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The Protection of Pome Fruits, 1979-March 1985

Citations from Agricola Concerning Diseases and Other Environmental Considerations

The Protection of Pome Fruits 1979-March 1985

Citations from Agricola Concerning Diseases and Other Environmental Considerations

Compiled and Edited by
Charles N. Bebee
National Agricultural Library

Bibliographies and Literature
of Agriculture No. 41

United States Department of Agriculture
National Agricultural Library
Beltsville, Maryland 20705

and

United States Environmental Protection Agency
Office of Pesticide Programs
Washington, D.C. 20460

August 1985

FOREWORD

This is the fifth volume in a series of commodity-oriented environmental bibliographies resulting from a memorandum of understanding between the United States Department of Agriculture, National Agricultural Library (USDA-NAL), and the 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 United States 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

STEVEN SCHATZOW, Director
Office of Pesticide Programs

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INTRODUCTION

The citations in this bibliography are selected from works by U.S. authors on all aspects of the protection of pome fruits. All citations are derived from AGRICOLA (AGRICultural OnLine Access), the family of data bases compiled by the National Agricultural Library and its cooperators.

This is the fifth bibliography included in a series of commodity-oriented environmental data bases jointly sponsored by the National Agricultural Library, United States Department of Agriculture (USDA-NAL), and the Office of Pesticides Programs, Environmental Protection Agency (EPA-OPP). Additional volumes issued recently or planned for the immediate future concern protection of corn, soybeans, wheat, stone fruits, grain sorghum, rice, and peanuts.

Entries in the bibliography are subdivided into a series of subject headings used in the table of contents of the Bibliography of Agriculture and in the National Agricultural Library Catalog. Each citation appears under the subject heading assigned to the particular item. A complete author index is also included in the publication.

The Office of Pesticide Programs, EPA, has furnished technical assistance to the compiler through members of a commodity-oriented environmental data team which included:

Any comments or questions may be forwarded to the compiler:

Charles N. Bebee
USDA, National Agricultural Library
Room 111
Beltsville, MD 20705
(301) 344-3704

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**Critical temperatures for blossom buds--pears
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LEGISLATION

0002

Apple tree--N.J. 49 cultivar (Varieties, early ripening dessert apples, medium resistance to insects and diseases, medium keeping quality).
Bailey, C.H. Hough, L.F. Washington, D.C., The Office. United States patent. Plant - United States Patent and Trademark Office. June 9, 1981. June 9, 1981. (4740). 2 p. plate. (NAL Call No.: 156.65 P69).

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Apple tree (Coop 12) (Cultivars, resistance to Venturia inaequalis).
Williams, E.B. Janick, J.; Emerson, F.H.; Dayton, D.F.; Hough, L.F.; Bailey, C. (n.p.), The Office. Plant patent - United States Patent Office. Dec 26, 1978. Dec 26, 1978. (4359). 2 p. plate. (NAL Call No.: 156.65 P69).

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Honeysweet pear tree (Varieties, some disease resistance).
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Pear tree (Pyrus calleryana, ornamentals, bright red leaves in autumn, winter hardiness).
Westwood, M.N. (n.p.), The Office. Plant patent - United States Patent Office. Sept 9, 1980. Sept 9, 1980. (4591). 2 p. plates. (NAL Call No.: 156.65 P69).

ECONOMICS

0006

South Carolina crop statistics, state and county data: 1975-1979 revised, 1980 preliminary.

South Carolina Crop and Livestock Reporting Service. Clemson, The Station. Extract: The agricultural statistics in this publication include revised crop statistics for acreage, yield, production and value of production at the state and county level for 1975-1979 and preliminary estimates for 1980. Regular Census revisions in state data have been completed and are reflected in the revised data. Also included are data on disposition of crops, number of farms, land in farms, commercial fertilizer, farm labor, vegetable statistics and quarterly grain stock estimates, both on and off farms. Supercedes AE 405 and 413. AE - South Carolina Crop and Livestock Reporting Service, Dept. of Agricultural Economics and Rural Sociology, S.C. Agricultural Experiment Station, Clemson University. June 1981. Predominantly tables. June 1981. (AE 417). 42 p. (NAL Call No.: 281.9 C59).

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South Carolina crop statistics, state and county data: 1980 revised, 1981 preliminary.

South Carolina Crop and Livestock Reporting Service. Clemson, The Station. Extract: The agricultural statistics in this publication include revised crop statistics for acreage, yield, production and value of production at the state and county level for 1980 and preliminary estimates for 1981. Also included are data on disposition of crops, number of farms, land in farms, commercial fertilizer, farm labor, vegetable statistics, and quarterly grain stock estimates, both on and off farms. AE - South Carolina Crop and Livestock Reporting Service, Dept. of Agricultural Economics and Rural Sociology, S.C. Agricultural Experiment Station, Clemson University. June 1982. Predominantly tables. June 1982. (421). 38 p. (NAL Call No.: 281.9 C59).

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0008

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FARM ORGANIZATION AND MANAGEMENT

0009

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Rossi, D. Dhillon, P.S.; Hoffman, L. College Park, Md. : The Council. Extract: The purpose of this paper is to report the results of a detailed examination of the costs of producing apples. More specifically, the pest management costs of apple producers in southern New Jersey using conventional pest management practices are compared to those using integrated pest management. Pest management costs are presented in context of total production costs and in light of previous published results. Journal - Northeastern Agricultural Economics Council. 1983. v. 12 (2). p. 77-81. Includes 11 references. (NAL Call No.: HD1773.A2N6).

0010

The biological and economic assessment of amitraz, interim progress report, 1980 crop year.

Kuntz, B.T. Delvo, H.W. Washington, D.C. : The Service. Extract: This report presents a comparative biological and economic analysis of amitraz and other insecticides-acaricides for control of psylla, *Psylla pyricola* Foerster, on pears. ERS staff report - United States Dept. of Agriculture, Economic Research Service. May 1983. Available from NTIS, order no. PB84-103209. May 1983. (AGES830614). 36 p. Includes 4 references. (NAL Call No.: 916762(AGE)).

0011

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Baumes, H.S. Jr. Blacksburg, Va., The Service. Virginia agricultural economics - Virginia Polytechnic Institute and State University, Cooperative Extension Service. June 1981. June 1981. (323). 4 p. (NAL Call No.: 275.29 V813).

0012

Economic analysis of azinphosmethyl use for control of apple pests.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this analysis is to evaluate the benefits azinphosmethyl use to control major apple insect pests. The pest complex treated with azinphosmethyl varies by region. The following analysis assumes that azinphosmethyl is replaced by alternative insecticides which are effective against the major pests for which azinphosmethyl is currently used in each region. The benefits are expressed as changes in production costs, prices, producer revenues, and consumer expenditure resulting from the substitution of alternative pest control methods. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 43). 82 p. Includes 12 references. (NAL Call No.: S543.V5V5).

0013

Economic analysis of captan use for control of apple diseases.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this report is to evaluate the benefits of captan use to control major fungal pathogens of apple as part of the RPAR review being conducted by the Environmental Protection Agency (EPA). Captan is used in the United States to control apple scab, sooty blotch, flyspeck, black rot, bitter rot, and white rot of apple. The following analysis projects annual cost, production, price, producer revenue, and consumer expenditure effects assuming that captan is cancelled and replaced by alternative fungicides which are effective against the same diseases. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 45). 66 p. Includes 12 references. (NAL Call No.: S543.V5V5).

