. Includes references. (NAL Call No.: 1.9 P69P).

0906

Effects of nematicide formulations on turfgrass nematodes.
Peacock, C.H. Dunn, R.A. S.l. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1986. v. 45. p. 185-188. Includes references. (NAL Call No.: DNAL 56.9 S032).

0907

Evaluation of nematicides for sting nematode control on bermudagrass fairways, 1984.
FNETD. Lucas, L.T. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1985. v. 40. p. 95. (NAL Call No.: DNAL 464.9 AM31R).

0908

Evaluation of nematicides for the control of nematodes in turfgrass, 1979 (Bentgrass (creeping) (*Agrostis palustris*), stylet nematode; *Tylenchorhynchus* sp., lance nematode; *Hoplolaimus* sp.).
Nutter, F.W. Jr. Sanders, P.L.; Cole, H. Jr.; Broscius, S. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 235. (NAL Call No.: 464.9 AM31R).

0909

Evaluation of three nematicides for the control of phytoparasitic nematodes in 'Tifgreen II' bermudagrass.
AANEFF. Giblin-Davis, R.M. Cisar, J.L.; Bilz, F.G. Lawrence, Kan. : Society of Nematologists. Annals of applied nematology. Oct 1988. v. 2. p. 46-49. Includes references. (NAL Call No.: DNAL SB998.N4A5).

0910

Fungicide effects on *Acremonium endophyte*, plant-parasitic nematodes, and thatch in Kentucky bluegrass and perennial ryegrass.
PLDIDE. Dernoeden, P.H. Krusberg, L.R.; Sardanelli, S. St. Paul, Minn. : American Phytopathological Society. Plant disease. Nov 1990. v. 74 (11). p. 879-881. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0911

Genotypic variability in bermudagrass damage by ectoparasitic nematodes.
HJHSA. Tarjan, A.C. Busey, P. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1985. v. 20 (4). p. 675-676. Includes 9 references. (NAL Call No.: DNAL SB1.H6).

(PESTS OF PLANTS - NEMATODES)

0912

Isazophos, a promising turf nematocide with low mammalian toxicity.

Trjan, A.C. Frederick, J.J. S.I. : The Society. Proceedings - Soil and Crop Science Society of Florida. 1984. v. 43. p. 183-188. ill. Includes references. (NAL Call No.: ONAL 56.9 S032).

0913

Isolates of the *Pasteuria penetrans* group from phytoparasitic nematodes in bermudagrass turf.

JONEB. Giblin-Davis, R.M. McDaniel, L.L.; Bilz, F.G. Lake Alfred, Fla. : Society of Nematologists. Journal of nematology. Supplement to the Journal of Nematology (Annals of Applied Nematology). Oct 1990. v. 22 (4S). p. 750-762. ill. Includes references. (NAL Call No.: ONAL QL391.N4J62).

0914

Nemacur residues in turfgrass.

CAGRA. Peterson, O. Winterlin, W.; Costello, L.R. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Mar/Apr 1986. v. 40 (3/4). p. 26-27. ill. (NAL Call No.: DNAL 100 C12CAG).

0915

Nematicides for control of needle nematode, 1979 (*Bluegrass* (*Poa pratensis* cv. Merion), *needle nematode*; *Longidorus breviannulatus*).

Miller, P.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 235. (NAL Call No.: 464.9 AM31R).

0916

Nematode impact on root growth.

Krusberg, L.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 41-42. (NAL Call No.: ONAL SB433.34.V8V47).

0917

The nematode problem in New England.

Swier, S.R. Far Hills, N.J. : United States Golf Association. USGA Green Section record. July/Aug 1987. v. 25 (4). p. 4-6. ill. (NAL Call No.: DNAL 60.18 UN33).

0918

Phytonematology study guide /Michael V. McKenry and Philip A. Roberts.

McKenry, Michael V. Roberts, Philip A. Oakland, California : Publications, Division of Agriculture and Natural Resources, University of California, c1985. Abstract: This is a required guide for the nematode category licensing of California Licensed Pest Control Advisers. It includes nematode descriptions, distribution patterns within California, damage and symptomology, methods of soil sampling, and ways to manage nematode problems. Considerable information on nematicides, including their characteristics, mode of action, and methods of application is provided. Other features are appendices, a glossary, a bibliography, many illustrations, and tables. Helpful information for growers is presented. "Formerly published under the title, Study guide for agricultural pest control advisors on nematodes and nematicides.". viii, 56 p. : ill. ; 28 cm. "Suggested reading": p. 56. (NAL Call No.: DNAL SB998.N4M32).

0919

Preplant nematode control for new turf, 1979 (*Ryegrass* (*Lolium multiflorum* cv. Manhattan), *bluegrass* (*Poa pratensis* cv. Merion), *dagger nematode*; *Xiphinema americanum*).

Miller, P.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 236. (NAL Call No.: 464.9 AM31R).

0920

Reaction of nematode-infected centipede grass turf to pesticidal and non-pesticidal treatments (*Eremochloa ophiuroides*, *Hemicyclophora parvana*, *Macroposthonia sphaerocephala*, *Belonolaimus longicaudatus*, Florida).

Tarjan, A.C. Frederick, J.J. S.I., The Society. Proceedings of the ... annual meeting of the Florida State Horticultural Society. 1981 (pub. 1982). v. 94. p. 225-227. Includes 2 ref. (NAL Call No.: 81 F66).

0921

Reviewing nematodes and how they affect turfgrasses.

Oernoeden, P.H. College Park, Md. : The Service. The Agronomist - Cooperative Extension Service, University of Maryland. Feb 1986. v. 23 (2). p. 11-12. (NAL Call No.: ONAL S71.A46).

0922

Role of a soil fungicide and two nematicides in maintaining bermudagrass and creeping bentgrass turf (*Cynodon dactylon*, *Agrostis palustris*).
Sturgeon, R.V. Jr. Jackson, K.E. Madison, Wis., American Society of Agronomy, c1980.
Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 293-300. Bibliography p. 299-300. (NAL Call No.: SB433.I57 1977).

0923

Turf disease control (Fungi, nematodes).
Crowe, F.J. Manhattan, Kan., The Service. C - Kansas State University, Cooperative Extension Service. Apr 1982. Apr 1982. (647). 8 p. (NAL Call No.: 275.29 K13EX).

0924

Turfgrass pest control recommendations for professionals: 1989.
Murphy, T. Landry, G. Jr.; Brown, E.; Hudson, W. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Jan 1989. (984,rev.). 28 p. (NAL Call No.: DNAL 275.29 G29B).

0925

Understanding the nematodes potential for damage.
Krusberg, L.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 74-75. (NAL Call No.: DNAL SB433.34.V8V47).

PLANT DISEASES - GENERAL

0926

Advances in turfgrass entomology : a collection of papers presented at the Symposium on Turfgrass Insects, October 14-15, 1980, Columbus, Ohio / editors, H.D. Niemczyk, B.G. Joyner. -

Niemczyk, H. D.; Joyner, B. G. Columbus, Ohio Chemlawn 1982. x, 150 p. : ill. ; 29 cm. Includes bibliographies. (NAL Call No.: SB608.G8S92 1980).

0927

Biotechnology and turfgrass research: A glimpse into the future.

McKell, C.M. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Mar/Apr 1987. v. 25 (2). p. 17-20. ill. (NAL Call No.: DNAL 60.18 UN33).

0928

Category 3 : ornamental/turf pest control, manual 89 / assembled by Members of Extension Pesticide Training Team. -

(Columbia) University of Missouri, Cooperative Extension Service 1981. This manual was developed in cooperation with the Missouri Department of Agriculture and the Coop Extension Service, University of Missouri ~Pesticide Applicator Training collection. 109 p. in various pagings : ill. (some col.) ; 29 cm. (NAL Call No.: SB950.2.M8C37).

0929

Certification training manual for ornamental and turf pest control / assembled by Cooperative Extension Service. -

Las Cruces, N.M. available from New Mexico Dept. of Agriculture, Division of Pesticide Management (1980?). Cover title ~Pesticide Applicator Training collection. 1 v. (various pagings) : ill. (some col.) ; 28 cm. Includes bibliographical references. (NAL Call No.: SB950.2.N6C4).

0930

Chemical control of ornamental, tree and turf diseases in Wyoming.

Roth, D.WAEB. Laramie : The Station. Bulletin - B - Wyoming, Agricultural Experiment Station. Apr 1981. Apr 1981. (B-698-2R). 29 p. (NAL Call No.: 100 W99 (1)).

0931

Chemical guide to insect, disease, and weed control on turf--1981.

Ascerno, Mark E. Stienstra, Ward C. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1981. This publication gives information for pest control for turfgrass using chemicals. 8 p. (NAL Call No.: Document available from source.). (NAL Call No.: Ext Fol 551).

0932

Control of spring dead spot on bermudagrass.

Hagan, A. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. In subseries: Pest Management. May 1987. (371). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

0933

Control of turfgrass pests.

Street, John R. Powell, Charles C.; Miller, Richard L. 1981. This publication discusses turfgrass pests and includes tables on weeds, diseases, and insect pests and their controls, insecticide precautions, and dilution rates. Document available from: Ext. Office of Information, Ohio State University, 2120 Fyffe Road, Columbus, OH 43210. 12 p. (NAL Call No.: Not available at NAL.). (NAL Call No.: L187).

0934

Controlling turfgrass pests /Malcolm C. Shurtleff, Roscoe Randell, Thomas W. Fermanian. --

Shurtleff, M. C. Randell, Roscoe.; Fermanian, Thomas W. Englewood Cliffs, N.J. : Prentice-Hall, c1987. "A Reston book.". xiii, 449 p. : ill. ; 24 cm. Includes bibliographies and index. (NAL Call No.: DNAL SB608.T87S48).

0935

Disease control in home lawns.

WUEXA. Chastagner, G. Byther, R.S. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. June 1989. (0938,rev.). 4 p. (NAL Call No.: DNAL 275.29 W27P).

0936

Disease control in the home lawn.

WAEB. Beaupre, C.M.S. Vincelli, P.C. Laramie, Wyo. : The Station. B - Wyoming Agricultural Experiment Station. Mar 1990. (937). 2 p. (NAL Call No.: DNAL 100 W99 (1)).

(PLANT DISEASES - GENERAL)

0937

Disease control in the landscape / author, Charles C. Powell, Jr.
Powell, Charles C. Columbus, OH : Ohio State University, Cooperative Extension Service, c1988. Abstract: This publication discusses plant health management including correct diagnosis and determination of causes of ornamental plant problems, recognition of infectious diseases, knowledge of different types of plant pathogens, and integrated nonchemical and chemical control methods. It contains charts of common general and specific diseases of landscape plants in Ohio providing descriptions and suggested remedies or prevention tactics. Cover title.~ "Agdex 271/636.". 38 p. : col. ill. ; 28 cm. Bibliography: p. 37. (NAL Call No.: DNAL 275.29 DH32 no.614 1988).

0938

Disease control in the nursery with special reference to woody and herbaceous perennials / author, Charles C. Powell
Powell, Charles C. Columbus, Ohio? : Ohio Cooperative Extension Service, Ohio State University, 1987. Abstract: This publication discusses strategies for and steps involved in disease management in the nursery with emphasis on woody and herbaceous perennial ornamentals. It includes information on plant pathogens and the diseases they cause, soil fumigation, lists of common diseases of ornamentals in Ohio, pesticide recommendations, dilution and conversion tables and Ohio Poison Information Centers. Cover title.~ "Agdex 275/636."~ "1/87-4M Revised"--P. i. 24 p. : col. ill. ; 28 cm. (NAL Call No.: DNAL 275.29 DH32 no.571 1987).

0939

Disease extent and control determined for golf courses (Turfgrasses, Pennsylvania).
Sanders, P.L. University Park, Pa., The Station. Science in agriculture - Pennsylvania Agricultural Experiment Station. Summer 1982. v. 29 (4). p. 16. (NAL Call No.: 100 P381S).

0940

Diseases of turfgrasses in lawns.
Lucas, L.T. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 72-75. (NAL Call No.: DNAL SB433.34.V8V47).

0941

Insect and disease control on lawn and turf areas.
Vasvary, L.M. Davis, S.H. Jr. New Brunswick. Leaflet Rutgers, the State University. Cooperative Extension Service. 1980. 1980. (442-I). 8 p. ill. (NAL Call No.: 275.29 N46L).

0942

Insects and diseases of lawns.
Jones, B.F. Johnson, D.R.; McDaniel, M.C. Little Rock, Ark. : The Service. Leaflet EL - University of Arkansas, Cooperative Extension Service. Sept 1987. (414,rev.). 11 p. (NAL Call No.: DNAL 275.29 AR4LE).

0943

Ornamental and turf pest control.
Cott, A. E. Epstein, Abraham H.; Jennings, Vivian M.; Ryan, Stephen D. & Iowa Commercial Pesticide Applicator Manual. Document available from: Iowa State Univ., Publications Distribution, Printing & Publications Bldg., Ames, Iowa 50011 1981. This publication describes diseases, weeds, insects, and ways to apply pesticides without endangering animals, pets, and humans. 61 p. : ill. (NAL Call No.: Document available from source.)(NAL Call No.: CS-15).

0944

Ornamental and turf pest control. --.
Athens, Ga. : Cooperative Extension Service, The University of Georgia, College of Agriculture, 1982. Cover title. 34 p. : ill. ; 28 cm. --. (NAL Call No.: DNAL SB950.A1562 no.10 1982).

0945

Ornamental and turf pest control / compiled by V. Rodney Coleman ; contributing authors: Ed A. Brown ... et al.
Coleman, V. Rodney.; Brown, Edward Angus, 1948-. Athens Ga. : Cooperative Extension Service, University of Georgia, College of Agriculture, 1987. Abstract: This manual provides information to aid in preparation for certification examinations in ornamental and turf pest control and/or interiorscapes. Its four major sections are: Ornamentals, Turf, Trees and Interiorscapes. It includes pest identification, selection and application of pesticides, and safety information. Cover title.~ "This manual was developed in cooperation with the Georgia Department of Agriculture.". 49 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.A1562 no.10 1987).

(PLANT DISEASES - GENERAL)

0946

Ornamental and turf pest control / Dr. Wayne Currey ... (et al.). -
Currey, Wayne. Gainesville Cooperative Extension Service, University of Florida (1978?). Pesticide Applicator Training collection. iii, 44 p. : ill. ; 28 cm. (NAL Call No.: SB950.2.F606).

0947

Ornamental and turf pests L.D. Rodriguez. -
Rodriguez, L. D. (Kentucky Dept. of Entomology, University of Kentucky?) 1981. Pesticide Applicator Training collection ~Includes script for part I of slides only: Insects. 160 slides : col. + 1 script. (NAL Call No.: Slide no.16).

0948

Ornamental and turfgrass pest identification and control / (compiled by Landon C. Miller). -
Miller, Landon Carl. Clemson, S.C. Clemson University, Cooperative Extension Service 1979. Cover title ~Pesticide Applicator Training collection. 70 p. : ill. ; 28 cm. --. (NAL Call No.: SB950.2.S6M5).

0949

Patch diseases of turfgrass caused by ectotrophic fungi are difficult to control.
Endo, R.M. Ohr, H.D.; McCain, A.H. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1989. v. 39 (1/2). p. 1-4. ill. Includes references. (NAL Call No.: DNAL 60.18 S08).

0950

Plant pathology fact sheet: major diseases of lawns and turf.
Brown, E.A. II. Athens, Ga. : The Service. Leaflet - Cooperative Extension Service, University of Georgia. Oct 1989. (367,rev.). 6 p. ill. (NAL Call No.: DNAL 275.29 G29L).

0951

Role of fire for disease control in grass seed production.
Hardison, J.R. AR-W. St. Paul, Minn., American Phytopathological Society. Plant disease. July 1980. v. 64 (7). p. 641-645. ill. 13 ref. (NAL Call No.: 1.9 P69P).

0952

Sharing learning experiences and thoughts on fairway spraying for disease control.
Fisher, D. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 46. (NAL Call No.: DNAL SB433.34.V8V47).

0953

Tall fescue gaining popularity as a turfgrass.
CAGRA. Ali Harivandi, M. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Sept/Oct 1987. v. 41 (9/10). p. 9-11. ill. (NAL Call No.: DNAL 100 C12CAG).

0954

Turfgrass disease control recommendations / by David B. Schroeder. -
Schroeder, David B. Storrs Cooperative Extension Service, College of Agriculture and Natural Resources, University of Connecticut 1979. Caption title ~At head of title: Plant diseases ~Pesticide Applicator Training collection ~"April 1979.". 2 p. : ill. ; 28 cm. (NAL Call No.: SB608.G8S3).

0955

Wisconsin turf diseases and their control.
Worf, G.L. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. 1982. 1982. (A3187). 10 p. (NAL Call No.: S544.3.W6W53).

0956

1986 turfgrass pest control /prepared by T.W. Fermanian, M.C. Shurtleff, and R. Randall.
Fermanian, Thomas W. Shurtleff, Malcolm C.; Randall, R. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1985. Cover title. 1 folded sheet (5 p.) ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1076 1986).

0957

1988 insect, disease and weed pest management guide commercial application for trees and shrubs /prepared by Roscoe Randell ... et al. .
Randell, Roscoe. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1988 . Abstract: Developed for use by Illinois commercial lawn and tree care personnel, municipal arborists, urban foresters, and nurserymen but not for homeowners or home

gardeners, this guide provides pesticide recommendations for controlling insect and disease pests of ornamental trees and shrubs and weeds in landscape plantings. It also contains information on integrated pest management, pesticide classification and names, and safe and proper pesticide use. Caption title.~ "January 1988.". 23 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1264 1988).

0958

1990 pest control recommendations for turfgrass managers.

Brandenburg, R.L. Bruneau, A.H.; DiPaola, J.M.; Lewis, W.M.; Lucas, L.T.; Peacock, C.H.; Kay, S.H. Raleigh, N.C. : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Dec 1989. (408,rev.). 12 p. (NAL Call No.: DNAL S544.3.N6N62).

PLANT DISEASES - FUNGAL

0959

About brown patch and its control in 1985 tests.

Dernoeden, P.H. College Park, Md. : The Service. The Agronomist - Cooperative Extension Service, University of Maryland. Aug 1986. v. 23 (8). p. 10-11. (NAL Call No.: DNAL S71.A46).

0960

Anthraxose development on annual bluegrass in response to nitrogen carriers and fungicide application (Turfgrasses, Colletotrichum graminicola, Poa annua, fungus diseases, Ohio).

Danneberger, T.K.AGJOA. Vargas, J.M. Jr.; Rieke, P.E.; Street, J.R. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1983. v. 75 (1). p. 35-38. ill. 14 ref. (NAL Call No.: 4 AM34P).

0961

Application of fungicides in winter for control of diseases of Kentucky bluegrass, 1980 (Bluegrass (Kentucky) (Poa pratensis 'Kenblue'), Helminthosporium leaf spot; Helminthosporium spp., Fusarium blight; Fusarium spp.).

Hartman, J.R. Powell, A.J. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1981. v. 36. p. 146. (NAL Call No.: 464.9 AM31R).

0962

Apron controls Pythium in developing turf.

Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1988. v. 23 (9). p. 72, 74. ill. (NAL Call No.: DNAL SB476.G7).

0963

Arsenate herbicide stress and incidence of summer patch on Kentucky bluegrass turfs.

PLDRA. Smiley, R.W. Craven Fowler, M.; O'Knefski, R.C. St. Paul, Minn. : American Phytopathological Society. Plant disease. Jan 1985. v. 69 (1). p. 44-48. ill. Includes 32 references. (NAL Call No.: DNAL 1.9 P69P).

0964

Association of an endophytic fungus in perennial ryegrass and resistance to the hairy chinch bug (Hemiptera: Lygaeidae).

JEENAI. Mathias, J.K. Ratcliffe, R.H.; Hellman, J.L. Lanham, Md. : Entomological Society of America. Laboratory tests demonstrated that 'Repell,' a cultivar of perennial ryegrass, *Lolium perenne* L., infected with the fungal endophyte, *Acremonium lolii* Latch, Christensen & Samuels, exhibited a high level of insect

resistance to the hairy chinch bug, *Blissus leucopterus hirtus* Montandon. First and third instars and adult hairy chinch bugs reared on endophyte-infected plants had significantly lower survival. On endophyte-free 'Repell,' nymphs and adults resided primarily on the leaf sheath. In contrast, on endophyte-infected 'Repell,' nymphs and adults either avoided the plant or resided only on the endophyte-free leaf blade. Nymphs were able to detect the presence of the endophyte in a choice test and consistently selected endophyte-free 'Repell.' These results support field observations of resistance in association with endophyte-infected ryegrass and suggest that the incorporation of endophytes into ryegrass will lead to significant reductions in hairy chinch bug infestations. *Journal of economic entomology*. Aug 1990. v. 83 (4). p. 1640-1646. Includes references. (NAL Call No.: DNAL 421 J822).

0965

The biologic assessment of thiophanate-methyl.

XATBA. Washington, D.C. : The Department. Technical bulletin - United States Dept. of Agriculture. Nov 1985. (1679). 27 p. Includes 54 references. (NAL Call No.: DNAL 1 AG84TE).

0966

Brown patch & dollar spot diseases of lawns & turfs (Rhizoctonia solani, Sclerotinia homoeocarpa, in Georgia, control).

Brown, E.A. II. Athens, Ga., The Service. Leaflet - Cooperative Extension Service, University of Georgia. Sept 1981. Sept 1981. (16). 4 p. ill. (NAL Call No.: 275.29 G29L).

0967

Chemical control of brown patch on perennial ryegrass, 1979 (Ryegrass (perennial) (Lolium perenne 'Manhattan'), brown patch, Rhizoctonia solani).

Wehner, D. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1981. v. 36. p. 151. (NAL Call No.: 464.9 AM31R).

0968

Chemical control of dollarspot on bermudagrass, 1982 (Sclerotinia homoeocarpa infecting Cynodon dactylon).

Hagan, A.FNETD. (s.l.) : The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1983. v. 38. p. 187. (NAL Call No.: 464.9 AM31R).

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0969

Chemical control of Fusarium blight syndrome, 1982 (Kentucky bluegrass, *Poa pratensis*).
Fowler, M.C.FNETD. Smiley, R.W. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 195. (NAL Call No.: 464.9 AM31R).

0970

Chemical control of Fusarium blight, 1981 (Bluegrass (Kentucky) (*Poa pratensis* 'Merion'), Fusarium blight; etiology uncertain).
Smiley, R.W. Fowler, M.C.; Hsu, L.W.T. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 154. (NAL Call No.: 464.9 AM31R).

0971

Chemical control of powdery mildew on Kentucky bluegrass.
CAGRA. Ohr, H.D. Murphy, M.K.; Krausman, E.M.; Van Dam, J.; Endo, R.M. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Nov/Dec 1987. v. 41 (11/12). p. 12. ill. (NAL Call No.: DNAL 100 C12CAG).

0972

Chemical control of turfgrass diseases.
Clarke, B.B. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. Apr 1988. (184,rev.). 2 p. (NAL Call No.: DNAL S544.3.N5F7).

0973

Chemical control of Typhula and Fusarium snow molds, 1978-79 (Bluegrass (annual) (*Poa annua*), pink snow mold; Fusarium nivale, gray snow mold; Typhula incarnata).
Nutter, F.W. Jr. Sanders, P.L.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 156. (NAL Call No.: 464.9 AM31R).

0974

Colonization of bentgrass turf by Curvularia lunata after leaf clipping and heat stress.
PLDIDE. Muchovej, J.J. Couch, H.B. St. Paul, Minn. : American Phytopathological Society. Plant disease. Oct 1987. v. 71 (10). p. 873-875. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0975

Comparative control of Sclerotium rolfsii on golf greens in northern California with fungicides, inorganic salts, and Trichoderma spp.
PLDRA. Punja, Z.K. Grogan, R.G.; Unruh, T. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1982. v. 66 (12). p. 1125-1128. ill. Includes references. (NAL Call No.: DNAL 1.9 P69P).

0976

Comparative water-use rates and efficiencies, leaf diffusive resistances, and stomatal action of healthy and stripe-smutted Kentucky bluegrass.
CRPSAY. Nus, J.L. Hodges, C.F. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1986. v. 26 (2). p. 321-324. Includes references. (NAL Call No.: DNAL 64.8 C883).

0977

Comparison of standard and reduced rates on fungicide combinations for brown patch control and algae development in turf, 1982 (Rhizoctonia solani and unidentified algae species on creeping bentgrass, Agrostis palustris).
Dernoeden, P.H.FNETD. Kackley, K.E. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 189. (NAL Call No.: 464.9 AM31R).

0978

Comparisons of fungicide formulations for controlling snow mold, 1979 (Bentgrass and annual bluegrass (*Agrostis palustris* and *Poa annua*), Typhula blight; Typhula spp., Fusarium patch; Fusarium nivale).
Smiley, R.W. Craven, M.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 155-156. (NAL Call No.: 464.9 AM31R).

0979

Control of winter diseases, 1985.
FNETD. Fowler, M.C. Smiley, R.W.; Dudonnes, J.W.; Stark, W. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 159-160. (NAL Call No.: DNAL 464.9 AM31R).

(PLANT DISEASES - FUNGAL)

0980

Control of disease resembling Fusarium blight, 1979 (Bluegrass (Kentucky) (*Poa pratensis*), summer blight; cause undetermined).
Worf, G.L. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1980. v. 35. p. 163. (NAL Call No.: 464.9 AM31R).

0981

Control of Fusarium blight with fungicides under fairway conditions in mixed Kentucky bluegrass-annual bluegrass, 1979 (Bluegrass (mixed) (*Poa pratensis*, *Poa annua*), Fusarium blight; Fusarium roseum, Fusarium tricinctum).
Sanders, P.L. Nutter, F.W. Jr.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1980. v. 35. p. 164. (NAL Call No.: 464.9 AM31R).

0982

Control of Fusarium blight with fungicides under fairway conditions in mixture of Kentucky bluegrass and annual bluegrass, 1981 (Bluegrass (mixed) (*Poa pratensis*, *Poa annua*), Fusarium blight; Fusarium roseum, Fusarium tricinctum).
Gilbride, E.P. Sanders, P.L.; Houser, W.J.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1982. v. 37. p. 155. (NAL Call No.: 464.9 AM31R).

0983

Control of Fusarium blight with fungicides under fairway conditions in mixture of Kentucky bluegrass and annual bluegrass, 1980 (Bluegrass (mixed) (*Poa pratensis*, *Poa annua*), Fusarium blight; Fusarium roseum, Fusarium tricinctum).
Sanders, P.L. Gilbride, E.P.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1981. v. 36. p. 148. (NAL Call No.: 464.9 AM31R).

0984

Control of Fusarium blight with fungicides, 1980 (Bluegrass (mixed) (*Poa pratensis*, *Poa annua*), Fusarium blight; Fusarium spp.).
Smiley, R.W. Kane, R.T. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1981. v. 36. p. 148. (NAL Call No.: 464.9 AM31R).

0985

Control of Helminthosporium leaf spot and crown rot on Kentucky bluegrass in the spring, 1979 (Bluegrass (Kentucky) (*Poa pratensis* 'Windsor'), Helminthosporium leaf spot and crown rot; Helminthosporium spp.).
Gabert, J.R. Bell, R.J.; Kageyama, M.E.; Hodges, D.M.; Scott, D.G. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1980. v. 35. p. 158. (NAL Call No.: 464.9 AM31R).

0986

Control of Helminthosporium leaf spot and crown rot on Kentucky bluegrass, 1979 (Bluegrass (Kentucky) (*Poa pratensis*), Helminthosporium leaf spot and crown rot; Helminthosporium sp.).
Nutter, F.W. Jr. Sanders, P.L.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1980. v. 35. p. 160-161. (NAL Call No.: 464.9 AM31R).

0987

Control of Helminthosporium leaf spot and crown rot on Kentucky bluegrass, 1980 (Bluegrass (Kentucky) (*Poa pratensis*), Helminthosporium leaf spot and crown rot; Helminthosporium sp.).
Gilbride, E.P. Nutter, F.W. Jr.; Sanders, P.L.; Cole, H. Jr. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1981. v. 36. p. 145-146. (NAL Call No.: 464.9 AM31R).

0988

Control of Helminthosporium leaf spot and crown rot on Kentucky bluegrass, 1981 (Bluegrass (Kentucky) (*Poa pratensis* 'Delta'), Helminthosporium leaf spot and crown rot; Helminthosporium spp.).
Gilbride, E.P. Sanders, P.L.; Houser, W.J.; Duich, J.M. (s.l.), The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1982. v. 37. p. 152-153. (NAL Call No.: 464.9 AM31R).

0989

Control of Helminthosporium leaf spot and crown rot on Kentucky bluegrass, 1982 (Drechslera poae, *Poa pratensis*).
Houser, W.J. FNETD. Sanders, P.L.; Cole, H. Jr. (s.l.): The Society. Fungicide and nematocidal tests; results - American Phytopathological Society. 1983. v. 38. p. 199-200. (NAL Call No.: 464.9 AM31R).

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0990

Control of leaf spot, 1985.

FNETD. Fowler, M.C. Smiley, R.W. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 156. (NAL Call No.: DNAL 464.9 AM31R).

0991

Control of Pythium blight with fungicide treatments, 1979 (Ryegrass (*Lolium perenne*), *Pythium* blight; *Pythium aphanidermatum*).

Sanders, P.L. Nutter, F.W. Jr.; Cole, H. Jr.; Duich, J.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 165. (NAL Call No.: 464.9 AM31R).

0992

Control of Pythium blight with fungicide treatments, 1980 (Ryegrass (perennial) (*Lolium perenne* 'Pennfine'), *Pythium* blight; *aphanidermatum*).

Gilbride, E.P. Sanders, P.L.; Cole, H. Jr.; Duich, J.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 150-151. (NAL Call No.: 464.9 AM31R).

0993

Control of Pythium blight with fungicide treatments, 1980 (Ryegrass (perennial) (*Lolium perenne* 'Pennfine'), *Pythium* blight; *Pythium aphanidermatum*).

Gilbride, E.P. Sanders, P.L.; Cole, H. Jr.; Duich, J.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 150. (NAL Call No.: 464.9 AM31R).

0994

Control of Pythium blight with fungicide treatments, 1981 (Ryegrass (Perennial) (*Lolium perenne* 'Pennfine'), *Pythium* blight; *Pythium aphanidermatum*).

Sanders, P.L. Gilbride, E.P.; Houser, W.J.; Duich, J.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 156-157. (NAL Call No.: 464.9 AM31R).

0995

Control of Pythium blight with fungicide treatments, 1982 (*Pythium aphanidermatum* on perennial ryegrass, *Lolium perenne*).

Sanders, P.L. FNETD. Houser, W.J.; Duich, J.M. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological

Society. 1983. v. 38. p. 202. (NAL Call No.: 464.9 AM31R).

0996

Control of Pythium blight with fungicide treatments, 1984.

FNETD. Sanders, P.L. Parish, P.J. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1985. v. 40. p. 196-197. (NAL Call No.: DNAL 464.9 AM31R).

0997

Control of Pythium blight with fungicide treatments, 1985.

FNETD. Parish, P.J. Sanders, P.L. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 161. (NAL Call No.: DNAL 464.9 AM31R).

0998

Control of spring dead spot of bermudagrass.

CAGRA. Ohr, H.D. Murphy, M.K.; Krausman, E.M.; Endo, R.M.; Henry, J.M. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. July/Aug 1987. v. 41 (7/8). p. 11. ill. (NAL Call No.: DNAL 100 C12CAG).

0999

Control of spring dead spot of bermudagrass (*Cynodon dactylon*) with fungicides in North Carolina.

Lucas, L.T. St. Paul, Minn., American Phytopathological Society. Plant disease. Sept 1980. v. 64 (9). p. 868-870. 12 ref. (NAL Call No.: 1.9 P69P).

1000

Control of spring leaf spot and crown rot on Kentucky bluegrass, 1984.

FNETD. Parish, P.J. Sanders, P.L.; Cole, H. Jr. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1985. v. 40. p. 191. (NAL Call No.: DNAL 464.9 AM31R).

1001

Control of stem rust on Kentucky bluegrass, 1980 (Bluegrass (Kentucky) (*Poa pratensis* 'Touchdown'), stem rust; *Puccinia graminis*).

Watkins, J.E. Houfek, J.A.; Sherman, R.C. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 147-148. (NAL Call

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No.: 464.9 AM31R).

1002

Control of the fungal endophyte *Acremonium coenophialum* in seed and established plants of tall fescue.

Backman, P.A. Williams, M.J.; Pedersen, J.F. Corvallis, Or. : Oregon State University Extension Service, 1983. Proceedings, Forage & Turfgrass Endophyte Workshop : May 3-4, 1983, Nendel's Inn, Corvallis, Oregon. p. 77-82. (NAL Call No.: DNAL SB193.F67 1983).

1003

Control of the fungal endophyte *Acremonium coenophialum* in seed and established plants of tall fescue.

Williams, M.J. Backman, P.A. Athens, Ga. : Cooperative Extension Service, The Univ. of Georgia College of Agriculture, 1983. Proceedings : Tall Fescue Toxicosis Workshop, March 17-18, 1983, Atlanta, Ga. p. 52-58. (NAL Call No.: DNAL SB201.T34T34 1983).

1004

Control of turf brown patch /Malcolm C. Shurtleff, Jr.

Shurtleff, Malcolm C. Kingston, R.I. : Agricultural Experiment Station, University of Rhode Island, 1955. Cover title. 25 p. : ill. ; 23 cm. Bibliography: p. 25. (NAL Call No.: DNAL 100 R34S (2) no.328).

1005

Control of *Typhula* blight and pink snow mold of creeping bentgrass and residual suppression of dollarspot by triadimefon and propiconazole.

PLDIDE. Burpee, L.L. Mueller, A.E.; Hannusch, D.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. Sept 1990. v. 74 (9). p. 687-689. Includes references. (NAL Call No.: DNAL 1.9 P69P).

1006

Control of yellow ring in Kentucky bluegrass swards.

PLDIDE. Wilkinson, H.T. St. Paul, Minn. : American Phytopathological Society. Plant disease. Feb 1988. v. 72 (2). p. 137-139. Includes references. (NAL Call No.: DNAL 1.9 P69P).

1007

Controlling brown patch on warm-season turfgrasses.

Hagan, A.K. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. In subseries: Pest Management. July 1987. (492). 2 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

1008

Controlling spring dead spot on bermudagrass.

Hagan, A. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Agriculture & Natural Resources. Plant Pathology. May 1988. (371). 2 p. (NAL Call No.: DNAL S544.3.A2C47).

1009

Cultural and environmental aspects of '*Helminthosporium*' leaf spot.

Hodges, C.F. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 76-80. (NAL Call No.: DNAL SB433.34.V8V47).

1010

Cultural practices to control fungus diseases in turf (as exemplified by *Helminthosporium*).

Colbaugh, P. Overland Park, Kan., Intertec. Grounds maintenance. Jan 1980. v. 15 (1). p. 48, 52, 54. ill. (NAL Call No.: SB476.G7).

1011

Curative control of dollar spot, 1985.

FNETD. Fowler, M.C. Smiley, R.W. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 151-152. (NAL Call No.: DNAL 464.9 AM31R).

1012

Curative control of red thread in a Kentucky bluegrass blend, 1985.

FNETD. Dernoeden, P.H. Marshall, J. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1986. v. 41. p. 158. (NAL Call No.: DNAL 464.9 AM31R).

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1013

Development of Drechslera sorokiniana on sequentially senescent leaves of Poa pratensis exposed to postemergence herbicide combinations (Leaf spot, Kentucky bluegrass, 2,4-dichlorophenoxyacetic acid, 2-(2,4,5-trichlorophenoxy)propionic acid, 2-(2-methyl-4-chlorophenoxy)-propionic acid, dicamba).

Hodges, C.F. St. Paul, Minn. : American Phytopathological Society. Plant disease. Mar 1984. v. 68 (3). p. 213-215. Includes references. (NAL Call No.: 1.9 P69P).

1014

Disease control challenges of the past and present.

Jackson, N. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 4-7. (NAL Call No.: DNAL SB433.34.V8V47).

1015

Disease control in home lawns (Symptoms, cultural control, fungicidal control, Washington).

Chastagner, G. Byther, R.S.; Goss, R.L. Pullman, Wash., The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Aug 1981. Aug 1981. (O938). 4 p. (NAL Call No.: 275.29 W27P).

1016

Disease extent and control determined for golf courses (Turfgrasses, Pennsylvania).

Sanders, P.L. University Park, Pa., The Station. Science in agriculture - Pennsylvania Agricultural Experiment Station. Summer 1982. v. 29 (4). p. 16. (NAL Call No.: 100 P381S).

1017

Disease of lawngrass.

Couch, H.B. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for home ornamental plants / coordinated by J.M. Luna. Jan 1988. (456-004,rev.). p. 43-46. (NAL Call No.: DNAL S544.3.V8V52).

1018

Diseases of turfgrass.

Couch, H.B. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for turfgrass / coordinated by J.M. Luna. Jan 1988. (456-009,rev.). p. 7-10. (NAL Call No.: DNAL S544.3.V8V52).

1019

Distinct variety of Kentucky bluegrass (Poa pratensis) (Highly apomictic, good resistance to stripe smut, Helminthosporium leafspot, dollarspot, and rust, dense turf, excellent for lawns and as seed producer).

Baker, R.J. Troutman, P.R. (n.p.), The Office. Plant patent - United States Patent Office. Feb 13, 1979. Feb 13, 1979. (4380). 6 p. plate. (NAL Call No.: 156.65 P69).

1020

Dollar spot control with Actidione TGF, Bayleton, & Daconil 2787, 1980 (Bluegrass (annual) (Poa annua), dollar spot; Sclerotinia homeocarpa).

Worf, G.L. Avenius, R.C.; Harrison, T.R.; Smith, R.J. (s.l.), The Society. Fungicide and nematode tests; results - American Phytopathological Society. 1981. v. 36. p. 143-144. (NAL Call No.: 464.9 AM31R).

1021

Dollar spot fungicide trials--1980 (Sclerotinia homeocarpa, turf).

Troll, J. Hadley, Mass., Massachusetts Turf and Lawn Grass Council. Turf bulletin. Spring 1981. "b v. 18, i.e. 17. Spring 1981. "b v. 18, i.e. 17. p. 12-13. (NAL Call No.: 60.18 T846).

1022

Dollar spot of turfgrass.

Roberts, D. L. Vargas, J. M. Jr.; Danneberger, T. K.; Kelly, K. J. & Turf tips. Document available from: Michigan State University, Bulletin Office, P.O. Box 231, East Lansing, Michigan 48824 1981. Discusses symptoms; causal agent; disease cycle; cultural management; and chemical management. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: EB E-1540).

(PLANT DISEASES - FUNGAL)

1023

Drechslera leaf spot control on Kentucky bluegrass, 1981 (Bluegrass (Kentucky) (*Poa pratensis* 'Fylking'), leaf spot; *Drechslera poae*).

Fowler, M.C. Smiley, R.W. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 151. (NAL Call No.: 464.9 AM31R).

1024

Drechslera leafspot control on Kentucky bluegrass, 1982 (Leaf spot, *Drechslera poae* on Kentucky bluegrass, *Poa pratensis*).

Fowler, M.C.FNETD. Smiley, R.W. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 196. (NAL Call No.: 464.9 AM31R).

1025

Effect of *Acremonium* endophytes on four species of billbug found on New Jersey turfgrasses.

JOSH.B. Johnson-Cicalese, J.M. White, R.H. Alexandria, Va. : The Society. Laboratory studies were conducted to determine the effects of *Acremonium* endophytes on four species of billbug (Coleoptera: Curculionidae: *Sphenophorus parvulus* Gyllenhal, *S. venatus* (Say), *S. inaequalis* Say, and *S. minimus* Hart) found damaging cool-season turfgrasses in New Jersey. Billbug adults feeding on potted tall fescue (*Festuca arundinacea* Schreb.) plants infected with *Acremonium coenophialum* Morgan-Jones and Gams showed significantly greater mortality than billbugs feeding on endophyte-free tall fescue. Little difference was observed in amount of feeding. In petri dish preference tests, billbug adults were given a choice and, again, no significant difference was observed in the amount of feeding on endophyte-free versus endophyte-infected tall fescue tillers. In a third experiment, billbug adults were placed in petri dishes with either tall fescue with or without *A. coenophialum* or perennial ryegrass (*Lolium perenne* L.) with or without *Acremonium lolii* Latch, Christensen, and Samuels. Only small differences were seen in number of eggs laid and amount of feeding. Mortality of all four billbug species, however, was greater on both grasses when endophyte-infected. Journal of the American Society for Horticultural Science. July 1990. v. 115 (4). p. 602-604. Includes references. (NAL Call No.: DNAL 81 S012).

1026

Effect of chlorophenoxy herbicides on soluble sugars and on pathogenesis by *Drechslera sorokiniana* in sequentially senescent leaves of *Poa pratensis* (Leaf spot).