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Economic analysis of cyhexatin use for control of apple pests.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this analysis is to evaluate the benefits of cyhexatin use to control major apple insect pests. The following analysis assumes that cyhexatin is replaced by alternative acaricides which are effective against the major pests for which cyhexatin is currently used in each region. The benefits are expressed as changes in production costs, prices, producer revenues, and consumer expenditures resulting from the substitution of alternative pest control methods. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 46). 45 p. Includes 12 references. (NAL Call No.: S543.V5V5).

0015

Economic analysis of Dikar R use for control of apple diseases.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this report is to evaluate the benefits of Dikar R use to control major fungal pathogens of apple as part of the RPAR review being conducted by the Environmental Protection Agency (EPA). Dikar R is used in the United States to control apple scab, sooty blotch, flyspeck, black rot, bitter rot, white rot, and powdery mildew. Dikar R is also effective as a mite suppressant. The following analysis projects annual cost, production, price, producer revenue, and consumer expenditures effects assuming that Dikar R is cancelled and replaced by alternative fungicides which are effective against the same diseases. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 47). 42 p. Includes 12 references. (NAL Call No.: S543.V5V5).

(FARM ORGANIZATION AND MANAGEMENT)

0016

Economic analysis of metiram use for control of apple diseases.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this report is to evaluate the benefits of metiram use to control major fungal pathogens of apple as part of the RPAR review being conducted by the Environmental Protection Agency (EPA). Metiram is used in the United States to control apple scab, sooty blotch, flyspeck, black rot, bitter rot, and white rot of apple. The following analysis projects annual production cost, price, producer revenue, and consumer expenditure effects assuming that metiram is cancelled and replaced by alternative fungicides which are effective against the same diseases. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 48). 67 p. Includes 12 references. (NAL Call No.: S543.V5V5).

0017

Economic analysis of phosalone use for control of apple pests.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this analysis is to evaluate the benefits of phosalone use to control major apple insect pests. The pest complex treated with phosalone varies by region. The following analysis assumes that phosalone is replaced by alternative insecticides which are effective against the major pests for which phosalone is currently used in each region. The benefits are expressed as change in production costs, prices, producer revenues, and consumer expenditure resulting from the substitution of alternative pest control methods. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 49). 79 p. Includes 12 references. (NAL Call No.: S543.V5V5).

0018

Economic analysis of phosmet use for control of apple pests.

Norton, G. Kuchler, F.; Baumes, H. Blacksburg, Va. : The Division. Extract: The objective of this analysis is to evaluate the benefits of phosmet use to control major apple insect pests. The pest complex treated with phosmet varies by region. The following analysis assumes that phosmet is replaced by alternative insecticides which are effective against the major pests for which phosmet is currently used in each region. The benefits are expressed as changes in production costs, prices, producer revenues, and consumer expenditures resulting from the substitution of alternative pest control methods. Research report - Virginia Polytechnic and State University. Research Division. June 1982. June 1982. (A.E. 50). 78 p. Includes 12 references. (NAL Call No.: S543.V5V5).

0019

Economic feasibility of a deer-proof fence for apple orchards (Damage control, costs).

Caslick, J.W. Decker, D.U. Washington, D.C., The Society. Wildlife Society bulletin. Wildlife Society. Fall 1979. v. 7 (3). p. 173-175. ill. 12 ref. (NAL Call No.: SK357.A1W5).

0020

Economic profiles for apple orchards and vineyards, 1981 and five year average, 1977-81.

Whitaker, D.B. White, G.B. Ithaca, N.Y. : The Station. Extract: This report explains the procedures followed in constructing enterprise budgets for fresh and processing apple orchards as well as for seven grape varieties grown in New York State. An economic engineering approach similar to that discussed by Knoblauch and Milligan analyzing the principal internal and external characteristics of an average orchard or vineyard was employed. The internal factors included farm size, the building and equipment complements and the management level required. In turn, the management level dictated the cultural practices to be followed including spray programs, herbicide use and pruning practices. A.E. Res. - New York State College of Agriculture and Life Sciences, Department of Agricultural Economics, Cornell University, Agricultural Experiment Station. Dec 1982. Predominantly tables. Dec 1982. (82-48). 69 p. Includes 9 references. (NAL Call No.: 281.9 C81A).

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Economics and control of damage caused by low-density populations of meadow voles in Ontario apple orchards (Microtus pennsylvanicus, Canada).

Brooks, R.J. Struger, S.A. Winchester, Va. : R.E. Byers. Proceedings of the ... Eastern Pine and Meadow Vole Symposium. 1983. 1983. (7th). p. 48-56. ill., maps. Includes references. (NAL Call No.: SB605.U6E3).

0022

Efficacy and cost analysis of insecticides and miticides in orchard spray programs (Apples, Integrated Pest Management Program).

Hull, L.A. New Brunswick, N. J., The Society. Horticultural news. New Jersey State Horticultural Society. Spring 1979. v. 60 (2). p. 24-29. ill. (NAL Call No.: 81 N46).

0023

Estimated economic impact of the apple maggot.

Schotzko, R.T. Pullman, Wash. : The Service. Extract: The recent discovery of apple maggot (Rhagoletis pomonella) in western Washington has commercial apple producers concerned about the possibility of introduction of the pest

into eastern Washington. This paper assesses the potential economic damage from this insect. Factors considered in the analysis include production and marketing costs. Production costs are increased by the additional sprays required to control apple maggot. Grower returns are reduced by limited access to California markets early in the season. The problem of access may also occur in major export markets. Reduced grower returns would adversely affect the local economy. Extension Bulletin - Washington State University, Cooperative Extension Service. May 1982. May 1982. (1132). 8 p. Includes references. (NAL Call No.: 275.29 W27P).

0024

Evaluation of strategy performance and risk efficiency of integrated pest management (IPM) programs in apple production.

Cochran, M. Robison, L.; Jones, A.; Wagner, S.; Croft, B. East Lansing, Mich., The Department. Extract: This study was designed to examine some of the benefits of conversion from conventional control practices to IPM programs in production systems. Agricultural economics staff paper - Michigan State University, Dept. of Agricultural Economics. 1982. 1982. (27). 35 p. Includes 14 references. (NAL Call No.: 918134(AGE)).

0025

Impact on costs and energy requirements of adopting alternate middle spray techniques in apple orchards.

Christensen, R.L. Prokopy, R.J. Amherst, The Council. Extract: The purpose of this paper is to describe one pest management strategy which would significantly reduce the amount of pesticides used while, it was hypothesized, having no significant effect on yields or fruit quality. The alternate middle treatment involves spraying alternate halves of each tree on alternate spray dates instead of both halves (every middle) on all spray dates. The method of economic analysis employed was partial budgeting. Only direct costs and returns were considered with no attempt made to assess the social or environmental benefits resulting from reduced use of pesticides. Journal - Northeastern Agricultural Economics Council. Oct 1979. v. 8 (2). p. 243-247. 5 ref. (NAL Call No.: HD1773.A2N6).

0026

Preliminary benefit analysis of endrin use on apple orchards (to control pine and meadow voles).

Luttner, M.A. Winchester, Va. : R.E. Byers. Proceedings of the ... Eastern Pine and Meadow Vole Symposium. 1978. 1978. (2nd). p. 18-22. Includes references. (NAL Call No.: SB605.U6E3).