Madsen, J.P.PHYTA. Hodges, C.F. St. Paul : American Phytopathological Society.

Phytopathology. Sept 1983. v. 73 (9). p. 1296-1299. Includes references. (NAL Call No.: 464.8 P56).

1027

Effect of water stress and infection by *Ustilago striiformis* or *Urocystis agropyri* on leaf turgor and water potentials of Kentucky bluegrass.

CRPSAY. Nus, J.L. Hodges, C.F. Madison, Wis. : Crop Science Society of America. Crop science. Mar/Apr 1985. v. 25 (2). p. 322-326. ill. Includes 31 references. (NAL Call No.: DNAL 64.8 C883).

1028

Effects of inorganic salts, carbonate-bicarbonate anions, ammonia, and the modifying influence of pH on sclerotial germination of *Sclerotium rolfsii* (Bentgrass, *Agrostis palustris*, annual bluegrass, *Poa annua*).

Punja, Z.K. Grogan, R.G. St. Paul, American Phytopathological Society. Phytopathology. June 1982. v. 72 (6). p. 635-639. 41 ref. (NAL Call No.: 464.8 P56).

1029

Endophyte labeling from a regulatory standpoint.

Moose, G.H. Athens, Ga. : Cooperative Extension Service, The Univ. of Georgia College of Agriculture, 1983. Proceedings : Tall Fescue Toxicosis Workshop, March 17-18, 1983, Atlanta, Ga. p. 70. (NAL Call No.: DNAL SB201.T34T34 1983).

1030

Ethylene biosynthesis in *Poa pratensis* leaves in response to injury or infection by *Bipolaris sorokiniana*.

PHYTAJ. Coleman, L.W. Hodges, C.F. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Sept 1987. v. 77 (9). p. 1280-1283. Includes references. (NAL Call No.: DNAL 464.8 P56).

1031

Evaluation of commercial fungicides for *Fusarium* blight control in bluegrass, 1979 (Bluegrass (Kentucky) (*Poa pratensis* 'Park-Newport-Delta' blend), *Fusarium* blight; *Fusarium* spp.).

Nesmith, W.C. Carrow, R.N. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 160. (NAL Call No.: 464.9 AM31R).

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1032

Evaluation of experimental and labelled turf fungicides on Helminthosporium and Fusarium diseases in turf, 1979 (Bluegrass (Kentucky) (Poa pratensis), Helminthosporium leaf spot; Helminthosporium spp., Fusarium blight; Fusarium spp.).

Nesmith, W.C. Carrow, R.N. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 159-160. (NAL Call No.: 464.9 AM31R).

1033

Evaluation of fungicides for control of Fusarium blight on Kentucky bluegrass, 1979 (Bluegrass (Kentucky) (Poa pratensis), Fusarium blight; Fusarium roseum).

Powell, A.J. Hartman, J.R. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 161. (NAL Call No.: 464.9 AM31R).

1034

Evaluation of fungicides for control of Helminthosporium leaf spot in Kentucky bluegrass, 1982 (Poa pratensis).

Scott, D.H.FNETD. Akers, D.P. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 197-198. (NAL Call No.: 464.9 AM31R).

1035

Evaluation of fungicides for control of Helminthosporium leaf spot in Kentucky bluegrass, 1984.

FNETD. Scott, D.H. Zink, R. s.l. : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1985. v. 40. p. 193. (NAL Call No.: DNAL 464.9 AM31R).

1036

Evaluation of fungicides for control of Helminthosporium leaf spot in Kentucky bluegrass, 1981 (Bluegrass (Kentucky mixture) (Poa pratensis), Helminthosporium leaf spot; Helminthosporium spp.).

Scott, D.H. Akers, D.P. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 153-154. (NAL Call No.: 464.9 AM31R).

1037

Evaluation of fungicides for control of Helminthosporium leaf spot of Kentucky bluegrass, 1982 (Drechslera poae, Poa pratensis).

Hartman, J.R.FNETD. Clinton, W.; Powell, A.J. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 197. (NAL Call No.: 464.9 AM31R).

1038

Evaluation of fungicides for control of Helminthosporium leaf spot on Kentucky bluegrass, 1979 (Bluegrass (Kentucky) (Poa pratensis 'Kenblue'), Helminthosporium leaf spot; Helminthosporium spp.).

Hartman, J.R. Powell, A.J. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 158-159. (NAL Call No.: 464.9 AM31R).

1039

Evaluation of fungicides for control of leaf spot in Kentucky bluegrass, 1985.

FNETD. Scott, D.H. s.l. : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1986. v. 41. p. 157. (NAL Call No.: DNAL 464.9 AM31R).

1040

Evaluation of fungicides for control of leaf spot of Kentucky bluegrass, 1985.

FNETD. Hartman, J.R. Clinton, W.; Powell, A.J. s.l. : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1986. v. 41. p. 156-157. (NAL Call No.: DNAL 464.9 AM31R).

1041

Evaluation of fungicides for control of melting out on Kentucky bluegrass, 1981 (Bluegrass (Kentucky) (Poa pratensis), melting out; Drechslera poae).

Larsen, P.O. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 148-149. (NAL Call No.: 464.9 AM31R).

1042

Evaluation of fungicides for control of Poa annua summer decline, 1982 (Diseases of annual bluegrass).

Crowe, F.J.FNETD. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 194. (NAL Call No.: 464.9 AM31R).

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1043

Evaluation of fungicides for control of stem rust on Kentucky bluegrass, 1981 (Bluegrass (Kentucky) (*Poa pratensis* 'Touchdown'), stem rust; *Puccinia graminis*).
Watkins, J.E. Houfek, J.A.; Wiebe, W.L. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 154-155. (NAL Call No.: 464.9 AM31R).

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Evaluation of fungicides for curative control of Fusarium blight on Kentucky bluegrass, 1981 (Bluegrass (Kentucky blend) (*Poa pratensis*), Fusarium blight; *Fusarium* spp.).
Dernoeden, P.H. Nash, A.S. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 151. (NAL Call No.: 464.9 AM31R).

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Evaluation of fungicides for curative control of leaf spot and crown rot of Kentucky bluegrass, 1979 (Bluegrass (Kentucky) (*Poa pratensis*), leaf spot and crown rot; *Drechslera poae* (*Helminthosporium vagans*)).
Spilker, D.A. Larsen, P.O. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 162. (NAL Call No.: 464.9 AM31R).

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Evaluation of fungicides for prevention of dollar spot and brown patch of creeping bentgrass, 1986.
Hartman, J.R. Clinton, W.; Powell, A.J. Jr. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986.~ Includes statistical data. Apr 1987. (303). p. 21-22. (NAL Call No.: DNAL 100 K41PR).

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Evaluation of fungicides for preventive and curative control of Fusarium blight on Kentucky bluegrass, 180 (Bluegrass (Kentucky blend) (*Poa pratensis*), Fusarium blight; *Fusarium* spp.).
Dernoeden, P. Minner, D. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 145. (NAL Call No.: 464.9 AM31R).

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Evaluation of fungicides on Helminthosporium and Fusarium diseases in Kentucky bluegrass, 1980 (Bluegrass (Kentucky) (*Poa pratensis* 'Park'), Helminthosporium leaf spot and crown rot; *Helminthosporium* spp., Fusarium blight; *Fusarium roseum*, *Fusarium tricinctum*).
Crowe, F.J. Carrow, R.N.; O'Neill, K.; Sills, M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 144-145. (NAL Call No.: 464.9 AM31R).

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Evaluation of Triademefon formulations and combinations for fairway dollarspot control, 1982 (*Sclerotinia homoeocarpa* on annual bluegrass, *Poa annua*).
Worf, G.L.FNETD. Tolkacz, T.R.; Smith, R.J. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 198-199. (NAL Call No.: 464.9 AM31R).

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Evaluations of fungicides and combinations for fairway dollar spot control, 1981 (Bluegrass (annual) (*Poa annua*) dollar spot; *Sclerotinia homoeocarpa*).
Worf, G.L. Avenius, R.C.; Smith, R.J. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 149-150. (NAL Call No.: 464.9 AM31R).

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Failure of metalaxyl to control Pythium blight on turfgrass in Pennsylvania (*Pythium aphanidermatum*).
Sanders, P.L. St. Paul, Minn. : American Phytopathological Society. Plant disease. Sept 1984. v. 68 (9). p. 776-777. Includes 12 references. (NAL Call No.: 1.9 P69P).

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Fairy ring.
Vargas, J. M. Jr. Kelly, K. J. & Turf tips. Document available from: Michigan State University, Bulletin Office, P.O.Box 231, East Lansing, Michigan 48824 1981. Discusses symptoms; occurrence; cultural management; and chemical management. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: EB E-1544).

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Fairy rings in turf.

IAXBA. Ensign, R.D. Fenwick, H.S. Moscow, Idaho : The Station. Bulletin - Idaho Agricultural Experiment Station. Nov 1987. (676). 4 p. ill. Includes references. (NAL Call No.: DNAL 100 ID14).

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Fairy rings in Wyoming lawns (Fungi, symptoms, control).

Roth, D.A. BAESD. Laramie : The Service. Bulletin - Wyoming University, Agricultural Extension Service. Aug 1982. Aug 1982. (699). 2 p. ill. (NAL Call No.: 275.29 W99B).

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Fairy rings in Wyoming lawns (Turfgrass, edible and poisonous mushrooms (fungi)).

Roth, D.A. Laramie, Wyo., The Station. Bulletin - B - Wyoming. Agricultural Experiment Station. Apr 1980. Apr 1980. (699). 2 p. ill. (NAL Call No.: 100 W99 (1)).

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Fall disease control on warm season grasses.

Blasingame, D. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1987. v. 22 (8). p. 68, 70. ill. (NAL Call No.: DNAL SB476.G7).

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Focus on winter turf--preventing disiccation.

Watschke, T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Oct 1988. v. 23 (10). p. 66, 68, 70. ill. (NAL Call No.: DNAL SB476.G7).

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Fungicide and location effects on dollar spot control, 1981 (Bluegrass (annual) (Poa annua) dollar spot; Sclerotinia homoeocarpa).

Worf, G.L. Avenius, R.C.; Bergdoll, G.; Miller, H. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 150-151. (NAL Call No.: 464.9 AM31R).

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Fungicide control of Helminthosporium leaf spot, 1979 (Bluegrass (Kentucky) (Poa pratensis), leaf spot; Helminthosporium spp.).

Watkins, J.E. Shearman, R.C. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society.

1980. v. 35. p. 163. (NAL Call No.: 464.9 AM31R).

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Fungicide evaluation for preventative control of snowscald, 1984.

FNETD. Brown, W.M. Jr. Rasmussen-Dykes, C. s.l. : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1985. v. 40. p. 189. (NAL Call No.: DNAL 464.9 AM31R).

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Fungicide evaluation for the control of dollar spot, 1979 (Bluegrass (Kentucky) (Poa pratensis 'Nugget'), dollar spot; Sclerotinia homoeocarpa).

Mulrooney, R.P. Hendricks, G. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 159. (NAL Call No.: 464.9 AM31R).

1062

Fungicide evaluation to control rust on ryegrass, 1981 (Ryegrass (Lolium perenne), leaf rust; Puccinia coronata).

Worf, G.L. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 157. (NAL Call No.: 464.9 AM31R).

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Fungicides for controlling Fusarium blight of Kentucky bluegrass, 1979 (Bluegrass (Kentucky) (Poa pratensis 'Merion'), Fusarium blight; Fusarium sp.).

Smiley, R.W. Craven, M.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 161-162. (NAL Call No.: 464.9 AM31R).

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Fusarium blight and necrotic ring spot affecting Wisconsin bluegrass turf.

Worf, Gayle L. Avenius, Robert. ; Newman, Robert C. & Urban phytonarian series. 1981. This publication discusses the control and identification of Fusarium Blight and Necrotic Ring Spot. Document available from: Agricultural Bulletin Bldg., 1535 Observatory Drive, University of Wisconsin, Madison, Wisconsin 53706. 4 p. : ill. (NAL Call No.: A3127).

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Fusarium patch (Pink snow mold).

Vargas, J. M. Jr. Kelly, K. J. & Turf tips. Document available from: Michigan State University, Bulletin Office, P.O.Box 231, East Lansing, Michigan 48824 1981. Discusses symptoms; occurrence; cultural management; and chemical management. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: EB E-1543).

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Gerlachia (Fusarium) patch of turf (Gerlachia nivalis, control).

Byther, R.S. Goss, R.L.; Davidson, R. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Feb 1984. Feb 1984. (1108,rev.). 1 p. ill. (NAL Call No.: 275.29 W27P).

1067

Growth of Magnaporthe poae and Gaeumannomyces incrustans as affected by temperature-osmotic potential interactions.

PHYTA. Kackley, K.E. Grybauskas, A.P.; Dernoeden, P.H. St. Paul, Minn. : American Phytopathological Society. Two isolates of Magnaporthe poae and one isolate of Gaeumannomyces incrustans were grown at 20, 25, 30, and 35 C on a basal salts medium (-0.12 MPa) adjusted with KCl to obtain osmotic potentials from -0.12 to -2.35 MPa. Isolates of M. poae produced maximal growth at the highest osmotic potentials (-0.12 to -0.35 MPa) at 25 and 30 C. At 20 C, no significant (P = 0.05) shift in optimal growth was observed between -0.35 and -1.03 MPa. Significantly reduced growth of M. poae occurred at 35 C with an optimum between -1.03 and -1.47 MPa. Optimal growth of G. incrustans generally occurred at osmotic potentials between 0.23 and 0.68 MPa lower than that of the basal medium. Maximal growth at 20 C occurred between -0.80 and -1.3 MPa, whereas at 25 and 30 C maximal growth occurred between -0.35 and -0.80 MPa. There was no difference in growth of G. incrustans among any of the osmotic potentials tested at 35 C. G. incrustans produced more growth than the isolates of M. poae at all temperatures except 35 C. Based on these results, growth of M. poae, causal agent of summer patch of Kentucky bluegrass (Poa pratensis), would be restricted by drought at temperatures supraoptimal for the growth of Kentucky bluegrass, and summer patch is most likely to be severe at temperatures > 25 C when moisture is not limiting. Phytopathology. July 1990. v. 80 (7). p. 646-650. Includes references. (NAL Call No.: DNAL 464.8 P56).

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Helminthosporium diseases.

Colbaugh, P.F. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1986. v. 21 (6). p. 52, 54, 56. ill. (NAL Call No.: DNAL SB476.G7).

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Home lawn insect & disease control guide.

Cobb, P.P. Hagan, A.K. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Subseries: Agriculture & natural resources, pest management. Jan 1987. (324). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

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In vivo fungicide screening on field-grown turfgrasses.

Sanders, P. Cole, H. Jr. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 244-247. ill. Includes references. (NAL Call No.: DNAL SB960.M47 1986).

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In vivo fungicide screening on greenhouse-grown grasses.

Sanders, P. Cole, H. Jr. St. Paul, Minn. : APS Press, c1986. Methods for evaluating pesticides for control of plant pathogens / edited by Kenneth D. Hickey ; prepared jointly by the American Phytopathological Society and the Society of Nematologists. p. 110-111. (NAL Call No.: DNAL SB960.M47 1986).

1072

Influence of spray dilution on control of Helminthosporium leaf spot and crown rot, 1979 (Bluegrass (Kentucky) (Poa pratensis), Helminthosporium leaf spot and crown rot; Helminthosporium sp.).

Cole, H. Jr. Nutter, F.W. Jr.; Sanders, P.L. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 157. (NAL Call No.: 464.9 AM31R).

1073

Influence of temperature-soil water status interactions on the development of summer patch in Poa spp.

PHYTA. Kackley, K.E. Grybauskas, A.P.; Hill, R.L.; Dernoeden, P.H. St. Paul, Minn. : American Phytopathological Society. Kentucky

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bluegrass (*Poa pratensis*) cultivars Aspen and S-21 and annual bluegrass (*Poa annua*) were treated with live or killed inoculum of *Magnaporthe poae* and incubated in growth chambers at four temperatures (20, 25, 30, 30, 35 C) and four water-stress conditions corresponding to inferred soil matric potential ranges of > -0.05, -0.05 to -0.40, -0.40 to -0.80, or -0.80 to -1.20 MPa. All plants grown at 35 C died of supraoptimal temperature stress before disease symptoms developed. Disease developed only in plants receiving live inoculum. The area under the disease progress curve for disease incidence was greatest in annual bluegrass at all temperatures, and at 30 C for all grasses. At 20 C, disease incidence and symptom expression were greatest at -0.05 to -0.40 MPa. At 25 and 30 C, disease incidence and symptom expression were greatest at > -0.05 MPa. There was a reduction in quality of asymptomatic plants within pots inoculated with live *M. poae* when compared with plants receiving killed inoculum. Summer patch was most severe in plants growing at supraoptimal temperature stress of 25 or 30 C and high soil moisture. Temperature, but not severe drought stress, appears to be a key factor in summer patch development. *Phytopathology*. July 1990. v. 80 (7). p. 650-655. Includes references. (NAL Call No.: DNAL 464.8 P56).

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Influence of washing on residual activity of two ryegrass seed treatment fungicides.
Colbaugh, P.F. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4339-A). p. 93-95. Includes references. (NAL Call No.: DNAL 100 T31P).

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Interaction of sequential leaf senescence of *Poa pratensis* and pathogenesis by *Drechslera sorokiniana* as influenced by postemergent herbicides.
Hodges, C.F. St. Paul, Minn., American Phytopathological Society. *Phytopathology*. July 1980. v. 70 (7). p. 628-630. ill. 22 ref. (NAL Call No.: 464.8 P56).

1076

Kentucky bluegrass (*Poa pratensis* variety Merit Kentucky, high level of resistance to disease, especially leaf spot, *Helminthosporium*, *Sclerotinia homoeocarpa*).
Mayer, E.W. Fuchigami, T.T. (n.p.), The Office. Plant patent - United States Patent Office. Nov 28, 1978. Nov 28, 1978. (4336). 4 p. plate. (NAL Call No.: 156.65 P69).

1077

Leaf and root growth of water-stressed Kentucky bluegrass infected by *Ustilago striiformis* or *Urocystis agropyri*.
CRPSAY, Nus, J.L. Hodges, C.F. Madison, Wis. : Crop Science Society of America. *Crop science*. Jan 1985. v. 25 (1). p. 97-101. ill. Includes 30 references. (NAL Call No.: DNAL 64.8 C883).

1078

Management of herbicide and fertility levels on weeds and Kentucky bluegrass turf (*Poa pratensis*, *Digitaria sanguinalis*, *Taraxacum officinale*, *Corticiu fuciforme*).
Johnson, B.J. Bowyer, T.H. Madison, Wis., American Society of Agronomy. *Agronomy journal*. Sept/Oct 1982. v. 74 (5). p. 845-850. 17 ref. (NAL Call No.: 4 AM34P).

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Managing snow molds.
Vargas, J.M. Jr. Overland Park, Kan. : Intertec Publishing Corporation. *Grounds maintenance*. Sept 1986. v. 21 (9). p. 14, 16, 18, 20. ill. (NAL Call No.: DNAL SB476.G7).

1080

Managing turfgrass diseases.
Sanders, P.L. University Park, Pa. : The Service. Extension circular - Pennsylvania State University, Agricultural Extension Service. Oct 1986. (339). 17 p. ill. (NAL Call No.: DNAL S544.3.P4E8).

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Maximizing the effectiveness of turfgrass fungicides.
Couch, H.B. Blacksburg, Va. : Virginia Cooperative Extension Service. *Proceedings - Virginia Turfgrass Conference and Trade Show*. Dec 1987. (27th). p. 28-32. (NAL Call No.: DNAL SB433.34.V8V47).

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Mixing turfgrasses (*Poa pratensis*, *Lolium perenne*) controls *Fusarium* blight.
Gibeault, V.A. CA. Autio, R.; Spaulding, S.; Youngner, V.B. Berkeley, Calif., The Station. *California agriculture - California Agricultural Experiment Station*. Oct 1980. v. 34 (10). p. 11-12. ill. (NAL Call No.: 100 C12CAG).

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1083

Mower blade sharpness effects on turf (*Poa pratensis*, *Bipolaris sorokinianum*, disease susceptibility, thatch, Nebraska).
Steinegger, O.H.AGJOA. Shearman, R.C.; Riordan, T.P.; Kinbacher, E.J. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 479-480. Includes references. (NAL Call No.: 4 AM34P).

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New fungicides and fungicide combinations for gray snow mold control on putting greens, 1979 (Bentgrass (*Agrostis palustris*), bluegrass (annual) (*Poa annua*), gray snow mold; *Typhula incarnata*).

Marion, O.F. Vangellow, E.; Yount, E. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 140. (NAL Call No.: 464.9 AM31R).

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Nontarget effects of pesticides on turfgrasses (Includes fungal diseases).

Smiley, R.W. St. Paul, Minn., American Phytopathological Society. Plant disease. Jan 1981. v. 65 (1). p. 17-23. ill. 20 ref. (NAL Call No.: 1.9 P69P).

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Occurrence of *Acremonium coenophialum* in tall fescue in Tennessee.

PLORA. Long, E.A. Hilty, J.W. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1985. v. 69 (6). p. 467-468. maps. Includes 17 references. (NAL Call No.: ONAL 1.9 P69P).

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Patch diseases of turfgrass caused by ectotrophic fungi are difficult to control.

Endo, R.M. Ohr, H.O.; McCain, A.H. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1989. v. 39 (1/2). p. 1-4. ill. Includes references. (NAL Call No.: ONAL 60.18 S08).

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Pathogenicity and control of *Corticium fuciforme* /Lester E. Erwin.

Erwin, L. E. Kingston, R.I. : Agricultural Experiment Station of the Rhode Island State College, 1941. Cover title. 34 p. : ill. ; 23 cm. Bibliography: p. 34. (NAL Call No.: DNAL 100 R34S (2) no.278).

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Penicillium contamination of grass seed germination tests.

McGee, D.C. East Lansing, Association of Official Seed Analysts. Journal of seed technology. 1979. v. 4 (2). p. 18-23. 4 ref. (NAL Call No.: SB113.2.J6).

1090

Pest management series: Dollar spot of turfgrass (caused by *Sclerotinia homeocarpa*).

Sturgeon, R.V. Jr. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Jan 1984. Jan 1984. (2657). 2 p. ill. (NAL Call No.: S544.3.0505).

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Plant growth-regulating effects of systemic fungicides applied to Kentucky bluegrass (*Poa pratensis*, *Fusarium* blight control, growth inhibition).

Kane, r.T.AGJOA. Smiley, R.W. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 469-473. ill. Includes references. (NAL Call No.: 4 AM34P).

1092

Potassium influence on susceptibility of bermudagrass to *Helminthosporium cynodontis* toxin.

CRPSAY. Richardson, M.O. Croughan, S.S. Madison, Wis. : Crop Science Society of America. Inadequate K fertilization of bermudagrass, *Cynodon dactylon* (L.) Pers., can lead to stand loss and increased disease symptoms. This study was conducted to determine the relationship between fungal leaf spot (*Helminthosporium cynodontis* Marig.) susceptibility and K status of hybrid bermudagrass. Grazer' and Tifton 78' bermudagrass were grown in washed sand under six K fertilization rates (10, 30, 70, 100, 200, and 400 mg kg⁻¹) in a greenhouse. Plants were clipped three times at 28-d intervals and the K concentration in the tissue was determined. Prior to the final clipping, 4 mL of culture filtrate containing toxin (CFT) produced by *H. cynodontis* was sprayed in a fine mist on each plant. Plants were rated for disease severity according to leaf spot coverage after approximately 36 h. A curvilinear relationship was observed between disease severity and tissue K concentration. Leaf spotting increased when tissue K levels decreased below about 25 g/kg. Tifton 78 maintained higher tissue K levels at all fertilization rates due to lower biomass production and comparable amounts of K removed. Varietal differences should be considered when determining proper K fertilization rates from tissue analysis. Crop science. Sept/Oct 1989. v. 29 (5). p. 1280-1282. Includes references. (NAL Call No.: ONAL 64.8 C883).

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1093

Preemergence herbicides (benefin, bensulide, dacthal, siduron) and the severity of leaf spot caused by Drechslera sorokiniana on Poa pratensis.

Hodges, C.F. St. Paul, Minn., American Phytopathological Society. Phytopathology. July 1981. v. 71 (7). p. 720-722. 23 ref. (NAL Call No.: 464.8 P56).

1094

Preventative control of brown patch with fungicides, 1982 (Rhizoctonia solani on Italian ryegrass, Lolium multiflorum).

Dernoeden, P.H.FNETD. Kackley, K.E. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 201. (NAL Call No.: 464.9 AM31R).

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Preventative control of brown patch with standard and reduced rates on fungicides, 1982 (Rhizoctonia solani on perennial ryegrass, Lolium perenne).

Dernoeden, P.H.FNETD. Fry, J.D. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 200-201. (NAL Call No.: 464.9 AM31R).

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Preventative control of gray snow mold, 1982, 1983 and 1984.

FNETD. Rasmussen-Dykes, C. Brown, W.M. Jr.; Perotti, L.P. s.l. : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1985. v. 40. p. 192. (NAL Call No.: DNAL 464.9 AM31R).

1097

Preventative control of red thread with fungicides, 1982 (Laetisaria fuciformis on perennial ryegrass, Lolium perenne).

Dernoeden, P.H.FNETD. O'Neill, N.R.; Murray, J.J. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 201. (NAL Call No.: 464.9 AM31R).

1098

Preventative control of Typhula blight and Fusarium patch on a golf course fairway, 1982 (Typhula incarnata, Gerlachia nivalis, annual bluegrass, Poa annua).

Fowler, M.C.FNETD. Smiley, R.W. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society.

1983. v. 38. p. 195. (NAL Call No.: 464.9 AM31R).

1099

Preventing fungicide resistance.

Couch, H.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. July 1988. v. 23 (7). p. 54, 58. (NAL Call No.: DNAL SB476.G7).

1100

Progress report: chemical control of bluegrass (Poa pratensis) rust (caused by Puccinia striiformis, Poa graminis).

McCain, A.H. CA. Ohr, H.D.; Hanson, D.L.; Baldwin, R.L.; Henry, J.M. Berkeley, Calif., The Service. California turfgrass culture - University of California, Cooperative Extension Service. Winter 1980. v. 30 (1). p. 2-4. (NAL Call No.: 60.18 S08).

1101

Pyrrrolizidine alkaloid levels in tall fescue seed as influenced by seed age, location, and variety (Festuca arundinacea, Acremonium coenophialum, Epichloe typhina, summer syndrome, tall fescue toxicity).

Jones, T.A. Buckner, R.C.; Burrus, P.B. II. East Lansing, Mich. : Association of Official Seed Analysts. Journal of seed technology. 1983. v. 8 (1). p. 47-54. Includes references. (NAL Call No.: SB113.2.J6).

1102

Rapid tentative identification of Rhizoctonia spp. associated with diseased turfgrasses.

PLDRA. Martin, B. St. Paul, Minn. : American Phytopathological Society. Plant disease. Jan 1987. v. 71 (1). p. 47-49. ill. Includes references. (NAL Call No.: DNAL 1.9 P69P).

1103

Red thread of turfgrass.

WUEXA. Byther, R.S. Brauen, S.; Davidson, R.M. Jr. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. In subseries: Plant Diseases. Oct 1988. (1016,rev.). 2 p. ill. Includes references. (NAL Call No.: DNAL 275.29 W27P).

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1104

Red thread of turfgrass (caused by *Laetisaria fuciformis*, control).

Byther, R.S. Goss, R.L.; Davidson, R.M. Jr. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Feb 1984. Feb 1984. (1016,rev.). 1 p. ill. (NAL Call No.: 275.29 W27P).

1105

Reduced-rate fungicide mixtures to delay fungicide resistance and to control selected turfgrass diseases.

PLDRA. Sanders, P.L. Houser, W.J.; Parish, P.J.; Cole, H. Jr. St. Paul, Minn. : American Phytopathological Society. Plant disease. Nov 1985. . v. 69 (11). p. 939-943. ill. Includes 22 references. (NAL Call No.: DNAL 1.9 P69P).

1106

Residual effectiveness of fungicides for control of dollar spot, 1980 (Bluegrass (annual) (*Poa annua*), dollar spot; *Sclerotinia homoeocarpa*).

Worf, G.L. Avenius, R.C.; Smith, R.J. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 144. (NAL Call No.: 464.9 AM31R).

1107

Residual effects of previous fungicide applications on Drechslera leaf spot, 1981 (Bluegrass (Kentucky) (*Poa pretensis* 'Merion' + 'Fylking' + 'Pennstar'), leaf spot; *Drechslera poae*).

Fowler, M.C. Smiley, R.W. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 151-152. (NAL Call No.: 464.9 AM31R).

1108

Residual stripe smut control in Kentucky bluegrass with reduced fungicide levels.

HJHSA. Dernoeden, P.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1989. v. 24 (5). p. 796-798. Includes references. (NAL Call No.: DNAL SB1.H6).

1109

Resistance to fungicides.

Sanders, P.L. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1989. v. 24 (9). p. 74, 76, 104. (NAL Call No.: DNAL SB476.G7).

1110

Response of *Rhizoctonia* blights of tall fescue to selected fungicides in the greenhouse (*Rhizoctonia solani*, binucleate *Rhizoctonia*-like fungi, and *Rhizoctonia zeae*, *Festuca arundinacea*).

Martin, S.B. Campbell, C.L.; Lucas, L.T. St. Paul, Minn. : American Phytopathological Society. Phytopathology. July 1984. v. 74 (7). p. 782-785. Includes references. (NAL Call No.: 464.8 P56).

1111

***Rhizoctonia* brown patch.**

Danneberger, T. K. Vargas, J. M. Jr.; Roberts, D. L.; Kelly, K. J. & Turf tips. Document available from: Michigan State University, Bulletin Office, P.O.Box 231, East Lansing, Michigan 48824 1981. Discusses symptoms; disease cycle; cultural management; and chemical management. 1 sheet : ill. (NAL Call No.: Document available from source.)(NAL Call No.: EB E-1537).

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***Rhizoctonia* complex--a major lawn killer.**

Lucas, L.T. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 59-60. (NAL Call No.: DNAL SB433.34.V8P7 1983).

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Role of a soil fungicide and two nematicides in maintaining bermudagrass and creeping bentgrass turf (*Cynodon dactylon*, *Agrostis palustris*). Sturgeon, R.V. Jr. Jackson, K.E. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 293-300. Bibliography p. 299-300. (NAL Call No.: SB433.I57 1977).

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Role of drought stress in the development of summer patch in field-inoculated Kentucky bluegrass.

PHYTA. Kackley, K.E. Grybauskas, A.P.; Dernoeden, P.H.; Hill, R.L. St. Paul, Minn. : American Phytopathological Society. Field plots of Kentucky bluegrass (*Poa pratensis*) at two sites were treated with either live or killed inoculum of *Magnaporthe poae* (isolate ATCC 60239) and subjected to either a non-drought-stress (> -0.05 MPa) or drought-stress (< -0.05 MPa) treatment. Studies at site I were conducted on 1- and 2-yr-old stands of either the cultivar Aspen (resistant) or S-21 (susceptible). At site II, studies were

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conducted for one season on a 6-yr-old blend seeded as equal parts of Merion, Vantage, and Sydsport. Disease developed in the first year at both sites only in those plots receiving live inoculum. Disease was more severe in non-drought-stressed plots. There was no significant difference in disease development between cultivars at site I. In the second year at site I, disease developed where both live and killed inoculum had been placed. There was no significant difference in disease severity between stress treatments; however, there was consistently more disease in non-drought-stressed plots. Aspen was injured less than S-21 in the second year. Summer patch was more severe when soil water potentials were high, and drought stress was not a key predisposing factor in the development of this disease. *Phytopathology*. July 1990. v. 80 (7). p. 655-658. Includes references. (NAL Call No.: DNAL 464.8 P56).

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Sclerotium blight of cool-season turfgrasses in Southern California and its control (*Sclerotium rolfsii*, soil borne fungi).

Endo, R.M. Ohr, H.D.; Wilbur, W.D. Berkeley : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. Summer/Fall 1982. v. 32 (3/4). p. 6. (NAL Call No.: 60.18 S08).

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Smut of turfgrass.

MUCBA. Vargar, J.M. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Apr 1985. (1329). 2 p. ill. (NAL Call No.: DNAL 275.29 M58B).

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Snow mold of turfgrass.

WAEBA. Roth, D. Laramie : The Station. Bulletin B - Wyoming, Agricultural Experiment Station. Dec 1986. (868). 2 p. ill. (NAL Call No.: DNAL 100 W99 (1)).

1118

Soil and atmospheric moistures associated with fusarium crown rot and leaf blight of *Poa pratensis*.

PLDRA. Smiley, R.W. Thompson, D.C. St. Paul, Minn. : American Phytopathological Society. Plant disease. Apr 1985. v. 69 (4). p. 294-297. Includes 21 references. (NAL Call No.: DNAL 1.9 P69P).

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Soluble sugars and free amino acids of *Poa pratensis* exposed to chlorophenoxy herbicides and pathogenesis by *Drechsleria sorokiniana* (Leaf spot of Kentucky bluegrass).

Madsen, J.P. PHYTA. Hodges, C.F. St. Paul : American Phytopathological Society. *Phytopathology*. May 1983. v. 73 (5). p. 737-740. Includes references. (NAL Call No.: 464.8 P56).

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Southern blight control on bluegrass, 1981 (Bluegrass (Kentucky) (*Poa pratensis*), southern blight; *Sclerotium rolfsii*).

Lucas, L.T. (s.l.). The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 149. (NAL Call No.: 464.9 AM31R).

1121

Spraying fairways for disease control.

Henry, J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 47-48. (NAL Call No.: DNAL SB433.34.V8V47).

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Spring control of *Drechsleria* leaf spot by previous and current years' fungicide applications, 1982 (*Drechsleria poae* on *Poa pratensis*, Kentucky bluegrass).

Fowler, M.C. FNETD. Smiley, R.W. (s.l.) : The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1983. v. 38. p. 196. (NAL Call No.: 464.9 AM31R).

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Spring control of *Drechsleria* leaf spot by previous year's fungicide applications, 1981 (Bluegrass (Kentucky) (*Poa pratensis* 'Victa'), leaf spot; *drechsleria poae*).

Fowler, M.C. Smiley, R.W. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 152. (NAL Call No.: 464.9 AM31R).

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Stem rust of Kentucky Bluegrass.

Watkins, John E. Houfek, Jane A.; Shearman, Robert C.; Bruneau, Arthur H. 1981. This publication discusses symptoms, life cycle, disease cycle and disease management. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583. 1 sheet : ill. (NAL Call No.:

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Not available at NAL.). (NAL Call No.: G81-584).

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Summer turf diseases.

Lucas, L.T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1988. v. 23 (5). p. 26, 28, 30. ill. (NAL Call No.: DNAL SB476.G7).

Temperature and the content of specific soluble sugars of *Poa pratensis* infected by *Ustilago striiformis* or *Urocystis agropyri* (Kentucky bluegrass, stripe smut, flag smut).

Madsen, J.P. BOGAA. Hodges, C.F.; Nus, J.L. Chicago : University of Chicago Press. Botanical gazette. Sept 1983. v. 144 (3). p. 407-411. Includes references. (NAL Call No.: 450 B652).

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Suppression of gray snow mold on creeping bentgrass by an isolate of *Typhula phacorrhiza*.

PLDRA. Burpee, L.L. Kaye, L.M.; Goulty, L.G.; Lawton, M.B. St. Paul, Minn. : American Phytopathological Society. Plant disease. Jan 1987. v. 71 (1). p. 97-100. ill. Includes references. (NAL Call No.: DNAL 1.9 P69P).

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Therapeutic effects of Daconil rates and application intervals on fairway dollarspot, 1982 (*Sclerotinia homoeocarpa* on annual bluegrass, *Poa annua*).

Worf, G.L. FNETD. Tolkacz, T.R.; Smith, R.J. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 199. (NAL Call No.: 464.9 AM31R).

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Survival of chemically treated sod subjected to post-installation drought stress, 1980 (Bluegrass (Kentucky) (*Poa pratensis*), *Fusarium* root rot; *Fusarium roseum* cultivars, drought tolerance).

Smiley, R.W. Kane, R.T.; O'Knefski, R.C. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 147. (NAL Call No.: 464.9 AM31R).

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Tiller and rhizome growth of water-stressed *Poa pratensis* 'Merion' infected by *Ustilago striiformis* or *Urocystis agropyri*.

PLDIDE. Nus, J.L. St. Paul, Minn. : American Phytopathological Society. Plant disease. Nov 1990. v. 74 (11). p. 886-888. Includes references. (NAL Call No.: DNAL 1.9 P69P).

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Techniques for inducing summer patch symptoms on *Poa pratensis*.

PLDRA. Smiley, R.W. Fowler, M.C. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1985. v. 69 (6). p. 482-484. ill. Includes 10 references. (NAL Call No.: DNAL 1.9 P69P).

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Timing of granular fungicide applications for control of *Fusarium* blight syndrome, 1982 (Kentucky bluegrass, *Poa pratensis*).

Fowler, M.C. FNETD. Smiley, R.W. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 195-196. (NAL Call No.: 464.9 AM31R).

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Temperature and osmotic potential effects on *Phialophora graminicola* and other fungi associated with patch diseases of *Poa pratensis*.

PHYTA. Smiley, R.W. Fowler, M.C.; Kane, R.T. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Oct 1985. v. 75 (10). p. 1160-1167. Includes 39 references. (NAL Call No.: DNAL 464.8 P56).

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Tree, turf and ornamental pesticide guide /by W.T. Thomson.

Thomson, W. T. Fresno, CA : Thomson Publications, c1987. Cover title: Pesticide guide : tree, turf and ornamental. 170 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1987).

1135

Turf disease control (Fungi, nematodes).

Crowe, F.J. Manhattan, Kan., The Service. C - Kansas State University, Cooperative Extension Service. Apr 1982. Apr 1982. (647). 8 p. (NAL Call No.: 275.29 K13EX).

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Turf diseases : prevention and control / Ed Mulrean, Tom Russell. -
Mulrean, Ed. Russell, Tom E. Tucson, Arizona Cooperative Extension Service, College of Agriculture, University of Arizona 1984. Pesticide Applicator Training Collection ~Caption title ~"1/84. ~"3876.". (6) p. ; 28 cm. (NAL Call No.: SB608.G8R8 1984).

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Turf diseases (prevention and control) / Tom E. Russell, revised by Felix H. Mahr. -
Russell, Tom E. Mahr, Felix H. Tucson University of Arizona, Cooperative Extension Service (1980?). Caption title ~Pesticide Applicator Training collection ~"Q384.". 2 p. ; 28 cm. (NAL Call No.: SB608.G8R8).

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Turf disorder: necrotic ring spot (Fusarium blight syndrome).
Worf, G.L. Newman, R.C.; Stewart, J. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Aug 1984. (3127). 4 p. (NAL Call No.: DNAL S544.3.W6W53).

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Turfgrass chemical update: fungicides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1989. v. 24 (3). p. 28, 30. (NAL Call No.: DNAL SB476.G7).

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Turfgrass disease control guide /Howard D. Ohr, Arther H. McCain, Robert M. Endo.
Ohr, Howard D. McCain, Arthur Hamilton.; Endo, Robert M. Berkeley, Calif. : Cooperative Extension, University of California, 1987? . Abstract: This is a cultural and chemical control guide for 20 different turfgrass diseases. It describes symptoms, susceptible grasses, and conditions favoring diseases. For applicators and advisors. 1 sheet ; 65 x 28 cm. folded to 28 x 22 cm. (NAL Call No.: DNAL S544.3.C2C3 no.2619 1987).

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Turfgrass disease (infection by microscopic fungi) control guide.
Ohr, H.D. McCain, A.H.; Endo, R.M. Berkeley, Calif., The Service. Leaflet - University of California, Cooperative Extension Service. Sept 1981. Sept 1981. (2619). 8 p. ill. (NAL Call No.: S544.3.C2C3).

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A two year residual effect of some fungicides for control of stripe smut and leaf spot, 1979 (Bluegrass (Kentucky) (Poa pratensis 'Merion'), stripe smut; Ustilago striiformis, leaf spot; Helminthosporium spp.).
Derneoden, P. Jackson, N. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 157-158. (NAL Call No.: 464.9 AM31R).

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Wisconsin turf diseases and their control.
Worf, G.L. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. 1982. 1982. (A3187). 10 p. (NAL Call No.: S544.3.W6W53).

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Occurrence in Florida of the bacterium that causes bermudagrass stunting disease.

PLDRA. Davis, M.J. Augustin, B.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. Dec 1984. v. 68 (12). p. 1095-1097. Includes 9 references. (NAL Call No.: DNAL 1.9 P69P).

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Structural comparison of Poa semilatent virus and barley stripe mosaic virus.

PHYTA. Hunter, B.G. Heaton, L.A.; Bracker, C.E.; Jackson, A.D. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Mar 1986. v. 76 (3). p. 322-326. ill. Includes 27 references. (NAL Call No.: DNAL 464.8 P56).

PLANT DISEASES – PHYSIOLOGICAL

1146

Focus on winter turf--preventing disciccation.

Watschke, T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Oct 1988. v. 23 (10). p. 66, 68, 70. ill. (NAL Call No.: DNAL SB476.G7).

1147

How turf resists drought stress.

Shearman, R.C. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1987. v. 22 (5). p. 38, 40, 98. ill. (NAL Call No.: DNAL SB476.G7).

1148

The monsters of Manchester.

Watschke, G.A. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1986. v. 24 (5). p. 1-5. ill. (NAL Call No.: DNAL 60.18 UN33).

1149

Nitrate and ammonium uptake by nitrogen-deficient perennial ryegrass and Kentucky bluegrass turf.

JOSHB. Bowman, D.C. Paul, J.L.; Davis, W.B. Alexandria, Va. : The Society. Nitrogen uptake by two N-deficient turfgrass species was characterized by measuring N depletion from a complete nutrient solution. The uptake rate of both NO₃⁻ and NH₄⁺ was enhanced up to 6-fold in N-deficient perennial ryegrass (*Lolium perenne* L.) compared to N-sufficient controls, reaching a maximum of about 0.3 and 0.4 g N/m² per hr for NO₃⁻ and NH₄⁺, respectively. Deficiency-enhanced uptake exceeded uptake by controls for about 72 hr following resupply of N. Nitrogen uptake was enhanced to a similar degree by N deprivation in Kentucky bluegrass (*Poa pratensis* L.) Mowing had no effect on NO₃⁻ uptake by N-deficient perennial ryegrass turf, whereas mowing inhibited uptake by N-sufficient turf by approximately 60%. Deficiency-enhanced uptake was found to be the result of an increased capacity for N absorption I(max) rather than an increased affinity for N (Km). I(max) values increased from 0.24 and 0.73 mg N/g dry weight per hr for N-sufficient ryegrass turf for NO₃⁻ and NH₄⁺, respectively, to 1.44 and 2.68 mg N/g dry weight per hr for N-deficient turf. Km values increased slightly, from 14 micromole for both N forms for N-sufficient turf to 24 and 39 micromole for NO₃⁻ and NH₄⁺, respectively, for N-deficient turf. Journal of the American Society for Horticultural Science. May 1989. v. 114 (3). p. 421-426. Includes references. (NAL Call No.: DNAL 81 S012).

1150

Predicting turfgrass evapotranspiration from canopy temperature.

Slack, D.C. Jalali-Farahani, H.; Kopec, D.M.; Matthias, A.D. St. Joseph, Mich. : The Society. American Society of Agricultural Engineers (Microfiche collection). Paper presented at the 1986 Winter Meeting of the American Society of Agricultural Engineers. Available for purchase from: The American Society of Agricultural Engineers, Order Dept., 2950 Niles Road, St. Joseph, Michigan 49085. Telephone the Order Dept. at (616) 429-0300 for information and prices. 1986. (fiche no. 86-2521). 21 p. Includes references. (NAL Call No.: DNAL FICHE S-72).

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Stand recovery of coastal burmudagrass following stand loss induced by potassium deficiency (*Cynodon dactylon*).

Keisling, T.C. Rouquette, F.M. Jr. New York, Marcel Dekker. Communications in soil science and plant analysis. 1981. v. 12 (12). p. 1293-1302. Includes 3 ref. (NAL Call No.: S590.C63).

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1152

Agronomic benefits and detriments of fungicide use in plant growth retardant treated turfgrass.

PNWSB. Pennucci, A. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. 1987. v. 41 (suppl.). p. 37-41. Includes references. (NAL Call No.: DNAL 79.9 N814).

1153

Air pollution oxidant effects on cool-season and warm-season turfgrasses (Lolium, Poa, Agrostis, Festuca, cultivars, phytotoxicity). Youngner, V.B. Nudge, F.J. Madison, Wis., American Society of Agronomy. Agronomy journal. Jan/Feb 1980. v. 72 (1). p. 169-170. ill. 8 ref. (NAL Call No.: 4 AM34P).

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Allelopathic effects of Artemisia tridentata leaves on germination and growth of two grass species.

Groves, C.R. Anderson, J.E. Notre Dame, Ind., University of Notre Dame. American midland naturalist. July 1981. v. 106 (1). p. 73-79. ill. 11 ref. (NAL Call No.: 410 M58).

1155

Annual bluegrass control and tolerance of Kentucky bluegrass perennial ryegrass to ethofumesate.

HJHSA. Dernoeden, P.H. Turner, T.R. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1988. v. 23 (3). p. 565-567. Includes references. (NAL Call No.: DNAL SB1.H6).

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Annual bluegrass control in dichondra--progress report.

Harivandi, M.A. Elmore, C.L. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1986. v. 36 (1/4). p. 4-5. (NAL Call No.: DNAL 60.18 S08).

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Avoid mowing injuries to turf.

Hummel, N.W. Jr. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Apr 1987. v. 22 (4). p. 40, 42. ill. (NAL Call No.: DNAL SB476.G7).

1158

Barnyardgrass control in seedling Kentucky bluegrass turf with new herbicides.

Beck, K.G. S.I. : Western Society of Weed Science. Research progress report - Western Society of Weed Science. 1987. p. 137-138. (NAL Call No.: DNAL 79.9 W52R).

1159

Bentgrass and bermudagrass putting green turf tolerance to postemergence herbicides.

HJHSA. Higgins, J.M. McCarty, L.B.; Whitwell, T.; Miller, L.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1987. v. 22 (2). p. 248-250. Includes references. (NAL Call No.: DNAL SB1.H6).

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Biodegradation of turf thatch with wood-decay fungi (Biological control).

Martin, S.B. Dale, J.L. St. Paul, Minn., American Phytopathological Society. Phytopathology. Apr 1980. v. 70 (4). p. 297-301. ill. 20 ref. (NAL Call No.: 464.8 P56).

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Burn characteristics of liquid fertilizer sources.

Rathjens, R.G. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 32-37. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

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Carpentgrass seedhead suppression with plant growth regulators.

HJHSA. Fry, J.D. Wells, D.W. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1990. v. 25 (10). p. 1257-1259. Includes references. (NAL Call No.: DNAL SB1.H6).

1163

Causes of late winter-early spring turfgrass damage.

Watson, J.R. Cleveland, Harvest Publishing Co. Weeds, trees and turf. Mar 1981. v. 20 (3). p. 62-63. (NAL Call No.: 79.8 W413).

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1164

Centipedegrass tolerance to postemergence grass herbicides.

HJHSA. McCarty, L.B. Higgins, J.M.; Miller, L.C.; Whitwell, T. Alexandria, Va. : American Society for Horticultural Science. HortScience. Dec 1986. v. 21 (6). p. 1405-1407. Includes references. (NAL Call No.: DNAL SB1.H6).

1165

Competitive Al³⁺ inhibition of net Mg²⁺ uptake by intact *Lolium multiflorum* roots.

PLPHA. Rengel, Z. Rockville, Md. : American Society of Plant Physiologists. Rhizotoxicity of Al is more pronounced in younger plants. Effects of Al on nutrient uptake by plants of different age are poorly understood. The depletion technique was used to monitor net Mg²⁺ uptake from nutrient solutions by intact 15- and 35-day-old plants of two ryegrass (*Lolium multiflorum* Lam.) cultivars. Lowering the pH from 6.0 to 4.2 decreased the maximum net ion influx without affecting K_m. Aluminum at 6.6 micromolar Al³⁺ activity increased K_m indicating competitive inhibition. The effects of pH and 6.6 micromolar Al³⁺ on net Mg²⁺ uptake were much larger in 15- than in 35-day-old plants. Aluminum at 26 micromolar Al³⁺ activity competitively inhibited net Mg²⁺ uptake by 35-day-old plants, while causing time- and external Mg²⁺ activity-dependent net Mg²⁺ efflux from 15-day-old plants. The equilibrium constant (K_i) of a reversible combination of postulated plasmalemma Mg²⁺ transporter and Al³⁺ was calculated to be 2 and 5 micromolar Al³⁺ activity for 15-day-old plants of Wilo and Gulf ryegrass, respectively, and 21 micromolar Al³⁺ activity for 35-day-old plants of both cultivars. The Al³⁺-mediated increase in K_m was larger for 15-day-old plants of the Al-sensitive cultivar 'Wilo', than of the more Al-tolerant cultivar 'Gulf', while Al³⁺ affected 35-day-old plants of both cultivars to the same extent. Plant physiology. July 1990. v. 93 (3). p. 1261-1267. Includes references. (NAL Call No.: DNAL 450 P692).

1166

Control of annual weedy grasses in a bentgrass green with treatment programs of tri-calcium arsenate.

JOSH. Callahan, L.M. Shepard, D.P. Alexandria, Va. : The Society. A creeping bentgrass (*Agrostis palustris* Huds. 'Penncross') green was treated with flowable tri-calcium arsenate (Ca-Ars) in increment levels of 17 or 34 kg.ha⁻¹ in 12 multiple treatment date programs. Treatments were made over 4 years to determine effectiveness of initial applications and accumulated residues in controlling annual bluegrass (*Poa annua* var. *annua* L.) and large crabgrass (*Digitaria sanguinalis* L. Scop.) and to evaluate the phytotoxicity to the bentgrass. Multiple treatments of Ca-Ars at increments of 17 or 34 kg.ha⁻¹ effectively controlled annual bluegrass and large crabgrass when cumulative application amounts totaled at least 136

kg.ha⁻¹. Excellent control of annual bluegrass was achieved by timing treatments and soil residue buildup totals to coincide with the major germination and regrowth period of late winter to early spring. Optimum timing included treatments during the fall and spring. This treatment sequence also gave excellent control of crabgrass. Sustained control of both weeds was achieved when continued low level follow-up applications totaled >136 kg.ha⁻¹. Penncross bentgrass appeared tolerant of Ca-Ars treatments totaling as high as 272 kg.ha⁻¹. Arsenic apparently influenced thatch accumulation by killing earthworms. Journal of the American Society for Horticultural Science. Jan 1991. v. 116 (1). p. 30-35. Includes references. (NAL Call No.: DNAL 81 S012).

1167

Control of purple nutsedge in bermuda swards.

Cudney, D.W. Elmore, C.; Vandam, J. S.I. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 135-136. (NAL Call No.: DNAL 79.9 W52R).

1168

Crabgrass (*Digitaria ischaemum*) control and turfgrass (primarily *Festuca rubra*, *Poa pratensis*) injury resulting from pre- and postemergent herbicides.

Cooper, R.J. Jagschitz, J.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 347-352. ill. 6 ref. (NAL Call No.: 79.9 N814).

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Deicing salt damage.

Gibson, H. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1988. v. 23 (9). p. 20, 22. (NAL Call No.: DNAL SB476.G7).

1170

Deltic 21EC phytotoxicity test on woody ornamentals, Alabama, 1981 (During lawn treatments for flea or tick control).

Cobb, G.S. Williams, M.L. College Park : Entomological Society of America. Insecticide and acaricide tests. 1982. v. 7. p. 225. (NAL Call No.: SB950.A1149).

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1171

Development and rooting of Kentucky bluegrass (*Poa pratensis*) sod as affected by herbicides.
Jagschitz, J.A. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 227-235. Bibliography p. 235. (NAL Call No.: SB433.I57 1977).

1172

Differential sensitivity of turfgrass organs to water stress.
HJHSA. Nus, J.L. Hodges, C.F. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1986. v. 21 (4). p. 1014-1015. Includes references. (NAL Call No.: DNAL SB1.H6).

1173

Diseases of turfgrasses in lawns.
Lucas, L.T. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 72-75. (NAL Call No.: DNAL SB433.34.V8V47).

1174

Distribution of plant-parasitic nematodes in putting green turfgrass in Washington (*Helicotylenchus pseudorobustus*, *Criconebella* species, *Paratylenchus nanus*, *Tylenchorhynchus maximus*, correlation with stress damage in *Poa annua*).
Chastagner, G.A. McElroy, F.D. St. Paul, American Phytopathological Society. Plant disease. Feb 1984. v. 68 (2). p. 151-153. ill. Includes references. (NAL Call No.: 1.9 P69P).

1175

Effect of chlorophenoxy herbicides on free amino acids in sequentially senescent leaves of *Poa pratensis* and on pathogenesis by *Bipolaris sorokiniana*.
PHYTAJ. Madsen, J.P. Hodges, C.F. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Dec 1984. v. 74 (12). p. 1407-1411. Includes 30 references. (NAL Call No.: DNAL 464.8 P56).

1176

Effect of traffic control and wear on bermudagrass.
Henry, M.L. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 77-78. (NAL Call No.: DNAL SB433.34.V8V47).

1177

The effects of fluroxypyr on seedling grasses in the greenhouse.
WSWPA. Ferrell, M.A. Whitson, T.D.; Koch, D.W. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. Meeting held on March 8-10, 1988, Fresno, California. 1988. v. 41. p. 96-101. Includes references. (NAL Call No.: DNAL 79.9 W52).

1178

Effects of growth retardants on turfgrass.
PNWSB. Bhowmik, P.C. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. Jan 1984. v. 38. p. 315-320. Includes 6 references. (NAL Call No.: DNAL 79.9 N814).

1179

Effects of herbicides on grasses grown for seed production.
Whitson, T.D. Lauer, J.G. S.I. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 404-405. (NAL Call No.: DNAL 79.9 W52R).

1180

Effects of N, temperature, and moisture stress on the growth and physiology of creeping bentgrass and response to chelated iron (*Agrostis palustris*, turfgrass).
Schmidt, R.E. Snyder, V. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 590-594. ill. Includes references. (NAL Call No.: 4 AM34P).

1181

Effects of pronamide on spring transition of a bermudagrass (*Cynodon dactylon*) green overseeded with perennial ryegrass (*Lolium perenne*).
WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 322-326. Includes references. (NAL Call No.: DNAL SB610.W39).

1182

Effects of sodium chloride on *Cynodon* turfgrasses (Salt tolerance, cultivar comparisons).
Dudeck, A.E. AGJ0A. Singh, S.; Giordano, C.E.; Nell, T.A.; McConnell, D.B. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1983. v. 75 (6). p. 927-930. ill. Includes references. (NAL Call No.: 4 AM34P).

(MISCELLANEOUS PLANT DISORDERS)

1183

Establishing vegetative bermudagrass in existing fairways.

Giedd, K.P. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 54-56. (NAL Call No.: ONAL SB433.34.V8V47).

1184

Establishment of Kentucky bluegrass sod following application of herbicides.

HJHSA. Reicher, Z.U. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1989. v. 24 (5). p. 799-801. Includes references. (NAL Call No.: ONAL SB1.H6).

1185

Evaluation of ethofumesate for annual bluegrass (*Poa annua*) and turfgrass tolerance.

WEESA6. Coats, G.E. Krans, J.V. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1986. v. 34 (6). p. 930-935. Includes references. (NAL Call No.: ONAL 79.8 W41).

1186

Evaluation of liquid-applied nitrogen fertilizers on Kentucky bluegrass turf.

AGUOAT. Spangenberg, B.G. Fermanian, T.W.; Wehner, O.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1986. v. 78 (6). p. 1002-1006. Includes references. (NAL Call No.: ONAL 4 AM34P).

1187

An evaluation of the high temperature tolerance of mefluidide treated *Poa annua* L.

PNWSB. Cooper, R.J. Street, J.R.; Henderlong, P.R. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. 1986. v. 40. p. 132-136. ill. Includes references. (NAL Call No.: ONAL 79.9 N814).

1188

Fertilizer burn comparisons of concentrated liquid fertilizers applied to Kentucky bluegrass turf.

JOSH.B. Johnson, S.J. Christians, N.E. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Nov 1984. v. 109 (6). p. 890-893. ill. Includes 10 references. (NAL Call No.: ONAL 81 S012).

1189

Focus on winter turf--preventing disciccation.

Watschke, T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Oct 1988. v. 23 (10). p. 66, 68, 70. ill. (NAL Call No.: ONAL SB476.G7).

1190

Foliar-applied iron enhances bermudagrass tolerance to herbicides.

JOSH.B. Johnson, B.J. Carrow, R.N.; Murphy, T.R. Alexandria, Va. : The Society. Field experiments were conducted to determine the effects of foliar iron (Fe) applied with postemergence herbicides on injury, color, and quality of 'Tifway' bermudagrass *Cynodon transvaalensis* Burtt-Davy X *Cynodon dactylon* (L.) Pers. . Iron significantly decreased injury and improved quality and color of 'Tifway' bermudagrass in conjunction with herbicide treatment. Turf injury was less for 4 to 18 days after the initial MSMA application when Fe was added. Injury was also less from sequential Fe treatment with MSMA + metribuzin (up to 4 days) and MSMA + imazaquin (from 4 to 10 days) compared to the respective herbicides applied alone. There was no difference in turf injury from Fe when imazaquin at 1.3 kg.ha⁻¹ was applied as a single treatment. However, turf treated with Fe and two applications of imazaquin (9- to 10-day interval) recovered from herbicide injury faster than when treated only with the herbicide. Iron did not prevent immediate 2,4-D + mecoprop + dicamba injury to the bermudagrass, but did hasten turf recovery from injury at 26 days after treatment. With a few exceptions, 'Tifway' bermudagrass quality was higher and color improved when Fe was added. However, injury expressed as loss of shoot density was not affected by Fe and only injury expressed as color loss was improved by Fe. Journal of the American Society for Horticultural Science. May 1990. v. 115 (3). p. 422-426. Includes references. (NAL Call No.: ONAL 81 S012).

1191

Freezing resistance of perennial turfgrasses.

Gusta, L.V. Butler, J.O.; Rajashekar, C.; Burke, M.J. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1980. v. 15 (4). p. 494-496. ill. 5 ref. (NAL Call No.: SB1.H6).

1192

Germination and initial growth of Kentucky bluegrass in soluble salts (*Poa pratensis*, cultivar screeging, stress, saline tolerance).

Horst, G.L. AGUOA. Taylor, R.M. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 679-681. Includes references. (NAL Call No.: 4 AM34P).

1193

Grass seed tolerance to clopyralid and clopyralid plus phenoxy combinations.

WSWPA. Gaiser, D.R. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. Meeting held on March 13-16, 1989, Honolulu, Hawaii.~ Includes statistical data. 1989. v. 42. p. 233-236. (NAL Call No.: DNAL 79.9 W52).

1194

Heat stress effects on protein synthesis and exosmosis of cell solutes in three turfgrass species (*Poa pratensis*, *Poa annua*, *Lolium perenne*, cultivars, species differences).

Wehner, D.J.AGUDAT. Watschke, T.L. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 16-19. Includes references. (NAL Call No.: 4 AM34P).

1195

Heat tolerance of Kentucky bluegrasses (*Poa pratensis*) perennial ryegrasses (*Lolium perenne*) and annual bluegrass (*Poa annua* L., cultivars, stress).

Wehner, D.J. Watschke, T.L. Madison, Wis., American Society of Agronomy. Agronomy journal. Jan/Feb 1981. v. 73 (1). p. 79-84. 13 ref. (NAL Call No.: 4 AM34P).

1196

Heat tolerance screening of field-grown cultivars of Kentucky bluegrass and perennial ryegrass (*Poa pratensis*, *Lolium perenne*, environmental stress, Maryland).

Minner, D.D.AGJDA. Dernoeden, P.H.; Wehner, D.J.; McIntosh, M.S. Madison : American Society of Agronomy. Agronomy journal. Sept/Oct 1983. v. 75 (5). p. 772-775. Includes references. (NAL Call No.: 4 AM34P).

1197

Herbicide effects on bermudagrass lawn recovery and crabgrass control during spring root decline in the north-south transition zone.

JDSHB. Callahan, L.M. High, J.W. Jr. Alexandria, Va. : The Society. A bermudagrass *Cynodon dactylon* (L) Pers. X *C. transvaalensis* Burt-Davy 'Tifgreen' lawn in the transition zone (about lat. 35 degrees N) was treated in late March for 3 years with a high and a low level each of benefin, bensulide, DCPA, oxadiazon, and siduron. Objectives were to determine if relationships exist between field environment and dates of preemergence herbicide applications for large crabgrass (*Digitaria sanguinalis* L. Scop.) control, the spring root decline (SRD) phenomenon, and herbicide phytotoxicity to the bermudagrass. Herbicide treatments in late March generally controlled large crabgrass, reduced total weed competition, and appeared to aid bermudagrass

spring growth following winter dormancy. Herbicide injury to 'Tifgreen' bermudagrass roots during SRD does occur under practical field conditions and was more severe when bermudagrass spring green-up occurred closer to the herbicide treatment date, as in 1982. Bermudagrass stand density was significantly reduced with the high level of siduron in 1980 and 1981, and with both levels of oxadiazon and siduron in 1982. Bensulide and oxadiazon, at both levels, gave 92% to 100% crabgrass control during all three treatment years. The high levels of benefin and DCPA in 1980, both levels of benefin and the high level of DCPA in 1981, and both levels of DCPA and the high level of benefin in 1982 gave crabgrass control in excess of 95%. Journal of the American Society for Horticultural Science. July 1990. v. 115 (4). p. 597-601. Includes references. (NAL Call No.: DNAL 81 SD12).

1198

Herbicide effects on Kentucky bluegrass rooting.

HJHSA. Reicher, Z.J. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Dec 1989. v. 24 (6). p. 976-978. Includes references. (NAL Call No.: DNAL SB1.H6).

1199

Herbicide effects on tensile strength and rooting of bermudagrass (*Cynodon dactylon*) sod. WETEE9. Sharpe, S.S. Dickens, R.; Turner, D.L. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 353-357. Includes references. (NAL Call No.: DNAL SB610.W39).

1200

Herbicide effects on tensile strength and rooting of centipedegrass sod.

HJHSA. Turner, D.L. Sharpe, S.S.; Dickens, R. Alexandria, Va. : American Society for Horticultural Science. HortScience. May 1990. v. 25 (5). p. 541-544. Includes references. (NAL Call No.: DNAL SB1.H6).

1201

Herbicide tolerance and efficacy on six grass species grown for seed production.

Whitson, T.D. Lauer, J.G. S.I. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 406-407. (NAL Call No.: DNAL 79.9 W52R).

(MISCELLANEOUS PLANT DISORDERS)

1202

Herbicide tolerance of seedling grasses for erosion control. I. Vegetative response.

Callihan, R.H. Lass, L.W. S.1. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 68-71. (NAL Call No.: DNAL 79.9 W52R).

1203

Herbicide tolerance of seedling grasses for erosion control. II. Reproductive response.

Lass, L.W. Callihan, R.H. S.1. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 72-74. (NAL Call No.: DNAL 79.9 W52R).

1204

Herbicides O.K. or turfgrass with harvesting delay after application.

HARAA. Sharpe, S. Dickens, R.; Turner, D.L. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Summer 1988. v. 35 (2). p. 12. ill. (NAL Call No.: DNAL 100 AL1H).

1205

Improving wear tolerance of sports turf.

Shearman, R.C. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1989. v. 24 (2). p. 84, 86, 104-107. ill. (NAL Call No.: DNAL SB476.G7).

1206

Influence of frequency and dates of plant growth regulator applications to centipedegrass on seedhead formation and turf quality.

JOSHB. Johnson, B.J. Alexandria, Va. : The Society. Two separate experiments (one and two applications and dates of treatment) were conducted on plant growth regulator (PGR) injury and seedhead suppression of centipedegrass *Eremochloa ophiuroides* (Munro) Hack. . Mefluidide caused less injury, to centipedegrass than either imazethapyr or flurprimidol + mefluidide. Mefluidide applied at 0.56 kg.ha⁻¹ in each of two applications at 2-week intervals suppressed seedheads of centipedegrass for 10 weeks. A single 0.56 kg.ha⁻¹ application of the mefluidide failed to suppress seedheads when applied any time from mid-June until late July. A single treatment with flurprimidol + mefluidide severely injured centipedegrass, and seedhead suppression was poor regardless of date of treatment. Centipedegrass was severely injured when flurprimidol + mefluidide was applied at 1.68 + 0.28 kg.ha⁻¹ in each of two applications, but seedheads were suppressed for 10 weeks. Imazethapyr applied at 0.30 and followed by

0.15 kg.ha⁻¹ suppressed seedheads 10 weeks after treatment in 1987 and 6 weeks after treatment in 1988 without reducing turf density. When this PGR was applied as a single treatment at 0.30 kg.ha⁻¹, seedhead suppression was generally greater for 8 weeks when applied mid- to late July than mid- to late June. Journal of the American Society for Horticultural Science. May 1990. v. 115 (3). p. 412-416. Includes references. (NAL Call No.: DNAL 81 S012).

1207

Influence of nitrogen on recovery of bermudagrass (*Cynodon dactylon*) treated with herbicides.

WEESA6. Johnson, B.J. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 819-823. Includes references. (NAL Call No.: DNAL 79.8 W41).

1208

Influence of nitrogen on the response of Tifway/ bermudagrass (*Cynodon dactylon*) to flurprimidol.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan 1988. v. 2 (1). p. 53-58. Includes references. (NAL Call No.: DNAL SB610.W39).

1209

Influence of protective covers on reducing winter desiccation of turf.

AGJOAT. Roberts, J.M. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1986. v. 78 (1). p. 145-147. Includes 10 references. (NAL Call No.: DNAL 4 AM34P).

1210

Influence of selected white-rot fungi and topdressings on the composition of thatch components of four turfgrasses (*Polyporus giganteus*, *Coriolus versicolor*, *Phebia gigantea*, *Phanerochaete chrysosporium*, effectiveness in cellulose and lignin degradation, biological control of thatch).

Sartain, J.B. Volk, B.G. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1984. v. 76 (3). p. 359-362. Includes references. (NAL Call No.: 4 AM34P).

1211

Influence of soil compaction on three turfgrass species (*Lolium perenne*, *Poa pratensis*, *Festuca arundinacea*, traffic stresses).

Carrow, R.N. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1980. v. 72 (6). p. 1038-1042. 23 ref. (NAL Call No.: 4

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AM34P).

1212

Irrigating turfgrass under adverse water quality conditions.

Ross, B.B. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 33-36. (NAL Call No.: DNAL SB433.34.V8V47).

1213

Kentucky bluegrass and annual bluegrass responses to ethofumesate.

HJHSA. Shearman, R.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1986. v. 21 (5). p. 1157-1159. Includes references. (NAL Call No.: DNAL SB1.H6).

1214

Kentucky bluegrass tolerance to consecutive preemergence herbicide treatments (*Poa pratensis*, *Digitaria sanguinalis*, weed control).

Johnson, B.U.AGJDA. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1982. v. 74 (6). p. 1063-1066. 5 ref. (NAL Call No.: 4 AM34P).

1215

Localized dry spots as caused by hydrophobic sands on bentgrass greens.

AGJDAT. Tucker, K.A. Karnok, K.J.; Radcliffe, D.E.; Landry, G. Jr.; Roncadori, R.W.; Tan, K.H. Madison, Wis. : American Society of Agronomy. Construction of creeping bentgrass (*Agrostis palustris* Huds.) golf greens with topsoil mixtures that contain 90% or more sand has led to the appearance of irregularly shaped areas of wilted or dead turfgrass known as localized dry spots (LDS). Objectives were to determine by means of a survey the association between management practices and the severity of LDS, and to compare the chemical and physical properties of LDS and adjacent healthy areas (HA) of greens. Turf managers from ten golf courses and the University of Georgia Turfgrass Plots completed a 34-question survey pertaining to management practices used on their respective greens. Four of the golf courses and the University Turf Plots were selected as sampling sites for soil from both LDS and HA. Soil was analyzed for moisture content, and particle size, as well as hydrophobicity via the water droplet penetration time, and contact angle methods. Soil organic matter, soluble salts, pH, P, K, Ca, Mg, Zn, Mn, B, and ND3, were also determined. In addition, soil from each area was viewed with a scanning electron microscope. Dry spots occurred at all locations surveyed

and no correlation was observed between management practices and the severity of LDS. No differences in soil chemical properties were found between LDS and HA, but water droplet penetration time and contact angle were greater in LDS compared to HA. This hydrophobic condition was confined to the top 50 mm of soil in the dry spot samples and coincided with the presence of an organic coating on sand grains that was observed by scanning electron microscopy. Agronomy journal. May/June 1990. v. 82 (3). p. 549-555. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

1216

Managing bermudagrass on the transition zone golf course.

Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 23-27. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

1217

Managing to reduce injury to plants from deicing salts.

Blaser, R.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 162-163. (NAL Call No.: DNAL SB433.34.V8V47).

1218

Minimizing damage to sod with broadleaf herbicides.

Bingham, S.W. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 78-79. Includes references. (NAL Call No.: DNAL SB433.34.V8P7 1983).

1219

Mower blade sharpness effects on turf (*Poa pratensis*, *Bipolaris sorokinianum*, disease susceptibility, thatch, Nebraska).

Steinegger, D.H.AGJDA. Shearman, R.C.; Riordan, T.P.; Kinbacher, E.J. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 479-480. Includes references. (NAL Call No.: 4 AM34P).

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1220

Osmotically induced water stress on fertilizer burn of 'Glade' Kentucky bluegrass.
HJHSA. Johnson, S.J. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1985. v. 20 (4). p. 772-773. Includes 11 references. (NAL Call No.: DNAL SB1.H6).

1221

Oxidation statue and gas composition of wet turfgrass thatch and soil (Poa pratensis, anaerobiosis, impaired growth, field studies in New York).
Thompson, D.C.AGJOA. Smiley, R.W.; Fowler, M.C. Madison : American Society of Agronomy. Agronomy journal. July/Aug 1983. v. 75 (4). p. 603-609. ill. Includes references. (NAL Call No.: 4 AM34P).

1222

Physiological response of St. Augustinegrass to irrigation scheduling (Stenotaphrum secundatum, turfgrass management, water stress, Florida).
Peacock, C.H. Dudeck, A.E. Madison : American Society of Agronomy. Agronomy journal. Mar/Apr 1984. v. 76 (2). p. 275-279. ill. Includes references. (NAL Call No.: 4 AM34P).

1223

Physiology of water use and water stress.
Youngner, V.B. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. p. 37-43. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

1224

Phytotoxicity of the liquid formulation of ethoprop to bermudagrass turf (Cynodon dactylon, pesticides).
Hulbert, J.C. Dunn, R.A.; Teem, D.H. (S.I.) : The Society. Proceedings - Soil and Crop Science Society of Florida. 1982. v. 41. p. 121-122. Includes references. (NAL Call No.: 56.9 S032).

1225

Plant growth-regulating effects of systemic fungicides applied to Kentucky bluegrass (Poa pratensis, Fusarium blight control, growth inhibition).
Kane, r.T.AGJOA. Smiley, R.W. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 469-473. ill. Includes references. (NAL Call No.: 4 AM34P).

1226

A plant growth study of several dryland and irrigated perennial grasses treated with metsulfuron.
WSWPA. McLain, B. Evans, J.O. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. Meeting held on March 8-10, 1988, Fresno, California. 1988. v. 41. p. 86-95. Includes references. (NAL Call No.: DNAL 79.9 W52).

1227

Plant injury due to turfgrass broadleaf weed herbicides.
Heimann, M.F. Newman, R.C. Madison, Wis. : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. Feb 1985. (A3286). 4 p. (NAL Call No.: DNAL S544.3.W6W53).

1228

Playing par with Jack Frost.
White, C.B. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1984. v. 22 (5). p. 8-11. (NAL Call No.: DNAL 60.18 UN33).

1229

Post-dormancy growth of bermudagrass as influenced by low temperatures and selected preemergence herbicides (Cynodon, dimethyl tetrachloroterephthalate, benefin, and oxadiazon).
Breuninger, J.M. Schmidt, R.E. Madison, Wis., American Society of Agronomy. Agronomy journal. Nov/Dec 1981. v. 73 (6). p. 945-949. 21 ref. (NAL Call No.: 4 AM34P).

1230

Pre- and poststress temperature influence perennial ryegrass in vitro heat tolerance.
HJHSA. White, R.H. Stefany, P.; Comeau, M. Alexandria, Va. : American Society for Horticultural Science. HortScience. Dec 1988. v. 23 (6). p. 1047-1050. Includes references. (NAL Call No.: DNAL SB1.H6).

1231

Predicting cold tolerance in perennial ryegrass from subcrown internode length (Lolium perenne, Lolium hybridum, Poapratensis, cultivar comparisons).
Wood, G.M. Cohen, R.P. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1984. v. 76 (4). p. 516-517. Includes references. (NAL Call No.: 4 AM34P).

(MISCELLANEOUS PLANT DISORDERS)

1232

Preemergence activity of dinitroaniline herbicides used for weed control in cool-season turfgrasses.

WETEE9. Bhowmik, P.C. Bingham, S.W. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Paper presented at the "Symposium on Turfgrass and Ornamental Dinitroaniline Herbicides," February 4, 1988, Las Vegas, Nevada. Apr/June 1990. v. 4 (2). p. 387-393. Includes references. (NAL Call No.: DNAL SB610.W39).

1233

Prodiamine effects on quality and rooting of Kentucky bluegrass turf.

CRPSAY. Hummel, N.W. Jr. Fowler, M.C.; Neal, J.C. Madison, Wis. : Crop Science Society of America. As new herbicides are investigated for use on turf, it is important to study the effects continued use of these materials have on desirable grass species. A field investigation was conducted to determine the influence of prodiamine 2,4-dinitro-N3,N3-dipropyl-6-(trifluoromethyl)-1,3-benzenediamine application rate and frequency on Kentucky bluegrass (*Poa pratensis* L.) turf over a 4-yr period. Root mass and turfgrass density decreased following prodiamine treatment. Turfgrass quality ratings decreased as prodiamine rate increased, but remained acceptable at rates below 1.1 kg ha⁻¹ a.i. The projected use rate for prodiamine in the northeastern USA is 0.56 kg ha⁻¹ a.i. Quality was reduced and necrotic ring spot (*Leptosphaeria korrae* Walker and Smith) disease more severe when prodiamine was applied annually vs. biennially. Percent turf area damaged by necrotic ring spot also increased as prodiamine rate increased, but was most severe rates greater than 2.2 kg ha⁻¹ a.i. The quality, density, and disease data indicated that annual applications of prodiamine can be detrimental to Kentucky bluegrass turf. These results suggest that it may be advantageous to avoid prodiamine applications in successive years or to alternate it with less phytotoxic preemergence herbicides. Crop science. Sept/Oct 1990. v. 30 (5). p. 976-979. Includes references. (NAL Call No.: DNAL 64.8 C883).

1234

Protection of grass crops from sulfonyleurea and imidazolinone toxicity.

Barrett, M. San Diego : Academic Press, c1989. Crop safeners for herbicides : development, uses, and mechanisms of action / edited by Kriton K. Hatzios and Robert E. Hoagland. Literature review. p. 195-220. Includes references. (NAL Call No.: DNAL SB951.45.C76).

1235

Relative hardiness to freezing of laminae, roots and tillers of tall fescue.

Pearce, R.S. London, Academic Press. New phytologist. Mar 1980. v. 84 (3). p. 449-463. ill. Bibliography p. 462-463. (NAL Call No.: 450 N42).

1236

Residual activity of certain chemicals on renovation with tall fescue perennial ryegrass.

Powell, A.J. Jr. Tapp, L. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986.~ Includes statistical data. Apr 1987. (303). p. 37-46. (NAL Call No.: DNAL 100 K41PR).

1237

Residual activity of herbicide treatments on bermudagrass (*Cynodon dactylon*, *Lolium perenne*, *Eleusine indica*).

Johnson, B.J. Madison, Wis., American Society of Agronomy. Agronomy journal. July/Aug 1980. v. 72 (4). p. 697-698. 4 ref. (NAL Call No.: 4 AM34P).

1238

Response of bermudagrass turf (*Cynodon dactylon*) to dates of metribuzin treatment (Control of annual winter weeds).

Johnson, B.J. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. Apr 1981. (375). 5 p. 6 ref. (NAL Call No.: S51.E22).

1239

Response of tall fescue (*Festuca arundinacea*) to plant growth regulator application dates.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 408-413. Includes references. (NAL Call No.: DNAL SB610.W39).

1240

Response of tall fescue (*Festuca arundinacea*) to plant growth regulators and mowing frequency.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan/Mar 1989. v. 3 (1). p. 54-59. Includes references. (NAL Call No.: DNAL SB610.W39).

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1241

Response of three cool-season turfgrass species to ACP-1900.

PPGGD. Bhowmik, P.C. Lake Alfred, Fla. : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1987. (14th). p. 341-346. Includes references. (NAL Call No.: DNAL SB128.P5).

1242

Response to centipedegrass (*Eremochloa ophiuroides*) to plant growth regulators and frequency of mowing.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan/Mar 1989. v. 3 (1). p. 48-53. Includes references. (NAL Call No.: DNAL SB610.W39).

1243

Rooting and cover of three turf species as influenced by preemergence herbicides.

PNWSB. Dernoeden, P.H. Davis, D.B.; Fry, J.D. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held January 6, 7 & 8, 1988 in Hartford, Connecticut. 1988. v. 42. p. 169-173. Includes references. (NAL Call No.: DNAL 79.9 N814).

1244

Safety and overseeding effects of chlorsulfuron in turfgrasses.

PNWSB. Dernoeden, P.H. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Includes abstract. 1990. v. 44. p. 114-115. (NAL Call No.: DNAL 79.9 N814).

1245

Selective tall fescue control in Kentucky bluegrass turf with diclofop.

AGUOAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 660-663. Includes 2 references. (NAL Call No.: DNAL 4 AM34P).

1246

Siduron effects on tall fescue (*Festuca arundinacea*) emergence, growth, and high temperature injury.

Shearman, R.C. Kinbacher, E.J.; Reiersen, K.A. Champaign, Ill., Weed Science Society of America. Weed science. Mar 1980. v. 28 (2). p. 194-196. ill. 12 ref. (NAL Call No.: 79.8 W41).

1247

Subzero temperature stress physiology of herbaceous plants.

Li, P.H. Westport, Conn. : Avi. Horticultural reviews. Literature review. 1984. v. 6. p. 373-416. Includes references. (NAL Call No.: DNAL SB317.5.H6).

1248

Summer turf diseases.

Lucas, L.T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1988. v. 23 (5). p. 26, 28, 30. ill. (NAL Call No.: DNAL SB476.G7).

1249

Thatch accumulation in bermudagrass as influenced by cultural practices (*Cynodon dactylon* X *Cynodon transvaalensis*, turfgrass, cultivars, effects of aerification, coring, topdressing and vertical mowing).

White, R.H. AGUOAT. Dickens, R. Madison : American Society of Agronomy. Agronomy journal. Jan/Feb 1984. v. 76 (1). p. 19-22. Includes references. (NAL Call No.: 4 AM34P).

1250

Those summertime blues: localized dry spots.

Danneberger, K. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1987. v. 22 (5). p. 30, 32. ill. (NAL Call No.: DNAL SB476.G7).

1251

Tolerance of Bermudagrass and Zoysia cultivars to herbicide treatments (*Cynodon dactylon*, monosodium methanearsonate, metribuzin).

Johnson, B.J. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. June 1981. June 1981. (378). 8 p. 13 ref. (NAL Call No.: S51.E22).

1252

Tolerance of overseeded perennial ryegrass to selected tricalcium arsenate treatments.

HJHSA. Johnson, B.J. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1987. v. 22 (5). p. 886-888. Includes references. (NAL Call No.: DNAL SB1.H6).

(MISCELLANEOUS PLANT DISORDERS)

1253

Tolerance of red fescue (*Festuca rubra*) and bentgrass (*Agrostis* spp.) to sethoxydim.
WEESA6. Butler, J.H.B. Appleby, A.P. Champaign, Ill. : Weed Science Society of America. Weed science. May 1986. v. 34 (3). p. 457-461. Includes references. (NAL Call No.: DNAL 79.8 W41).

1254

Tolerance of tall fescue to postemergence grass herbicides.
HJHSA. McCarty, L.B. Higgins, J.M.; Whitwell, T.; Miller, L.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1989. v. 24 (2). p. 309-311. Includes references. (NAL Call No.: DNAL SB1.H6).

1255

Turfgrass growth, nitrogen use, and water use under soil compaction and nitrogen fertilization (*Lolium perenne*, stress).
Sills, M.J. AGUOA. Carrow, R.N. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 488-492. Includes references. (NAL Call No.: 4 AM34P).

1256

Turfgrass phytotoxicity and annual grassy weed control.
PNWSB. Duell, R.W. Smith, D.A. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Includes abstract. 1990. v. 44. p. 143-144. (NAL Call No.: DNAL 79.9 N814).