0027

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Cochran, M. Lodwick, W.; Jones, A.; Robison, L. East Lansing, Mich., The Department. Extract: For most scenarios considered the conventional spray program used to control apple scab in Michigan orchards is risk efficient even though it has an expected return below the Integrated Pest Management (IPM) programs. Several Stochastic Dominance techniques are applied and the results compared. Agricultural economics staff paper - Michigan State University, Dept. of Agricultural Economics. 1982. 1982. (34). 12 p. Includes 11 references. (NAL Call No.: 918134(AGE)).

DISTRIBUTION AND MARKETING

0028

Bruising and freezing of apples in storage and transit by Dean H. Rose and J.M. Lutz.

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1933. 15 p., 7 leaves of plates : ill. -.
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**Marketing apples grown in the
Cumberland-Shenandoah region of Pennsylvania,
Virginia, and West Virginia by Carl R. Swinson
... (et al.).**

Swinson, Carl R. Washington, D.C. U.S. Dept. of
Agriculture 1931. 51 p. : ill., map -.
Bibliography: p. 26-28. (NAL Call No.: Fiche
S-69 no.234).

0030

**Protection of apples and pears in transit from
the Pacific Northwest during the winter months
E.D. Mallison, E.A. Gorman, Jr., and W.V.
Hukill.**

Mallison, E. D. (Earl Dewey), 1898. Washington,
D.C. U.S. Dept. of Agriculture 1937. 55 p. :
ill., maps -. Bibliography: p. 53-54. (NAL Call
No.: Fiche S-69 no.550).

0031

**Quality control: from orchard to buyer (Apples,
harvesting, storage, marketing).**

Auvil, T. Wenatchee, Wash. : The Association.
Proceedings - Washington State Horticultural
Association. 1983. 1983. (79th). p. 48, 50, 52,
54, 56, 58. (NAL Call No.: 81 W273).

GRADING, STANDARDS, LABELLING

0032

Analysis of patulin (a mycotoxin) in apple beverages sold in Sweden.

Josefsson, E. Andersson, A. Tunis, L'Institut. Archives. Institut Pasteur, Tunis. Sept/Oct 1977. v. 54 (3/4). p. 261-267. ill. 9 ref. (NAL Call No.: 448.3 IN72).

0033

Confirmation of organothiophosphorus insecticide residues in fruit and vegetables by oxidative derivatization (Celery, potatoes, lettuce, tomatoes, and apples).

Singh, J. Cochrane, W.P. Arlington, Va. Journal Association of Official Analytical Chemists. July 1979. v. 62 (4). p. 751-756. ill. 12 ref. (NAL Call No.: 381 AS7).

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Elfving, D.C. Bache, C.A. Washington, American Chemical Society. Journal of agricultural and food chemistry. Jan/Feb 1979. v. 27 (1). p. 128-140. ill. 16 ref. (NAL Call No.: 381 J8223).

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Quality control: from orchard to buyer (Apples, harvesting, storage, marketing).

Auvil, T. Wenatchee, Wash. : The Association. Proceedings - Washington State Horticultural Association. 1983. 1983. (79th). p. 48, 50, 52, 54, 56, 58. (NAL Call No.: 81 W273).

(GRADING, STANDARDS, LABELLING)

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Murase, H. St. Joseph, Mich., American Society
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Apple spray guide for middle Georgia (Pesticides, growth regulators): McGlohon, N.E. Ellis, H.C.; Horton, D.; Crassweller, R.M.; Ferree, M.E. Athens : The Service. Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture. Jan 1984. Jan 1984. (740,rev.). 15 p. (NAL Call No.: 275.29 G29B).

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0054

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Myers, S.C. Ferree, D.C. Wooster : The Center. Research circular - Ohio Agricultural Research and Development Center. Sept 1982. Sept 1982. (272). p. 12-15. 11 ref. (NAL Call No.: 100 OH3R).

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Bloxom, J. Jr. Wenatchee, Wash., The Association. Proceedings - Washington State Horticultural Association. 1981. 1981. (77th). p. 122-123. (NAL Call No.: 81 W273).

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(PLANT PRODUCTION - HORTICULTURAL CROPS)

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275.29 M381FR).

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(aminoethoxyvinylglycine)-treated apples. Greene, D.W. JOSHB. Alexandria : The Society. Journal of the American Society for Horticultural Science. May 1983. v. 108 (3). p. 415-419. ill. Includes references. (NAL Call No.: 81 S012).

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Mullins, C.A. Coffey, D.L. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. June 1980. v. 13. p. 111-116. (NAL Call No.: 93.5 D96).

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0083

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0091

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0092

Effects of supraoptimal carbon dioxide concentrations on mitochondrial activity of "Richard Delicious" apples / by Michael Richard Shipway. Shipway, Michael Richard, 1942. 1972. Thesis (Ph.D.)--University of Massachusetts, 1972. Photocopy of typescript. Ann Arbor: University Microfilms, 1972. ix, 123 leaves ; 21 cm. Bibliography: leaves 105-113. (NAL Call No.: DISS 72-18,033).

(PLANT PRODUCTION - HORTICULTURAL CROPS)

0093

Evaluation of apple cultivars on size-controlling rootstocks.

Matta, F.B. Hooks, R.F.; Sullivan, D.T.; Trujillo, P.M. Las Cruces. Research report - New Mexico, Agricultural Experiment Station. Nov 1980. Nov 1980. (428). 3 p. 4 ref. (NAL Call No.: 100 N465R).

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0094

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0099

'Freedom', a new disease-resistant apple (Varieties, performance, disease resistance). Lamb, R.C. Aldwinckle, H.S.; Terry, D.E. Geneva, N.Y. : New York (State), Agricultural Experiment Station, Geneva. New York's food and life sciences bulletin. 1983. 1983. (102). 2 p. ill. Includes references. (NAL Call No.: S95.E22).

0095

Factors affecting apple-tree response to chemical branch-induction treatments (Plant growth regulators, 6-benzylamino purine, gibberellic acid, growth habit, New York, Ontario).

Elfvig, D.C. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. July 1984. v. 109 (4). p. 476-481. ill. Includes 38 references. (NAL Call No.: 81 S012).

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0096

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0101

Fruit thinning and russetting effects of oxamyl on apple (Malus domestica, Typhlocyba pomaria, organophosphate insecticides).

Meyer, R.H. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1982. v. 17 (4). p. 658-659. 6 ref. (NAL Call No.: SB1.H6).

0097

Fertilizing fruit in small areas.

Hayden, Richard, A. 1977. This publication offers information on fertilizing fruits for home fruit growers. Apples, pears, peaches, apricots, strawberries, raspberries, blackberries and grapes are specifically included. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: H0-109).

0102

Growing apples on the northern fringe of commercial production (Winter injury).

Estabrooks, E.N. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. May 1981. v. 14. p. 46-51. 4 ref. (NAL Call No.: 93.5 D96).

0098

Fertilizing trees in the landscape: a 9-year evaluation (Tilia cordata, Acer saccharum).

Smith, E.M. Treaster, S.A. Wooster, Ohio, The Center. Abstract: The growth of Tilia cordata, Malus 'Snowdrift', and Acer saccharum 'Monumentale' was not affected by fertilizer placement. Significant growth increases were

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Growing apples, pears, and quinces; pest control, air drainage important.