1257

Turfgrass wear as affected by golf car tire design and traffic patterns.
JOSH B. Carrow, R.N. Johnson, B.J. Alexandria, Va. : The Society. Turfgrass wear tests were conducted at Griffin, Ga. in 1985 and 1986 on 'Tifway' bermudagrass (*Cynodon dactylon* X *C. transvaalensis*) using several golf car tire designs (tread configurations, radial or non-radial), golf cars, and traffic patterns. Wear damage to bermudagrass in all studies was assessed by visual turf quality, color, verdure, and leaf bruising. Golf car traffic caused significant wear damage regardless of golf car, tire design, or traffic pattern. Damage increased with frequency of trips over the site and with moderately sharp turns. Differences in wear injury between the tire designs did occur, but were minor in most instances. These differences could not be explained by tread pattern alone, since similar designs gave different degrees of wear. Whether the tire was radial or not did not influence turfgrass wear. Golf car type exhibited a minor effect on bermudagrass wear. Management

alternatives to minimize turfgrass wear should concentrate on distributing traffic and avoiding sharp turns, while selection of pneumatic tire design or golf car is of minor relative importance. Journal of the American Society for Horticultural Science. Mar 1989. v. 114 (2). p. 240-246. ill. Includes references. (NAL Call No.: DNAL 81 S012).

1258

Turfgrass wear tolerance.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. July 1990. v. 25 (7). p. 32, 72, 74. (NAL Call No.: DNAL SB476.G7).

1259

Understanding environmental stress.
Wehner, D.J. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1989. v. 24 (5). p. 69-70, 72-73. ill. (NAL Call No.: DNAL SB476.G7).

1260

Warm-season grass establishment as affected by post-planting atrazine application.
JRMGA. Bahler, C.C. Moser, L.E.; Griffin, T.S.; Vogel, K.P. Denver, Colo. : Society for Range Management. Journal of range management. Sept 1990. v. 43 (5). p. 421-424. Includes references. (NAL Call No.: DNAL 60.18 J82).

PROTECTION OF PLANT PRODUCTS – GENERAL AND MISC.

1261

Effects of carbon dioxide, oxygen, and ethylene levels of Kentucky bluegrass sod (*Poa pratensis*, turfgrass).

King, J.W. Beard, J.B.; Rieke, P.E. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 638-640. 1 ref. (NAL Call No.: 81 S012).

1262

Factors affecting survival of Kentucky bluegrass sod under simulated shipping conditions (*Poa pratensis*, turfgrass, high temperature injury, preharvest cultural practices).

King, J.W. Beard, J.B.; Rieke, P.E. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 634-637. 6 ref. (NAL Call No.: 81 S012).

1263

A new tolerance evaluation procedure for three component turfgrass seed mixtures (Kentucky bluegrass, *Poa pratensis*, creeping red fescue, *Festuca rubra*, perennial ryegrass, *Lolium perenne*, seed label, purity analysis).

Riordan, T.P. Bruneau, A.H.; Shearman, R.C.; Kinbacher, E.J. East Lansing, Mich., Association of Official Seed Analysts. Journal of seed technology. 1980. v. 5 (2). p. 69-73. 5 ref. (NAL Call No.: SB113.2.J6).

1264

Absorption, translocation, and metabolism of chlorsulfuron in Kentucky bluegrass and tall fescue.

JOSHB. Goatley, J.M. Jr. Powell, A.J. Jr.; Barrett, M.; Witt, W.W. Alexandria, Va. : The Society. Laboratory studies were conducted to determine the basis for chlorsulfuron selectivity between Kentucky bluegrass (*Poa pratensis* L. cv. Kenblue) and tall fescue (*Festuca arundinacea* Schreb. cv. Rebel). Tall fescue absorbed and translocated more foliar-applied ¹⁴C-labeled chlorsulfuron from the treated leaf than Kentucky bluegrass. The two species absorbed similar amounts of chlorsulfuron from nutrient solution into the roots, but tall fescue translocated more of the absorbed radioactivity to the shoots. Tall fescue metabolized chlorsulfuron in the shoots slightly more slowly than Kentucky bluegrass. All of these factors apparently contributed to the higher tolerance of Kentucky bluegrass than of tall fescue to chlorsulfuron. *Journal of the American Society for Horticultural Science*. Sept 1990. v. 115 (5). p. 771-774. Includes references. (NAL Call No.: DNAL 81 S012).

1265

Absorption, translocation, and metabolism of sethoxydim in centipede grass and goosegrass.

JOSHB. McCarty, L.B. Higgins, J.M.; Corbin, F.T.; Whitwell, T. Alexandria, Va. : The Society. Absorption, translocation, and metabolism of foliar-applied ¹⁴C-labeled sethoxydim (¹⁴C-sethoxydim) in sethoxydim-tolerant centipede grass *Eremochloa ophiuroides* (Munro) Hack. and sethoxydim-sensitive goosegrass *Eleusine indica* (L.) Gaertn. were determined. The distribution of ¹⁴C in treated leaves indicated that similar amounts (approximately 3%) were found in the epicuticular wax fraction (chloroform wash) of both species after 6 hours. After 2 hours, 16% of the applied ¹⁴C-sethoxydim was absorbed in the treated leaf by centipede grass, but only 2% was absorbed by goosegrass. After 2 hours, centipede grass also readily translocated greater amounts of ¹⁴C than goosegrass (4.3% vs. 0.4%). Six hours after treatment, however, no differences were found in amounts absorbed by the treated leaf and translocated to apical and basal leaves. Because sethoxydim-tolerant centipede grass absorbed and translocated similar amounts of ¹⁴C compared to the sethoxydim-sensitive goosegrass, these two mechanisms do not appear to be a means of tolerance. The major difference found between the two species was in the metabolism of sethoxydim. After 6 hours, 81% to 98% of the ¹⁴C in goosegrass extracts remained as ¹⁴C-sethoxydim. In contrast, only 1% of the ¹⁴C found in apical leaves, basal leaves, and roots of centipede grass was identified as ¹⁴C-sethoxydim. These data indicated that differences in tolerance to sethoxydim between these two species were based on metabolism. *Journal of the American Society for Horticultural Science*. July 1990. v. 115 (4). p. 605-607. Includes references. (NAL Call No.: DNAL 81 S012).

1266

ACP 2110 compared with other PGRs.

PNWSB. Duell, R.W. Smith, D.A.; Blackhurst, D.L. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held on January 4-6, 1989, Baltimore, Maryland. 1989. v. 43. p. 78-79. (NAL Call No.: DNAL 79.9 N814).

1267

Activity of selective postemergence grass herbicides in soil.

WEESA6. Kells, J.J. Meggitt, W.F.; Penner, D. Champaign, Ill. : Weed Science Society of America. *Weed science*. Jan 1986. v. 34 (1). p. 62-65. ill. Includes 17 references. (NAL Call No.: DNAL 79.8 W41).

1268

The agronomics of renovation.

Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 95-99. (NAL Call No.: DNAL SB433.34.V8V47).

1269

Annual bluegrass and creeping bentgrass germination response to flurprimidol.

HJHSA. Gaussoin, R.E. Branham, B.E. Alexandria, Va. : American Society for Horticultural Science. *HortScience*. June 1987. v. 22 (3). p. 441-442. Includes references. (NAL Call No.: DNAL SB1.H6).

1270

Annual bluegrass control.

WUEXA. Goss, R.L. Roberts, J.; Cook, T. Pullman, Wash. : The Service. Extension bulletin - Washington State University, Cooperative Extension Service. May 1982. (1129). 3 p. ill. (NAL Call No.: DNAL 275.29 W27P).

1271

Annual bluegrass control and tolerance of Kentucky bluegrass perennial ryegrass to ethofumesate.

HJHSA. Dernoeden, P.H. Turner, T.R. Alexandria, Va. : American Society for Horticultural Science. *HortScience*. June 1988. v. 23 (3). p. 565-567. Includes references. (NAL Call No.: DNAL SB1.H6).

(WEEDS)

1272

Annual bluegrass control during overseeding of bermudagrass (*Poa annua*, *Cynodon dactylon*).
Bingham, S.W. SWSPB. Champaign : The Society. Proceedings - Southern Weed Science Society. 1983. 1983. (36th). p. 123-127. Includes references. (NAL Call No.: 79.9 S08).

1273

Annual bluegrass control in dichondra--progress report.

Hariyandi, M.A. Elmore, C.L. Berkeley, Calif. : The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. 1986. v. 36 (1/4). p. 4-5. (NAL Call No.: DNAL 60.18 S08).

1274

Annual bluegrass control in overseeded bermudagrass.

Johnson, B.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 67. (NAL Call No.: DNAL SB433.34.V8V47).

1275

Annual bluegrass (*Poa annua*) control.

Goss, R.L. Cook, T.; Roberts, J. Pullman, Wash., The Service. EM - Washington State University, Cooperative Extension Service. July 1980. July 1980. (3542). 3 p. ill. (NAL Call No.: 275.29 W27MI).

1276

Annual bluegrass seedhead suppression.

Turner, T.R. College Park, Md. : The Service. The Agronomist - Cooperative Extension Service, University of Maryland. Dec 1984. v. 21 (12). p. 15-16. Includes references. (NAL Call No.: DNAL S71.A46).

1277

Annual weed control in roadside and fine bermuda turf.

SWSPBE. Cargill, L.M. Brede, A.D. Raleigh, N.C. : The Society. Proceedings - Southern Weed Science Society. 1986. (39th). p. 141-145. (NAL Call No.: DNAL 79.9 S08 (P)).

1278

Antagonism of glyphosate (Roundup) activity on johnsongrass by 2,4-D or dicamba (Banvel).
Flint, J.L. Barnett, M.; Olson, G.L. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986. Apr 1987. (303). p. 36. (NAL Call No.: DNAL 100 K41PR).

1279

Available herbicides offer only temporary of common bermudagrass in sod production fields.
HARAA. Dickens, R. Turner, D.L.; Baird, J. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1987. v. 34 (4). p. 4. (NAL Call No.: DNAL 100 AL1H).

1280

Barnyardgrass control in seedling Kentucky bluegrass turf with new herbicides.

Beck, K.G. S.I. : Western Society of Weed Science. Research progress report - Western Society of Weed Science. 1987. p. 137-138. (NAL Call No.: DNAL 79.9 W52R).

1281

Behavior of 14C haloxyfop in common bermudagrass (*Cynodon dactylon*) stolons.

WEESA6. Maroder, H.L. Prego, I.A.; Caironi, M.A. Champaign, Ill. : Weed Science Society of America. Weed science. Sept 1987. v. 35 (5). p. 599-603. Includes references. (NAL Call No.: DNAL 79.8 W41).

1282

Bermudagrass.

WETEE9. Mitich, L.W. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 433-435. ill. Includes references. (NAL Call No.: DNAL SB610.W39).

1283

Bermudagrass encroachment into creeping bentgrass as affected by herbicides and plant growth regulators.

CRPSAY. Johnson, B.J. Carrow, R.N. Madison, Wis. : Crop Science Society of America. Bermudagrass (*Cynodon* spp.) encroachment into creeping bentgrass (*Agrostis stolonifera* var. *palustris* Huds.) golf greens is a severe problem where both grasses are grown. Research was initiated to determine the effects of dates

and frequency of herbicide-plant growth regulator (PGR) treatments on tolerance of creeping bentgrass and encroachment of three bermudagrass cultivars under golf green conditions. Treatments were arranged in a split-plot design with frequency of herbicide-PGR application as main plots and bermudagrass cultivars as subplots. Soil type was an artificial rootzone mix. Creeping bentgrass was injured more when treated with various herbicide-PGR combinations in September than in April. However, creeping bentgrass injury was unacceptable (greater than 30%) with mefluidide

N-2,4-dimethyl-5-(trifluoromethyl)-sulfonyl amino phenyl acetamide applied in sequence with siduron

N-(2-methyl-cyclohexyl)-N-phenylurea or ethofumesate

(+/-)2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methanesulfonate at either date. In general, herbicide-PGR treatments applied in April suppressed foliage and stolon growth of bermudagrass equal to or better than treatments applied in September and April. Bermudagrass growth was effectively suppressed until late May or early June when treated with siduron, siduron with flurprimidol

alpha-(1-methyl-ethyl)-alpha-4-(trifluoromethoxy)-phenyl-5-pyrimidine-methanol, or ethofumesate with flurprimidol. There generally was no difference in foliar growth suppression from treatments applied to 'Tifway', 'Tifgreen', both *C. transvaalensis* Burt-Davy X *C. dactylon* (L.) Pers., and common bermudagrass, *C. dactylon* (L.) Pers. When chemicals were applied only in April, the length and number of bermudagrass stolons were effectively suppressed for several weeks but stolon growth recovered and increased rapidly from mid-May until June. The suppression of stolon growth of all bermudagrass cultivars in June was as good or better when. Crop science. Sept/Oct 1989. v. 29 (5). p. 1220-1227. ill. Includes references. (NAL Call No.: DNAL 64.8 C883).

1284

Bermudagrass response to multiple applications of postemergence grass herbicides at various timing.

WSWPA. Bell, C.E. Little, K. Reno : The Society. Proceedings - Western Society of Weed Science. 1984. v. 37. p. 195-200. Includes 1 references. (NAL Call No.: DNAL 79.9 W52).

1285

Broadleaf weed control.

Lefton, J. West Lafayette, Ind. : The Service. AY - Purdue University Cooperative Extension Service. Mar 1988. (9,rev.). 2 p. ill. (NAL Call No.: DNAL S544.3.I6P82).

1286

Broadleaf weed control in home lawns.

Stiegler, J. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Dec 1981. (2654,repr.). 2 p. ill. (NAL Call No.: DNAL S544.3.0505).

1287

Broadleaf weed control in home lawns.

Stiegler, J. OK. Greer, H. Stillwater, Okla., The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Oklahoma State University. Cooperative Extension Service. July 1979. July 1979. (2654). 2 p. ill. 2 ref. (NAL Call No.: S544.3.0505).

1288

Broadleaf weed control in turf.

Emerson, B.H. Sacramento, Ca., California Weed Conference Office. Proceedings - California Weed Conference. p. 89-95. 1 ref. (NAL Call No.: 79.9 C122).

1289

Broadleaf weed (*Taraxacum officinale*, *Cerastium vulgatum*, *Trifolium repens*) control in turfgrass (*Festuca rubra*, *Agrostis tenuis*, *Poa pratensis*).

Jagschitz, J.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 357-363. ill. 4 ref. (NAL Call No.: 79.9 N814).

1290

Broadleaf weeds in turf identification and control.

S.l. : Dow Chemical Company, 1987? . Abstract: This identification guide lists common and scientific names, characteristics of leaves, flowers, and roots, look-alikes, sites, growth period, and control treatment period of 34 broadleaf weeds in turf. Features color photos and closeups of weeds and their look-alikes, flagged hard to control weeds, and alphabetical index. Cover title. 71, 1 p. : col. ill. ; 11 x 22 cm. Includes bibliographical references (p. 72) and index. (NAL Call No.: DNAL SB611.B76).

(WEEDS)

1291

Characteristics of atrazine-resistant biotypes of three grass weeds.

WEESA6. Yaacoby, T. Schonfeld, M.; Rubin, B. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1986. v. 34 (2). p. 181-184. Includes 21 references. (NAL Call No.: DNAL 79.8 W41).

1292

Chemical and cultural control of kikuyugrass in turf (Pennisetum clandestinum, weed in golf courses, bowling greens, and home lawns).

Cudney, D.W. Gibeault, V.A.; Baldwin, R.L.; Breece, J.R. Berkeley, Calif., The Service. California turfgrass culture - California University, Berkeley, Cooperative Extension Service. Summer/Fall 1981. v. 31 (3/4). p. 5-6. ill. (NAL Call No.: 60.18 S08).

1293

Chemical control of spurge and other broadleaf weeds in turfgrass (Euphorbia supina).

Ebdon, J.S. Jagschitz, J.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. 1982. v. 36. p. 307-313. Includes 5 ref. (NAL Call No.: 79.9 N814).

1294

Chemical suppression of turfgrass using postemergence herbicides.

Brundage, L.M. William, R.D. S.I. : Western Society of Weed Science. Research progress report - Western Society of Weed Science. 1986. p. 85. (NAL Call No.: DNAL 79.9 W52R).

1295

Chlorsulfuron activity on seven cool-season grasses.

HJHSA. Maloy, B.M. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1986. v. 21 (4). p. 1012-1014. ill. Includes references. (NAL Call No.: DNAL SB1.H6).

1296

Combinations of MSMA (monosodium methanearsonate) with preemergence herbicides for large crabgrass (Digitaria sanguinalis) control in turf.

Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. July 1981. v. 29 (4). p. 386-389. 10 ref. (NAL Call No.: 79.8 W41).

1297

Common weeds around the home and their control.

Meade, J.A. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (119). 6 p. (NAL Call No.: DNAL S544.3.N5F7).

1298

Common weeds of turfgrass / (prepared by John C. Harper).

Harper, John. University Park, Pa. College of Agriculture, Pennsylvania State University (1980?). Caption title ~Pesticide Applicator Training collection. 20 p. ; 28 cm. (NAL Call No.: SB608.G8H37).

1299

Comparison of MSMA and DSMA for post-emergence crabgrass (Digitaria sanguinalis) control in Kentucky bluegrass turf (Poa pratensis, monosodium methanearsonate, disodium methanearsonate).

Johnson, B.J. GA. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. May 1980. May 1980. (351). 7 p. 4 ref. (NAL Call No.: S51.E22).

1300

Comparison of standard and reduced rates on fungicide combinations for brown patch control and algae development in turf, 1982 (Rhizoctonia solani and unidentified algae species on creeping bentgrass, Agrostis palustris).

Dernoeden, P.H.FNETD. Kackley, K.E. (s.l.) : The Society. Fungicide and nematocides tests : results - American Phytopathological Society. 1983. v. 38. p. 189. (NAL Call No.: 464.9 AM31R).

1301

Comparison of three herbicides for selective tall fescue control in Kentucky bluegrass.

AGJDAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. Tall fescue (Festuca arundinacea Schreb.) can be an objectionable weed in Kentucky bluegrass (Poa pratensis L.). Field studies were conducted to determine safe and effective rates of chlorsulfuron 2-chloro-N-((4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino carbonyl) benzenesulfonamide, diclofop ((+/-)-2- 4-(2,4-dichlorophenoxy)phenoxy propanoic acid), and metsulfuron 2-(((4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino carbonyl)amino sulfonyl)benzoic acid for selective tall fescue control in Kentucky bluegrass. Herbicides were field tested in either 'Kenblue' Kentucky bluegrass, grown on a Sassafrass sandy loam (fine-loamy, siliceous,

mesic Typic Hapludult), or an improved Kentucky bluegrass blend grown on a Chester silt loam (fine-loamy, mixed mesic Typic Hapludult). Two applications of diclofop reduced bluegrass cover and quality for extensive periods and generally provided inferior tall fescue control compared to chlorsulfuron or metsulfuron. Chlorsulfuron applied at 0.07 + 0.07 or 0.14 + 0.14 kg ha⁻¹ did not reduce bluegrass cover at either site. Single applications of metsulfuron (0.07 or 0.14 kg ha⁻¹) did not injure Kenblue; however, both rates injured the Kentucky bluegrass blend, and turf treated twice at the high rate required 1 yr for recovery. Single applications of chlorsulfuron (0.14 or 0.28 kg ha⁻¹) or metsulfuron (0.07 or 0.14 kg ha⁻¹) provided over 90% tall fescue control at the Kenblue site. Split applications of 0.07 + 0.07 or 0.14 + 0.14 kg ha⁻¹ of either chlorsulfuron or metsulfuron provided over 90% control in the bluegrass blend. When compared to untreated turf, chlorsulfuron or split applications of metsulfuron applied in the fall, resulted in more bluegrass injury the following summer when turf was subjected to drought stress. *Agronomy journal*. Mar/Apr 1990. v. 82 (2). p. 278-282. Includes references. (NAL Call No.: DNAL 4 AM34P).

1302

Composition and vitality of quack grass roots /by A.J. Pinckney.

Pinckney, A. J. Fargo : Agricultural Experiment Station, North Dakota Agricultural College, 1945. 16 p. : charts ; 22 cm. Bibliography: p. 16. (NAL Call No.: DNAL 100 N813 no.334).

1303

Control and suppression of warm season grasses to reduce mowing on highway rights-of-way.

Link, M.L.SWSPB. Atkins, R.L. Champaign : The Society. Proceedings - Southern Weed Science Society. 1983. 1983. (36th). p. 310-312. (NAL Call No.: 79.9 S08).

1304

Control of annual bluegrass (*Poa annua*) in perennial ryegrass (*Lolium perenne*) seed fields (Ethofumesate).

Lee, W.O. Champaign, Ill., Weed Science Society of America. Weed science. July 1981. v. 29 (4). p. 444-447. 9 ref. (NAL Call No.: 79.8 W41).

1305

Control of annual lespedeza, oxalis and other broadleaf weeds in turf.

PNWSB. Dernoeden, P.H. Fry, J.D. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. 1985. v. 39. p. 290-294. Includes 2 references. (NAL Call No.: DNAL 79.9 N814).

1306

Control of annual weedy grasses in a bentgrass green with treatment programs of tri-calcium arsenate.

JOSHB. Callahan, L.M. Shepard, D.P. Alexandria, Va. : The Society. A creeping bentgrass (*Agrostis palustris* Huds. 'Pennncross') green was treated with flowable tri-calcium arsenate (Ca-Ars) in increment levels of 17 or 34 kg.ha⁻¹ in 12 multiple treatment date programs. Treatments were made over 4 years to determine effectiveness of initial applications and accumulated residues in controlling annual bluegrass (*Poa annua* var. *annua* L.) and large crabgrass (*Digitaria sanguinalis* L. Scop.) and to evaluate the phytotoxicity to the bentgrass. Multiple treatments of Ca-Ars at increments of 17 or 34 kg.ha⁻¹ effectively controlled annual bluegrass and large crabgrass when cumulative application amounts totaled at least 136 kg.ha⁻¹. Excellent control of annual bluegrass was achieved by timing treatments and soil residue buildup totals to coincide with the major germination and regrowth period of late winter to early spring. Optimum timing included treatments during the fall and spring. This treatment sequence also gave excellent control of crabgrass. Sustained control of both weeds was achieved when continued low level follow-up applications totaled >136 kg.ha⁻¹. Pennncross bentgrass appeared tolerant of Ca-Ars treatments totaling as high as 272 kg.ha⁻¹. Arsenic apparently influenced thatch accumulation by killing earthworms. *Journal of the American Society for Horticultural Science*. Jan 1991. v. 116 (1). p. 30-35. Includes references. (NAL Call No.: DNAL 81 S012).

1307

Control of *Aristida* spp. in the renovation of roadside turfgrasses (Abstract only).

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WEESA6. Ralphs, M.H. Mickelsen, L.V.; Turner, D.L.; Nielsen, D.B. Champaign, Ill. : Weed Science Society of America. Abstract: Several herbicides were evaluated for control of white locoweed (*Oxytropis sericea* Nutt. T & G ~ DXRMA) and changes in botanical composition on two sites on high-elevation rangeland. White locoweed was more abundant and its population more stable on the rocky subalpine wind-swept ridge site than on the subalpine loam site. Picloram (4-amino-3,5,6-trichloro-2-pyridinecarboxylic acid) at 0.6 and 1.1 kg ae/ha, and 2,4-D (2,4-dichlorophenoxy)acetic acid at 2.2 and 4.5 kg ae/ha eliminated white locoweed on the subalpine loam site, although the population on this site declined naturally. Clopyralid (3,6-dichloro-2-pyridinecarboxylic acid) was the most effective herbicide on the subalpine wind-swept site. Clopyralid at 0.3 and 0.6 kg ae/ha, dicamba (3,6-dichloro-2-methoxybenzoic acid) at 2.2 kg ae/ha, and 2,4-D at 1.1 kg ae/ha plus clopyralid or picloram at 0.3 kg/ha killed all white locoweed plants. Lower rates of clopyralid (0.1 kg/ha), dicamba (0.6 and 1.1 kg/ha), 2,4-D (2.2 and 4.5 kg/ha), and triclopyr (3,5,6-trichloro-2-pyridinyl)oxy acetic acid¹ (0.06, 1.1, and 2.2 kg ae/ha) killed 45 to 84% of white locoweed plants. Grass cover increased on most treated areas where white locoweed, forbs, and sagebrush declined. Cattle consumption of white locoweed declined following application of 2,4-D. Weed science. May 1988. v. 36 (3). p. 353-358. Includes references. (NAL Call No.: DNAL 79.8 W41).

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WEESA6. Chalmers, D.R. Hopen, H.J.; Turgeon, A.J. Champaign, Ill. : Weed Science Society of America. Weed science. July 1987. v. 35 (4). p. 533-540. Includes references. (NAL Call No.: DNAL 79.8 W41).

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AGJOAT. Choi, J.S. Fermanian, T.W.; Wehner, D.J.; Spomer, L.A. Madison, Wis. : American Society of Agronomy. Turf managers sometimes experience poor or early loss of control of targeted weeds, even when herbicides are applied at recommended rates. This study was conducted to determine the influence of soil temperature and moisture on the rate of DCPA (dimethyl tetrachloroterephthalate) degradation in soil. The effect of six soil temperatures, three soil moistures, and three soil textures on the degradation of DCPA was measured in the laboratory through HPLC analysis. Soil temperature influenced the rate of DCPA degradation in the following order: 10 << 15 << 20 < 25 = 30 > 35 degrees C. The average half-life ranged from 92 d at 10 degrees C to 18 d at 30 degrees C. Soil moisture content influenced the rate of degradation in the following order: low (0.1 kg H₂O kg⁻¹ soil) < medium (0.2 kg H₂O kg⁻¹ soil) = high (0.4 kg H₂O kg⁻¹ soil). The average half-life values of DCPA were 49, 33, and 31 d for the low, medium, and high soil moisture levels, respectively. A mathematical model of DCPA loss was utilized to determine the relative contribution of time, soil moisture, and soil temperature to the rate of degradation. Faster degradation of DCPA was observed from a sand/soil moisture (47.5:52.5, w/w) than from either a sand or a soil (Flanagan silt loam fine, montmorillonitic, mesic Aquic

Argiudoll). It was concluded that the dissipation rate of DCPA is largely dependent on soil environmental conditions including soil temperature, soil moisture, soil texture, and the time interval since the application to the soil. Thus, it is suggested that soil environmental factors be considered in determining the timing of second or subsequent applications when necessary rather than following a fixed application schedule. Agronomy journal. Jan/Feb 1988. v. 80 (1). p. 108-113. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Hurto, K.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 331-335. p. 331-335. (NAL Call No.: 79.9 N814).

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Anderson, J.L. Weeks, M.G. S.1. : Western Society of Weed Science. Research progress report - Western Society of Weed Science. 1987. p. 141-142. (NAL Call No.: DNAL 79.9 W52R).

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PNWSB. Bhowmik, P.C. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. Jan 1984. v. 38. p. 315-320. Includes 6 references. (NAL Call No.: DNAL 79.9 N814).

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Evaluation of preemergence herbicides for lawn care service use.

Dernoeden, P.H. Blacksburg? : Virginia Polytechnic Institute and State University. Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 43-49. (NAL Call No.: DNAL SB433.34.V8P7 1983).

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Evaluation of seven herbicides for postemergent control of broadleaf and grassy weeds in bermudagrass turfs.

Menn, W.G. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4335). p. 76-78. (NAL Call No.: DNAL 100 T31P).

1384

Evaluation of several herbicides for postemergence control of broadleaf weeds in turf.

Elmore, C.E. Roncornoi, J.A. S.I. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 142-143. (NAL Call No.: DNAL 79.9 W52R).

1385

An evaluation of six preemergent herbicides for season-long control of goosegrass (*Eleusine indica* (L.) Gaertn) in a common bermudagrass (*Cynodon dactylon* (L.) Pers.) turf.

Menn, W.G. Dahms, D.S.; Griggs, S.D. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4337). p. 86-87. (NAL Call No.: DNAL 100 T31P).

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Evaluation of various postemergence herbicides for Virginia buttonweed control.

RRMSD. Heering, D.C. Coats, G.E.; Shaw, D.R.; Krans, J.V. Mississippi State, Miss. : The Station. Research report - Mississippi Agricultural and Forestry Experiment Station. Oct 1987. v. 12 (25). 4 p. Includes references. (NAL Call No.: DNAL S79.E37).

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Factors influencing fenoxaprop efficacy in cool-season turfgrass.

WETEE9. Neal, J.C. Bhowmik, P.C.; Senesac, A.F. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 272-278. Includes references. (NAL Call No.: DNAL SB610.W39).

1388

Fairy rings in Wyoming lawns (Fungi, symptoms, control).

Roth, D.A. BAESD. Laramie : The Service. Bulletin - Wyoming University, Agricultural Extension Service. Aug 1982. Aug 1982. (699). 2 p. ill. (NAL Call No.: 275.29 W99B).

1389

Fall and spring applications of herbicides for tall fescue control and overseeding effects.

PNWSB. Dernoeden, P.H. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held on January 4-6, 1989, Baltimore, Maryland. 1989. v. 43. p. 102-103. (NAL Call No.: DNAL 79.9 N814).

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Fall applications of herbicides for controlling broadleaved weeds in turfgrass.

Neal, J.C. Riverhead, N.Y. : Cornell Cooperative Extension. Long Island horticulture news. Sept 1989. p. 4-6. (NAL Call No.: DNAL SB317.5.L65).

1391

Fenarimol (EL-222) for Poa annua disease control in golf putting greens.

SWSPBE. Grant, D.L. Cooper, R.B.; Hicks, R.D.; Moore, C.E.; Webster, H.L. Raleigh, N.C. : The Society. Proceedings - Southern Weed Science Society. 1986. (39th). p. 113-127. (NAL Call No.: DNAL 79.9 S08 (P)).

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Fenarimol for control of annual bluegrass in dormant bermudagrass turf.

GARRA. Johnson, B.J. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. June 1988. (552). 9 p. ill. Includes references. (NAL Call No.: DNAL S51.E22).

1393

Fenoxaprop combined with preemergence herbicides for crabgrass and goosegrass control in turf.

HJHSA. Dernoeden, P.H. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1988. v. 23 (1). p. 154-157. Includes references. (NAL Call No.: DNAL SB1.H6).

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Fenoxaprop for crabgrass and goosegrass control in turfgrasses.

AKFRAC. King, J.W. Fayetteville, Ark. : The Station. Arkansas farm research - Arkansas Agricultural Experiment Station. Mar/Apr 1990. v. 39 (2). p. 7. ill. (NAL Call No.: DNAL 100 AR42F).

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Field burning and the environment (Grass seed, controlling diseases and weeds).

Yarris, L. Washington, D.C., The Service. Agricultural research - United States Agricultural Research Service. Sept 1981. v. 30 (3). p. 12. (NAL Call No.: 1.98 AG84).

1396

Field evaluation of postemergence herbicides for Virginia buttonweed control in turf.

MAEBB. Coats, G.E. Jordan, J.H. Jr.; McGregor, J.T. Jr. Mississippi State, Miss. : The Station. Bulletin - Mississippi Agricultural & Forestry Experiment Station. Apr 1985. (937). 6 p. ill. Includes 2 references. (NAL Call No.: DNAL S79.E3).

1397

Fitting ornamental weed control to lawn service programs.

Derr, J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 88. (NAL Call No.: DNAL SB433.34.V8V47).

1398

Frequency of herbicide treatments for summer and winter weed control in turfgrass (Digitaria sanguinalis, Eleusine indica, Poa annua).

Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. Jan 1982. v. 30 (1). p. 116-124. Includes 18 ref. (NAL Call No.: 79.8 W41).

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1399

Geese, grass, and trees (For weed control in an intensively cultured hybrid Populus plantation).

Hansen, E.A. Netzer, D.A. Washington, D.C. : The Service. Tree planters' notes - United States, Forest Service. Winter 1984. v. 35 (1). p. 10-11. Includes references. (NAL Call No.: 1.962 C5T71).

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Get a jump on weeds.

Menn, W.G. Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Nov 1988. v. 23 (11). p. 10-11. (NAL Call No.: DNAL SB476.G7).

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Glyphosate and SC 0224 enhancement with additives on bermudagrass.

PNWSB. Beste, C.E. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. 1985. v. 39. p. 118-121. (NAL Call No.: DNAL 79.9 N814).

1402

Glyphosate and SC-0224 for bermudagrass (Cynodon spp.) cultivar control.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan 1988. v. 2 (1). p. 20-23. Includes references. (NAL Call No.: DNAL SB610.W39).

1403

Glyphosate doesn't harm tall fescue.

CAGRA. Downer, A.J. Cudney, D.W. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Jan/Feb 1989. v. 43 (1). p. 13-14. ill. (NAL Call No.: DNAL 100 C12CAG).

1404

Goosegrass (Eleusine indica) control in turf in the transition zone (Preemergence herbicides, Digitaria ischaemum).

Dernoeden, P.H. WEESA6. Watschke, T.L.; Mathias, J.K. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 4-7. Includes references. (NAL Call No.: 79.8 W41).

1405

Goosegrass (Eleusine indica) control bermudagrasses (Cynodon dactylon).

Bingham, S.W. Shaver, R.L. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 237-245. Bibliography p. 245. (NAL Call No.: SB433.I57 1977).

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Goosegrass (Eleusine indica) control during bermudagrass (Cynodon dactylon) establishment.

Bingham, S.W. Shaver, R.L. Champaign, Ill., Weed Science Society of America. Weed science. Jan 1981. v. 29 (1). p. 11-16. 10 ref. (NAL Call No.: 79.8 W41).

1407

Goosegrass (Eleusine indica) control in bermudagrass (Cynodon dactylon) turf.

Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. July 1980. v. 28 (4). p. 378-381. 8 ref. (NAL Call No.: 79.8 W41).

1408

Granular dicot weed control and fertilizer interactions in turfgrass.

Davis, H.E. Ahrens, J.F. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. p. 280-284. p. 280-284. (NAL Call No.: 79.9 N814).

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Grass competition for nitrogen around landscape trees.

Neely, Dan. Washington, D.C. : Horticultural Research Institute. Journal of environmental horticulture. Sept 1984. v. 2 (3). p. 86-88. Includes 4 references. (NAL Call No.: DNAL SB1.J66).

1410

Grassy weed control in home lawns.

Stiegler, J. Stillwater, Okla. : The Service. OSU extension facts - Cooperative Extension Service, Oklahoma State University. Dec 1981. (2655,repr.). 2 p. ill. (NAL Call No.: DNAL S544.3.0505).

1411

Have a weed free lawn. --.

Ambler, Pa. : Amchem Products, 197-?. Cover title. 17 p. : col. ill. ; 21 cm. (NAL Call No.: DNAL SB611.H38).

1412

Herbicidal control of duncecap larkspur (*Delphinium occidentale*).

WEESA6. Mickelsen, L.V. Ralphs, M.H.; Turner, D.L.; Evans, J.O.; Dewey, S.A. Champaign, Ill. : Weed Science Society of America. Several herbicides were evaluated for their ability to control duncecap larkspur, a serious poisonous plant on mountain rangelands in the western U.S. Duncecap larkspur density was reduced from 33 to 93% by triclopyr applied at 2.2, 4.5, and 9.0 kg ae/ha. Picloram applied at 2.2 and 4.5 kg ae/ha reduced density from 33 to 99%. Metsulfuron applied at 86 and 138 g ai/ha reduced density from 50 to 98%. Glyphosate was the most effective herbicide, reducing density by 90 to 100% when applied at 2.2 kg ai/ha. Glyphosate reduced the cover of grasses and perennial forbs but increased cover of annual forbs. All rates of picloram and metsulfuron reduced forb cover. Grass cover increased in most plots where duncecap larkspur and forbs were reduced. Weed science. Mar 1990. v. 38 (2). p. 153-157. Includes references. (NAL Call No.: DNAL 79.8 W41).

1413

Herbicide consideration in renovation.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 93-94. (NAL Call No.: DNAL SB433.34.V8V47).

1414

Herbicide control of bermudagrass in tall fescue, centipedegrass, and zoysia turfgrasses.

GARBB. Johnson, B.J. Athens, Ga. : The Stations. Research bulletin - University of Georgia, Agricultural Experiment Stations. Nov 1988. (379). 23 p. ill. Includes references. (NAL Call No.: DNAL S51.E2).

1415

Herbicide effects on bermudagrass lawn recovery and crabgrass control during spring root decline in the north-south transition zone.

JOSHB. Callahan, L.M. High, J.W. Jr. Alexandria, Va. : The Society. A bermudagrass *Cynodon dactylon* (L) Pers. X *C. transvaalensis* Burt-Davy 'Tifgreen' lawn in the transition zone (about lat. 35 degrees N) was treated in late March for 3 years with a high and a low level each of benefin, bensulide, DCPA, oxadiazon, and siduron. Objectives were to

determine if relationships exist between field environment and dates of preemergence herbicide applications for large crabgrass (*Digitaria sanguinalis* L. Scop.) control, the spring root decline (SRD) phenomenon, and herbicide phytotoxicity to the bermudagrass. Herbicide treatments in late March generally controlled large crabgrass, reduced total weed competition, and appeared to aid bermudagrass spring growth following winter dormancy. Herbicide injury to 'Tifgreen' bermudagrass roots during SRD does occur under practical field conditions and was more severe when bermudagrass spring green-up occurred closer to the herbicide treatment date, as in 1982. Bermudagrass stand density was significantly reduced with the high level of siduron in 1980 and 1981, and with both levels of oxadiazon and siduron in 1982. Bensulide and oxadiazon, at both levels, gave 92% to 100% crabgrass control during all three treatment years. The high levels of benefin and DCPA in 1980, both levels of benefin and the high level of DCPA in 1981, and both levels of DCPA and the high level of benefin in 1982 gave crabgrass control in excess of 95%. Journal of the American Society for Horticultural Science. July 1990. v. 115 (4). p. 597-601. Includes references. (NAL Call No.: DNAL 81 S012).

1416

Herbicide impact on root growth.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 40. (NAL Call No.: DNAL SB433.34.V8V47).

1417

Herbicide screening studies in warm season turfgrasses--1985.

MAEBB. Coats, G.E. Scruggs, J.W.; Anderson, D.H.; Heering, D.C.; Munoz, R.F. Mississippi State, Miss. : The Station. Bulletin - Mississippi Agricultural & Forestry Experiment Station. May 1986. (945). 13 p. (NAL Call No.: DNAL S79.E3).

1418

Herbicide tank mixes for postemergence control of smooth crabgrass in turf.

PNWSB. Dernoeden, P.H. Davis, D.B. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held on January 4-6, 1989, Baltimore, Maryland. 1989. v. 43. p. 85-86. (NAL Call No.: DNAL 79.9 N814).

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1419

Herbicide tolerance of California brome currently invading orchardgrass and tall fescue raised for seed.

Mueller-Warrant, G.W. S.I. : Western Society of Weed Science. Research progress report - Western Society of Weed Science. 1987. p. 357-358. (NAL Call No.: DNAL 79.9 W52R).

1420

Herbicide X annual fertility programs influence on creeping bentgrass performance.

AGJOAT. Johnson, B.J. Madison, Wis. : American Society of Agronomy. Creeping bentgrass (*Agrostis palustris* Huds.) is increasing in the use of golf greens in the upper South where heat and drought stress occurs. Research was initiated to determine the effects of annual fertilizer programs on performance of creeping bentgrass treated with spring and fall-applied herbicides. Treatments were arranged in a split-split block with subunits in strips. Fertilizer programs were the main block and the blocks were stripped by spring and fall herbicide treatments. Soil type was an artificial rootzone mix. Creeping bentgrass performed best the first 26 wk of each year when fertilized at the high (490-20-195 kg NPK ha⁻¹ yr⁻¹) fertility level and best the last 26 wk of each year when fertilized at the medium (294-12-124 kg NPK ha⁻¹ yr⁻¹) fertility level. The quality of creeping bentgrass fertilized annually at the low (98-6-52 kg NPK ha⁻¹ yr⁻¹) fertility level was unacceptable. The quality of creeping bentgrass was reduced less at the medium fertility level than at the low fertility level when treated with oxadiazon (3-2,4-dichloro-5-(1-methylethoxy)phenyl-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-(3H)-one) and bensulide (O,O-bis(1-methylethyl)-S-2-(phenylsulfonyl)-amino ethyl phosphorodithioate + oxadiazon. Ethofumesate

(+/-)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuran-2-yl methane-sulfonate applied in the fall 1986 maintained the highest quality ratings at the high fertility level until mid-April when the quality was the same whether fertilized at the medium or high level. In most instances in 1987, the quality of creeping bentgrass treated with ethofumesate at the medium fertility level was equally as good as when treated with the same herbicide but at the high fertility level. When fertilizer by herbicide interaction occurred, creeping bentgrass maintained a higher quality at the medium to high fertility level than at the low fertility level. *Agronomy journal*. Jan/Feb 1990. v. 82 (1). p. 27-33. Includes references. (NAL Call No.: DNAL 4 AM34P).

1421

Herbicides: comparing the old with the new.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 104-105. (NAL Call No.: DNAL SB433.34.V8V47).

1422

Herbicides find new uses on turfs.

Mississippi State, Miss. : The Station. MAFES research highlights - Mississippi Agricultural & Forestry Experiment Station. Jan 1987. v. 50 (1). p. 6-7. ill. (NAL Call No.: DNAL 100 M69MI).

1423

Herbicides for difficult weeds in cool season turfgrasses.

Jagschitz, J.A. Cleveland. Harvest Publishing Co. Weeds, trees and turf. Mar 1981. v. 20 (3). p. 18-19, 62-63. ill. (NAL Call No.: 79.8 W413).

1424

Herbicides for summer weed control in turfgrasses (*Digitaria sanguinalis*, *Eleusine indica*).

Johnson, B.J. Athens, Ga. The Stations. Research bulletin - University of Georgia, Experiment Stations. June 1980. June 1980. (256). 23 p. ill. 17 ref. (NAL Call No.: S51.E2).

1425

Herbicides O.K. or turfgrass with harvesting delay after application.

HARAA. Sharpe, S. Dickens, R.; Turner, D.L. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Summer 1988. v. 35 (2). p. 12. ill. (NAL Call No.: DNAL 100 AL1H).

1426

Hoelon -- a new tool for goosegrass control.

McCarty, L.B. Far Hills, N.J. : United States Golf Association. USGA Green Section record. May/June 1990. v. 28 (3). p. 8-9. ill. (NAL Call No.: DNAL 60.18 UN33).

1427

Hoelon effectively controls annual ryegrass in wheat.

HARAA. Walker, R.H. Wyatt, D.R.; Richburg, J.S. III. Auburn University, Ala. : The Station. Highlights of agricultural research - Alabama Agricultural Experiment Station. Winter 1990. v. 37 (4). p. 11. (NAL Call No.: DNAL 100 AL1H).

1428

Identifying and controlling annual grasses in lawns.

Morris, B. Niles, W. Reno, Nev. : College of Agriculture, University of Nevada-Reno, Nevada Cooperative Extension. Fact sheet - College of Agriculture, University of Nevada-Reno, Nevada Cooperative Extension. 1987? . (87-3). 4 p. ill. (NAL Call No.: DNAL S544.3.N3C66).

1429

Improved goosegrass (*Eleusine indica*) control in bermudagrass turf.

Dickens, R. AL. Walker, R.H. Auburn, The Station. Highlights of agricultural research. Alabama. Agricultural Experiment Station. Spring 1980. v. 27 (1). p. 5. ill. (NAL Call No.: 100 AL1H).

1430

Improving broadleaf weed control in bluegrass (*Poa pratensis*).

Bingham, S.W. Kates, A.H.; Schmidt, R.E. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society. 1980. v. 34. p. 389-398. ill. 4 ref. (NAL Call No.: 79.9 N814).

1431

Improving broadleaf weed control in turfgrass (Herbicides).

Bingham, S.W. Shaffran, M. Champaign : The Society. Proceedings - Southern Weed Science Society. 1982. 1982. (35th). p. 79-86. 6 ref. (NAL Call No.: 79.9 S08).

1432

Improving our ability to control the tough ones--annual bluegrass and goosegrass.

Bingham, S.W. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 35. (NAL Call No.: DNAL SB433.34.V8V47).

1433

Industrial vegetation, turf and pest management.

(Midland, Mich Agricultural Products Dept., Dow Chemical U.S.A.) 1979-1979. Cover title. v. : ill. ; 28 cm. (NAL Call No.: SB610.I52).

1434

Influence of herbicide rotation treatments on species composition of weeds in turfgrass (Bermudagrass, *Cynodon dactylon*).

Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. Sept 1982. v. 30 (5). p. 548-552. 7 ref. (NAL Call No.: 79.8 W41).

1435

Influence of herbicides on bermudagrass greens overseeded with perennial ryegrass.

JOSHB. Johnson, B.J. Alexandria, Va. : The Society. Two field experiments were initiated to determine the effects of herbicides on turfgrass quality and spring to summer transition from overseeded perennial ryegrass (*Lolium perenne* L.) back to 'Tifway' bermudagrass *Cynodon transvaalensis* Burt-Davy x *Cynodon dactylon* (L.) Pers. . Pendimethalin applied at 3.3 kg.ha⁻¹ in early March hastened the transition from ryegrass to bermudagrass in one of two years, but 1.7 kg.ha⁻¹ applied in each of two applications did not. A single application of pronamide at 0.28 kg.ha⁻¹ hastened the transition of overseeded ryegrass to bermudagrass without severely injuring either turfgrass. Oryzalin, oryzalin + benefin, or paraquat severely reduced the quality of ryegrass, while oxadiazon at 3.3 kg.ha⁻¹, oxadiazon + benefin, glyphosate, metribuzin, or MSMA did not affect transition from overseeded ryegrass to bermudagrass when compared with nontreated turfgrass. This study illustrates the potential for some herbicides to enhance the transition from perennial ryegrass to bermudagrass. Chemical names used: N-butyl-N-ethyl-2,6-dinitro-4-(trifluoromethyl)benzenamine (benefin); dimethyl 2,3,5,6-tetrachloro-1,4-benzenedicarboxylate (DCPA); (+/-)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuran-2-yl methanesulfonate (ethofumesate); N-(phosphonomethyl)glycine (glyphosate); N-2,4-dimethyl-5- (trifluoromethyl) sulfonyl amino phenyl acetamide (mefluidide); 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one (metribuzin); monosodium salt of MAA (MSMA); 4-(dipropylamino)-3,5-dinitrobenzene-sulfonamide (oryzalin); 3- 2,4-dichloro-5-(1-methylethoxy)-phenyl)-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-(3H)-one-- (oxadiazon); 1,1'-dimethyl-4,4'-bipyridinium salts (paraquat); N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamine (pendimethalin); and 3,5-dichloro(N-1,1-dimethyl-2-propynyl)benamide (pronamide). Journal of the American Society for Horticultural Science. Sept 1988. v. 113

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(5). p. 662-666. Includes references. (NAL Call No.: DNAL 81 S012).

1436

Influence of temperature, rainfall, grass species, and growth stage on efficacy of fluazifop.

WETEE9. Smeda, R.J. Putnam, A.R. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1990. v. 4 (2). p. 349-355. Includes references. (NAL Call No.: DNAL SB610.W39).

1437

Influence of water on pest activity.

Colbaugh, P.F. Elmore, C.L. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. Literature review. p. 113-129. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

1438

Information value in weed management.

Gillmeister, W.J. Moffitt, L.J.; Bhowmik, P.C.; Allen, P.G. Morgantown, W.Va. : The Northeastern Agricultural and Resource Economics Association. Northeastern journal of agricultural and resource economics. Apr 1990. v. 19 (1). p. 24-27. Includes references. (NAL Call No.: DNAL HD1773.A2N6).

1439

Initial and residual herbicide control of crabgrass (*Digitaria spp.*) in bermudagrass (*Cynodon dactylon*) turf.

Callahan, L.M.WEESA. Overton, J.R.; Sanders, W.L. Champaign : Weed Science Society of America. Weed science. Sept 1983. v. 31 (5). p. 619-622. ill. Includes references. (NAL Call No.: 79.8 W41).

1440

Installing lawns without herbicides.

Daar, S. Berkeley, Calif. : Bio-Integral Resource Center. Common sense pest control quarterly. Spring 1989. v. 5 (2). p. 6-7. Includes references. (NAL Call No.: DNAL SB950.A1C62).

1441

Interaction of growth regulators and turf weed control.

Hield, H. Hemstreet, S.; Scott, L. Sacramento : California Weed Conference Office. Proceedings - California Weed Conference. 1982. 1982. (34th). p. 137-142. (NAL Call No.: 79.9 C122).

1442

Interaction of sequential leaf senescence of *Poa pratensis* and pathogenesis by *Drechslera sorokiniana* as influenced by postemergent herbicides.

Hodges, C.F. St. Paul, Minn., American Phytopathological Society. Phytopathology. July 1980. v. 70 (7). p. 628-630. ill. 22 ref. (NAL Call No.: 464.8 P56).

1443

Isoxaben for broadleaf weed control in ornamentals, turf and nonbearing trees and vines.

WSWPA. Colbert, F.O. Ford, D.H. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. 1987. v. 40. p. 155-163. Includes references. (NAL Call No.: DNAL 79.9 W52).

1444

Kentucky bluegrass and annual bluegrass responses to ethofumesate.

HJHSA. Shearman, R.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1986. v. 21 (5). p. 1157-1159. Includes references. (NAL Call No.: DNAL SB1.H6).

1445

Kentucky bluegrass tolerance to consecutive preemergence herbicide treatments (*Poa pratensis*, *Digitaria sanguinalis*, weed control).

Johnson, B.J.AGJ0A. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1982. v. 74 (6). p. 1063-1066. 5 ref. (NAL Call No.: 4 AM34P).

1446

Know your weeds: annual bluegrass (*Poa annua* L.).

Senesac, A. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. Sept 1985. p. 2-3. (NAL Call No.: DNAL SB317.5.L65).

1447

Know your weeds: chickweed.

Bing, A. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. Jan 1985. p. 6-7. ill. Includes references. (NAL Call No.: DNAL SB317.5.L65).

1448

Know your weeds: dandelion.

Witty, G. Bing, A. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. Mar 1985. p. 3-4. ill. (NAL Call No.: DNAL SB317.5.L65).

1449

Know your weeds: field bindweed.

Senesac, A. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. May 1985. p. 3-4. ill. (NAL Call No.: DNAL SB317.5.L65).

1450

Know your weeds: yellow nutsedge.

Senesac, A. Long Island, N.Y. : Cornell Cooperative Extension Association. Long Island horticulture news. June 1985. p. 3. ill. (NAL Call No.: DNAL SB317.5.L65).

1451

Landscape management.

Cleveland, Ohio : Harcourt Brace Jovanovich, c1987-. Landscape management. Title from cover. v. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB433.L352).

1452

Lawn servicing.

Overland Park, KS : Intertec Pub. Corp.,. Lawn servicing. Description based on: Aug. 1988; title from cover. (NAL Call No.: DNAL SB454.8.L38).

1453

Lawn weed control.

Bingham, S.W. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for home ornamental plants / coordinated by J.M. Luna. Jan 1988. (456-004,rev.). p. 49-52. (NAL Call No.: DNAL S544.3.V8V52).

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Response of bermudagrass (*Cynodon dactylon*), quackgrass (*Agropyron repens*), and wirestem muhly (*Muhlenbergia frondosa*) to postemergence grass herbicides CGA-82725, fluazifop-butyl, haloxyfop-methyl .

WEESA6. Hicks, C.P. Jordan, T.N. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1984. v. 32 (6). p. 835-841. Includes 24 references. (NAL Call No.: DNAL 79.8 W41).

1538

Response of bermudagrass (*Cynodon dactylon*) turf to winter-applied herbicides (Paraquat, dicamba, Georgia).

Johnson, B.J. Champaign, Ill. : Weed Science Society of America. Weed science. July 1984. v. 32 (4). p. 477-482. Includes 8 references. (NAL Call No.: 79.8 W41).

1539

Response of bermudagrass turf (*Cynodon dactylon*) to dates of metribuzin treatment (Control of annual winter weeds).

Johnson, B.J. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. Apr 1981. Apr 1981. (375). 5 p. 6 ref. (NAL Call No.: S51.E22).

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Response of four bermudagrass (*Cynodon dactylon*) cultivars to fall applied herbicides.

Johnson, B.J. WEESA. Champaign : Weed Science Society of America. Weed science. Nov 1983. v. 31 (6). p. 771-774. Includes references. (NAL Call No.: 79.8 W41).

1541

Response of weeds in bermudagrass (*Cynodon dactylon*) turf to tank-mixed herbicides (*Digitaria sanguinalis*).

Johnson, B.J. WEESA. Champaign : Weed Science Society of America. Weed science. Nov 1983. v. 31 (6). p. 883-888. Includes references. (NAL Call No.: 79.8 W41).

1542

Response to ethofumesate of annual bluegrass (*Poa annua*) and overseeded bermudagrass (*Cynodon dactylon*) (Turf, weed control).

Johnson, B.J. WEESA. Champaign : Weed Science Society of America. Weed science. May 1983. v. 31 (3). p. 385-390. Includes references. (NAL Call No.: 79.8 W41).

1543

Response to vertical mowing and ethofumesate treatments for annual bluegrass control in bermudagrass turf.
AGJOAT. Johnson, B.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 495-498. Includes 8 references. (NAL Call No.: DNAL 4 AM34P).

1544

Roadside vegetation management (Turf, wildflowers, shrubs, trees, weed control, United States).
Wakefield, R.C. Sawyer, C.D. Kingston : The Station. Bulletin - Rhode Island, Agricultural Experiment Station. Aug 1982. Aug 1982. (432). 28 p. ill. Includes references. (NAL Call No.: 100 R34S (2)).

1545

Roadside weed control with glyphosate and sulfometuron methyl combinations.
SWSPB. Downs, J.P. Voth, R.D. Champaign : The Society. Proceedings - Southern Weed Science Society. Jan 17-19, 1984. (37th). p. 278-284. (NAL Call No.: DNAL 79.9 S08).

1546

A rolling stone--and healthy turf.
Snow, J.T. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Nov/Dec 1984. v. 22 (6). p. 7-9. ill. (NAL Call No.: DNAL 60.18 UN33).

1547

Root and rhizome growth of Kentucky bluegrass following application of pendimethalin.
HJHSA. Cooper, R.J. Bhowmik, P.C.; Spokas, L.A. Alexandria, Va. : American Society for Horticultural Science. HortScience. Jan 1990. v. 25 (1). p. 84-86. Includes references. (NAL Call No.: DNAL SB1.H6).

1548

Root growth of southern turf cultivars as affected by herbicides (Zoysia spp., Cynodon dactylon).
Johnson, B.J. Champaign, Ill., Weed Science Society of America. Weed science. Sept 1980. v. 28 (5). p. 526-528. 8 ref. (NAL Call No.: 79.8 W41).

1549

Russian thistle control in conservation reserve program (CRP) grass plantings.
Adams, E.B. Swan, D.G. S.I. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 368. (NAL Call No.: DNAL 79.9 W52R).

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Safe and effective application of herbicides.
Cudney, D.W. Sacramento, Calif. : California Weed Conference Office. Proceedings - California Weed Conference. Paper presented at a conference on "Education and Communication--the Keys to the Future," January 18-21, 1988, Sacramento, California. 1988. (40). p. 40-41. (NAL Call No.: DNAL 79.9 C122).

1551

A selective annual bluegrass control--finally!.
Branham, B.E. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Jan/Feb 1990. v. 28 (1). p. 6-8. (NAL Call No.: DNAL 60.18 UN33).

1552

Selective broadleaf weed control in turf.
Carrithers, V.F. Sacramento, Calif. : California Weed Conference Office. Proceedings - California Weed Conference. 1987. (39th). p. 144-147. (NAL Call No.: DNAL 79.9 C122).

1553

Selective chemical weed control / authors, Floyd M. Ashton and W.A. Harvey .
Ashton, Floyd M. Harvey, W. A. 1914-. Berkeley, Calif. : Agricultural Experiment Station, Division of Agriculture and Natural Resources, University of California, 1987. Abstract: This bulletin discusses weed control as part of an IPM program. It explains ways that herbicides act on weeds, describes application methods, contains many line drawings and a glossary. Intended for use by growers, advisors, and applicators. "Replaces Circular 558, Chemical Weed Control ... and draws heavily on information contained in that circular"--P. 2 of cover.~ Cover title. 16 p. : ill. ; 23 cm. (NAL Call No.: DNAL S39.A2C3 no.1919 1987).

1554

Selective control of annual bluegrass in cool-season turfs with fenarimol and chlorsulfuron.
AGJOAT. Gaul, M.C. Christians, N.E. Madison, Wis. : American Society of Agronomy. Annual bluegrass (*Poa annua* L.) is a weed that presents turfgrass managers with serious

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problems upon infestation into desired turfgrass stands. This species can be managed as a turfgrass, but selective herbicides for its removal would be very useful in intensely managed turfs. In this study, fenarimol 3-(2-chlorophenyl)-3-(4-chlorophenyl)-5-pyrimidinemethanol and chlorsulfuron (2-chloro-N (4-methoxy-6-methyl-1,3,5-triazin-2-yl)-aminocarbonyl -benzenesulfonamide) were tested in field and greenhouse trials over a 2-yr period to determine their effectiveness as annual bluegrass (*Poa annua* L.) controls in both Kentucky bluegrass (*Poa pratensis* L.) and creeping bentgrass (*Agrostis palustris* Huds.) turfs. Fenarimol treatments in the field included rates of 0, 155, 306, 459, 612, and 765 g ha⁻¹ applied eight times in 1984 until cumulative amounts of 1.2, 2.4, 3.7, 4.9, and 6.1 kg ha⁻¹ were reached, and seven times in 1985 until cumulative amounts of 1.1, 2.1, 3.2, 4.3, and 5.4 kg ha⁻¹ were reached. In the greenhouse, fenarimol was applied at single application rates of 1.5, 3.0, 4.6, and 6.1 kg ha⁻¹. Chlorsulfuron was applied in the field at single application rates of 18, 35, 70, 140, and 280 g ha⁻¹ and in the greenhouse at single application rates of 70, 140, 210, and 280 g ha⁻¹. Fenarimol was not effective in controlling annual bluegrass in the field or greenhouse and caused discoloration to the creeping bentgrass in the field at rates above 4.9 kg ha⁻¹. Chlorsulfuron was effective in controlling all three annual bluegrass biotypes in the greenhouse and had no detrimental effects on creeping bentgrass or Kentucky bluegrass. In the field, chlorsulfuron was effective in controlling annual bluegrass at one of the two testing sites. *Agronomy journal*, Jan/Feb 1988, v. 80 (1), p. 120-125. Includes references. (NAL Call No.: DNAL 4 AM34P).

1555

Selective control of tall fescue in Kentucky bluegrass with chlorsulfuron.

AGJQAT. Larocque, D.J. Christians, N.E. Madison, Wis. : American Society of Agronomy. *Agronomy journal*, Jan/Feb 1985, v. 77 (1), p. 86-89. Includes 8 references. (NAL Call No.: DNAL 4 AM34P).

1556

Selective sprays for the control of weeds in Kentucky bluegrass lawns /by S.C. Litzenberger and A.H. Post.

Litzenberger, Samuel C. 1914-. Post, A. H. 1899-. Bozeman, Montana : Montana State College, Agricultural Experiment Station, 1943. Caption title.~ Cover title: Selective sprays for the control of law weeds. 23 p. : ill. ; 23 cm. Bibliography: p. 23. (NAL Call No.: DNAL 100 M76 (1) no.411).

1557

Selective tall fescue control in Kentucky bluegrass turf with diclofop.

AGJQAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. *Agronomy journal*, July/Aug 1986, v. 78 (4), p. 660-663. Includes 2 references. (NAL Call No.: DNAL 4 AM34P).

1558

Selectivity mechanisms for foliar applications of diclofop-methyl. I. Retention, absorption, translocation, and volatility (Herbicides, control of annual grasses in crops).

Boldt, P.F. Putnam, A.R. Champaign, Ill., Weed Science Society of America. *Weed science*, Sept 1980, v. 28 (5), p. 474-477. 15 ref. (NAL Call No.: 79.8 W41).

1559

Sethoxydim and dalapon application to rhizomes for common bermudagrass control in rhizoma peanut.

Canudas-Lara, E.G. Quesenberry, K.H.; Teem, D.H.; Prine, G.M. S.I. : The Society. *Proceedings - Soil and Crop Science Society of Florida*, 1984, v. 43, p. 174-177. ill. Includes references. (NAL Call No.: DNAL 56.9 S032).

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Siduron effects on tall fescue (*Festuca arundinacea*) emergence, growth, and high temperature injury.

Shearman, R.C. Kinbacher, E.J.; Reiersen, K.A. Champaign, Ill., Weed Science Society of America. *Weed science*, Mar 1980, v. 28 (2), p. 194-196. ill. 12 ref. (NAL Call No.: 79.8 W41).

1561

Simazine formulation treatments on control of winter weeds in bermudagrass turf (*Cynodon dactylon*, herbicides).

Johnson, B.J. Madison, Wis., American Society of Agronomy. *Agronomy journal*, Sept/Oct 1982, v. 74 (5), p. 881-886. 10 ref. (NAL Call No.: 4 AM34P).

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Smutgrass control and subsequent forage production with fall application of Dalapon.

Mislevy, P. Martin, F.G. S.I. : The Society. *Proceedings - Soil and Crop Science Society of Florida*, 1985, v. 44, p. 203-205. ill. Includes 7 references. (NAL Call No.: DNAL 56.9 S032).

1563

Sod production weed control (Kentucky bluegrasses, perennial ryegrass, California).
Cockerham, S.T. Sacramento : California Weed Conference Office. Proceedings - California Weed Conference. 1982. (34th). p. 135-136. (NAL Call No.: 79.9 C122).

1564

Spot treatment of weeds.

Powell, A.J. Jr. Tapp, L. Lexington, Ky. : The Station. Progress report - Kentucky Agricultural Experiment Station. Documents available from Agriculture Library, Agricultural Science Center-North, University of Kentucky, Lexington, KY 40546-0091. In the series analytic: Kentucky turfgrass research 1986. Apr 1987. (303). p. 59-61. (NAL Call No.: DNAL 100 K41PR).

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Spray units are becoming multi-use, more efficient (Turf, shade trees industry).

Messinger, R. Cleveland, Harvest Publishing Co. Weeds, trees and turf. Mar 1981. v. 20 (3). p. 22-24, 26. ill. (NAL Call No.: 79.8 W413).

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Spurweed control in common bermudagrass turf.

AKFRA. King, J.W. Miller, E.M. Fayetteville, Ark. : The Station. Arkansas farm research - Arkansas Agricultural Experiment Station. Mar/Apr 1985. v. 34 (2). p. 8. (NAL Call No.: DNAL 100 AR42F).

1567

Strategies for difficult weed problems in turf.

Law, J.T. Mahady, M.M. Sacramento, Calif. : California Weed Conference Office. Proceedings - California Weed Conference. 1986. (38th). p. 154-156. Includes references. (NAL Call No.: DNAL 79.9 C122).

1568

Sulfometuron for eliminating Bahiagrass (Paspalum notatum) from centipedegrass (Eremochloa ophiuroides) and bermudagrass (Cynodon dactylon).

WETEE9. Hanna, W.W. Swann, C.W.; Schroeder, J.; Utley, P.R. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. July/Sept 1989. v. 3 (3). p. 509-512. Includes references. (NAL Call No.: DNAL SB610.W39).

1569

Sulfometuron methyl, rate and timing studies on bermudagrass and bahiagrass roadside turf.

SWSPB. Gonzalez, F.E. Atkins, R.L.; Brown, G.C. Champaign : The Society. Proceedings - Southern Weed Science Society. Jan 17-19, 1984. (37th). p. 272-274. Includes 7 references. (NAL Call No.: DNAL 79.9 S08).

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Summer annual weed control in turfgrass.

GARBB. Johnson, B.J. Murphy, T.R. Athens, Ga. : The Stations. Research bulletin - University of Georgia, Agricultural Experiment Stations. Nov 1989. (388). 29 p. Includes references. (NAL Call No.: DNAL S51.E2).

1571

A surface-roller herbicide applicator for weed control in turf.

WETEE9. Welker, W.V. Jr. Peterson, D.L. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. July/Sept 1989. v. 3 (3). p. 472-474. ill. Includes references. (NAL Call No.: DNAL SB610.W39).

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Susceptibility of bermudagrass (Cynodon dactylon) biotypes to several herbicides.

WEESA6. Bryson, C.T. Wills, G.D. Champaign, Ill. : Weed Science Society of America. Weed science. Nov 1985. v. 33 (6). p. 848-852. Includes 16 references. (NAL Call No.: DNAL 79.8 W41).

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Susceptibility of several grasses to glyphosate (Herbicide).

Bingham, S.W. Segura, J.; Foy, C.L. Champaign, Ill., Weed Science Society of America. Weed science. Sept 1980. v. 28 (5). p. 579-585. ill. 25 ref. (NAL Call No.: 79.8 W41).

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Synergistic growth retardation of grasses with mefluidide/PGR (plant growth regulator) combinations (on blue-grass, johnsongrass, and bermudagrass).

Tautvydas, K.J. PPGD. Lake Alfred : The Society. Proceedings annual meeting - Plant Growth Regulator Society of America. 1983. 1983. (10th). p. 51-56. Includes references. (NAL Call No.: SB128.P5).

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Tall fescue and bahiagrass growth regulator trials at North Carolina State University.
NUSRA. DiPaola, J.M. Lewis, W.M.; Gilbert, W.B. Raleigh, N.C. : The Department. Research report - North Carolina State University, Department of Crop Science. Includes statistical data. 1984. (100). 16 p. (NAL Call No.: DNAL 100 N8122).

1576

Tall fescue gaining popularity as a turfgrass.
CAGRA. Ali Harivandi, M. Berkeley, Calif. : The Station. California agriculture - California Agricultural Experiment Station. Sept/Oct 1987. v. 41 (9/10). p. 9-11. ill. (NAL Call No.: DNAL 100 C12CAG).

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Tank mixing with preemergent materials to enhance fenoxaprop efficacy.
PNWSB. Rossi, F.S. Neal, J.C.; Senesac, A.F. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held January 6, 7 & 8, 1988 in Hartford, Connecticut. 1988. v. 42. p. 150-154. Includes references. (NAL Call No.: DNAL 79.9 N814).

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Those irrepressible, incredible, impossible grassy weeds!
Batten, S.M. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1984. v. 22 (5). p. 1-4. ill. (NAL Call No.: DNAL 60.18 UN33).

1579

Timing of multiple glyphosate and SC-0224 treatments for bermudagrass renovation in turf.
GARRA. Johnson, B.J. Athens, Ga. : The Stations. Research report - University of Georgia, College of Agriculture, Agricultural Experiment Stations. Nov 1988. (561). 12 p. ill. Includes references. (NAL Call No.: DNAL S51.E22).

1580

Tolerance of bentgrass to amount, frequency, and timing of ethofumesate applications.
HJHSA. Johnson, B.J. Landry, G.W. Jr.; Karnok, K.J. Alexandria, Va. : American Society for Horticultural Science. HortScience. Feb 1989. v. 24 (1). p. 102-104. Includes references. (NAL Call No.: DNAL SB1.H6).

1581

Tolerance of bermudagrass (*Cynodon dactylon*) putting greens to herbicide treatments.
Johnson, B.J. WEESA. Champaign : Weed Science Society of America. Weed science. May 1983. v. 31 (3). p. 415-418. Includes references. (NAL Call No.: 79.8 W41).

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Tolerance of centipedegrass to herbicide treatments (*Eremochloa ophiuroides*, turfgrass, weed control, Georgia).
Johnson, B.J. GARRA. Athens : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Aug 1982. Aug 1982. (401). 11 p. Includes references. (NAL Call No.: S51.E22).

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Tolerance of five perennial cool-season grasses to fluazifop.
WETEE9. Warren, S.L. Skroch, W.A.; Monaco, T.J.; Shribbs, J.M. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 385-388. Includes references. (NAL Call No.: DNAL SB610.W39).

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Tolerance of overseeded perennial ryegrass to selected tricalcium arsenate treatments.
HJHSA. Johnson, B.J. Alexandria, Va. : American Society for Horticultural Science. HortScience. Oct 1987. v. 22 (5). p. 886-888. Includes references. (NAL Call No.: DNAL SB1.H6).

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Tolerance of perennial ryegrass and tall fescue seedlings to fenoxaprop.
AGJDAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1987. v. 79 (6). p. 1035-1037. Includes references. (NAL Call No.: DNAL 4 AM34P).

1586

Tolerance of red fescue (*Festuca rubra*) and bentgrass (*Agrostis* spp.) to sethoxydim.
WEESA6. Butler, J.H.B. Appleby, A.P. Champaign, Ill. : Weed Science Society of America. Weed science. May 1986. v. 34 (3). p. 457-461. Includes references. (NAL Call No.: DNAL 79.8 W41).

1587

Tolerance of tall fescue and Kentucky bluegrass to chlorsulfuron under field conditions.

WEESA6. Maloy, B.M. Christians, N.E. Champaign, Ill. : Weed Science Society of America. Weed science. May 1986. v. 34 (3). p. 431-434. Includes references. (NAL Call No.: DNAL 79.8 W41).

1588

Toxicity and translocation of sethoxydim in bermudagrass (*Cynodon dactylon*) as affected by environment (Herbicide, weed control, air temperature, relative humidity).

Wills, G.D. WEESA6. Champaign : Weed Science Society of America. Weed science. Jan 1984. v. 32 (1). p. 20-24. ill. Includes references. (NAL Call No.: 79.8 W41).

1589

Treatment effects for crabgrass control from winter-applied atrazine in turf (*Digitaria sanguinalis*, herbicides, winter weeds).

Johnson, B.J. GARRA. Athens : The Stations. Research report - University of Georgia, College of Agriculture, Experiment Stations. Sept 1983. Sept 1983. (436). 7 p. Includes references. (NAL Call No.: S51.E22).

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Tree, turf and ornamental pesticide guide /by W.T. Thomson.

Thomson, W. T. Fresno, CA : Thomson Publications, c1987. Cover title: Pesticide guide : tree, turf and ornamental. 170 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1987).

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Turf and ornamental weed science research report.

Currey, W.L. Gainesville, Fla. : The Station. Agronomy research report AY - Agricultural Experiment Stations, University of Florida. Includes statistical data. 1983? . (84-3). 25 p. (NAL Call No.: DNAL S540.A2F62).

1592

Turf pest control category 3B / F. Robert Henderson ... et al.

Henderson, F. Robert. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986 . Abstract: Designed for commercial pesticide applicators, this study guide explains how to identify and culturally or chemically control turfgrass diseases, weeds, insect and vertebrate pests. Other topics discussed include proper application of herbicides, fungicides, and insecticides,

calibration, and ways to minimize phytotoxicity, pesticide drift and environmental hazards. Color photos of weeds aid identification. Multiple choice study questions follow major sections. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-20, August 1986"--P. 4 of cover. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB608.T87T8 1986).

1593

Turf tips for the homeowner: Moss, algae, and slime mold in lawns.

MUCBA. Smith, T. Parchan, G. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. May 1986. (1516). 2 p. ill. (NAL Call No.: DNAL 275.29 M588).

1594

Turf weed control without herbicides (Mowing, fertilizing, and irrigating).

Van Dam, J. Sacramento : California Weed Conference Office. Proceedings - California Weed Conference. 1981. 1981. (33rd). p. 136-139. (NAL Call No.: 79.9 C122).

1595

Turfgrass chemical update: Herbicides.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Jan 1990. v. 25 (1). p. 48, 52, 54, 58, 60. ill. (NAL Call No.: DNAL SB476.G7).

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Turfgrass chemical update: herbicides.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Jan 1989. v. 24 (1). p. 38, 42, 44, 46, 48. (NAL Call No.: DNAL SB476.G7).

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Turfgrass chemical update: herbicides.

Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1987. v. 22 (3). p. 54, 56, 58, 90. ill. (NAL Call No.: DNAL SB476.G7).

1598

Turfgrass establishment after application of preemergence herbicides (*Cynodon* sp., *Lolium perenne*, weed control).

Bingham, S.W. AGJ0A. Schmidt, R.E. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1983. v. 75 (6). p. 923-926. Includes

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references. (NAL Call No.: 4 AM34P).

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Turfgrass pest control recommendations for professionals: 1989.

Murphy, T. Landry, G. Jr.; Brown, E.; Hudson, W. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Jan 1989. (984,rev.). 28 p. (NAL Call No.: DNAL 275.29 G29B).

1600

Turfgrass pest management: A guide to major turfgrass pest in Oklahoma.

Kenna, M. Pinkston, K.; Andrews, M.; Criswell, J.; Taylor, R.; Downs, W.; Cuperus, G.; Barber, J.; Price, R.; Montgomery, D. Stillwater, Okla. : The Service. Circular E - Oklahoma State University, Cooperative Extension Service. Nov 1988. (879). 53 p. ill. Includes references. (NAL Call No.: DNAL 275.29 DK41C).

1601

Turfgrass pests /compiler of this manual, W.R. Bowen ; editor, Peggy Anne Davis.

Bowen, W. R.; Davis, Peggy Anne. Oakland, Calif. : Division of Agriculture and Natural Resources, University of California, c1980 (1987 printing). Abstract: This publication includes information on the safe and effective use of pesticide chemicals; measurements and calculations for preparing the sprayer; weed control in large turf areas; insect and related turfgrass pest identification and control; nematode diseases of turfgrass; turfgrass diseases; and rodent damage in turfgrass. It contains many colored and black and white photographs of pests and diseases, metric conversion tables, formulae for area calculations, and a glossary. Intended for landscape pesticide applicators and commercial turfgrass growers and turfgrass advisors. "Specific chemical recommendations ... are made in Guide to turfgrass pest control, Leaflet 2209"--P. 1.~ Publication information on label on p. 2 of cover.~ "3m-rep-8/87-PAD/FB"--P. i. 53 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.T87T87 1980).

1602

Turfgrass renovation.

Lefton, J. West Lafayette, Ind. : The Service. AY - Purdue University Cooperative Extension Service. July 1988. (13,rev.). 2 p. (NAL Call No.: DNAL S544.3.I6P82).

1603

Turfgrass renovation (Postemergence herbicides for control of weeds).

Hanson, D.L. Elmore, C.L.; Baldwin, R.L. Sacramento, Ca., California Weed Conference Office. Proceedings - California Weed Conference. p. 84-88. 1 ref. (NAL Call No.: 79.9 C122).

1604

Turfgrass research with herbicides for weed control.

Johnson, B.J. GA. Athens, Ga., The Station. Georgia agricultural research - Georgia, Agricultural Experiment Stations. July 1980. v. 21 (4). p. 13-18. ill. (NAL Call No.: 100 G295).

1605

Turfgrass tolerance to post- and preemergence herbicides.

PNWSB. Cisar, J.L. Jagachitz, J.A. Beltsville, Md. : The Society. Proceedings of the ... annual meeting - Northeastern Weed Science Society. Jan 1984. v. 38. p. 298-302. Includes 5 references. (NAL Call No.: DNAL 79.9 N814).

1606

Turfgrass weed control for professional managers.

Murphy, T.R. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. July 1988. (991). 48 p. ill. (NAL Call No.: DNAL 275.29 G29B).

1607

Turfgrass weed identification and control.

Shearman, Robert C. Bishop, David M.; Bruneau, Arthur H.; Furrer, John D. Document available from: University of Nebraska-Lincoln, Dept. of Agricultural Communications, Lincoln, Nebraska 68583 1983. Presents information on annual grasses, perennial grasses, and broadleaf weeds. 42 p. : ill. (NAL Call No.: Document available from source.).(NAL Call No.: EC 83-1241).

1608

Uptake and translocation of fluazifop by three annual grasses.

WEESA6. Derr, J.F. Monaco, T.J.; Sheets, T.J. Champaign, Ill. : Weed Science Society of America. Weed science. Sept 1985. v. 33 (5). p. 612-617. Includes 14 references. (NAL Call No.: DNAL 79.8 W41).

1609

Use of between-row (directed) herbicide bands for weed control during establishment of grasses grown for seed.

WSWPA. Mueller-Warrant, G.W. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. 1987. v. 40. p. 164-169. Includes references. (NAL Call No.: DNAL 79.9 W52).

1610

Use of Fenarimol for selectively controlling Poa annua in an overseeded bermudagrass golf green.

Menn, W.G. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1986. v. 24 (5). p. 11-12. ill. (NAL Call No.: DNAL 60.18 UN33).

1611

Veronica filiformis control in cool-season turfgrasses.

PNWSB. Neal, J.C. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Meeting held on January 4-6, 1989, Baltimore, Maryland. 1989. v. 43. p. 88-89. (NAL Call No.: DNAL 79.9 N814).

1612

Virginia buttonweed: turfweed on the increase.

HARAA. Dickens, R. Turner, D.L. Auburn, Ala. : The Station. Highlights of agricultural research - Alabama, Agricultural Experiment Station. Summer 1985. v. 32 (2). p. 5. ill. (NAL Call No.: DNAL 100 AL1H).

1613

Warm-season grass establishment with atrazine (soil-applied herbicides, Selective weed control).

Martin, A.R. Moomaw, R.S.; Vogel, K.P. Madison, Wis., American Society of Agronomy. Agronomy journal. Sept/Oct 1982. v. 74 (5). p. 916-920. 18 ref. (NAL Call No.: 4 AM34P).

1614

Weed control for the homeowner (Equipment, calibration, lawn, vegetable gardens, oramentals, vegetation).

Chase, R.L. Hamson, A.R.; Varga, W.A. Logan, Utah, The Service. Extension circular - Utah State University, Extension Service. May 1981. May 1981. (391). 16 p. ill. (NAL Call No.: 275.29 UT1).

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Weed control in conservation tillage systems.

Wiese, A.F. Chandler, J.M. College Station, Tex. : Texas Agricultural Experiment Station, Texas A&M Univ System, 1988. Conservation tillage in Texas / edited by F.M. Hons. Literature review. p. 40-52. ill., maps. Includes references. (NAL Call No.: DNAL S543.T4T43 no.15).

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Weed control in dormant turf grass with glyphosate.

SWSPB. Voth, R.D. Downs, J.P. Champaign : The Society. Proceedings - Southern Weed Science Society. Jan 17-19, 1984. (37th). p. 15-19. Includes 6 references. (NAL Call No.: DNAL 79.9 S08).

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Weed control in ground covers / Clyde L. Elmore, Wesley A. Humphrey, and W. Douglas Hamilton .

Elmore, Clyde L. Humphrey, Wesley A.; Hamilton, W. Douglas. Berkeley, Calif. : Cooperative Extension, University of California, Division of Agriculture and Natural Resources, 1987? . Abstract: This leaflet, intended for landscape pesticide applicators and advisors, covers the cultural and chemical control methods for weeds in ground covers. It contains a table of herbicides registered for this use. Another table rates the sensitivity of weeds to herbicides used for their control. Table 3 suggests herbicide formulations and application rates. Cover title. 12 p. ; 28 cm. (NAL Call No.: DNAL S544.3.C2C3 no.2782 1987).

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Weed control in home lawns.

Murphy, T.R. Athens, Ga. : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Mar 1990. (978). 28 p. ill. (NAL Call No.: DNAL 275.29 G29B).

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Derr, J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 117. (NAL Call No.: DNAL SB433.34.V8V47).

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Bingham, S.W. Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University. Publication - Virginia Cooperative Extension Service. In the series analytic: 1988-89 pest management guide for turfgrass / coordinated by J.M. Luna. Jan 1988. (456-009,rev.). p. 11-20. (NAL Call No.: DNAL S544.3.V8V52).

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Murphy, T.R. Athens, Ga. : The Service. Circular - Cooperative Extension Service, University of Georgia. Nov 1986. (771,rev.). 8 p. (NAL Call No.: DNAL 275.29 G29C).

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Boyd, J.W. Little Rock, Ark. : The Service. MP - University of Arkansas. Cooperative Extension Service. May 1984. May 1984. (217). 11 p. Includes references. (NAL Call No.: 275.29 AR4MI).

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Weed control in lawns.

Miller, J.F. GA. Athens, Ga., The Service. Bulletin - Cooperative Extension Service, University of Georgia College of Agriculture, Athens, Georgia. University. Cooperative Extension Service. Dec 1979. Dec 1979. (678). 22 p. ill. (NAL Call No.: 275.29 G29B).

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Weed control in lawns and other turf.

Peacock, James F. Martin, Dean M.; Wrage, Leon. Document available from: South Dakota University, Ag. Information Bulletin Room, Extension Bldg., Brookings, South Dakota 57007 19--?. Weed control is primarily discussed for lawns. Herbicides, time of application, applicator adjustment, common weeds and sprayer cleaning are the topics covered. 5 p. : ill. (NAL Call No.: Document available from source.)(NAL Call No.: FS 419).

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Weed control in lawns and other turf.

Taylor, Don. 1981. This publication details weed identification and characteristics and discusses both cultural and chemical weed control methods. Document available from: Bulletin Room, 3 Coffey Hall, 1420 Eckles Avenue, University of Minnesota, St. Paul, Minnesota 55108. 1 sheet. (NAL Call No.: Not available at NAL.)(NAL Call No.: Horticulture Fact Sheet 54).

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Weed control in lawns and other turf / prepared by Agricultural Research Service and Extension Service.

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Baldwin, F.L. AR. Freeman, C.T. Little Rock, Ark., The Service. EL. Arkansas. University. Cooperative Extension Service. Oct 1979. Oct 1979. (546). 12 p. ill. (NAL Call No.: 275.29 AR4LE).

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Meade, J.A. New Brunswick, N.J. : The Service. FS - Cooperative Extension Service, Cook College. 1985. (120). 2 p. (NAL Call No.: DNAL S544.3.N5F7).

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Weed control in turf and ornamentals through proper management.