Way, R.D. Washington. The yearbook of agriculture United States Dept. of Agriculture. 1977. 1977. p. 246-252. ill. (NAL Call No.: 1 AG84Y).

0104

Handling fruit trees under drought conditions (Cherries, prunes, peaches, pears, Washington). Proebsting, E.L. Middleton, J.E. Portland, Ore. Annual report Oregon Horticultural Society. 1978. v. 69 (92d). p. 93-95. (NAL Call No.: 81 OR32).

0105

A heat transfer model for ice encapsulated apple buds (Sprinkler system for frost protection). Phillips, J.R. Sastry, S.K.; Morrow, C.T. 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. 82-4008). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

0106

History of the Old Home X Farmingdale pear rootstocks (Pyrus communis, breeding for fire blight resistance, Pacific Northwest, Oregon). Brooks, L.A. University Park, Pa. : American Pomological Society. Fruit varieties journal. July 1984. v. 38 (3). p. 126-128. (NAL Call No.: 80 F9464).

0107

Impact on costs and energy requirements of adopting alternate middle spray techniques in apple orchards. Christensen, R.L. Prokopy, R.J. Amherst, The Council. Extract: The purpose of this paper is to describe one pest management strategy which would significantly reduce the amount of pesticides used while, it was hypothesized, having no significant effect on yields or fruit quality. The alternate middle treatment involves spraying alternate halves of each tree on alternate spray dates instead of both halves (every middle) on all spray dates. The method of economic analysis employed was partial budgeting. Only direct costs and returns were considered with no attempt made to assess the social or environmental benefits resulting from reduced use of pesticides. Journal - Northeastern Agricultural Economics Council. Oct 1979. v. 8 (2). p. 243-247. 5 ref. (NAL Call No.: HD1773.A2N6).

0108

In vitro micrografting of apple shoot tips (Stem grooving virus). Huang, S.C. Millikan, D.F. Alexandria, Va.. American Society for Horticultural Science. HortScience. Dec 1980. v. 15 (6). p. 741-743. ill. 13 ref. (NAL Call No.: SB1.H6).

0109

Increased yield and suppression of shoot growth and mite populations of "d'Anjou" pear trees with nitrogen and paclobutrazol. Raese, J.T. HJHSA. Burts, E.C. Alexandria : American Society for Horticultural Science. HortScience. Apr 1983. v. 18 (2). p. 212-214. ill. Includes references. (NAL Call No.: SB1.H6).

0110

Influence of six rootstocks and herbicides on growth, cropping, and fruit quality of Blaxtayan apple trees (Intensive plantings, southern Ohio). Ferree, D.C. Hill, R.G. Jr. Wooster : The Center. Research circular - Ohio Agricultural Research and Development Center. Sept 1982. Sept 1982. (272). p. 3-6. ill. 10 ref. (NAL Call No.: 100 OH3R).

0111

The influence of urea sprays, mulch, and pruning on apple tree decline (Magicalada spp., 17-year cicada, Ohio). Cahoon, G.A. Donoho, C.W. Jr. Wooster : The Center. Research circular - Ohio Agricultural Research and Development Center. Sept 1982. Sept 1982. (272). p. 16-19. map. 5 ref. (NAL Call No.: 100 OH3R).

0112

Liberty from fungicides? (Disease resistant apple varieties). Aldwinckle, H.S. Lamb, R.C. n.p. Proceedings of the ... annual meeting New York State Horticultural Society. 1979. 1979. 124th. p. 23-29. ill. (NAL Call No.: 81 N484).

0113

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(PLANT PRODUCTION - HORTICULTURAL CROPS)

0114

Pears (Varieties, pruning, fertilization, Georgia).
Crassweller, R.M. Ferree, M.E. Athens, Ga., The Service. Circular - Cooperative Extension Service, University of Georgia. Dec 1981. Dec 1981. (742). 4 p. ill., map. (NAL Call No.: 275.29 G29C).

0115

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Lockard, R.G. Schneider, G.W.; Kemp, T.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Mar 1982. v. 107 (2). p. 183-186. Includes 15 ref. (NAL Call No.: 81 S012).

0116

Pollination and fruit set of apple / (prepared by R.S. Bekey, D.M. Burgett, and G.C. Fisher).
Bekey, R. S. Burgett, D. M.; Fisher, Glenn C. Corvallis Oregon State University, Extension Service 1981. Integrated Pest Management/Pesticide Applicator Training Collection -Caption title ~"July 1981.". (3) p. : ill. ; 28 cm. -. (NAL Call No.: 275.29 Dr32C no.1087).

0117

Pomes, pollination, and pests (Apis mellifera, pesticides).
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Preczewski, J.L. Madisonville, Ky., North American Fruit Explorers. The North American Pomona. Winter 1981. v. 14 (1). p. 26-29. (NAL Call No.: SB354.N6).

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Evaluation of Malus germplasm for resistance to powdery mildew (Podosphaera leucotricha).

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Norton, R.A. University Park, Pa., American Pomological Society. Fruit varieties journal. Jan 1981. v. 35 (1). p. 2-5. 7 ref. (NAL Call No.: 80 F9464).

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Laboratory evaluation of some *Malus* clones for susceptibility to girdling by pine voles (Apple rootstocks, cultivars). Wysolmerski, J.C. Byers, R.E.; Cummins, J.N. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Sept 1980. v. 105 (5). p. 675-677. ill. 7 ref. (NAL Call No.: 81 S012).

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Janick, J. Washington, D.C., The Department. Miscellaneous publication - United States Dept. of Agriculture. July 1982. July 1982. (1422). p. 66-71. 3 ref. (NAL Call No.: 1 AG84M).

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Borecki, Z. Czynczyk, A.; Puchala, Z.; Millikan, D.F. St. Paul, American Phytopathological Society. Plant disease. Nov 1982. v. 66 (11). p. 1027-1029. 8 ref. (NAL Call No.: 1.9 P69P).

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Van der Zwet, T. Bell, R.L.; Blake, R.C. Madisonville, Ky., North American Fruit Explorers. The North American Pomona. 1981. v. 14 (3). p. 169-170. (NAL Call No.: SB354.N6).

0162

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Effect of light environment and spur age on "Delicious" apple fruit size and quality (*Malus domestica*).

Robinson, T.L.JDSHB. Seeley, E.J.; Barritt, B.H. Alexandria : The Society. Journal of the American Society for Horticultural Science. Sept 1983. v. 108 (5). p. 855-861. ill. Includes references. (NAL Call No.: 81 S012).

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The influence of environment on apple tree growth, leaf wax formation, and foliar absorption (*Malus domestica*).

Darnell, R.L.JDSHB. Ferree, D.C. Alexandria : The Society. Journal of the American Society for Horticultural Science. May 1983. v. 108 (3). p. 506-511. ill. Includes references. (NAL Call No.: 81 S012).

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A study of foliar absorption of urea in peach and apple trees as influenced by plant and environmental factors / by Ataollah Yazdaniha.

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Cellular ultrastructure and net photosynthesis of apple seedlings under iron stress (Effect of deficiency on chloroplasts).

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Hislop, E.C. Keon, J.P.R. London. Physiological plant pathology. May 1979. v. 14 (3). p. 371-381. ill., plates. 47 ref. (NAL Call No.: SB599.P45).

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Factors affecting apple-tree response to chemical branch-induction treatments (Plant growth regulators, 6-benzylamino purine, gibberellic acid, growth habit, New York, Ontario).