Molinar, R.H. Sacramento, Calif. : California Weed Conference Office. Proceedings - California Weed Conference. Paper presented at a conference on "Education and Communication--the Keys to the Future," January 18-21, 1988, Sacramento, California. 1988. (40). p. 112-114. (NAL Call No.: DNAL 79.9 C122).

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Weed control in turfgrasses.

Everest, J.W. Patterson, M.G.; Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Cooperative Extension Service, Auburn University. Feb 1988. (22). 12 p. (NAL Call No.: DNAL S544.3.A2C47).

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Pullman : Cooperative Extension, College of Agriculture & Home Economics, Washington State University, 1988. Abstract: This publication covers weed control including aquatic vegetation management on rights-of-way; the planning requirements, operational procedures and administration, and goals of a vegetation management program; grass, broadleaf and woody plants and their control. It discusses selective and nonselective herbicides, formulations, timing and rates of application, factors affecting herbicide efficacy, drift and application equipment. Cover title. 26 p. : ill. ; 28 cm. Bibliography: p. 26. (NAL Call No.: DNAL 275.29 W27P no.669 1988).

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Weed control recommendations for turfgrass areas.

Lefton, J. West Lafayette, Ind. : The Service. AY - Purdue University Cooperative Extension Service. May 1988. (40). 2 p. (NAL Call No.: DNAL S544.3.I6P82).

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Law, J.T. Mahady, M.M. Sacramento, Calif. : California Weed Conference Office. Proceedings - California Weed Conference. 1986. (38th). p. 2-5. (NAL Call No.: DNAL 79.9 C122).

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Thompson, T. Champaign, Ill. : Weed Science Society of America. Weeds today. 1984. v. 15 (4). p. 10-12. ill. (NAL Call No.: DNAL SB610.W4).

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SWSPE. Elmore, C.D. Raleigh, N.C. : The Society. Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma. 1988. v. 41. p. 395-410. (NAL Call No.: DNAL 79.9 SD8 (P)).

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WEEDER: an advisory system for the identification of grasses in turf.

AGUOAT. Fermanian, T.W. Michalski, R.S. Madison, Wis. : American Society of Agronomy. To effectively control weeds found in a turf it is first necessary to correctly identify them. A computer program, WEEDER, was built using the artificial intelligence system AGASSISTANT to provide a means for effectively identifying grass weed and turf species through the recognition of selected variables. WEEDER has a rule-based, non-hierarchical knowledge base concerning 37 grass species commonly found in turfs throughout the USA. Each species is represented by 11 or fewer variables. In order to measure the value of WEEDER for identifying unknown grasses in comparison to a commonly used method, the dichotomous identification key, 41 volunteers were assigned to one of two groups; (i) those with any previous experience in plant diagnosis or any formal training in plant science; and (ii) those with no experience or training. Each individual identified four unknown grasses; creeping bentgrass (*Agrostis palustris* Huds.); perennial ryegrass (*Lolium perenne* L.); zoysiagrass (*Zoysia japonica* L.); and large crabgrass (*Digitaria sanguinalis* L. Scop.) using WEEDER or a printed identification key. The maximum mean of either group to identify a grass species was 55% of the specimens, which were examined by participants with plant science training using WEEDER. Participants with some plant science training had a higher mean identification of each species (23% identified) than participants with no training (18%) when

using the identification key. Little difference in their ability to identify the unknown species was found between the two groups when they were using WEEDER. There was a significant increase in the mean ability of all participants to identify an unknown grass using WEEDER (50%) rather than the identification key (20%) after rules for the four species were modified. A demonstrated advantage of WEEDER over the printed key was its ability to be easily modified to increase its usefulness. The mean percentage of correctly identified grasses by all participants increased. *Agronomy journal*. Mar/Apr 1989. v. 81 (2). p. 312-316. Includes references. (NAL Call No.: DNAL 4 AM34P).

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Winter weed control in bermudagrass.

Johnson, B.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 50-51. (NAL Call No.: DNAL SB433.34.V8V47).

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Throssell, C. West Lafayette, Ind. : The Service. AY - Purdue University Cooperative Extension Service. Mar 1988. (19). 2 p. ill. (NAL Call No.: DNAL S544.3.I6P82).

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Northam, F.E. Callihan, R.H. S.I. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 60-63. (NAL Call No.: DNAL 79.9 W52R).

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Herron, J.W. KY. Powell, A.J. Jr. Lexington, Ky., The Service. AGR - University of Kentucky, Cooperative Extension Service. Mar 1980. Mar 1980. (78). 2 p. (NAL Call No.: S65.K4).

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Wells, D.W. Constantine, R.J.; Breitenbeck, G.A. Baton Rouge, La. : The Station. LAES mimeo series - Louisiana Agricultural Experiment Station. June 1988. (23). 17 p. (NAL Call No.: DNAL S541.5.L8L34).

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Randell, Roscoe. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1988. Abstract: Developed for use by Illinois commercial lawn and tree care personnel, municipal arborists, urban foresters, and nurserymen but not for homeowners or home gardeners, this guide provides pesticide recommendations for controlling insect and disease pests of ornamental trees and shrubs and weeds in landscape plantings. It also contains information on integrated pest management, pesticide classification and names, and safe and proper pesticide use. Caption title. - "January 1988". 23 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1264 1988).

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1988 turfgrass pest control / prepared by T.W. Fermanian ... et al.

Fermanian, Thomas W. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, 1987. Abstract: Herbicide, insecticide, and fungicide recommendations for turfgrass weed, insect and disease control, pesticide handling and safety, and IPM (Integrated Pest Management) techniques are included in this publication. Cover title. 8 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.1076 1987).

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PLDRA. Smiley, R.W. Craven Fowler, M.; O'Knefski, R.C. St. Paul, Minn. : American Phytopathological Society. Plant disease. Jan 1985. v. 69 (1). p. 44-48. ill. Includes 32 references. (NAL Call No.: DNAL 1.9 P69P).

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AGJQAT. Bahler, C.C. Vogel, K.P.; Moser, L.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1984. v. 76 (6). p. 891-895. Includes 13 references. (NAL Call No.: DNAL 4 AM34P).

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ETQCDK. Brewer, L.W. Driver, C.J.; Kendall, R.J.; Lacher, T.E. Jr.; Galindo, J.C.; Dickson, G.W. Elmsford, N.Y. : Pergamon Press. Environmental toxicology and chemistry. 1988. v. 7 (5). p. 391-401. maps. Includes references. (NAL Call No.: DNAL QH545.A1E58).

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Certification training manual for ornamental and turf pest control / assembled by Cooperative Extension Service. -.
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Chemical guide to insect, disease, and weed control on turf--1981.
Ascerno, Mark E. Stienstra, Ward C. Document available from: University of Minnesota, Bulletin Room, 1420 Eckles Avenue, St. Paul, Minnesota 55108 1981. This publication gives information for pest control for turfgrass using chemicals. 8 p. (NAL Call No.: Document available from source.).(NAL Call No.: Ext Fol 551).

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Cudney, D.W. Elmore, C.; Vandam, J. S.l. : The Society. Research progress report - Western Society of Weed Science. 1988. p. 135-136. (NAL Call No.: DNAL 79.9 W52R).

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Controlling insects.
Niemczyk, H.D. Cobb, P. Cleveland : Harcourt Brace Jovanovich Publications. Weeds, trees and turf. Mar 1987. v. 26 (3). p. 46, 48-49, 52, 56, 60, 62, 66-67, 74. ill. (NAL Call No.: DNAL 79.8 W413).

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Thompson, Lynne C. Thompson, Hugh E.; Brooks, H. Leroy.; Kuhlman, Dennis K. 1979. This publication discusses forms of insecticides and their application. It then goes on to describe the most common lawn and turfgrass damaging insects, and at the end lists all the Poison Control Centers in Kansas. Document available from: Distribution Center, Umberger Hall, Kansas State University, Manhattan, KS 66506. 20 p. : ill. (NAL Call No.: C 598).

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Crabgrass (Digitaria ischaemum) control and turfgrass (primarily Festuca rubra, Poa pratensis) injury resulting from pre- and postemergent herbicides.
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Demonstration and research pest control category 10 / Charles E. Long, Erick B. Nilson, Jerry Condray .
Long, Charles E. Nilson, Erick B.; Condray, Jerry. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1987 . Abstract: This certification study guide provides information on pesticide laws, pesticide-organism interactions, Integrated Pest Management (IPM), environmental hazards and safety, and liability concerns. Practice multiple choice questions follow each section. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-17, September 1987"--P. 4 of cover. 16 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.2.K2D4 1987).

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Eight years of herbicide and nitrogen fertilizer treatments on Kentucky bluegrass (*Poa pratensis*) turf (Digitaria, Taraxacum officinale, quality, residues).
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Evidence of enhanced degradation of isofenphos in turfgrass thatch and soil.

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Hotchkiss, Barbara E. Ithaca, NY? : Cooperative Extension Service, Cornell University?, 1989? . Abstract: The objective of EXTOXNET (Extension Toxicology Network), a cooperative educational project, is to provide pesticide toxicology information in comprehensive terms to County Agents and pesticide applicators. This manual utilizes two

formats to convey information: PIPs, Pesticide Information Profiles, and TIBs, Toxicology Information Briefs. The PIPs cover toxicology and ecological impact of specific pesticides. The TIBs explain terminology and information contained in the PIPs. Pesticide related subjects including carcinogenicity, exposure standards, pesticides in food, and many others are discussed in the TIBs. The glossary and charts of pesticide toxicities are useful features. The looseleaf format permits updating and addition of yet to be completed TIBs. "A pesticide information project of cooperative extension offices of Cornell University ... et al. ." 1 v. (various pagings) : ill. ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL RA1270.P4E9).

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The fate of diazinon applied to thatched turf.

AGJOAT. Branham, B.E. Wehner, D.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1985. v. 77 (1). p. 101-104. Includes 13 references. (NAL Call No.: DNAL 4 AM34P).

1715

Flowable pesticides, what are they?.

Nelson, C. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 32-34. ill. (NAL Call No.: DNAL SB433.34.V8V47).

1716

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AGJOAT. Smiley, R.W. Fowler, M.C.; Kane, R.T.; Petrovic, A.M.; White, R.A. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1985. v. 77 (4). p. 597-602. Includes references. (NAL Call No.: DNAL 4 AM34P).

1717

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Watschke, T.L. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1986. v. 24 (5). p. 6-7. ill. (NAL Call No.: DNAL 60.18 UN33).

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Brooks, Leroy. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986 . Abstract: This study guide designed to prepare commercial pesticide applicators for the General Certification exam includes information on the certification process; identification and control of pests; pesticide formulations; equipment and calibration; pesticide labels, safety, and regulations; and environmental protection. It defines pest control items. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "January 1986"--P. 4 of cover.~ "S-12"--P. 4 of cover. 104 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB965.G4 1986).

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NYFLAV. Petrovic, A.M. Hummel, N.W. Jr. Ithaca, N.Y. : New York Agric. Exp. Stations and New York State College of Agric. & Life Sciences. New York's food and life sciences quarterly. 1987. v. 17 (1). p. 24-26. ill. Includes references. (NAL Call No.: DNAL S95.E2).

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Herbicide effects on tensile strength and rooting of bermudagrass (Cynodon dactylon) sod.

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1725

Herbicide effects on tensile strength and rooting of centipedegrass sod.

HJHSA. Turner, D.L. Sharpe, S.S.; Dickens, R. Alexandria, Va. : American Society for Horticultural Science. HortScience. May 1990. v. 25 (5). p. 541-544. Includes references. (NAL Call No.: DNAL SB1.H6).

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1727

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Whitson, T.D. Lauer, J.G. S.l. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 406-407. (NAL Call No.: DNAL 79.9 W52R).

1728

Herbicide tolerance of seedling grasses for erosion control. I. Vegetative response.

Callihan, R.H. Lass, L.W. S.l. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 68-71. (NAL Call No.: DNAL 79.9 W52R).

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1729

Herbicide tolerance of seedling grasses for erosion control. II. Reproductive response.
Lass, L.W. Callihan, R.H. S.l. : The Society. Research progress report - Western Society of Weed Science. Meeting held March 14-16, 1989, Honolulu, Hawaii. 1989. p. 72-74. (NAL Call No.: DNAL 79.9 W52R).

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1736

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1737

Lawn and turf pest control : (a guide for commercial applicators) / prepared by: M.S. Khan. -.
Khan, M. S. Washington, D.C. University of the District of Columbia, Cooperative Extension Service 1983. Pesticide Applicator Training collection ~Cover title: Pesticide applicator training manual: lawn & turf pest control 1983. iii, 29, (1) p. : ill. ; 28 cm. Bibliography: p. (30). (NAL Call No.: SB608.G8K5).

1738

Lawn and turf weed control--1981.
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1739

Lawn care and pest control--a marriage made in heaven or a union headed for the divorce courts.
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1740

Lawn servicing.
Overland Park, KS : Intertec Pub. Corp. . . Lawn servicing. Description based on: Aug. 1988; title from cover. (NAL Call No.: DNAL SB454.8.L38).

1741

Lawn weed control.

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Lawn weed control.

Long, Charles E. 1981. This publication discusses the basic principles of weed control for lawns. Also discusses the safe use of pesticides. Document available from: Distribution Center, Umberger Hall, Kansas State Univ., Manhattan, KS. 66506. 4 p. : ill. (NAL Call No.: MF-630).

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Laws protecting the consumer that affect the lawn service industry: pesticide chemicals.

Rust, H. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. May 1982. (21st). p. 59-60. (NAL Call No.: DNAL SB433.34.V8V47).

1744

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JANCA2. Rutherford, B.S. Arlington, Va. : The Association. Journal of the Association of Official Analytical Chemists. Mar/Apr 1990. v. 73 (2). p. 287-289. Includes references. (NAL Call No.: DNAL 381 A57).

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Minimizing damage to sod with broadleaf herbicides.

Bingham, S.W. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 78-79. Includes references. (NAL Call No.: DNAL SB433.34.V8P7 1983).

1746

Miscellaneous study materials for commercial applicators / compiled by Ohio Department of Agriculture Laboratories, Division of Plant Industry .

1959- . Abstract: These commercial applicator study materials include general core information on Ohio pesticide regulations, Poison Control Centers, pesticide safety and toxicity, and groundwater protection, and information pertaining to the control of plant agricultural, forest, ornamental, turf, vertebrate (bird), structural (termite), public health (mosquito) and stored grain pests, fumigation, seed treatment, and demonstration and research. Cover title.~ Title supplied by cataloger. v. : ill. ; 28 cm. (NAL Call No.: DNAL SB952.863.03M5).

1747

Nontarget effects of pesticides on turfgrasses (Includes fungal diseases).

Smiley, R.W. St. Paul, Minn., American Phytopathological Society. Plant disease. Jan 1981. v. 65 (1). p. 17-23. ill. 20 ref. (NAL Call No.: 1.9 P69P).

1748

North Dakota insect control guide : for use in 1982 only / North Dakota Cooperative Extension Service. -.

Fargo, N.D. The Service (1982). Pesticide Applicator Training collection ~One volume specializes in ornamental and turf pest control and the other volume on greenhouse pest control ~Cover title: North Dakota State University ~Includes leaflets and pamphlets ~Includes bibliographical references. 2 v. : ill. ; 30 cm. (NAL Call No.: SB950.2.N9N675).

1749

On targetNational Arborist Association.

Bedford, N.H. : The Association, c1987. Abstract: Developed by the National Arborist Association for arborists, this three part video training program and supplementary calibration manual explains how to operate, calibrate, and maintain a hydraulic sprayer to achieve maximum efficiency. It demonstrates how to properly target the spray column to reduce drift and overspray and thereby ensure cost effectiveness. VHS. 3 videocassettes (30 min.) : sd., col. ; 1/2 in + e 1 manual. (NAL Call No.: DNAL Videocassette no.822).

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1750

Ornamental & turf pest control.

Mississippi State, Miss. : Cooperative Extension Service, Mississippi State University, 1985? . Abstract: Topics covered in the Mississippi Training for Certification manual for the Ornamental & Turf Pest Control category consist of the identification and control of ornamental and turfgrass pests including diseases, weeds, insects, and vertebrate pests, phytotoxicity, and environmental considerations. Features a Weights and Measures equivalents chart, true/false and multiple choice test questions, and an explanation of required pesticide licenses, permits and certificates in Mississippi. Cover title.~ At head of title: Training for certification.~ This guide has been developed by North Carolina State University under U.S. Environmental Protection Agency (EPA) Contract number 68-01-2903 and has been edited by the Extension Plant Pathology, Entomology and Agronomy Departments to correspond with Mississippi conditions.~ "November 1985"--Colophon. ii, 24, 9, 4 p. ; 28 cm. (NAL Call No.: DNAL SB950.2.M7075 1985).

1751

Ornamental & turf pest control.

(College Station, Texas Texas Agricultural Extension Service, Texas A&M University System 1982). Pesticide Applicator Training Collection. 308 slides : col. + 4 sound cassettes (98 min.) + 3 scripts. (NAL Call No.: Slide no.48).

1752

Ornamental & turf pest control : a training program for the certification of pesticide applicators / prepared by P.L. Smeal ... (et al.). -.

Smeal, Paul Lester.; 1932-& Pesticide applicator certification training category 3 manual: ornamental & turf pest control.; Ornamental and turf pest control. (Blacksburg) Extension Division, Virginia Polytechnic Institute and State University 1979. Cover title: Pesticide applicator certification training category 3 manual: ornamental and turf pest control ~Pesticide Applicator Training collection ~"April 1979.". v, 81 p. : ill. ; 28 cm. (NAL Call No.: SB761.07 1979).

1753

Ornamental and turf : pesticide applicator manual. -.

Nesheim, O. Norman.; Criswell, Jim T.& Pesticide applicator manual. (Stillwater) Cooperative Extension Service, Oklahoma State University (1978?). Cover title ~Pesticide Applicator Training collection ~This manual was "compiled and edited by O. Norman Nesheim ... and Jim T. Criswell ..." -- P. (84). (6), 83, (1) p. : ill. ; 28 cm. (NAL Call No.:

SB950.2.0506).

1754

Ornamental and turf pesticide applicator manual / compiled by O. Norman Nesheim . --.

Nesheim, O. Norman. Stillwater : Cooperative Extension Service, Division of Agriculture, Oklahoma State University, 1984. 71 p. : ill. ; 28 cm. --. Bibliography: p. 71. (NAL Call No.: DNAL 275.29 Ok41C no.838 1984).

1755

Ornamental and turf manual.

Helena, Mont. : Montana Dept. of Agriculture, Environmental Management Division, 1986 . Abstract: This manual introduces pesticide applicators to insect pests of ornamentals and discusses the types of insect feeding damage on ornamentals, the biology, damaging stage and host, and non-chemical and chemical methods used to control them. It provides information on turf insect pests, ornamental and turfgrass weed and disease management, and damage on landscape plants. Correct use of pesticides, pesticide properties, environmental concerns, proper herbicide selection, fungicides, equipment calibration and pesticide disposal are covered. Includes illustrations of ornamental insect pest damage, some ornamental and some turfgrass insect pests. Cover title.~ "July, 1986.". iv, 103 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.070752).

1756

Ornamental and turf pest control. --.

Athens, Ga. : Cooperative Extension Service, The University of Georgia, College of Agriculture, 1982. Cover title. 34 p. : ill. ; 28 cm. --. (NAL Call No.: DNAL SB950.A1S62 no.10 1982).

1757

Ornamental and turf pest control category 3 / prepared by A.E. Cott ... et al. . --.

Cott, A. E. Ames : Cooperative Extension Service, Iowa State University, 1980? . Cover title.~ At head of title: Iowa commercial pesticide applicator manual.~ "CS-15."~ Pesticide Applicator Training collection.~ "To be used ... in conjunction with ... Apply pesticides correctly, EPA-335." . 1 v. (various pagings) : ill. ; 28 cm. (NAL Call No.: DNAL SB763.I807).

(PESTICIDES - GENERAL)

1758

Ornamental and turf pest control / compiled by V. Rodney Coleman ; contributing authors: Ed A. Brown ... et al. .

Coleman, V. Rodney.; Brown, Edward Angus, 1948-. Athens Ga. : Cooperative Extension Service, University of Georgia, College of Agriculture, 1987 . Abstract: This manual provides information to aid in preparation for certification examinations in ornamental and turf pest control and/or interiorscapes. Its four major sections are: Ornamentals, Turf, Trees and Interiorscapes. It includes pest identification, selection and application of pesticides, and safety information. Cover title.~ "This manual was developed in cooperation with the Georgia Department of Agriculture.". 49 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB950.A1S62 no.10 1987).

1759

Ornamental and turf pest control / Dr. Wayne Currey ... (et al.). -.

Currey, Wayne. Gainesville Cooperative Extension Service, University of Florida (1978?). Pesticide Applicator Training collection. iii, 44 p. : ill. ; 28 cm. (NAL Call No.: SB950.2.F606).

1760

Ornamental and turf pest control / John R. Hartman ... (et al.). -.

Hartman, John R. (Kentucky) University of Kentucky, Cooperative Extension Service 1976. Cover title ~Pesticide Applicator Training collection ~At head of title: Applicator training manual for. 30 p. : ill. ; 28 cm. --. (NAL Call No.: SB763.K407).

1761

Ornamental and turf pest control : safe, effective use of pesticides, a manual for commercial applicators. -.

E. Lansing Michigan State University, Cooperative Extension Service 1981. Cover title ~Pesticide Applicator Training collection ~"March 1981.". i, 48B (ie 50) p. : ill. ; 28 cm. --. (NAL Call No.: 275.29 M58B no.1032-3 1981).

1762

Ornamental and turf pest control : Texas. -.

College Station, Tex. Texas Agricultural Extension Service, Texas A&M University System (1982). Pesticide Applicator Training Collection ~Cover title ~At head of title: Using pesticides commercial applicator manual ~"5-82.". 58 p. : ill., map ; 28 cm. Bibliography: p. 56-58. (NAL Call No.: SB763.T407 1982).

1763

Ornamental and turfgrass pest control.

Raleigh : North Carolina Agricultural Extension Service, North Carolina State University, 1983? . Abstract: Designed to prepare commercial applicators for licensing in North Carolina in Ornamental and Turf Pest Control, this manual covers specific standards. Federal core certification requirements must be met, as well, to obtain a commercial pesticide applicators license in N.C. Information on ornamental and turfgrass diseases and pests, control measures, and environmental concerns such as phytotoxicity and controlling drift is included. It contains weights and measurement equivalents, illustrations, and black and white photographs. At head of title: Pesticide training manual.~ "... revision of the federal manual Apply Pesticides Correctly -- A Guide for Commercial Applicators -- Ornamental and Turfgrass Pest Control."~ "August, 1983.". 24 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.07076).

1764

Ornamental and turfgrass pest control. -.

Berkeley University of California, Division of Agricultural Sciences 1981. Cover title ~"Reprinted July 1981. ~Pesticide Applicator Training collection. 13 p. : ill. ; 28 cm. --. (NAL Call No.: S544.3.C2C3 no.2964).

1765

Ornamental and turfgrass pest control / compiled by Gene Burgess. -.

Burgess, Gene.& Category 3 study questions: ornamental & turf.; Ornamental & turf. (S.1. Agricultural Extension Service, University of Tennessee 1976?). Cover title: Category 3 study questions, ornamental & turf ~Pesticide Applicator Training collection. 21 p. ; 28 cm. (NAL Call No.: SB950.2.T207).

1766

Ornamental and turfgrass pest identification and control / (compiled by Landon C. Miller). -.

Miller, Landon Carl. Clemson, S.C. Clemson University, Cooperative Extension Service 1979. Cover title ~Pesticide Applicator Training collection. 70 p. : ill. ; 28 cm. --. (NAL Call No.: SB950.2.S6M5).

1767

Ornamental, turfgrass, and greenhouse pest control : category 3 / (prepared by Bob Hartzler, Donald Lewis, Laura Sweets). -.

Hartzler, Robert. Lewis, Donald R.; Sweets, Laura.& Iowa commercial pesticide applicator manual. Ames, Iowa Cooperative Extension Service, Iowa State University 1983. Pesticide

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Applicator Training Collection ~Cover title ~At head of title: Iowa commercial pesticide applicator manual ~"March 1983. ~CS-15. 45 p. : ill. ; 28 cm. (NAL Call No.: SB763.I8H3 1983).

1768

Ornamentals & turf manual / prepared by A.E. Brown .

Brown, A. E. College Park, Md. : University of Maryland Cooperative Extension Service, 1986-87 i.e. 1987 . Abstract: This manual for private and commercial applicators covers Ornamental and Turf Control and its three subcategories, nursery and landscape ornamentals, turfgrass and greenhouse ornamentals. It contains an appendix on restricted-use pesticides and short answer study questions. Cover title. 61 p. : ill. ; 28 cm. (NAL Call No.: DNAL SB608.07B76).

1769

Ornamentals /prepared by Loren E. Bode ... et al. .

Bode, Loren E. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, in cooperation with the Illinois Natural History Survey, 1985? 1987 printing. Abstract: This Illinois manual on woody plants (ornamentals) is for homeowners, nurserymen, persons dealing with tree and shrub pest problems in public plantings and those seeking certification as Commercial or Public Pest Control Applicators. It provides information on integrated pest management (IPM) practices, suggests methods for controlling insect, weed, and disease pests of trees and shrubs, and describes different types and how to calibrate them. Specific pesticide recommendations are not included but are published in other annually revised Illinois Extension circulars and fact sheets. Includes illustrations of weeds, keys to common woody plant diseases and insects, color photographs, a glossary, and additional references. "2M-9-85-61240-SZ; 2M-9-87-67839"--P. ii . 60 p. : ill. (some col.) ; 28 cm. Bibliography: p. 54-56. (NAL Call No.: DNAL 276 IL623 no.39-3).

1770

Ornamentals and turf workbook / prepared by Nancy Nicol ... et al. .

Nicol, Nancy. Urbana, Ill. : Cooperative Extension Service, College of Agriculture, University of Illinois, 1987? . Abstract: This workbook contains questions and calibration problems based on information in Illinois Pesticide Applicator Training Manuals on Turfgrass, 39-1 and Ornamentals, 39-3. It includes questions on insect pests, diseases and weed pests of woody plants and turfgrass and their control. Cover title.~ Chiefly questions relating to information presented in Illinois pesticide applicator training manuals, Turfgrass 39-1 and Ornamentals 39-3. 28 p. ; 28 cm. (NAL Call No.: DNAL SB608.07075).

1771

Ornamentals and turf workbook, 1990-1991 / prepared by Bob Wolf ... et al. .

Wolf, Bob. Urbana, Ill. : Cooperative Extension Service, College of Agriculture, University of Illinois at Urbana-Champaign, 1990? . Abstract: Short answer questions and calibration problems in the 1990-91 workbook correspond to information in Illinois Pesticide Applicator Training Manuals on Turfgrass, 39-1 and Ornamentals, 39-3. It contains questions on diseases, weed control and insect pests of turfgrass and ornamentals. Cover title.~ Chiefly questions related to information presented in Illinois pesticide applicator training manuals, Turfgrass 39-1 and Ornamentals 39-3. 40 p. ; 28 cm. (NAL Call No.: DNAL SB608.07075 1990).

1772

Performance of pesticides in turf areas treated earlier with activated charcoal.

Jagschitz, J.A. Beltsville, Md., The Society. Proceedings - annual meeting of the Northeastern Weed Science Society. Northeastern Weed Science Society, 1980. v. 34. p. 378-379. ill. (NAL Call No.: 79.9 N814).

1773

Persistence and mobility of isazofos in turgrass thatch and soil.

JEENAI. Niemczyk, H.D. Krueger, H.R. College Park, Md. : Entomological Society of America. Journal of economic entomology, Aug 1987. v. 80 (4). p. 950-952. Includes references. (NAL Call No.: DNAL 421 J822).

1774

Pest management principles for the commercial applicator ornamental and turf pest control /Bob Newman ... et al. .

Newman, Bob. Madison : University of Wisconsin-Extension, 1988. Abstract: Training manual for commercial pesticide applicators in the ornamental and turf pest-control category. Major topics: application of pest management principles for weed, insect, and disease control; toxicity of pesticides; protecting human health and the environment; disposal; equipment calibration; IPM practices; and label information. "January 1988"--P. 4 of cover. viii, 232 p. ; 28 cm. Bibliography: p. 191. (NAL Call No.: DNAL SB603.5.P48 1988).

1775

Pest management principles for the commercial applicator : ornamental and turf pest control / Mark Bello ... (et al.). -.

Bello, Mark.& Ornamental and turf pest control. Madison University of Wisconsin-Extension 1983. Pesticide Applicator Training collection. vii,

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232 p. ; 28 cm. Bibliography: p. 215-216. (NAL Call No.: SB603.5.P48).

posters.~ "SP 34.". 11 p., 8 p. of plates : ill. ; 28 cm. (NAL Call No.: DNAL SB950.2.F6P4).

1776

Pest management principles for the commercial applicator ornamental and turf pest control study guide /Bob Newman ... et al. .

Newman, Bob, Madison : University of Wisconsin-Extension, 1988. Abstract: This study guide accompanies Pest Management Principles for the Commercial Applicator: Ornamental and Turf Pest Control. It contains multiple choice questions and answers on a variety of subjects including laws and regulations, formulations, safety, application principles, and resistance to pesticides. Cover title.~ "January 1988"--P. 4 of cover. 34 p. ; 28 cm. (NAL Call No.: DNAL SB603.5.P482 1988).

1777

Pest management principles for the commercial applicator : ornamental and turf pest control study guide. -.

Madison University of Wisconsin-Extension 1983. Cover title ~Pesticide Applicator Training collection. 31, (2) p. ; 28 cm. (NAL Call No.: SB603.5.P482).

1778

Pesticide applicator training manual, category 3 : ornamentals and turf for New Jersey. -.

New Brunswick, N.J. Rutgers--the State University, Cooperative Extension Service (1982). Pesticide Applicator Training Collection ~"A training program for the certification of commercial pesticide applicators. ~"This text was written by New York Cooperation Extension Service/Cornell, and adapted for New Jersey.". iv, 161 p. : ill. ; 28 cm. Includes bibliographical references. (NAL Call No.: SB950.2.N5P45).

1779

Pesticide applicator training update /Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida.

Gainesville : The Service, 1987. Abstract: This booklet for certified pesticide applicators contains important updated information on applying pesticides correctly. Topics covered are: Florida pesticide law and rules, disposal of pesticide waste containers, handling pesticide spills, ground water advisory statement on pesticide labels, endangered species pesticide label restrictions, and laundering the pesticide applicators's clothing. Includes 4 detachable safety posters: Pesticide Spill Clean-up Instructions, Triple Rinse, Rubber Glove Zone and Pesticide Applicator's Phone List. Cover title.~ The plates are designed to be torn out and used as

1780

Pesticide applicator training ornamental pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: Ornamental Pest Control is the subject of this commercial pesticide applicator training manual. It contains ornamental insect pests and diseases color photo identification aids and control information. Ornamental tree and weed identification guides are included. The biology and control of vertebrates, mites, slugs, and nematodes are discussed. Pesticide recommendations, applications, spray equipment and calibrations are covered. Environmental concerns (e.g. controlling pesticide drift) are addressed. Cover title.~ Category 3a. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4624).

1781

Pesticide applicator training public health pest control .

West Lafayette, Ind. : Purdue University, 1988?. Abstract: Intended for commercial pesticide applicator training, this manual provides information on the major public health pests and nonchemical and chemical methods to control them. It studies the life cycles and habitats of these pest insects, mites, ticks, and spiders, and vertebrates and how they transmit diseases. Equipment calibration, and environmental concerns, specially controlling pesticide drift and minimizing harmful effects of pest control on the environment are covered. Cover title.~ Category 8. 1 v. (various pagings) : ill. (some col.) ; 30 cm. (NAL Call No.: DNAL SB951.P463).

1782

Pesticide applicator training regulatory pest control .

West Lafayette, Ind. : Purdue University, 1988?. Abstract: The training manual on regulatory pest control examines regulated pests and quarantines and the fumigants, herbicides, and insecticides used in their control. Major topics include controlling insect pests and diseases on ornamentals, weeds, nematodes, common household pests, blackbirds, pigeons and mice and rats. Detailed information on fumigation (i.e. space and structural), gas masks, protective clothing, safety practices, toxicology, sprayer equipment and calibration is presented. Cover title.~ Category 9. 1 v. (various pagings) : ill. (some col.) ; 30 cm. (NAL Call No.: DNAL SB951.P4631).

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1783

Pesticide applicator training turfgrass pest control .

West Lafayette, Ind.? : Purdue University, 198-?. Abstract: This study manual prepares commercial pesticide applicators for certification in turfgrass pest control. Color guides facilitate identification of lawn weeds and turfgrass diseases and provide cultural and chemical control recommendations. The recognition, biology, and control of vertebrate and insect pests and nematodes is covered. Proper selection and safe application of pesticides, phytotoxicity, controlling pesticide drift, and minimizing water contamination are discussed. A major topic is spray equipment and calibration. Calibration problems and answers are provided. Cover title.~ Category 3b. 1 v. (various pagings) : ill. (some col.) ; 30 cm. Includes bibliographical references. (NAL Call No.: DNAL SB951.P4625).

1784

Pesticides and human exposure.

Blodgett, D.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 30-31. (NAL Call No.: DNAL SB433.34.V8V47).

1785

Pesticides and small animal concerns.

Blodgett, D.J. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 100-101. (NAL Call No.: DNAL SB433.34.V8V47).

1786

Phytotoxicity of the liquid formulation of ethoprop to bermudagrass turf (Cynodon dactylon, pesticides).

Hulbert, J.C. Dunn, R.A.; Teem, D.H. (S.I.) : The Society. Proceedings - Soil and Crop Science Society of Florida. 1982. v. 41. p. 121-122. Includes references. (NAL Call No.: 56.9 S032).

1787

Plant growth-regulating effects of systemic fungicides applied to Kentucky bluegrass (Poa pratensis, Fusarium blight control, growth inhibition).

Kane, r.T.AGJOA. Smiley, R.W. Madison : American Society of Agronomy. Agronomy journal. May/June 1983. v. 75 (3). p. 469-473. ill. Includes references. (NAL Call No.: 4 AM34P).

1788

A plant growth study of several dryland and irrigated perennial grasses treated with metsulfuron.

WSWPA. McLain, B. Evans, J.O. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. Meeting held on March 8-10, 1988, Fresno, California. 1988. v. 41. p. 86-95. Includes references. (NAL Call No.: DNAL 79.9 W52).

1789

Pre-emergence herbicides for turf / by John R. Street and Gary Clayton. -.

Street, John R. Clayton, Gary. (Ohio Reprinted by Ohio State University, Ohio Extension Service 1982?). Reprint of article from Grounds Maintenance, February 1982 ~Caption title ~Pesticide Applicator Training collection. p. 22-26, 101-(102) ; 28 cm. (NAL Call No.: SB951.4.S77).

1790

Preemergence activity of dinitroaniline herbicides used for weed control in cool-season turfgrasses.

WETEE9. Bhowmik, P.C. Bingham, S.W. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Paper presented at the "Symposium on Turfgrass and Ornamental Dinitroaniline Herbicides," February 4, 1988, Las Vegas, Nevada. Apr/June 1990. v. 4 (2). p. 387-393. Includes references. (NAL Call No.: DNAL SB610.W39).

1791

Prepare for chemical spills.

Catron, P. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1988. v. 23 (9). p. 66, 68, 70. (NAL Call No.: DNAL SB476.G7).

1792

Prodiamine effects on quality and rooting of Kentucky bluegrass turf.

CRPSAY. Hummel, N.W. Jr. Fowler, M.C.; Neal, J.C. Madison, Wis. : Crop Science Society of America. As new herbicides are investigated for use on turf, it is important to study the effects continued use of these materials have on desirable grass species. A field investigation was conducted to determine the influence of prodiamine 2,4-dinitro-N3,N3-dipropyl-6-(trifluoromethyl)-1,3-benzenediamine application rate and frequency on Kentucky bluegrass (Poa pratensis L.) turf over a 4-yr period. Root mass and turfgrass density decreased following prodiamine treatment. Turfgrass quality ratings decreased as prodiamine rate increased, but remained acceptable at rates below 1.1 kg ha-1

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a.i. The projected use rate for prodiamine in the northeastern USA is 0.56 kg ha⁻¹ a.i. Quality was reduced and necrotic ring spot (*Leptosphaeria korrae* Walker and Smith) disease more severe when prodiamine was applied annually vs. biennially. Percent turf area damaged by necrotic ring spot also increased as prodiamine rate increased, but was most severe rates greater than 2.2 kg ha⁻¹ a.i. The quality, density, and disease data indicated that annual applications of prodiamine can be detrimental to Kentucky bluegrass turf. These results suggest that it may be advantageous to avoid prodiamine applications in successive years or to alternate it with less phytotoxic preemergence herbicides. *Crop science*. Sept/Oct 1990. v. 30 (5). p. 976-979. Includes references. (NAL Call No.: DNAL 64.8 C883).

1793

Protection of grass crops from sulfonyleurea and imidazolinone toxicity.

Barrett, M. San Diego : Academic Press, c1989. *Crop safeners for herbicides : development, uses, and mechanisms of action* / edited by Kriton K. Hatzios and Robert E. Hoagland. Literature review. p. 195-220. Includes references. (NAL Call No.: DNAL SB951.45.C76).

1794

Recertification manual for commercial pesticide applicators : forest, turf, ornamental and turf, and right-of-way pest control. -

E. Lansing Michigan State University, Cooperative Extension Service 1980. Cover title ~Pesticide Applicator Training collection ~"Feb. 1980.". 12 p. ; 28 cm. --. (NAL Call No.: 275.29 M58B no.1385 (2,3,6)).

1795

Recertification manual for commercial pesticide applicators: turfgrass pest control category 3a.

MUCBA, Landis, J.N. (comp. and ed.). East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Jan 1990. (2166). 47 p. (NAL Call No.: DNAL 275.29 M58B).

1796

Residual activity of dieldrin and chlordane in soil of established turf in Japanese beetle grub control (*Popillia japonica*).

Tashiro, H. Bourke, J.B.; Gibbs, S.D. College Park, Md., Entomological Society of America. *Journal of economic entomology*. Aug 1981. v. 74 (4). p. 397-399. 8 ref. (NAL Call No.: 421 J822).

1797

Residual activity of herbicide treatments on bermudagrass (*Cynodon dactylon*, *Lolium perenne*, *Eleusine indica*).

Johnson, B.J. Madison, Wis., American Society of Agronomy. *Agronomy journal*. July/Aug 1980. v. 72 (4). p. 697-698. 4 ref. (NAL Call No.: 4 AM34P).

1798

Response of three cool-season turfgrass species to ACP-1900.

PPGGD, Bhowmik, P.C. Lake Alfred, Fla. : The Society. *Proceedings annual meeting - Plant Growth Regulator Society of America*. 1987. (14th). p. 341-346. Includes references. (NAL Call No.: DNAL SB128.P5).

1799

Rooting and cover of three turf species as influenced by preemergence herbicides.

PNWSB, Dernoeden, P.H. Davis, D.B.; Fry, J.D. College Park, Md. : The Society. *Proceedings of the annual meeting - Northeastern Weed Science Society*. Meeting held January 6, 7 & 8, 1988 in Hartford, Connecticut. 1988. v. 42. p. 169-173. Includes references. (NAL Call No.: DNAL 79.9 N814).

1800

Runoff of sulfometuron-methyl and cyanazine from small plots: effects of formulation and grass cover.

JEVQAA, Wauchope, R.D. Williams, R.G.; Marti, L.R. Madison, Wis. : American Society of Agronomy. To determine the effects of application rates, grass cover, and formulation type on herbicide losses in runoff, we applied 4.5 kg/ha cyanazine (2- 4-chloro-6-(ethylamino)-1,3,5-triazin-2-yl-1) amino -2-methylpropanenitrile) with 0.4 kg/ha sulfometuron-methyl (methyl-2 (4,6-dimethyl-2-pyrimidinyl)amino carbonyl amino sulfonyl benzoate) to 1.2 by 2.4 m plots, using suspension concentrate (SC) and dispersible granule (DG) formulations of cyanazine, and SC and emulsifiable concentrate (EC) formulations of sulfometuron-methyl. The plots were established on a Tifton loamy sand soil (fine-loamy, siliceous, thermic Plinthic Paleudults) and had 3% slope. The plots were bare or covered with a mixed stand of common Bermudagrass *Cynodon dactylon* (L.) Pers. and Bahiagrass (*Paspalum notatum* Flugge var. *suaresae* Parodi). On the day after the herbicides were applied, we simulated rainfall events of 69 mm/h intensity until 2 mm of runoff occurred. The runoff was analyzed for sediment and herbicides. The bare plots required one-third less rain to produce the same amount of runoff and yielded twice as much sediment as the grassy plots. However, losses of all formulations were 1 to 2% of the amounts applied regardless of grass cover and even

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though cyanazine rates were 11 times that of sulfometuronmethyl. Total losses of all formulations were sensitive to the length of time between rainfall initiation and runoff initiation, indicating that leaching made herbicide unavailable for runoff. These results suggest that, for these formulations under conditions of similar runoff volumes, losses of pesticides are a fairly constant fraction of the amounts applied, with or without grass cover. For intense storms where the amount of rainfall is similar, chemical runoff from the grassed plots was predicted by computer simulation to be less than half of that from bare soil. *Journal of environmental quality*. Jan/Mar 1990. v. 19 (1). p. 119-125. Includes references. (NAL Call No.: DNAL QH540.J6).

1801

Safety and overseeding effects of chlorsulfuron in turfgrasses.

PNWSB. Dernoeden, P.H. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Includes abstract. 1990. v. 44. p. 114-115. (NAL Call No.: DNAL 79.9 N814).

1802

Seed treatment /prepared by Malcolm C. Shurtleff ... et al. .

Shurtleff, Malcolm C. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, in cooperation with the Illinois Natural History Survey, 1986? . Abstract: Designed for use by individuals seeking Commercial Seed Applicator Certification, this Illinois study guide for Seed Treatment, Pest Control Applicator Examination covers seedborne and soilborne diseases, insects, and other seed treatment managed pests of field crops, vegetables, turfgrasses, flowers and nursery crops; commonly treated seeds; seed treatments; pesticides and application equipment used for treating seeds, bulbs, corms and other propagative plant parts; and regulations for labeling, safety measures and environmental precautions for applying, handling, and disposing of seed treatment pesticides and treated seeds. Includes illustrations, a glossary and additional references. This manual does not include specific chemical seed treatment recommendations. Since these change frequently, they are printed in the current Illinois Pest Control Handbook and circulars. "1500-12-86-65956-ML"--P. ii. 27 p. : ill. ; 28 cm. Bibliography: p. 27. (NAL Call No.: DNAL 276 IL623 no.39-4).

1803

Selective chemical weed control / authors, Floyd M. Ashton and W.A. Harvey .

Ashton, Floyd M. Harvey, W. A. 1914-. Berkeley, Calif. : Agricultural Experiment Station, Division of Agriculture and Natural Resources, University of California, 1987. Abstract: This bulletin discusses weed control as part of an IPM program. It explains ways that herbicides act on weeds, describes application methods, contains many line drawings and a glossary. Intended for use by growers, advisors, and applicators. "Replaces Circular 558, Chemical Weed Control ... and draws heavily on information contained in that circular"--P. 2 of cover.~ Cover title. 16 p. : ill. ; 23 cm. (NAL Call No.: DNAL S39.A2C3 no.1919 1987).

1804

Selective tall fescue control in Kentucky bluegrass turf with diclofop.

AGJDAT. Dernoeden, P.H. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. July/Aug 1986. v. 78 (4). p. 660-663. Includes 2 references. (NAL Call No.: DNAL 4 AM34P).

1805

Short-term effects of insecticidal applications on predaceous arthropods and oribatid mites in Kentucky bluegrass turf.

Cockfield, S.D. EVETB. Potter, D.A. College Park : Entomological Society of America. *Environmental entomology*. Aug 1983. v. 12 (4). p. 1260-1264. Includes references. (NAL Call No.: QL461.E532).

1806

Some new chemicals marketed for use on turfgrasses.

Dernoden, P.H. College Park, Md. : The Service. *The Agronomist - Cooperative Extension Service*, University of Maryland. Apr 1986. v. 23 (4). p. 11-12. (NAL Call No.: DNAL S71.A46).

1807

Spray systems for turfgrasses calibrating sprayers and mixing pesticides /C.L. Murdock.

Murdock, C. L. Manoa, Honolulu, Hawaii : HITAHR, College of Tropical Agriculture and Human Resources, University of Hawaii, 1986. Cover title.~ "March 1986.". 11 p. : ill. ; 28 cm. (NAL Call No.: DNAL S481.R4 no.066).

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1808

Tank mixing--science or art in the lawn service business?.

Rutherford, T.H. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Oct 1983. (22nd). p. 48-49. (NAL Call No.: DNAL SB433.34.V8V47).

1809

Tolerance of Bermudagrass and Zoysia cultivars to herbicide treatments (Cynodon dactylon, monosodium methanearsonate, metribuzin).

Johnson, B.J. Athens, Ga., The Stations. Research report - University of Georgia, Experiment Stations. June 1981. June 1981. (378). 8 p. 13 ref. (NAL Call No.: S51.E22).

1810

Tolerance of tall fescue to postemergence grass herbicides.

HJHSA. McCarty, L.B. Higgins, J.M.; Whitwell, T.; Miller, L.C. Alexandria, Va. : American Society for Horticultural Science. HortScience. Apr 1989. v. 24 (2). p. 309-311. Includes references. (NAL Call No.: DNAL SB1.H6).

1811

Training greenhouse workers to handle pesticides safely written and directed by Melanie Zavala ; produced by the Office of Pesticide Information and Coordination. Japanese.

Zavala, Melanie. Davis, Calif. : Visual Media, Division of Agriculture and Natural Resources, University of California, Davis, c1986. Abstract: This video is aimed at non-certified pesticide handlers. It is designed to provide them with part of the training they need in order to handle pesticides safely. The video can also be of use for greenhouse workers who have only indirect exposure to pesticides. The presentation covers entry of pesticides into the body, poisoning symptoms, protective clothing and equipment, emergency procedures, and common sense protective measures. It also discusses some of the potential dangers of pesticide use in a greenhouse situation and how they can be avoided. This video was developed under a grant from the U.S. EPA. VHS.~ "V/89-0"--Cassette label.~ Narrated in Japanese; titles and credits in English. 1 videocassette (16 min.) : sd., col. ; 1/2 in. (NAL Call No.: DNAL Videocassette no.677).

1812

Training material for commercial/non-commercial pesticide applicators Ornamental and turf pest control.

Stillwater, Okla. : Cooperative Extension Service, Oklahoma State University, 1989 . Abstract: This packet of materials, used to prepare applicators for certification, contains manuals on managing turfgrass and ornamental pests, information sheets covering groundwater contamination and the Endangered Species Act, and publications on safety and protective clothing. Title from portfolio.~ Includes contents sheet and various materials. 1 portfolio : ill. ; 33 cm. (NAL Call No.: DNAL SB950.2.O5T77).

1813

Tree, turf and ornamental pesticide guide /by W.T. Thomson.

Thomson, W. T. Fresno, CA : Thomson Publications, c1990. 198 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1990).

1814

Tree, turf and ornamental pesticide guide /by W.T. Thomson.

Thomson, W. T. Fresno, CA : Thomson Publications, c1987. Cover title: Pesticide guide : tree, turf and ornamental. 170 p. ; 23 cm. (NAL Call No.: DNAL SB951.T5 1987).

1815

Tree, turf and ornamental pesticide guide / by W.T. Thomson. -.

Thomson, W. T. Fresno, Calif. Thomson Publications c1983. 149 p. ; 23 cm. (NAL Call No.: SB951.T5 1983).

1816

Turf diseases : prevention and control / Ed Mulrean, Tom Russell. -.

Mulrean, Ed. Russell, Tom E. Tucson, Arizona Cooperative Extension Service, College of Agriculture, University of Arizona 1984. Pesticide Applicator Training Collection ~Caption title ~"1/84. ~"3876.". (6) p. ; 28 cm. (NAL Call No.: SB608.G8R8 1984).

1817

Turf diseases (prevention and control) / Tom E. Russell, revised by Felix H. Mahr. -.

Russell, Tom E. Mahr, Felix H. Tucson University of Arizona, Cooperative Extension Service (1980?). Caption title ~Pesticide Applicator Training collection ~"Q384.". 2 p. ; 28 cm. (NAL Call No.: SB608.G8R8).

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1818

Turf pest control category 3B / F. Robert Henderson ... et al. .
Henderson, F. Robert. Manhattan, Kan. : Cooperative Extension Service, Kansas State University, 1986 . Abstract: Designed for commercial pesticide applicators, this study guide explains how to identify and culturally or chemically control turfgrass diseases, weeds, insect and vertebrate pests. Other topics discussed include proper application of herbicides, fungicides, and insecticides, calibration, and ways to minimize phytotoxicity, pesticide drift and environmental hazards. Color photos of weeds aid identification. Multiple choice study questions follow major sections. Cover title.~ At head of title: Commercial pesticide applicator certification and recertification study manual.~ "S-20, August 1986"--P. 4 of cover. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: DNAL SB608.T87T8 1986).

1819

Turf pest control : category 3B / (Frederick J. Crowe ... et al.). -.
Crowe, Frederick J.& Commercial pesticide applicator certification and recertification study manual. Manhattan Cooperative Extension Service, Kansas State University 1981. Pesticide Applicator Training Collection ~Cover title ~At head of title: Commercial pesticide applicator certification and recertification study manual ~"January 1981" ~S-20. 48 p. : ill. (some col.) ; 28 cm. (NAL Call No.: SB608.T87T8).

1820

Turfgrass chemical update: Fungicides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1990. v. 25 (3). p. 52, 54, 125. (NAL Call No.: DNAL SB476.G7).

1821

Turfgrass chemical update: herbicides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Jan 1991. v. 26 (1). p. 36-38, 42, 44, 46. (NAL Call No.: DNAL SB476.G7).

1822

Turfgrass chemical update: Insecticides.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1990. v. 25 (2). p. 24, 26, 121. (NAL Call No.: DNAL SB476.G7).

1823

Turfgrass disease control guide /Howard D. Ohr, Arther H. McCain, Robert M. Endo.
Ohr, Howard D. McCain, Arthur Hamilton.; Endo, Robert M. Berkeley, Calif. : Cooperative Extension, University of California, 1987? . Abstract: This is a cultural and chemical control guide for 20 different turfgrass diseases. It describes symptoms, susceptible grasses, and conditions favoring diseases. For applicators and advisors. 1 sheet ; 65 x 28 cm. folded to 28 x 22 cm. (NAL Call No.: DNAL S544.3.C2C3 no.2619 1987).

1824

Turfgrass disease control recommendations / by David B. Schroeder. -.
Schroeder, David B. Storrs Cooperative Extension Service, College of Agriculture and Natural Resources, University of Connecticut 1979. Caption title ~At head of title: Plant diseases ~Pesticide Applicator Training collection ~"April 1979.". 2 p. : ill. ; 28 cm. (NAL Call No.: SB608.G8S3).

1825

Turfgrass herbicide tolerance.
Beard, J.B. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1986. v. 21 (6). p. 38, 42. (NAL Call No.: DNAL SB476.G7).

1826

Turfgrass phytotoxicity and annual grassy weed control.
PNWSB. Duell, R.W. Smith, D.A. College Park, Md. : The Society. Proceedings of the annual meeting - Northeastern Weed Science Society. Includes abstract. 1990. v. 44. p. 143-144. (NAL Call No.: DNAL 79.9 N814).

1827

Turfgrass thatch components and decomposition rates in long-term fungicide plots.
AGUOAT. Smiley, R.W. Fowler, M.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 633-636. Includes references. (NAL Call No.: DNAL 4 AM34P).

1828

Unions and Texas turf labor.
Wagoner, C. College Station, Tex. : Texas College and University System. Proceedings of the 24th annual Texas turfgrass conference. Meeting held December 1-3, 1969 at College Station, Texas. 1969. (24). p. 17-22. (NAL Call No.: DNAL 60.19 T31).

1829

The use and regulation of lawn care chemicals hearing before the Subcommittee on Toxic Substances, Environmental Oversight, Research and Development of the Committee on Environment and Public Works, United States Senate, One Hundred First Congress, second session ... March 28, 1990.

United States.~Congress.~Senate.~Committee on Environment and Public Works.~Subcommittee on Toxic Substances, Environmental Oversight, Research and Development. Washington D.C. : U.S. G.P.O. : For sale by the Supt. of Docs., Congressional Sales Office, U.S. G.P.O., 1990. Distributed to some depository libraries in microfiche. iii, 268 p. : ill. ; 24 cm. Includes bibliographical references (p. 204). (NAL Call No.: DNAL KF26.E678 1990).

1830

Warm-season grass establishment as affected by post-planting atrazine application.

JRMGA. Bahler, C.C. Moser, L.E.; Griffin, T.S.; Vogel, K.P. Denver, Colo. : Society for Range Management. Journal of range management. Sept 1990. v. 43 (5). p. 421-424. Includes references. (NAL Call No.: DNAL 60.18 J82).

1831

1988 insect pest management guide home, yard, and garden /prepared by Roscoe Randell, Philip Nixon, and Fredric Miller, Jr.

Randell, Roscoe. Nixon, Philip.; Miller, Fredric. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, in cooperation with Illinois Natural History Survey, 1987. Abstract: This homeowners' guide contains tables of recommended insecticides, their dosage and application suggestions for controlling home, yard and garden pests including pests of food, fabrics, structures, humans and animals, lawns, shrubs, trees, flowers and vegetables. It explains integrated pest management (IPM) and insecticide classifications. A small quantities conversion table, sources of insect information and a list of safety precautions are provided. (Revised annually). Caption title.~ "Revised annually."~ "October 1987.". 11 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.900 1987).

1832

1990 chemical weed control for commercial turf.

Everest, J.W. Patterson, M.G. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. Mar 1990. (22). 12 p. (NAL Call No.: DNAL S544.3.A2C47).

SOIL BIOLOGY

1833

Activity of selective postemergence grass herbicides in soil.

WEESA6. Kells, J.J. Meggitt, W.F.; Penner, D. Champaign, Ill. : Weed Science Society of America. Weed science. Jan 1986. v. 34 (1). p. 62-65. ill. Includes 17 references. (NAL Call No.: DNAL 79.8 W41).

1834

Behavior of dinitroaniline herbicides in soils.

WETEE9. Weber, J.B. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Paper presented at the "Symposium on Turfgrass and Ornamental Dinitroaniline Herbicides," February 4, 1988, Las Vegas, Nevada. Apr/June 1990. v. 4 (2). p. 394-406. Includes references. (NAL Call No.: DNAL SB610.W39).

1835

Effect of N fertilization on earthworm and microarthropod populations in Kentucky bluegrass turf.

AGJOAT. Potter, D.A. Bridges, B.L.; Gordon, F.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1985. v. 77 (3). p. 367-372. Includes references. (NAL Call No.: DNAL 4 AM34P).

1836

Impact of a high-maintenance lawn-care program on nontarget invertebrates in Kentucky bluegrass turf.

EVETEX. Arnold, T.B. Potter, D.A. College Park, Md. : Entomological Society of America. Environmental entomology. Feb 1987. v. 16 (1). p. 10-105. Includes references. (NAL Call No.: DNAL QL461.E532).

1837

Parasitic microorganisms of Japanese beetle (Coleoptera: Scarabaeidae) and associated scarab larvae in Connecticut soils.

EVETEX. Hanula, J.L. Andreadis, T.G. College Park, Md. : Entomological Society of America. The parasites of second- and third-instar Japanese beetles, *Popillia japonica* Newman, and associated scarab larvae were identified in turf samples from 49 locations in Connecticut during the fall of 1986. Four of the seven species of scarab larvae encountered were introduced and accounted for 91% of the sample population. Recovered parasites included three species of protozoa, two bacteria, a rickettsia, and a fungus. The most common protozoa, cephaline eugregarines, were found in the gut of Japanese beetles from 42 locations, and in four other host species. A microsporidium, *Ovavesicula popilliae* Andreadis and Hanula, was found in Japanese beetles from

34 sites. Overall, 25% of the larvae were infected, but prevalence was 80-90% in some locations. An *Adelina* sp. infecting 19% of the Asiatic garden beetles, *Maladera castanea* (Arrow), was found at six locations and in two other scarab species. This is the first record of *Adelina* sp. in these hosts. The bacteria *Bacillus popilliae* Dutky and *B. lentimorbus* Dutky and a rickettsia, *Rickettsiella popilliae* (Dutky and Gooden) Philip, were also recovered from grubs. *R. popilliae* was recovered from five species. Two of the infected species, the Asiatic garden beetle and the European chafer, *Rhizotrogus majalis* (Razoumowsky), are new records as natural hosts for this pathogen. The incidence of *B. popilliae* (3.5%) was comparable with previous reports from Connecticut. The fungus, *Metarhizium anisopliae* (Metch.), infected 1.2% of the Japanese beetles. Environmental entomology. Aug 1988. v. 17 (4). p. 709-714. ill., maps. Includes references. (NAL Call No.: DNAL QL461.E532).

1838

Turf insects.

Schuder, D.L. West Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. In subseries: Ornamental Insects. Oct 1986. (61,rev.). 2 p. ill. (NAL Call No.: DNAL SB844.I6P8).

1839

Turfgrass thatch components and decomposition rates in long-term fungicide plots.

AGJOAT. Smiley, R.W. Fowler, M.C. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 633-636. Includes references. (NAL Call No.: DNAL 4 AM34P).

1840

Use of radiography in behavioral studies of turfgrass-infesting scarab grub species (Coleoptera: Scarabaeidae).

Villani, M.G. Wright, R.J. Lanham, Md. : The Society. Bulletin of the Entomological Society of America. Fall 1988. v. 34 (3). p. 132-144. ill. Includes references. (NAL Call No.: DNAL 423.9 EN8).

SOIL CHEMISTRY AND PHYSICS

1841

Adsorption of selective grass herbicides by soils and sediments.

WEESA6. Rick, S.K. Slife, F.W.; Banwart, W.L. Champaign, Ill. : Weed Science Society of America. Weed science. Mar 1987. v. 35 (2). p. 282-288. Includes references. (NAL Call No.: DNAL 79.8 W41).

1842

Amino acid composition of ryegrass in relation to nitrogen fertilization and soil water status (*Lolium perenne*).

Jensen, H.E.JPNUD. New York : Marcel Dekker. Journal of plant nutrition. 1982. v. 5 (9). p. 1109-1120. Includes references. (NAL Call No.: QK867.J67).

1843

Compaction - the subtile stress.

Carrow, R.N. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 36-39. (NAL Call No.: DNAL SB433.34.V8V47).

1844

Compaction effects on root growth.

Carrow, R.N. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 43. (NAL Call No.: DNAL SB433.34.V8V47).

1845

Experiments on the effects of tillage on soil moisture ; Meteorological observations ; Grass and forage garden / by W.O. Atwater .

Atwater, W. O. 1844-1907. Mansfield, Conn. : Storrs School, Agricultural Experiment Station, 1888. Caption titles. 11 p. ; 23 cm. (NAL Call No.: DNAL 100 C76S no.2).

1846

The fate of nitrogenous fertilizers applied to turfgrass.

JEVQAA. Petrovic, A.M. Madison, Wis. : American Society of Agronomy. Maintaining high quality surface and groundwater supplies is a national concern. Nitrate is a widespread contaminant of groundwater. Nitrogenous fertilizer applied to turfgrass could pose a threat to groundwater quality. However, a review of the fate of N applied to turfgrass is lacking, but needed in developing management systems to minimize groundwater contamination. The discussion of the fate of N applied to turfgrass is developed around plant uptake, atmospheric loss, soil

storage, leaching, and runoff. The proportion of the fertilizer N that is taken up by the turfgrass plant varied from 5 to 74% of applied N. Uptake was a function of N release rate, N rate and species of grass. Atmospheric loss, by either NH₃ volatilization or denitrification, varied from 0 to 93% of applied N. Volatilization was generally less than 36% of applied N and can be reduced substantially by irrigation after application. Denitrification was only found to be significant (93% of applied N) on fine-textured, saturated, warm soils. The amount of fertilizer N found in the soil plus thatch pool varied as a function of N source, release rate, age of site, and clipping management. With a soluble N source, fertilizer N found in the soil and thatch was 15 to 21% and 21 to 26% of applied N, respectively, with the higher values reflecting clippings being returned. Leaching losses for fertilizer N were highly influenced by fertilizer management practices (N rate, source, and timing), soil texture, and irrigation. Highest leaching losses were reported at 53% of applied N, but generally were far less than 10%. Runoff of N applied to turfgrass has been studied to a limited degree and has been found seldom to occur at concentrations above the federal drinking water standard for NO₃(-1). Where turfgrass fertilization poses a threat to groundwater quality, management strategies can allow the turfgrass manager to minimize or eliminate NO₃(-1) leaching. Journal of environmental quality. Jan/Mar 1990. v. 19 (1). p. 1-14. Includes references. (NAL Call No.: DNAL QH540.J6).

1847

Kentucky bluegrass lateral growth and stem rust response to soil compaction stress.

HJHSA. Shearman, R.C. Watkins, J.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1985. v. 20 (3,sectionI). p. 388-390. Includes 6 references. (NAL Call No.: DNAL SB1.H6).

1848

Localized dry spots as caused by hydrophobic sands on bentgrass greens.

AGUOAT. Tucker, K.A. Karnok, K.J.; Radcliffe, D.E.; Landry, G. Jr.; Roncadori, R.W.; Tan, K.H. Madison, Wis. : American Society of Agronomy. Construction of creeping bentgrass (*Agrostis palustris* Huds.) golf greens with topsoil mixtures that contain 90% or more sand has led to the appearance of irregularly shaped areas of wilted or dead turfgrass known as localized dry spots (LDS). Objectives were to determine by means of a survey the association between management practices and the severity of LDS, and to compare the chemical and physical properties of LDS and adjacent healthy areas (HA) of greens. Turf managers from ten golf courses and the University of Georgia Turfgrass Plots completed a 34-question survey pertaining to management practices used on their respective greens. Four of the golf courses and the University Turf Plots were

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selected as sampling sites for soil from both LDS and HA. Soil was analyzed for moisture content, and particle size, as well as hydrophobicity via the water droplet penetration time, and contact angle methods. Soil organic matter, soluble salts, pH, P, K, Ca, Mg, Zn, Mn, B, and NO₃, were also determined. In addition, soil from each area was viewed with a scanning electron microscope. Dry spots occurred at all locations surveyed and no correlation was observed between management practices and the severity of LDS. No differences in soil chemical properties were found between LDS and HA, but water droplet penetration time and contact angle were greater in LDS compared to HA. This hydrophobic condition was confined to the top 50 mm of soil in the dry spot samples and coincided with the presence of an organic coating on sand grains that was observed by scanning electron microscopy. *Agronomy journal*. May/June 1990. v. 82 (3). p. 549-555. ill. Includes references. (NAL Call No.: DNAL 4 AM34P).

1849

Plant morphological and soil physical characterizations of turfgrass root zones augmented with randomly oriented interlocking mesh matrices.

Beard, J.B. Sifers, S.I.; Walker, J.R. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. June 1989. (4670). p. 32-33. Includes references. (NAL Call No.: DNAL 100 T31P).

1850

The problem: compaction.

Carrow, R.N. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1987. v. 22 (6). p. 6, 8. (NAL Call No.: DNAL SB476.G7).

1851

Short-term growth responses of tall fescue to changes in soil water potential and to defoliation (*Festuca arundinacea*, drought, relative humidity).

Wolf, D.D. Parrish, D.J. Madison, Crop Science Society of America. *Crop science*. Sept/Oct 1982. v. 22 (5). p. 996-999. ill. 18 ref. (NAL Call No.: 64.8 C883).

1852

Soil/water relationships in turfgrass.

Carrow, R.N. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. p. 85-102. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

1853

Those summertime blues: localized dry spots.

Danneberger, K. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. May 1987. v. 22 (5). p. 30, 32. ill. (NAL Call No.: DNAL SB476.G7).

1854

The vertical migration of white grubs after peak adult flight in west Texas.

SENTD. Bueno, R. Stone, J.D. Jr.; Hinojos, J. College Station, Tex. : Southwestern Entomological Society. *The Southwestern entomologist*. Mar 1988. v. 13 (1). p. 1-9. Includes references. (NAL Call No.: DNAL QL461.S65).

SOIL FERTILITY - FERTILIZERS

1855

The agronomics of renovation.

Chalmers, D.R. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 95-99. (NAL Call No.: DNAL SB433.34.V8V47).

1856

Amino acid composition of ryegrass in relation to nitrogen fertilization and soil water status (*Lolium perenne*).

Jensen, H.E.JPNUD. New York : Marcel Dekker. Journal of plant nutrition. 1982. v. 5 (9). p. 1109-1120. Includes references. (NAL Call No.: QK867.J67).

1857

Arboricultural practices to improve turf quality.

Fraedrich, B.A. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 61-62. (NAL Call No.: DNAL SB433.34.V8P7 1983).

1858

Burn characteristics of liquid fertilizer sources.

Rathjens, R.G. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 32-37. Includes references. (NAL Call No.: DNAL SB433.34.V8V47).

1859

Centipedegrass.

Ward, C.Y. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (73). 4 p. (NAL Call No.: DNAL S544.3.A2C47).

1860

Complications in nitrogen fertilization of turfgrass / by John R. Street. -.

Street, John R. (Ohio Reprinted by Ohio Extension Service, Ohio State University 1982). Caption title ~Reprint from American Lawn Applicator, May/June 1982 ~Pesticide Applicator Training collection. p. 10-15 : ill. ; 28 cm. Bibliography: p. 15. (NAL Call No.: SB608.G8S7).

1861

Contract maintenance of athletic fields.

Barksdale, R.B. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 51-55. (NAL Call No.: DNAL SB433.34.V8V47).

1862

Controlling thatch in bermudagrass.

Carrow, R.N. Johnson, B.J. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Mar 1987. v. 22 (3). p. 83, 140, 141. (NAL Call No.: DNAL SB476.G7).

1863

Deicing salt damage.

Gibson, H. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Sept 1988. v. 23 (9). p. 20, 22. (NAL Call No.: DNAL SB476.G7).

1864

Denitrification losses from Kentucky bluegrass sod.

AGJOAT. Mancino, C.F. Torello, W.A.; Wehner, D.J. Madison, Wis. : American Society of Agronomy. Denitrification may represent an important mechanism in the fate of N applied to turf. Denitrification losses were directly measured from fertilized 'Baron' Kentucky bluegrass (*Poa pratensis* L.) sod samples sealed in acrylic chambers using the acetylene inhibition technique. Losses were correlated with soil texture, percent soil saturation (SAT), and temperature. Losses from turf on a Hadley silt loam soil and Hadley silt soil (both coarse-silty, mixed, nonacid, mesic Typic Udifluvents) incubated at 22 degrees C did not exceed 0.4 and 0.1%, respectively, of the applied potassium nitrate fertilizer (4.5 g N m⁻²) when soil water levels were less than 75% saturated. Soil saturation increased denitrification losses from the silt loam and silt soils to 2.2 and 5.4% of the applied N, respectively. The relationship between percent soil saturation and denitrification loss was quadratic and highly significant for both soils. The equations are: milligrams of N₂O m⁻² 10 d⁻¹ = 1432.50 - 38.96 (percent SAT silt soil) + 0.26 (percent silt soil)² or 130.80 - 5.40 (percent SAT silt loam soil) + 0.05 (SAT silt loam soil)². A linear relationship milligrams of N₂O m⁻² 10 d⁻¹ = 0.49(degrees C) - 9.70 existed between denitrification losses and soil temperatures between 22 and 30 degrees C in the silt soil at 75% of soil saturation. Soil temperatures of 30 degrees C or greater coupled with saturated soil conditions resulted in the greatest losses, equivalent to 44.6 and 92.6% of the applied N to the silt loam and silt soils, respectively. Denitrification losses did not increase at soil temperatures above 30 degrees C. These results indicate that

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denitrification loss from fertilizers applied to turfgrasses may not be a serious problem unless the soils are saturated and at higher soil temperatures. *Agronomy journal*. Jan/Feb 1988. v. 80 (1). p. 148-153. Includes references. (NAL Call No.: DNAL 4 AM34P).

1865

Early spring and late autumn response to applied nitrogen in four grasses. 1. Yield, number of tillers and chemical composition.
Wilman, D. Cambridge, Cambridge University Press. *The journal of agricultural science*. Apr 1980. v. 94 (pt.2). p. 425-442. ill. Bibliography p. 441-442. (NAL Call No.: 10 J822).

1866

Effect of acidity and N source on the growth and thatch accumulation of Tifgreen bermudagrass and on soil nutrient retention.
AGJDAT. Sartain, J.B. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. Jan/Feb 1985. v. 77 (1). p. 33-36. Includes references. (NAL Call No.: DNAL 4 AM34P).

1867

Effect of fertilizer on growth and composition of carpet and other grasses /by R.E. Blaser and W.E. Stokes.
Blaser, Roy Emil, 1912-. Stokes, W. E. 1895-. Gainesville, Fla. : University of Florida Agricultural Experiment Station, 1943. Cover title. 31 p. : ill. ; 23 cm. Bibliography: p. 31. (NAL Call No.: DNAL 100 F66S (1) no.390).

1868

Effect of foliar fertilization on the seed production of Baron and Merit Kentucky bluegrass at Madras, Oregon, in 1982 and 1983.
DASPA. Nelson, J.L. Corvallis, Or. : The Station. Special report - Oregon State University, Agricultural Experiment Station. July 1984. (717). p. 18-23. (NAL Call No.: DNAL 100 OR3M).

1869

Effect of liming on subsequent applications of isofenphos for control of Japanese beetle (Coleoptera: Scarabaeidae) grubs in turf.
JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. *Journal of economic entomology*. Aug 1985. v. 78 (4). p. 898-901. Includes references. (NAL Call No.: DNAL 421 J822).

1870

Effect of soil pH, fertility, and herbicides on weed control and quality of bermudagrass (Cynodon dactylon) turf.
WEESA6. Johnson, B.J. Burns, R.E. Champaign, Ill. : Weed Science Society of America. *Weed science*. May 1985. v. 33 (3). p. 366-370. Includes 6 references. (NAL Call No.: DNAL 79.8 W41).

1871

Effect of traffic control and wear on bermudagrass.
Henry, M.L. Blacksburg, Va. : Virginia Cooperative Extension Service. *Proceedings - Virginia Turfgrass Conference and Trade Show*. May 1982. (21st). p. 77-78. (NAL Call No.: DNAL SB433.34.V8V47).

1872

The effects of mowing height and nitrogen fertility levels on the thatch accumulation and growth of two bermudagrasses.
Kim, K.S. Beard, J.B. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4340). p. 96-98. (NAL Call No.: DNAL 100 T31P).

1873

Effects of N and growing season on root-rhizome characteristics of turf-type bermudagrasses.
AGJDAT. Horst, G.L. Baltensperger, A.A.; Finkner, M.D. Madison, Wis. : American Society of Agronomy. *Agronomy journal*. Mar/Apr 1985. v. 77 (2). p. 237-242. Includes 13 references. (NAL Call No.: DNAL 4 AM34P).

1874

Effects of sulphur on bentgrass turf (Agrostis tenuis).
Goss, R.L. Brauen, S.E.; Gould, C.J.; Drton, S.P. Washington, D.C. : The Sulphur Institute. *Sulphur in agriculture*. 1977. v. 1. p. 7-11. Includes references. (NAL Call No.: S587.5.S9S9).

1875

Effects of various amendments on thatch decomposition.
Breitenbeck, G.A. Wells, D.W.; Constantin, R.J. Baton Rouge : The Department. *Report of projects - Louisiana Agricultural Experiment Station, Department of Agronomy*. 1986? . p. 165-166. (NAL Call No.: DNAL 100 L936).

1876

Eight years of herbicide and nitrogen fertilizer treatments on Kentucky bluegrass (*Poa pratensis*) turf (*Digitaria*, *Taraxacum officinale*, quality, residues).

Murray, J.J.WEESA. Klingman, D.L.; Nash, R.G.; Woolson, E.A. Champaign : Weed Science Society of America. Weed science. Nov 1983. v. 31 (6). p. 825-831. Includes references. (NAL Call No.: 79.8 W41).

1877

Evaluation of liquid-applied nitrogen fertilizers on Kentucky bluegrass turf.

AGJQAT. Spangenberg, B.G. Fermanian, T.W.; Wehner, D.J. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1986. v. 78 (6). p. 1002-1006. Includes references. (NAL Call No.: DNAL 4 AM34P).

1878

The fate of nitrogenous fertilizers applied to turfgrass.

JEVQAA. Petrovic M. Madison, Wis. : American Society of Agronomy. Maintaining high quality surface and groundwater supplies is a national concern. Nitrate is a widespread contaminant of groundwater. Nitrogenous fertilizer applied to turfgrass could pose a threat to groundwater quality. However, a review of the fate of N applied to turfgrass is lacking, but needed in developing management systems to minimize groundwater contamination. The discussion of the fate of N applied to turfgrass is developed around plant uptake, atmospheric loss, soil storage, leaching, and runoff. The proportion of the fertilizer N that is taken up by the turfgrass plant varied from 5 to 74% of applied N. Uptake was a function of N release rate, N rate and species of grass. Atmospheric loss, by either NH₃ volatilization or denitrification, varied from 0 to 93% of applied N. Volatilization was generally less than 36% of applied N and can be reduced substantially by irrigation after application. Denitrification was only found to be significant (93% of applied N) on fine-textured, saturated, warm soils. The amount of fertilizer N found in the soil plus thatch pool varied as a function of N source, release rate, age of site, and clipping management. With a soluble N source, fertilizer N found in the soil and thatch was 15 to 21% and 21 to 26% of applied N, respectively, with the higher values reflecting clippings being returned. Leaching losses for fertilizer N were highly influenced by fertilizer management practices (N rate, source, and timing), soil texture, and irrigation. Highest leaching losses were reported at 53% of applied N, but generally were far less than 10%. Runoff of N applied to turfgrass has been studied to a limited degree and has been found seldom to occur at concentrations above the federal drinking water standard for NO₃(-1). Where turfgrass fertilization poses a threat to groundwater quality, management strategies can allow the turfgrass manager to minimize or

eliminate NO₃(-1) leaching. Journal of environmental quality. Jan/Mar 1990. v. 19 (1). p. 1-14. Includes references. (NAL Call No.: DNAL QH540.J6).

1879

Fertilizer burn comparisons of concentrated liquid fertilizers applied to Kentucky bluegrass turf.

JOSH.B. Johnson, S.J. Christians, N.E. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Nov 1984. v. 109 (6). p. 890-893. ill. Includes 10 references. (NAL Call No.: DNAL 81 S012).

1880

Frequency of fertilizer applications and centipedegrass performance.

AGJQAT. Johnson, B.J. Carrow, R.N. Madison, Wis. : American Society of Agronomy. Centipedegrass *Eremochloa ophiuroides* (Munro) Hack. is a low-maintenance grass widely used throughout the southeastern United States. Improper fertilization continues to be a major concern and results in centipedegrass decline. With low fertilization, the grass has a pale green color that is often unacceptable to many turfgrass managers. This research was initiated to determine the influence of frequency of annual fertilizer treatments on turfgrass quality. Treatments were arranged in a split plot design with frequency of annual fertilization treatments as main plots and N rates as subplots. Soil type was a Cecil sandy loam (clayey, kaolinitic, thermic Typic Hapludult). The quality of centipedegrass treated with 50 kg N ha⁻¹ in April and repeated at the same rate in July for a total rate of 100 kg ha⁻¹ was equal to or better than that from a single application of 100 kg N ha⁻¹ in April. Centipedegrass quality from split applications (April + July) was also equal to or better than that when a total of 100 kg N ha⁻¹ was split into three or four equal applications over the growing season. The exception occurred in September in 2 of 4 yr when the quality of centipedegrass was better when N was applied in three and four annual applications. Centipedegrass decline measured by quality and stand density occurred in plots treated with 100 kg N ha⁻¹ in April after 3 and 4 yr of consecutive applications. Decline was not evident when N was applied annually at 100 kg ha⁻¹ in split applications. At 0 kg N ha⁻¹ yr⁻¹ centipedegrass failed to provide sufficient growth to maintain an acceptable stand. Also, after two consecutive years without N applications, centipedegrass quality declined, which indicates that some N is necessary every year. Agronomy journal. Nov/Dec 1988. v. 80 (6). p. 925-929. Includes references. (NAL Call No.: DNAL 4 AM34P).

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1881

The future of turfgrass management and underground water quality.

Watschke, T.L. Far Hills, N.J. : United States Golf Association. USGA Green Section record. Sept/Oct 1986. v. 24 (5). p. 6-7. ill. (NAL Call No.: DNAL 60.18 UN33).

1882

Getting to the root of the problem.

Koski, T. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. June 1988. v. 23 (6). p. 10-12, 14. (NAL Call No.: DNAL SB476.G7).

1883

Grass competition for nitrogen around landscape trees.

Neely, Dan. Washington, D.C. : Horticultural Research Institute. Journal of environmental horticulture. Sept 1984. v. 2 (3). p. 86-88. Includes 4 references. (NAL Call No.: DNAL SB1.J66).

1884

A guide to lawn/landscape fertilization.

Rathgens, R. Weeds, trees and turf. Jan 1987. v. 26 (1). p. 56-58. ill. (NAL Call No.: DNAL 79.8 W413).

1885

Herbicide X annual fertility programs influence on creeping bentgrass performance.

AGJOAT. Johnson, B.J. Madison, Wis. : American Society of Agronomy. Creeping bentgrass (*Agrostis palustris* Huds.) is increasing in the use of golf greens in the upper South where heat and drought stress occurs. Research was initiated to determine the effects of annual fertilizer programs on performance of creeping bentgrass treated with spring and fall-applied herbicides. Treatments were arranged in a split-split block with subunits in strips. Fertilizer programs were the main block and the blocks were stripped by spring and fall herbicide treatments. Soil type was an artificial rootzone mix. Creeping bentgrass performed best the first 26 wk of each year when fertilized at the high (490-20-195 kg NPK ha⁻¹ yr⁻¹) fertility level and best the last 26 wk of each year when fertilized at the medium (294-12-124 kg NPK ha⁻¹ yr⁻¹) fertility level. The quality of creeping bentgrass fertilized annually at the low (98-6-52 kg NPK ha⁻¹ yr⁻¹) fertility level was unacceptable. The quality of creeping bentgrass was reduced less at the medium fertility level than at the low fertility level when treated with oxadiazon (3-2,4-dichloro-5-(1-methylethoxy)phenyl-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2-(3H)-one) and bensulide

(O,O-bis(1-methylethyl)-S-2-(phenylsulfonyl)-amino ethyl phosphorodithioate + oxadiazon. Ethofumesate

(+/-)-2-ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methane-sulfonate applied in the fall 1986 maintained the highest quality ratings at the high fertility level until mid-April when the quality was the same whether fertilized at the medium or high level. In most instances in 1987, the quality of creeping bentgrass treated with ethofumesate at the medium fertility level was equally as good as when treated with the same herbicide but at the high fertility level. When fertilizer by herbicide interaction occurred, creeping bentgrass maintained a higher quality at the medium to high fertility level than at the low fertility level. *Agronomy journal*. Jan/Feb 1990. v. 82 (1). p. 27-33. Includes references. (NAL Call No.: DNAL 4 AM34P).

1886

Home lawns.

WUEXA. Goss, R.L. Morrison, K.J.; Chastagner, G.; Brauen, S.E.; Byther, R.S.; Antonelli, A.L. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Aug 1984. (O482, slightly rev.). 14 p. ill. (NAL Call No.: DNAL 275.29 W27P).

1887

Influence of fertilizer rate, mower type, and thatch control on colonial bentgrass lawn turf (*Agrostis tenuis*).

Skogley, C.R. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 337-342. Bibliography p. 342. (NAL Call No.: SB433.I57 1977).

1888

Influence of nitrogen on the response of Tifway' bermudagrass (*Cynodon dactylon*) to flurprimidol.

WETEE9. Johnson, B.J. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Jan 1988. v. 2 (1). p. 53-58. Includes references. (NAL Call No.: DNAL SB610.W39).

1889

Influence of high salt levels on the germination and growth of five potentially utilizable plants for median turfing in northern climates.

St.-Arnaud, M. Vincent, G. Washington, D.C. : Horticultural Research Institute. Journal of environmental horticulture. Dec 1988. v. 6 (4). p. 118-121. Includes references. (NAL Call No.: DNAL SB1.J66).

(SOIL FERTILITY - FERTILIZERS)

1890

Iron fertilization of Kentucky bluegrass.
CSOSA2. Wehner, D.J. Haley, J.E. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. 1990. v. 21 (7/8). p. 629-637. Includes references. (NAL Call No.: DNAL S590.C63).

1891

Irrigating turfgrass under adverse water quality conditions.
Ross, B.B. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1987. (27th). p. 33-36. (NAL Call No.: DNAL SB433.34.V8V47).

1892

Irrigation and potassium effects on a Kentucky bluegrass fairway turf /by Kimberly S. Erusha.
Erusha, Kimberly S. 1990. Thesis (Ph.D.)--University of Nebraska--Lincoln, 1990. x, 114 leaves : ill. ; 28 cm. Includes bibliographical references. (NAL Call No.: NBU LD3656.5 1990 E787).

1893

Judd Ringer's natural lawn and garden care.
Ringer Research (Firm). Eden Prairie, Minn. : Ringer Research,. Description based on: Spring 1984; title from cover. v. : col. ill. ; 28 cm. (NAL Call No.: DNAL SB115.Z9R55 R).