Elfving, D.C. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. July 1984. v. 109 (4). p. 476-481. ill. Includes 38 references. (NAL Call No.: 81 S012).

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The ontogeny and cytogenesis of cork spot in (cultivar) 'York Imperial' apple fruit.

Miller, R.H. AR-BARC. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. American Society for Horticultural Science. May 1980. v. 105 (3). p. 355-364. ill. 30 ref. (NAL Call No.: 81 S012).

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Hoch, H.C. Berlin, Springer-Verlag. Planta. 1979. v. 147 (3). p. 186-195. ill. 24 ref. (NAL Call No.: 450 P693).

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Raese, J.T. Williams, M.W. St. Joseph, Mich. Journal American Society for Horticultural Science. Nov 1978. v. 103 (6). p. 796-801. ill. 47 ref. (NAL Call No.: 81 S012).

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Control of quiescence and viability in auxin-deprived pear cells in batch and continuous culture (Senescence studies).

Codron, H. Latche, A. Limerick, Elsevier/North-Holland. Plant science letters. Dec 1979. v. 17 (1). p. 29-35. ill. 18 ref. (NAL Call No.: QK1.P5).

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Ferree, D.C. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. Dec 1978. v. 13 (6,sect.1). p. 650-652. 75 ref. (NAL Call No.: SB1.H6).

0174

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Romaniuk, J. Soczek, Z. Skierniewice, Research Institute of Pomology. Fruit science reports. 1979. v. 6 (2). p. 57-65. ill. 16 ref. (NAL Call No.: SB354.F72).

0175

Effect of crown position on the chemical composition of Golden Delicious and Granny Smith apple leaves and fruit.

Haynes, R.J. New York, Marcel Dekker. Communications in soil science and plant analysis. 1980. v. 11 (4). p. 393-403. 18 ref. (NAL Call No.: S590.C63).

0176

Effect of foliar application of mineral nutrients on stomatal aperture and photosynthesis in apple seedlings.

Swietlik, D. Bunce, J.A.; Miller, S.S. Alexandria, Va.: The Society. Journal of the American Society for Horticultural Science. May 1984. v. 109 (3). p. 306-312. ill. Includes references. (NAL Call No.: 81 SD12).

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Effect of mineral nutrient sprays on photosynthesis and stomatal opening of water-stressed and unstressed apple seedlings. I. Complete nutrient sprays.

Swietlik, D. Faust, M.; Korcak, R.F. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 563-567. ill. 18 ref. (NAL Call No.: 81 SD12).

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Effect of mineral nutrient sprays on photosynthesis and stomatal opening of water-stressed and unstressed apple seedlings. II. Potassium sulfate sprays.

Swietlik, D. Korcak, R.F.; Faust, M. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 568-572. ill. 21 ref. (NAL Call No.: 81 SD12).

0179

The effect of orchard floor management and nitrogen fertilization on nutrient uptake and fruit quality of 'Golden Delicious' apple trees (Fruit color and firmness, British Columbia).

Neilsen, G.H. Meheriuk, M.; Hogue, E.J. Alexandria, Va.: American Society for Horticultural Science. HortScience. Aug 1984. v. 19 (4). p. 547-550. Includes 21 references. (NAL Call No.: SB1.H6).

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Ford, E.M. New York, Dekker. Communications in soil science and plant analysis. 1979. v. 10 (1/2). p. 337-348. ill. 15 ref. (NAL Call No.: S590.C63).

0181

Effect of rate and source on nitrogen fertilizers on mineral composition of d'Anjou pears (Pyrus communis).

Raese, J.T. JPNUDS. Staiff, D.C. New York: Marcel Dekker. Journal of plant nutrition. 1983. v. 6 (9). p. 769-779. Includes references. (NAL Call No.: QK867.J67).

0182

Effect of rootstocks and interstems on composition of 'Delicious' apple leaves (Nutrient, foliar analysis).

Abdalla, O.A. Khatamian, H.; Miles, N.W. Alexandria, The Society. Journal of the American Society for Horticultural Science. Sept 1982. v. 107 (5). p. 730-733. 19 ref. (NAL

Call No.: 81 SD12).

0183

Effect of the ectomycorrhizal fungus *Pisolithus tinctorius* and auxin rooting formulations on growth of 'Cortland' apple trees (*Malus domestica*, nutrient uptake).

Greene, D.W. Manning, W.J.; Cooley, D.R. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1982. v. 17 (4). p. 655-656. 13 ref. (NAL Call No.: SB1.H6).

0184

Effect of tree fertilization on numbers and development of pear psylla (Homoptera: Psyllidae) and on fruit damage (*Psylla pyricola*, *Pyrus communis*).

Pfeiffer, D.G. EVETB. Burts, E.C. College Park : Entomological Society of America. Environmental entomology. June 1983. v. 12 (3). p. 895-901. Includes references. (NAL Call No.: QL461.E532).

0185

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Korcak, R.F. AR-BARC. New York, Marcel Dekker. Communications in soil science and plant analysis. 1980. v. 11 (6). p. 571-585. ill. (NAL Call No.: S590.C63).

0186

Effects of calcium-free nutrient solution and demineralized water on the movement of previously deposited calcium in the roots of apple seedlings.

Soderlund, R.O. Hanger, B.C. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Nov 1980. v. 105 (6). p. 769-773. ill. 26 ref. (NAL Call No.: 81 SD12).

0187

The effects of environment and cultural practices on calcium concentration in the apple fruit.

Perring, M.A. New York, Dekker. Communications in soil science and plant analysis. 1979. v. 10 (1/2). p. 279-293. ill. 22 ref. (NAL Call No.: S590.C63).

0188

Effects of nutrient sprays on water-stressed apple seedlings.

Swietlik, D. Faust, M.; Korcak, R.F. Alexandria, Va., American Society for Horticultural Science. HortScience. June 1981. v. 16 (3). p. 419. ill. (NAL Call No.: SB1.H6).

0189

Effects of rootstocks and K and N (Potassium and nitrogen) fertilizers on seasonal apple fruit mineral composition in a high density orchard.

Fallahi, E. Westwood, M.N.; Richardson, D.G.; Chaplin, M.H. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. v. 7 (8). p. 1179-1201. ill. Includes references. (NAL Call No.: QK867.J67).

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Effects of water stress control in apple trees by misting (during the period of high transpiration).

Goode, J.E. Higgs, K.H. Ashford, Kent, . Journal of horticultural science. Jan 1979. v. 54 (1). p. 1-11. ill. 22 ref. (NAL Call No.: 80 J825).

0191

Endogenous phytohormones in relation to the dwarfing capability of certain size-controlling apple rootstock clones.

Yadava, Umedi Lal, 1940. Ann Arbor, Mich. University Microfilms 1973. Thesis--University of Illinois at Urbana-Champaign, 1972. v. 94 leaves. Bibliography: leaves 81-92. (NAL Call No.: DISS 73-10,090).

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Environmentally induced responses of apple tree photosynthesis.

Lakso, A.N. Seeley, E.J. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. Dec 1978. v. 13 (6,sect.1). p. 646-650. ill. 62 ref. (NAL Call No.: SB1.H6).

0193

Factors affecting nutrient content of the foliage and fruits of apple trees (Fertilizer, deficiencies, fruit quality).

Lord, W.J. Bramlage, W.J. Amherst : The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1983. v. 48 (1). p. 17-23. (NAL Call No.: 275.29 M381FR).

(PLANT NUTRITION)

0194

Fertilizing fruit in small areas.

Hayden, Richard, A. 1977. This publication offers information on fertilizing fruits for home fruit growers. Apples, pears, peaches, apricots, strawberries, raspberries, blackberries and grapes are specifically included. Document available from: Mailing Room, Ag. Administration Bldg., Purdue University, W. Lafayette, Indiana 47907. 1 sheet. (NAL Call No.: HO-109).

0195

Further trials on (chemical) induction of feathering in young apple and cherry nursery trees.

Plich, H. Basak, A. Skierniewice, Institute of Pomology. Fruit science reports. 1978. v. 5 (4). p. 23-33. ill. 11 ref. (NAL Call No.: SB354.F72).

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Influence of apple rootstocks and K and N (Potassium and nitrogen) fertilizers on leaf mineral composition and yield in a high density orchard.

Fallahi, E. Westwood, M.N.; Chaplin, M.H.; Richardson, D.G. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. v. 7 (8). p. 1161-1177. ill. Includes references. (NAL Call No.: QK867.J67).

0197

Influence of pesticides on photosynthesis in apple (*Malus domestica* Brok.).

Sharma, D.P. Ferec, D.C. Bombay. Pesticides. July 1978. v. 12 (7). p. 16-19. ill. 7 ref. (NAL Call No.: SB951.P43).

0198

Influence of size controlling rootstocks and interstems on calcium, potassium and manganese nutrition in apples. Preliminary report--1979.

Stand, E.J. Gilbert, F.A.; Peterson, L.A. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. June 1980. v. 13. p. 39-41. (NAL Call No.: 93.5 D96).

0199

The influence of urea sprays, mulch, and pruning on apple tree decline (*Magdica* spp., 17-year cicada, Ohio).

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0212

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Effect of the ectomycorrhizal fungus *Pisolithus tinctorius* and auxin rooting formulations on growth of 'Cortland' apple trees (*Malus domestica*, nutrient uptake).

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0223

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Effects of size-controlling apple rootstocks on certain fruit characteristics of two apple varieties / by Charles Allen Mullins.

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Choo, Byoung Moon, 1941. 1971. Thesis (Ph.D.)--University of Tennessee, 1971. Photocopy of typescript. Ann Arbor: University Microfilms, 1972. xi, 95 leaves ; 21 cm. Bibliography: leaves 86-91. (NAL Call No.: DISS 72-5,422).

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Influence of physical stress on photosynthesis and transpiration of apple leaves (Shaking, cutting, mite feeding, Tetranychus urticae).

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Metabolism of lipids applied to apples to reduce soft scald and their effect on respiration and ethylene production.

Hopkirk, G. Wills, R.B.H. Westport, Conn., Food and Nutrition Press. Journal of food biochemistry. 1981. v. 5 (2). p. 131-138. Includes 1 p. ref. (NAL Call No.: TX545.J6).

0233

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Westwood, M.N. Bjornstad, H.O. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. June 1980. v. 13. p. 67-71. 4 ref. (NAL Call No.: 93.5 D96).

0234

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0235

Pollination and fruit set of apple / (prepared by R.S. Bekey, D.M. Burgett, and G.C. Fisher).

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(PLANT PHYSIOLOGY AND BIOCHEMISTRY)

0236

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Abursrewil, G.S. JOSH. Larsen, F.E.; Fritts, R. Jr. Alexandria : The Society. Journal of the American Society for Horticultural Science. Jan 1983. v. 108 (1). p. 20-23. Includes references. (NAL Call No.: 81 S012).

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Relationship between cold hardiness and normalized electrical impedance in unfrozen "Delicious" apple shoots (Cold injury prediction).
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0238

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0245

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Batra, L.R. Ithaca, N.Y. Mycotaxon. Apr/June 1979. v. 8 (2). p. 476-484. ill. 13 ref. (NAL Call No.: QK603.2.M9).

0246

***Libertella blepharis*, pathogenic on apple trees of the variety McIntosh (Fungi, dying-off disease, description).**

Messner, K. Sutton, B.C. Ithaca, N.Y., Mycotaxon, Ltd. Mycotaxon. Jan/Mar 1982. v. 14 (1). p. 325-333. ill. 11 ref. (NAL Call No.: QK603.2.M9).

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0247

Alfalfa greening of 'Anjou' pear (Mineral nutrition, physiologic disorder).
Raese, J.T. Pierson, C.F. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. June 1979. v. 14 (3,sect.1). p. 232-234. ill. 9 ref. (NAL Call No.: SB1.H6).

0248

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Jones, A.L. Croft, B.A. St. Paul, Minn., American Phytopathological Society. Plant disease. Mar 1981. v. 65 (3). p. 223-229. ill. 21 ref. (NAL Call No.: 1.9 P69P).

0253

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Martin, G.C. Tyler, R.H. Berkeley, Division of Agricultural Sciences, University of California. California agriculture. Jan 1979. v. 33 (1). p. 13. ill. (NAL Call No.: 100 C12CAG).

0254

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0255

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0256

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Hardisty, S.E. South Perth, The Department. Journal of agriculture, Western Australia. Western Australia. Dept. of Agriculture. 1979. v. 20 (1). p. 28-30. ill. (NAL Call No.: 23 W52J).

0257

The bulk shipment of apples: inhibition of superficial scald by oil-impregnated paper (Fruit packing).
Goldenberg, N. Hammond, S. Oxford, Blackwell Scientific. Journal of the science of food and agriculture. Apr 1979. v. 30 (4). p. 377-380. ill. 10 ref. (NAL Call No.: 382 S012).

0258

Calcium analysis and the prediction of bitter pit in apple fruit.
Ferguson, I.B. Reid, M.S. Wellington, Dept. of Scientific and Industrial Research, Science Information Division. New Zealand journal of agricultural research. Aug 1979. v. 22 (3). p. 485-490. ill. 11 ref. (NAL Call No.: 23 N4892).

0259

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0260

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Bramlage, W.J. Drake, M. New York, Dekker. Communications in soil science and plant analysis. 1979. v. 10 (1/2). p. 417-426. ill. 8 ref. (NAL Call No.: S590.C63).

0261

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Cox, J. Emmaus, Pa. Organic gardening. Mar 1979. v. 26 (3). p. 76-79. ill. (NAL Call No.: 57.8 OR32).

0262

Control of apple replant disease with formaldehyde in Washington.
Covey, R.P. Koch, B.L.; Larsen, H.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. Nov 1984. v. 68 (11). p. 981-983. Includes 18 references. (NAL Call No.: 1.9 P69P).

0263

Cultural factors influencing net photosynthesis of apple trees (Includes effects of pests and diseases).
Ferree, D.C. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. Dec 1978. v. 13 (6,sect.1). p. 650-652. 75 ref. (NAL Call No.: SB1.H6).

0264

Determining the cause and extent of apple, cherry, and pear replant diseases under controlled conditions (Role of Pratylenchus penetrans and other nematodes).
Mai, W.F. Abawi, G.S. St. Paul, American Phytopathological Society. Phytopathology. Nov 1978. v. 68 (11). p. 1540-1544. ill. 22 ref. (NAL Call No.: 464.8 P56).