1894

Lawn maintenance in Alabama.
Sheffer, K.M. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (239). 4 p. ill. (NAL Call No.: DNAL S544.3.A2C47).

1895

Lime responses of Kentucky bluegrass (*Poa pratensis*) and tall fescue (*Festuca arundinacea*) cultivars on an acid, aluminum-toxic soil.
Murray, J.J. Foy, C.D. Madison, Wis., American Society of Agronomy, c1980. Proceedings of the third International Turfgrass Research Conference / James B. Beard, editor. Munich). p. 175-183. ill. Bibliography p. 182-183. (NAL Call No.: SB433.I57 1977).

1896

Nitrogen- and water-use efficiency of several cool-season grasses receiving ammonium nitrate for 9 years.
AGJOAT. Power, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. Mar/Apr 1985. v. 77 (2). p. 189-192. Includes 11 references. (NAL Call No.: DNAL 4 AM34P).

1897

Nitrogen cycling in seven cool-season perennial grass species.
AGJOAT. Power, J.F. Madison, Wis. : American Society of Agronomy. Agronomy journal. July/Aug 1986. v. 78 (4). p. 681-687. Includes references. (NAL Call No.: DNAL 4 AM34P).

1898

Nitrogen source effect on nitrate and ammonium leaching and runoff losses from green (Turfgrasses, water pollution control fertilizers).
Brown, K.W. AGJOA. Thomas, J.C.; Duple, R.L. Madison : American Society of Agronomy. Agronomy journal. Nov/Dec 1982. v. 74 (6). p. 947-950. ill. 15 ref. (NAL Call No.: 4 AM34P).

1899

Potassium--a miracle element?.
Shearman, R.C. New York : United States Golf Association. USGA Green Section record. July/Aug 1985. v. 23 (4). p. 5-6. ill. (NAL Call No.: DNAL 60.18 UN33).

1900

Potassium fertilizer influences on Coastal bermudagrass yield and nutrient uptake and on available soil potassium levels.
CSOSA2. Robinson, D.L. Miller, M.S.; Cherney, D.J.R. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. June 1990. v. 21 (9/10). p. 753-769. Includes references. (NAL Call No.: DNAL S590.C63).

1901

Response of four tall fescue cultivars grown at two nitrogen levels to low soil water availability.
Belesky, D.P. Wilkinson, S.R.; Pallas, J.E. Jr. Madison, Wis., Crop Science Society of America. Crop science. Jan/Feb 1982. v. 22 (1). p. 93-97. Includes 2 p. ref. (NAL Call No.: 64.8 C883).

(SOIL FERTILITY - FERTILIZERS)

1902

Response of Kentucky bluegrass turf to fertilizers containing dicyandiamide.
CSOSA2. Waddington, D.V. Landschoot, P.J.; Hummel, N.W. Jr. New York, N.Y. : Marcel Dekker. Communications in soil science and plant analysis. Paper presented at the "Second Dicyandiamide Workshop," December 4-5, 1987, Atlanta, Georgia. Dec 1989. v. 20 (19/20). p. 2149-2170. Includes references. (NAL Call No.: DNAL S590.C63).

1903

Root-rhizome growth response of turf-type bermudagrasses to nitrogen and growing season.
Horst, G.L. Baltensperger, A.A. College Station, Tex. : The Station. PR - Texas Agricultural Experiment Station. Aug 1985. (4318). p. 21-26. Includes references. (NAL Call No.: DNAL 100 T31P).

1904

Salinity effects on three turf bermudagrasses.
HJHSA. Francois, L.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1988. v. 23 (4). p. 706-708. Includes references. (NAL Call No.: DNAL SB1.H6).

1905

Survey of Virginia homeowner preferences in lawn care.
Robinson, W.H. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Nov 1985. (24th). p. 39-42. (NAL Call No.: DNAL SB433.34.V8V47).

1906

Tall fescue growth in greenhouse, growth chamber, and field plots amended with sewage sludge compost and fertilizer.
SOSCAK. Tester, C.F. Baltimore, Md. : Williams & Wilkins. Soil science. Dec 1989. v. 148 (6). p. 452-458. Includes references. (NAL Call No.: DNAL 56.8 S03).

1907

Tall fescue lawns.
Sheffer, K. Auburn, Ala. : The Service. Circular ANR - Alabama Cooperative Extension Service, Auburn University. In subseries: Horticulture. June 1988. (231). 3 p. (NAL Call No.: DNAL S544.3.A2C47).

1908

Ten steps to a healthy lawn.
Johnson, P.H. Emmaus, Pa. : Rodale Press. Rodale's organic gardening. May 1987. v. 34 (5). p. 46-49. ill. (NAL Call No.: DNAL S605.5.R64).

1909

Turfgrass culture and water use.
Shearman, R.C. Oakland, CA : Cooperative Extension, Univ of Calif, Div of Agric and Natural Resources, c1985. Turfgrass, water conservation / technical editors, Victor A. Gibeault and Stephen T. Cockerham. Literature review. p. 61-70. ill. Includes references. (NAL Call No.: DNAL SB133.T8).

1910

When the answer is renovation.
Copley, K. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Aug 1987. v. 22 (8). p. 6-7, 99. ill. (NAL Call No.: DNAL SB476.G7).

SOIL CULTIVATION

1911

Effects of turf cultivation practices on the efficacy of preemergence grass herbicides.

AGJDAT. Branham, B.E. Rieke, P.E. Madison, Wis. : American Society of Agronomy. Agronomy journal. Nov/Dec 1986. v. 78 (6). p. 1089-1091. Includes references. (NAL Call No.: DNAL 4 AM34P).

1912

Experiments on the effects of tillage on soil moisture ; Meteorological observations ; Grass and forage garden / by W.O. Atwater .

Atwater, W. D. 1844-1907. Mansfield, Conn. : Storrs School, Agricultural Experiment Station, 1888. Caption titles. 11 p. ; 23 cm. (NAL Call No.: DNAL 100 C76S no.2).

1913

Isolated plot technique for studying growth of turfgrasses.

AGJDAT. Brede, A.D. Madison, Wis. : American Society of Agronomy. Agronomy journal. Jan/Feb 1987. v. 79 (1). p. 5-8. Includes references. (NAL Call No.: DNAL 4 AM34P).

1914

Osmotically induced water stress on fertilizer burn of 'Glade' Kentucky bluegrass.

HJHSA. Johnson, S.J. Christians, N.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1985. v. 20 (4). p. 772-773. Includes 11 references. (NAL Call No.: DNAL SB1.H6).

1915

Perennial turfgrasses as living mulches in Oregon's horticultural crops.

WSWPA. William, R.D. Reno, Nev. : The Society. Proceedings - Western Society of Weed Science. Meeting held on March 13-16, 1989, Honolulu, Hawaii. 1989. v. 42. p. 253-260. Includes references. (NAL Call No.: DNAL 79.9 W52).

1916

Seasonal establishment of bermudagrass using plastic and straw mulches.

AGJDAT. Sowers, R.S. Welterlen, M.S. Madison, Wis. : American Society of Agronomy. Bermudagrass *Cynodon dactylon* (L.) Pers. is normally established vegetatively during the early summer in the transition zone, to allow sufficient establishment time before the onset of freezing conditions in the fall. Clear polyethylene covers and straw mulches cause changes in the turfgrass microenvironment that may influence the rate of sprig establishment. The objective of this study was to evaluate the

effects of barley (*Hordeum vulgare* L.) straw and clear polyethylene plastic mulch (0.04-mm thickness) on the establishment of 'Midiron', 'Tufcote', and 'Vamont' bermudagrass from sprigs. Separate tests were conducted in the fall of 1983 and 1984 and the summer of 1984 and 1985. Summer spriggings were made in May, June, and July, months generally recommended for planting in the transition zone. Late-season spriggings were made in August, September, and October. Plantings were made on a Sassafrass sandy loam (fine-loamy, siliceous, mesic Typic Hapludult). Summer bermudagrass establishment was reduced under straw and polyethylene covers. Injury under plastic occurred to plantings made in May and June, which were exposed to mean soil temperatures above 41 degrees C during the 8-wk cover period. In contrast, plastic mulch stimulated early fall bermudagrass growth and delayed dormancy. August and September plantings remaining under plastic throughout the winter exhibited high winter survival in comparison to unmulched or straw mulched turf, and were nearly 100% established by 1 July of the following year. Spriggings under plastic planted after 20 September exhibited poor establishment by 1 July the following year. These studies showed that plastic covers can be used to extend the establishment season of bermudagrass into the fall; however, plastic covers are detrimental to summer bermudagrass establishment. Agronomy journal. Jan/Feb 1988. v. 80 (1). p. 144-148. Includes references. (NAL Call No.: DNAL 4 AM34P).

1917

Use of mulches in erosion control.

Carpenter, D.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 132-133. (NAL Call No.: DNAL SB433.34.V8V47).

SOIL EROSION AND RECLAMATION

1918

Evaluation of vegetative filter strips using continuous simulation modeling techniques.
SWSPBE. Williams, R.D. Nicks, A.D. Raleigh, N.C. : The Society . Proceedings - Southern Weed Science Society. Paper presented at the "Meeting on Environmental Legislation and its Effects on Weed Science," Jan 18/20, 1988, Tulsa, Oklahoma.~ Includes abstract. 1988. v. 41. p. 350. (NAL Call No.: DNAL 79.9 S08 (P)).

1919

Use of mulches in erosion control.
Carpenter, D.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 132-133. (NAL Call No.: DNAL SB433.34.V8V47).

1920

Yield, quality and K/(Ca+Mg) (potassium (calcium plus magnesium)) ratio of tall fescue breeding lines on amended and nonamended minesoil (*Festuca arundinacea*, Missouri).
Hanson, R.G.CSOSA. Tucker, M.; Coble, A.D.; Sleper, D.A. New York : Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (12). p. 1081-1094. 24 ref. (NAL Call No.: S590.C63).

FORESTRY RELATED

1921

Allelopathic effects of Kentucky bluegrass on northern red oak and yellow-poplar.
JOARD, Kolb, T.E. Urbana, Ill. : International Society of Arboriculture. Journal of arboriculture. Nov 1988. v. 14 (11). p. 281-283. Includes references. (NAL Call No.: DNAL SB436.J6).

1922

Arboricultural practices to improve turf quality.
Fraedrich, B.A. Blacksburg? : Virginia Polytechnic Institute and State University, Virginia Extension, 1984. Proceedings, 23rd Virginia Turfgrass Conference and Trade Show, January 18, 19, 20, 1983, Omni International Hotel, Norfolk, Virginia. p. 61-62. (NAL Call No.: DNAL SB433.34.V8P7 1983).

1923

Chemical control of ornamental, tree and turf diseases in Wyoming.
Roth, D.WAEB. Laramie : The Station. Bulletin - B - Wyoming, Agricultural Experiment Station. Apr 1981. Apr 1981. (B-698-2R). 29 p. (NAL Call No.: 100 W99 (1)).

1924

Geese, grass, and trees (For weed control in an intensively cultured hybrid Populus plantation).
Hansen, E.A. Netzer, D.A. Washington, D.C. : The Service. Tree planters' notes - United States, Forest Service. Winter 1984. v. 35 (1). p. 10-11. Includes references. (NAL Call No.: 1.962 C5T71).

1925

Insect pests of forest trees and diseases of turfgrass. -
Helena Montana Dept. of Agriculture 1981. Cover title ~Pesticide Applicator Training collection ~"January, 1981.". ii, 55 p. : ill. ; 28 cm. (NAL Call No.: SB763.M9I57).

1926

Managing to reduce injury to plants from deicing salts.
Blaser, R.E. Blacksburg, Va. : Virginia Cooperative Extension Service. Proceedings - Virginia Turfgrass Conference and Trade Show. Dec 1986. (25th/26th). p. 162-163. (NAL Call No.: DNAL SB433.34.V8V47).

1927

Recertification manual for commercial pesticide applicators : forest, turf, ornamental and turf, and right-of-way pest control. -
E. Lansing Michigan State University, Cooperative Extension Service 1980. Cover title ~Pesticide Applicator Training collection ~"Feb. 1980.". 12 p. ; 28 cm. --. (NAL Call No.: 275.29 M58B no.1385 (2,3,6)).

1928

Tolerance of five perennial cool-season grasses to fluazifop.
WETEE9. Warren, S.L. Skroch, W.A.; Monaco, T.J.; Shribbs, J.M. Champaign, Ill. : The Society. Weed technology : a journal of the Weed Science Society of America. Apr/June 1989. v. 3 (2). p. 385-388. Includes references. (NAL Call No.: DNAL SB610.W39).

1929

Tree roots: where are they?.
McDaniel, A.R. Overland Park, Kan. : Intertec Publishing Corporation. Grounds maintenance. Feb 1988. v. 23 (2). p. 86, 88. ill. (NAL Call No.: DNAL SB476.G7).

ENTOMOLOGY RELATED

1930

Advances in turfgrass entomology : a collection of papers presented at the Symposium on Turfgrass Insects, October 14-15, 1980, Columbus, Ohio / editors, H.D. Niemczyk, B.G. Joyner. -.

Niemczyk, H. D.; Joyner, B. G. Columbus, Ohio Chemlawn 1982. x, 150 p. : ill. ; 29 cm. Includes bibliographies. (NAL Call No.: SB608.G8S92 1980).

1931

Biology of the fiery skipper, *Hylephila phyleus* (Lepidoptera: Hesperidae), a turfgrass pest in Hawaii.

PHESA. Tashiro, H. Mitchell, W.C. Honolulu : The Society. Proceedings of the Hawaiian Entomological Society. Mar 1, 1985. v. 25. p. 131-138. ill. Includes references. (NAL Call No.: DNAL 420 H312).

1932

Biology of the Japanese beetle (Coleoptera: Scarabaeidae) in eastern Massachusetts.

JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1986. v. 79 (2). p. 387-391. Includes references. (NAL Call No.: DNAL 421 J822).

1933

Destructive turf insects / by Harry D. Niemczyk. -.

Niemczyk, Harry D. (Wooster, Ohio : H.D. Niemczyk) c1981 (Fostoria, Ohio Gray Printing Co.). 48 p. : ill. (some col.) ; 28 cm. Bibliography: p. 47-48. (NAL Call No.: SB608.T87N52).

1934

Effect of isofenphos on nontarget invertebrates in turfgrass.

EVETEX. Vavrek, R.C. Niemczyk, H.D. Lanham, Md. : Entomological Society of America. Environmental entomology. Oct 1990. v. 19 (5). p. 1572-1577. Includes references. (NAL Call No.: DNAL QL461.E532).

1935

Effect of nitrogen fertilization on choice among grasses by the grasshopper *Phoetaliotes nebrascensis* (Orthoptera: Acrididae).

AESAAI. Joern, A. Alward, R. College Park, Md. : The Society. Annals of the Entomological Society of America. Mar 1988. v. 81 (2). p. 240-244. Includes references. (NAL Call No.: DNAL 420 EN82).

1936

North Dakota insect control guide : for use in 1982 only / North Dakota Cooperative Extension Service. -.

Fargo, N.D. The Service (1982). Pesticide Applicator Training collection ~One volume specializes in ornamental and turf pest control and the other volume on greenhouse pest control ~Cover title: North Dakota State University ~Includes leaflets and pamphlets ~Includes bibliographical references. 2 v. : ill. ; 30 cm. (NAL Call No.: SB950.2.N9N675).

1937

Turf insects.

Schuder, D.L. West Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. In subseries: Ornamental Insects. Oct 1986. (61,rev.). 2 p. ill. (NAL Call No.: DNAL SB844.I6P8).

1938

Turf pest calendar / prepared by Dr. Dave Langston. -.

Langston, Dave. (Tucson University of Arizona, Cooperative Extension Service 1980?). Caption title ~Pesticide Applicator Training collection. 1 leaf : ill. ; 28 cm. (NAL Call No.: SB608.G8L36).

1939

Turfgrass and dichondra pests. -.

Dennis, Robert E. (Tucson Cooperative Extension Service, University of Arizona 1980?). Caption title ~Pesticide Applicator Training collection. 4 p. ; 22 x 28 cm. (NAL Call No.: SB608.G8T8).

1940

Use of radiography in behavioral studies of turfgrass-infesting scarab grub species (Coleoptera: Scarabaeidae).

Villani, M.G. Wright, R.J. Lanham, Md. : The Society. Bulletin of the Entomological Society of America. Fall 1988. v. 34 (3). p. 132-144. ill. Includes references. (NAL Call No.: DNAL 423.9 EN8).

ANIMAL ECOLOGY

1941

Effect of nitrogen fertilization on choice among grasses by the grasshopper *Phoetaliotes nebrascensis* (Orthoptera: Acrididae).
AESAAI. Joern, A. Alward, R. College Park, Md. : The Society. Annals of the Entomological Society of America. Mar 1988. v. 81 (2). p. 240-244. Includes references. (NAL Call No.: DNAL 420 EN82).

1942

Ground squirrels: their ecology and control (Pests of turf and crops in Wisconsin).
Craven, S.R. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. 1983. 1983. (3238). 4 p. ill. Includes references. (NAL Call No.: S544.3.W6W53).

ANIMAL NUTRITION

1943

Supplemental boron effects on yield and quality of seven bermudagrasses.

AGUOAT. Monson, W.G. Gaines, T.P. Madison, Wis. : American Society of Agronomy. Agronomy journal. May/June 1986. v. 78 (3). p. 522-523. Includes 8 references. (NAL Call No.: DNAL 4 AM34P).

ANIMAL PHYSIOLOGY AND BIOCHEMISTRY

1944

Biology of the fiery skipper, *Hylephila phyleus* (Lepidoptera: Hesperiiidae), a turfgrass pest in Hawaii.

PHESA. Tashiro, H. Mitchell, W.C. Honolulu : The Society. Proceedings of the Hawaiian Entomological Society. Mar 1, 1985. v. 25. p. 131-138. ill. Includes references. (NAL Call No.: DNAL 420 H312).

1945

Biology of the Japanese beetle (Coleoptera: Scarabaeidae) in eastern Massachusetts.

JEENAI. Vittum, P.J. College Park, Md. : Entomological Society of America. Journal of economic entomology. Apr 1986. v. 79 (2). p. 387-391. Includes references. (NAL Call No.: DNAL 421 J822).

VETERINARY PHARMACOLOGY, TOXICOLOGY AND IMMUNE THERAPEUTIC AGENTS

1946

Control of the fungal endophyte *Acremonium coenophialum* in seed and established plants of tall fescue.

Backman, P.A. Williams, M.J.; Pedersen, J.F.
Corvallis, Or. : Oregon State University
Extension Service, 1983 . Proceedings, Forage
& Turfgrass Endophyte Workshop : May 3-4, 1983,
Nendel's Inn, Corvallis, Oregon. p. 77-82. (NAL
Call No.: DNAL SB193.F67 1983).

1947

Occurrence of *Acremonium coenophialum* in tall fescue in Tennessee.

PLDRA. Long, E.A. Hilty, J.W. St. Paul, Minn. :
American Phytopathological Society. Plant
disease. June 1985. v. 69 (6). p. 467-468.
maps. Includes 17 references. (NAL Call No.:
DNAL 1.9 P69P).

PESTS OF ANIMALS - GENERAL AND MISC.

1948

**Pesticide applicator training public health
pest control .**

West Lafayette, Ind. : Purdue University,
1988? . Abstract: Intended for commercial
pesticide applicator training, this manual
provides information on the major public health
pests and nonchemical and chemical methods to
control them. It studies the life cycles and
habitats of these pest insects, mites, ticks,
and spiders, and vertebrates and how they
transmit diseases. Equipment calibration, and
environmental concerns, specially controlling
pesticide drift and minimizing harmful effects
of pest control on the environment are covered.
Cover title.~ Category 8. 1 v. (various
pagings) : ill. (some col.) ; 30 cm. (NAL Call
No.: DNAL SB951.P463).

PEST OF ANIMALS – INSECTS

1949

Ants.

Bennett, G.W. Gibb, T.J. West Lafayette : The Service. Publication E - Purdue University, Cooperative Extension Service. In subseries: Department of Entomology--Household & Public Health Insects. Oct 1987. (22,rev.). 2 p. (NAL Call No.: DNAL SB844.16P8).

1950

Mealybugs and scales in greenhouses and interior plantscapes /Marilyn Steiner.

Steiner, Marilyn Y. Columbus : Ohio Florists' Association, 1987. Abstract: This article discusses the biology, identification and common species of mealybugs and scale, host symptoms, and nonchemical and chemical control options. It identifies pesticides registered for use in U.S. interior plantscapes and greenhouses to control softscale and mealbugs. Cover title.~ "August 1987.". 6 p. : ill. ; 28 cm. (NAL Call No.: DNAL 81 OH36 no.694).

1951

1988 insect pest management guide home, yard, and garden /prepared by Roscoe Randell, Philip Nixon, and Fredric Miller, Jr.

Randell, Roscoe. Nixon, Philip.; Miller, Fredric. Urbana, Ill. : University of Illinois at Urbana-Champaign, College of Agriculture, Cooperative Extension Service, in cooperation with Illinois Natural History Survey, 1987 . Abstract: This homeowners' guide contains tables of recommended insecticides, their dosage and application suggestions for controlling home, yard and garden pests including pests of food, fabrics, structures, humans and animals, lawns, shrubs, trees, flowers and vegetables. It explains integrated pest management (IPM) and insecticide classifications. A small quantities conversion table, sources of insect information and a list of safety precautions are provided. (Revised annually). Caption title.~ "Revised annually."~ "October 1987.". 11 p. ; 28 cm. (NAL Call No.: DNAL 275.29 I162C no.900 1987).

FARM EQUIPMENT

1952

Calibration of lawn and garden pesticide and fertilizer applicators for homeowners.

Smith, L.J. Carpenter, G.; Homan, H.W. Moscow, Idaho : The Service. Current information series - Cooperative Extension Service, University of Idaho. Jan 1987. (792). 2 p. (NAL Call No.: DNAL 275.29 ID13IDC).

1953

Fertilizer burn comparisons of concentrated liquid fertilizers applied to Kentucky bluegrass turf.

JOSH.B. Johnson, S.J. Christians, N.E. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. Nov 1984. v. 109 (6). p. 890-893. ill. Includes 10 references. (NAL Call No.: DNAL 81 S012).

1954

Judd Ringer's natural lawn and garden care.

Ringer Research (Firm). Eden Prairie, Minn. : Ringer Research. Description based on: Spring 1984; title from cover. v. : col. ill. ; 28 cm. (NAL Call No.: DNAL SB115.Z9R55 R).

1955

Many heads make light work.

Wilson, K. Emmaus, Pa. : Rodale Press. Rodale's organic gardening. Nov 1986. v. 33 (11). p. 44-49. ill. (NAL Call No.: DNAL S605.5.R64).

NATURAL RESOURCES

1956

**Avian response to a turf application of triumph
4E.**

ETOCCK. Brewer, L.W. Driver, C.J.; Kendall, R.J.; Lacher, T.E. Jr.; Galindo, J.C.; Dickson, G.W. Elmsford, N.Y. : Pergamon Press. Environmental toxicology and chemistry. 1988. v. 7 (5). p. 391-401. maps. Includes references. (NAL Call No.: DNAL QH545.A1E58).

1957

Roadside vegetation management (Turf, wildflowers, shrubs, trees, weed control, United States).

Wakefield, R.C. Sawyer, C.D. Kingston : The Station. Bulletin - Rhode Island, Agricultural Experiment Station. Aug 1982. Aug 1982. (432). 28 p. ill. Includes references. (NAL Call No.: 100 R34S (2)).

1958

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1824,1859,1886,1923,1930,1972,1995

Insects

26,42,58,67,80,83,144,158,164,170,175,181,221,255,257,282,
311,326,336,354,362,396,560,660,665,666,668,669,670,674,676,
677,680,681,692,708,718,721,733-900,926,931,933,934,941,942,
943,957,964,1025,1069,1322,1437,1480,1600,1691,1697,1698,
1699,1702,1714,1730,1733,1734,1735,1748,1773,1796,1805,1822,
1836,1837,1838,1840,1854,1859,1869,1886,1893,1905,1925,1930-
1941,1944,1945,1949,1950,1951,1972,1976,1983

Weeds

12,22,26,30,33,35,37,38,39,46,47,55,56,57,58,61,67,76,77,85,
90,112,120,141,145,158,163,164,169,171,172,175,177,219,222,
234,243,258,276,279,282,285,286,295-300,307,308,309,311,320,
374,382,412,459,460,535,557,617,642,644,645,661,666,668,669,
674,694,699,708,710,714,730,731,743,765,899,931,933,957,1166,
1167,1185,1218,1227,1245,1246,1264-1661,1667,1682,1683,1738,
1742,1745,1789,1790,1804,1828,1832,1855,1860,1870,1883,1908,
1911,1928,1955,1957,1972,1980,1982,1983,1994,1999

Cultivation and Tillage

4, 12, 47, 76, 96, 98, 121, 124, 126, 140, 142, 143, 144, 146, 151, 166, 168, 170, 171, 201, 234, 241, 243, 244, 245, 256, 257, 258, 261, 270, 271, 272, 275, 277, 283, 285, 289, 292, 299, 304, 307, 339, 378, 382, 441, 508, 593, 622, 648, 676, 697, 1009, 1010, 1014, 1073, 1147, 1215, 1268, 1282, 1371, 1403, 1420, 1462, 1484, 1599, 1609, 1631, 1634, 1640, 1643, 1645, 1657, 1674, 1678, 1685, 1845, 1849, 1857, 1862, 1885, 1907, 1908, 1910, 1911-1917, 1921, 1979, 1980, 1985

Production

1, 4, 5, 9, 10, 21, 22, 24-333, 335, 343, 345, 348, 350, 358, 375, 379, 386, 389, 403, 425, 452, 456, 466, 486, 496, 502, 506, 513, 518, 522, 525, 539, 543, 547, 548, 551, 558, 578, 580, 591, 598, 601, 613, 614, 616, 621, 622, 623, 634, 646, 648, 649, 654, 657, 661, 662, 665, 666, 669, 672, 676, 681, 682, 685, 687-692, 696-699, 701, 720, 725, 727, 728, 729, 774, 778, 825, 849, 856, 858, 864, 924, 934, 936, 956, 1140, 1162, 1181, 1206, 1216, 1221, 1222, 1229, 1236, 1242, 1248, 1268, 1369, 1395, 1403, 1413, 1420, 1423, 1451, 1452, 1544, 1640, 1678, 1730, 1736, 1740, 1794, 1843, 1859, 1887, 1910, 1922

Irrigation and Drainage

3, 7, 9, 11, 34, 47, 50, 58, 86, 122, 128, 151, 161, 174, 175, 217, 258, 277, 280, 298, 299, 306, 432, 433, 439, 442, 468, 517, 520, 533, 570, 600, 635, 668, 677, 811, 826, 1212, 1222, 1226, 1268, 1594, 1690, 1773, 1788, 1852, 1855, 1882, 1891, 1892, 1908, 1909, 1910, 1960, 1961, 1962, 1964-1981, 1983, 1989, 1993

Cutting and Mowing

11, 58, 97, 101, 106, 107, 109, 128, 143, 144, 152, 167, 171, 175, 201, 224, 230, 232, 253, 257, 260, 261, 271, 272, 298, 378, 528, 567, 615, 621, 635, 648, 665, 666, 677, 697, 837, 974, 1083, 1157, 1219, 1240, 1242, 1249, 1303, 1310, 1462, 1543, 1594, 1640, 1859, 1872, 1882, 1886, 1887, 1894, 1907, 1970, 1983

Weather and Climate

2-11, 121, 125, 140, 157, 178, 182, 225, 239, 240, 246, 253, 264, 280, 281, 287, 304, 357, 432, 445, 446, 447, 451, 468, 536, 537, 565, 569, 590, 603, 626, 635, 1057, 1067, 1118, 1146, 1209, 1228, 1247, 1389, 1436, 1845, 1912, 1916, 1962, 1997

Storage

32, 315, 316, 377, 503, 1261, 1262, 1263, 1948

Damage, Injury or Stress

51, 62, 70, 71, 86, 87, 89, 103, 117, 118, 122, 137, 146, 148, 149, 155, 170, 180, 184, 186, 187, 217, 223, 227, 229, 230, 231, 233, 238, 241, 248, 253,

Damage, Injury or Stress continued:

259,260,263,264,265,267,280,303-306,319,320,337,347,348,351,
352,353,355,356,357,364-369,371,380,383,386,390,395,427,431,
442,449,450,453,455,462,467,469,472,473,474,475,478,491,493,
498,499,501,502,508,510,511,512,513,517,520,527,545,556,562-
564,573,580,584-590,592,595,596,597,603,604,619,624,629,636,
657,676,736,739,740,752,755,768,770,781,784,827,835,841,846,
856,857,863,867,872,873,876,877,880,887,888,893,894,895,905,
911,916,925,964,974,976,977,1025,1027,1030,1057,1067,1073,
1077,1114,1127,1132,1147-1151,1157,1161,1163,1168,1169,1172,
1173,1174,1176,1180-1183,1187,1188,1189,1191-1200,1208,1211-
1214,1217,1218,1220,1223,1227,1228,1230,1246,1247,1249-1255,
1257,1258,1259,1261,1262,1263,1305,1387,1425,1444,1488,1533,
1560,1583,1669,1699,1700,1709,1710,1713,1784,1791,1829,1843,
1844,1847,1849,1851,1853,1863,1871,1877,1879,1889,1891,1895,
1899,1902,1904,1914,1916,1921,1926,1929,1952,1961,1966,1967,
1969,1971,1974,1981,1993,1998,2000-2005

Pollution

188,270,290,476,664,1153,1697,1698,1717,1744,1881,1898,1959,
1960,1986-1992

Maintenance

17,21,23,25,26,27,28,33,47,52,53,59,60,106,107,131,145,147,
148,149,150,162-172,176,179,180,207,223,235,238,255,256,259,
260,262,263,297,298,302,303,304,305,464,469,481,513,580,610,
652,653,657,665,666,667,674,677,692,837,870,1146,1148,1205,
1216,1221,1222,1462,1546,1640,1730,1743,1850,1882,1894,1905,
1982

Kentucky Bluegrass (*Poa pratensis*)

5,9,14,16,32,38,39,42,46,49,84,88,91,96,100,101,105,107,113,
135,137,147,161,173,183,231,239,240,243,245,251,275,280,281,
288,308,316,317,318,319,322,335,343,344,346,352,357,358,359,
369,370,372,375,377,379,383,388,395,402,405,406,408,410,411,
412,417,418,420,422,431,441,442,462,463,465,472,474-477,479,
480,482,486,490,497,498,500,503,515,523,527,528,535,539,545,
557,558,562,565,577,584,588,591,592,593,604,605,610-614,622,
623,631,742,745,762,799,806,814,831,832,861,864,865,866,871,
874,903,910,915,919,961,963,969,970,971,976,980-990,1000,
1001,1006,1012,1013,1019,1023,1024,1026,1027,1030-1041,1043,
1044,1045,1047,1048,1059,1060,1061,1063,1064,1067,1072,1073,
1075-1078,1082,1083,1091,1093,1096,1100,1102,1107,1108,1112,
1114,1116,1118,1119,1120,1122,1123,1124,1127-1130,1132,1133,
1142,1145,1149,1153,1155,1158,1168,1171,1172,1175,1184,1186,
1188,1192-1196,1198,1211,1213,1214,1219,1220,1224,1225,1231,
1232,1233,1241,1245,1261-1264,1267,1271,1280,1289,1295,1299,
1301,1312,1319,1320,1328,1339,1341,1342,1352,1353,1360,1361,

Kentucky Bluegrass (*Poa pratensis*) continued:

1362, 1363, 1372, 1384, 1387, 1389, 1430, 1442, 1444, 1445, 1466, 1467,
1471, 1476, 1487, 1497, 1501, 1510, 1514, 1517, 1520, 1527, 1547, 1554-
1557, 1563, 1574, 1583, 1587, 1588, 1656, 1658, 1669, 1692, 1696, 1701,
1702, 1707, 1709, 1716, 1722, 1723, 1730, 1787, 1792, 1798, 1804, 1805,
1827, 1839, 1847, 1864, 1868, 1876, 1877, 1879, 1890, 1892, 1895, 1902,
1914, 1921, 1928, 1934, 1960, 1962, 1963, 1966, 1975, 1984

Annual Bluegrass (*Poa annua*)

5, 76, 112, 151, 177, 182, 219, 291, 430, 463, 511, 517, 558, 634, 655, 862,
863, 905, 914, 960, 973, 981-984, 996, 997, 1011, 1020, 1028, 1042, 1049,
1058, 1073, 1084, 1098, 1106, 1112, 1131, 1155, 1156, 1174, 1185, 1187,
1194, 1195, 1213, 1232, 1269-1276, 1304, 1306, 1368, 1369, 1371, 1375,
1377, 1391, 1392, 1398, 1428, 1432, 1444, 1446, 1489, 1490, 1501, 1502,
1510, 1536, 1542, 1543, 1551, 1554, 1610, 1665, 1688, 1710, 1911, 1971

Other bluegrass (Poas)

358, 515, 1100, 1309, 1317, 1318

Bormudagrass (*Cynodon dactylon*)

2, 12, 36, 41, 51, 57-60, 69, 72, 81, 82, 102, 103, 109, 111, 115, 116, 118,
123, 130, 154, 156, 178, 206, 220, 235, 261, 264, 265, 279, 281, 292, 294,
323, 329, 330, 337, 338, 339, 347, 351, 355, 363, 384, 386, 387, 394, 404,
415, 416, 419, 435-438, 447, 451, 452, 458, 464, 470, 473, 483, 492, 508,
509, 511, 516, 518, 524, 540, 544, 561, 564, 578, 582, 587, 590, 594, 601,
605, 610, 623, 646, 737, 738, 739, 752, 783, 789, 803, 810, 818, 845, 846,
857, 872, 876, 895, 902, 904, 907, 909, 911, 912, 913, 922, 932, 968, 998,
999, 1008, 1056, 1092, 1112, 1113, 1144, 1150, 1151, 1159, 1167, 1176,
1181, 1182, 1183, 1185, 1190, 1197, 1199, 1207, 1208, 1216, 1229, 1232,
1237, 1238, 1243, 1249, 1251, 1252, 1257, 1272, 1274, 1277, 1279, 1281-
1284, 1313, 1316, 1325, 1326, 1329, 1330, 1349, 1350, 1355, 1357, 1359,
1366, 1367, 1375, 1377, 1383, 1385, 1391, 1392, 1401, 1402, 1405, 1406,
1407, 1414, 1415, 1417, 1429, 1434, 1435, 1439, 1490, 1492, 1495, 1498,
1500, 1505, 1510, 1521, 1527, 1528, 1532, 1534, 1535, 1537-1543, 1545,
1548, 1561, 1566, 1568, 1569, 1571, 1574, 1579, 1581, 1598, 1610, 1616,
1652, 1653, 1654, 1675, 1676, 1684, 1689, 1706, 1724, 1726, 1732, 1786,
1797, 1799, 1800, 1809, 1854, 1866, 1870-1873, 1875, 1888, 1900, 1903,
1904, 1916, 1943, 1958, 1962, 1963, 1998

St. Augustinegrass (*Stenotaphrum secundatum*)

8, 123, 124, 217, 225, 252, 350, 355, 362, 373, 473, 508, 524, 550, 569,
573, 590, 696, 751, 763, 764, 855, 1056, 1112, 1485, 1532, 1997, 1998

Tall Fescue (*Festuca arundinacea*)

9, 15, 40, 84, 96, 100, 119, 129, 135, 173, 183, 229, 230, 256, 257, 280,
281, 294, 308, 323, 334, 345, 374, 377, 389, 395, 408, 411, 413, 421, 423,

Tall Fescue (*Festuca arundinacea*) continued:

425, 429, 466, 501, 507, 535, 539, 552, 555, 557, 558, 566, 568, 574, 576,
585, 588, 590, 592, 594, 595, 597, 604, 606, 607, 608, 615, 617, 618, 623,
637, 745, 788, 802, 851, 861, 894, 901, 910, 953, 1002, 1025, 1029, 1086,
1101, 1102, 1110, 1112, 1153, 1193, 1211, 1232, 1236, 1239, 1240, 1245,
1246, 1254, 1264, 1301, 1320, 1321, 1378, 1387, 1389, 1403, 1414, 1419,
1471, 1487, 1510, 1545, 1555, 1557, 1575, 1576, 1583, 1585, 1587, 1656,
1658, 1662, 1722, 1804, 1810, 1851, 1895, 1901, 1906, 1907, 1920, 1928,
1946, 1947, 1962, 1963, 1984, 1998

Red Fescue (*Festuca rubra*)

20, 32, 74, 100, 105, 113, 231, 367, 408, 423, 456, 462, 480, 486, 497, 498,
503, 745, 1168, 1241, 1253, 1263, 1289, 1342, 1361, 1387, 1510, 1514,
1583, 1586, 1662, 1692, 1702, 1798, 1928, 1934

Other Fescues

19, 74, 135, 366, 456, 462

Perennial ryegrass (*Lolium perenne*)

5, 32, 40, 46, 74, 100, 101, 111, 137, 154, 156, 231, 243, 279, 325, 336,
353, 357, 360, 364, 365, 371, 395, 408, 409, 421, 428, 432, 456, 462, 491,
494, 498, 502, 511, 514, 516, 525, 532, 547, 557, 562, 586, 588, 604, 617,
618, 624, 630, 736, 745, 788, 964, 967, 991-997, 1025, 1062, 1074, 1082,
1095, 1097, 1105, 1149, 1155, 1181, 1193-1196, 1211, 1230, 1231, 1232,
1236, 1237, 1241, 1243, 1252, 1255, 1263, 1267, 1271, 1294, 1304, 1317,
1318, 1325, 1339, 1342, 1384, 1387, 1435, 1470, 1510, 1519, 1534, 1543,
1563, 1583, 1584, 1585, 1598, 1608, 1706, 1722, 1797, 1798, 1799, 1842,
1856, 1913, 1928

Annual ryegrass (*Lolium multiflorum*)

36, 342, 348, 400, 401, 440, 457, 504, 546, 566, 919, 1094, 1165, 1427,
1487, 1562

Centipedegrass (*Eremochloa ephiuroides*)

64, 65, 125, 153, 225, 228, 232, 424, 473, 550, 569, 575, 895, 920, 1164,
1200, 1242, 1265, 1332, 1414, 1485, 1532, 1568, 1582, 1680, 1725, 1859,
1880

Crabgrass (*Digitaria*)

38, 39, 69, 85, 370, 412, 489, 579, 617, 1078, 1197, 1214, 1232, 1296,
1299, 1306, 1310, 1311, 1313, 1319, 1328, 1338-1344, 1348, 1358, 1363,
1371, 1372, 1374, 1376, 1382, 1387, 1393, 1394, 1398, 1404, 1415, 1418,
1428, 1439, 1445, 1466, 1468, 1470, 1472, 1476, 1491, 1493, 1496, 1497,
1503, 1504, 1509-1519, 1522, 1541, 1547, 1570, 1577, 1589, 1684, 1692,
1707, 1732, 1911

Goosegrass (*Eleusine indica*)

69, 130, 424, 579, 1232, 1237, 1265, 1313, 1329-1331, 1348, 1349,
1356, 1371, 1374, 1385, 1393, 1394, 1398, 1404-1407, 1426, 1429, 1432,
1502, 1505, 1510, 1512, 1515, 1527, 1534, 1570, 1684, 1797, 1911

Bahiagrass (*Paspalum notatum*)

110, 473, 550, 1381, 1485, 1568, 1569, 1575, 1800

Other Paspalum

355, 447, 473, 485, 508, 560

Carpetgrass (*Axonopus affinis*)

63, 314, 1162, 1678, 1867

Creeping bentgrass (*Agrostis stolonifera* v. *palustris*)

57, 77, 140, 157, 176, 235, 245, 372, 407, 408, 414, 448, 463, 484, 594,
648, 649, 862, 908, 922, 974, 977, 978, 1011, 1028, 1084, 1105, 1113,
1116, 1126, 1153, 1159, 1166, 1180, 1209, 1215, 1232, 1243, 1253, 1269,
1283, 1300, 1306, 1331, 1384, 1420, 1501, 1510, 1527, 1554, 1580, 1586,
1675, 1799, 1848, 1885, 1899

Colonial Bentgrass (*Agrostis tenuis*)

112, 114, 152, 1289, 1369, 1874, 1887

Zoysia

77, 106, 123, 225, 266, 355, 380, 470, 473, 481, 489, 508, 569, 582, 629,
1056, 1251, 1313, 1350, 1374, 1414, 1418, 1532, 1548, 1809

Quickgrass (*Agropyron repens*)

77, 460, 1302, 1334, 1373, 1537

Orchardgrass (*Dactylis glomerata*)

503, 851, 1419, 1583, 1928

Johnsongrass (*Sorghum halapense*)

315, 1278, 1477, 1545, 1574

(*Buchloe dactyloides*)

9, 280, 281, 473, 590, 594, 623, 1962, 1963, 1998