0265

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Preczewski, J.L. Madisonville, Ky., North American Fruit Explorers. The North American Pomona. Winter 1981. v. 14 (1). p. 26-29. (NAL Call No.: SB354.N6).

0266

The distribution of calcium in mature apple fruits having bitter pit disorder.
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0267

Distribution of frost protection water applied to apple trees during bud and leaf development (Sprinkler systems).
Jarrett, A.R. Morrow, C.T. St. Joseph, Mich. : The Society. Transactions of the ASAE - American Society of Agricultural Engineers. Jan/Feb 1984. v. 27 (1). p. 89-92, 98. ill. Includes references. (NAL Call No.: 290.9 AM32T).

0268

Economic feasibility of a deer-proof fence for apple orchards (Damage control, costs).
Caslick, J.W. Decker, D.J. Washington, D.C., The Society. Wildlife Society bulletin. Wildlife Society. Fall 1979. v. 7 (3). p. 173-175. ill. 12.ref. (NAL Call No.: SK357.A1W5).

0269

Effect of calcium placement and soil manganese on internal bark necrosis of the delicious apple tree / by David Curtis Ferree.
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0270

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(PROTECTION OF PLANTS)

0271

Effect of overtree misting for bloom delay on *Venturia inaequalis* (apple scab) ascospore maturity and release (Frost injury).
Spotts, R.A. Ferree, D.C. Beltsville, Md., Science and Education Administration, U.S. Dept. of Agriculture. Plant disease reporter. Feb 1979. v. 63 (2). p. 108-112. ill. 13 ref. (NAL Call No.: 1.9 P69P).

0272

Effect of soil fumigation on the apple replant disease in Washington.
Covey, R.P. Jr. Benson, N.R. St. Paul, American Phytopathological Society. Phytopathology. June 1979. v. 69 (6). p. 684-686. ill. 13 ref. (NAL Call No.: 464.8 P56).

0273

Effect of soil water potential on growth of apple trees infected with (the root-lesion nematode) *Pratylenchus penetrans*.
Jaffee, B.A. Mai, W.F. Ames, Iowa, Society of Nematologists. Journal of nematology. Apr 1979. v. 11 (2). p. 165-168. ill. 9 ref. (NAL Call No.: QL391.N4U62).

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Effects of calcium and nitrogen sources on corking (disorder) of apples (*Malus domestica* Borkh.).
Greene, G.M. Smith, C.B. New York, Dekker. Communications in soil science and plant analysis. 1979. v. 10 (1/2). p. 129-139. ill. 10 ref. (NAL Call No.: S590.C63).

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Effects of foliar calcium on McIntosh apple storage disorders.
Drake, M. Bramlage, W.J. New York, Dekker. Communications in soil science and plant analysis. 1979. v. 10 (1/2). p. 303-309. ill. 5 ref. (NAL Call No.: S590.C63).

0276

The effects of formalin and other (biocidal and fungicidal) soil treatments on the replant disease of apple.
Sewell, G.W. White, G.C. Ashford, England, Headley Bros. The Journal of horticultural science. Oct 1979. v. 54 (4). p. 333-335. ill. 6 ref. (NAL Call No.: 80 J825).

0277

Effects of vacuum and pressure infiltration of calcium chloride and storage temperature on the incidence of bitter pit (a physiological disorder) and low temperature breakdown of apples.
Scott, K.J. Wills, R.B.H. Melbourne, Commonwealth Scientific and Industrial Research Organization. Australian journal of agricultural research. Sept 1979. v. 30 (5). p. 917-928. ill. 21 ref. (NAL Call No.: 23 AU783).

0278

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Drummond, F. Williams, J.T.; Prokopy, R.J. Amherst, Mass., The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Spring 1982. v. 47 (2). p. 6-9. 6 ref. (NAL Call No.: 275.29 M381FR).

0279

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Lombard, P.B. OK. Wolfe, J.; Collins, M.D. Clemson, S.C., The Service. Circular - Clemson University, Cooperative Extension Service. Jan 1980. Jan 1980. (681). 21 p. 12 ref. (NAL Call No.: 275.29 S08E).

0280

Factors influencing CO₂ (carbon dioxide)-induced peel injury of 'Golden Delicious' apples (Fruit disorders, controlled atmosphere storage).
Lau, O.L. Looney, N.E. St. Joseph, Mich., The Society. Journal American Society for Horticultural Science. Nov 1978. v. 103 (6). p. 836-838. ill. 10 ref. (NAL Call No.: 81 S012).

0281

Field evaluation of a commercial magnetic device for pine vole control (in a commercial apple orchard).
Byers, R.E. Cleveland. Pest control. Jan 1979. v. 47 (1). p. 22-23. 5 ref. (NAL Call No.: 449.8 EX8).

0282

Foliage coverage patterns of a low-volume (apple) orchard sprayer (to control the several prevalent insect and disease pests).
Tompkins, F.D. Norman, H.J. Knoxville, The Station. Tennessee farm and home science. Progress report. Tennessee. Agricultural Experiment Station. July/Sept 1979. July/Sept 1979. (111). p. 38-41. ill. 6 ref. (NAL Call

No.: 100 T25F).

0283

Friction discolouration of two pear cultivars in relation to date of harvest and phenolic compounds in the fruit.

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Byers, R.E. Philadelphia : American Society for Testing and Materials, 1981. Vertebrate pest control and management materials : proceedings of the Third Symposium on Test Methods for Vertebrate Pest Control and Management Materials, Fresno, Calif., 7 March 1980 : a symposium. p. 77-85. 11 ref. (NAL Call No.: SB950.A2S95 1980).

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Parker, J.R. Kelly, G.M.; Tzilkowski, W.M. Winchester, Va. : R.E. Byers. Proceedings of the ... Eastern Pine and Meadow Vole Symposium. 1982. 1982. (6th). p. 101-106. ill. Includes references. (NAL Call No.: SB605.U6E3).

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Geyer, L.A. Beauchamp, G.K.; Seygal, G.; Rogers, J.G. Jr. New York, Academic Press. Behavioral and neural biology. Mar 1981. v. 31 (3). p. 331-341. Bibliography p. 340-341. (NAL Call No.: QH301.C63).

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Hoyt, S. Wenatchee, Wash. : The Association.
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Brunner, J.F. Hoyt, S.C.; Wright, M.A. Pullman, Wash., The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Mar 1982. Mar 1982. (1072). 4 p. (NAL Call No.: 275.29 W27P).

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Jackson, D.M. College Park, Md. Annals Entomological Society of America. May 1979. v. 72 (3). p. 361-368. ill. 19 ref. (NAL Call No.: 420 EN82).

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Pfeiffer, D.G. EVETB. Burts, E.C. College Park : Entomological Society of America. Environmental entomology. June 1983. v. 12 (3). p. 895-901. Includes references. (NAL Call No.: QL461.E532).

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Santos, M.A. College Park, Md., Entomological Society of America. Environmental entomology. Aug 1982. v. 11 (4). p. 972-974. ill. 13 ref. (NAL Call No.: QL461.E532).

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0517

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Ellis, M.A. Hall, F.R. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 4. (NAL Call No.: 464.9 AM31R).

0518

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0519

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Richardson, J.C. Jorgensen, C.D.; Croft, B.A. College Park, Md., The Society. Annals of the Entomological Society of America. Mar 1982. v. 75 (2). p. 201-209. ill. Includes 19 ref. (NAL Call No.: 420 EN82).

0520

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Laing, J.E. Heraty, M. College Park, Md., Entomological Society of America. Environmental entomology. Dec 1981. v. 10 (6). p. 933-935. ill. Includes 9 ref. (NAL Call No.: QL461.E532).

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Establishment, spread and current distribution of pear psylla (*Psylla pyricola*) in western Colorado.

Batiste, W.C. Bulla, A.D. Ft. Collins, Colo., The Station. Progress report - Colorado State University Experiment Station. Dec 1980. Dec 1980. (11). 3 p. ill. (NAL Call No.: 100 C71C).

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Weires, R.W. Straub, R.W. College Park, Md., Entomological Society of America. Environmental entomology. June 15, 1982. v. 11 (3). p. 645-647. ill. 5 ref. (NAL Call No.: QL461.E532).

0524

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Heppner, J.B. Vancouver. Journal Entomological Society of British Columbia. Dec 31, 1978. v. 75. p. 40-41. 6 ref. (NAL Call No.: 420 B77).

0525

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Batiste, W.C. Ft. Collins, Colo., The Station. Progress report - Colorado State University Experiment Station. Jan 1981. Jan 1981. (2). 4 p. (NAL Call No.: 100 C71C).

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Bulla, A.D. Ft. Collins, Colo., The Station. Progress report - Colorado Experiment Station. Apr 1982. Apr 1982. (4). 2 p. (NAL Call No.: 100 C71C).

0528

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Olcott-Reid, B. Sutton, T.B.; Unrath, C.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1981. v. 106 (4). p. 469-474. 20 ref. (NAL Call No.: 81 S012).

0529

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Karban, R. Lawrence, Kan., The Society. Journal of the New York Entomological Society. June 1982. v. 90 (2). p. 74-81. ill. Includes 2 p. ref. (NAL Call No.: 420 N48J).

0530

Experiments on the release of a strain of the predatory mite *Metaseiulus occidentalis* Nesbitt resistant to organophosphorus preparations in Crimean agrocenoses (Pest of the red apple mite *Panonychus ulmi*).

Zil'bermints, I.V. Kuznetsov, N.N.; Petrushov, A.Z.; Fadeev, YU.N. New York, Allerton Press. Soviet agriculture sciences. 1978. 1978. (8). p. 18-20. ill. 5 ref. (NAL Call No.: S1.S68).

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0531

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Prokopy, R.J. GENSA. Athens : The Society. Journal of the Georgia Entomological Society. Oct 1982. v. 17 (4, suppl. 2). p. 30-38. Includes references. (NAL Call No.: QL461.G4).

0538

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Hill, W.B. Burts, E.C. College Park, Md., Entomological Society of America. Journal of economic entomology. June 1982. v. 75 (3). p. 501-503. ill. Includes 6 ref. (NAL Call No.: 421 J822).

0539

Histological method for determining resistance of *Pyrus ussuriensis* X *Pyrus communis* hybrids against the pear psylla (*Psylla pyricola*, New York).

Fiori, B.J. Lamb, R.C. College Park, Md., Entomological Society of America. Journal of economic entomology. Feb 1982. v. 75 (1). p. 91-93. ill. 4 ref. (NAL Call No.: 421 J822).

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Riedl, H. Hoying, S.A. College Park, Md., Entomological Society of America. Journal of economic entomology. Feb 15, 1980. v. 73 (1). p. 117-122. ill. 11 ref. (NAL Call No.: 421 J822).

0541

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Hull, L.A. Starner, V.R. College Park, Md., Entomological Society of America. Journal of economic entomology. Feb 1983. v. 76 (1). p. 122-130. Includes references. (NAL Call No.: 421 J822).

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Fye, R.E.EVETB. College Park : Entomological Society of America. Environmental entomology. Feb 1983. v. 12 (1). p. 222-226. Includes references. (NAL Call No.: QL461.E532).

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Hall, F.R. New Brunswick, N. J., The Society. Horticultural news. New Jersey State Horticultural Society. Spring 1979. v. 60 (2). p. 19-21. ill. (NAL Call No.: 81 N46).

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0551

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Croft, B.A.EVETB. Whalon, M.E. College Park : Entomological Society of America. Environmental entomology. Feb 1983. v. 12 (1). p. 215-218. Includes references. (NAL Call No.: QL461.E532).

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Hull, L.A. Asquith, D. Baltimore, Entomological Society of America. Journal of economic entomology. Dec 1978. v. 71 (6). p. 880-885. ill. 6 ref. (NAL Call No.: 421 J822).

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Burts, E. Wenatchee, Wash., The Association. Proceedings - Washington State Horticultural Association. 1981. (77th). p. 187-190. (NAL Call No.: 81 W273).

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Zwick, R.W. Portland : The Society. Annual report - Oregon Horticultural Society. 1983. v. 74. p. 10, 12, 14. (NAL Call No.: 81 OR32).

0586

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0589

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Westigard, P. Willett, M. Portland : The Society. Annual report - Oregon Horticultural Society. 1983. v. 74. p. 14, 16, 18, 20. (NAL Call No.: 81 OR32).

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Maier, C.T. College Park, Md., Entomological Society of America. Environmental entomology. June 15, 1982. v. 11 (3). p. 603-610. ill.
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Retan, A.H. Burttts, E.; Carrithers, V. Pullman, Wash. : The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Apr 1984. Apr 1984. (1230,rev.). 4 p. ill. (NAL Call No.: 275.29 W27P).

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Retan, A.H. Burttts, E.; Peterson, V. Pullman, Wash., The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Jan 1982. Replaces EM4293. Jan 1982. (0906). 2 p. ill. Ref. (NAL Call No.: 275.29 W27P).

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Gambino, P. UNYEA. Sullivan, D.J. Lawrence : The Society. Journal of the New York Entomological Society. Dec 1982. v. 90 (4). p. 229-236. 7 ref. (NAL Call No.: 420 N48J).

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Riedl, H. Hoying, S.A. College Park, Md., Entomological Society of America. Environmental entomology. Aug 1979. v. 8 (4). p. 765-769. ill. 15 ref. (NAL Call No.: QL461.E532).

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Krestensen, E.R. Martinsburg, W. Va. Horticultural Society. Mountaineer grower. Apr 1979. Apr 1979. (396). p. 3-4. (NAL Call No.: 80 M86).

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Spatial distribution of overwintering eggs of the white apple leafhopper, *Typhlocyba pomaria*, and parasitism by *Anagras epos*.

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NcCaffrey, J.P. Horsburgh, R.L. College Park, Md., Entomological Society of America. Environmental entomology. Apr 15, 1980. v. 9 (2). p. 247-252. ill. Bibliography p. 252. (NAL Call No.: QL461.E532).

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Howell, J.F. George, D.A. Baltimore, Entomological Society of America. Journal of economic entomology. Feb 15, 1979. v. 72 (1). p. 27-29. ill. 6 ref. (NAL Call No.: 421 J822).

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Mahr, D.L. Ravdin, N.C. Madison : The Programs. Publication - Cooperative Extension Programs. University of Wisconsin - Extension. 1983. 1983. (A3211). 9 p. ill. (NAL Call No.: S544.3.W6W53).

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Ophardt, D.R. Portland, The Society. Annual report - Oregon Horticultural Society. 1982. v. 73. p. 80. (NAL Call No.: 81 OR32).

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White, T. Emmaus, Pa. : Rodale Press. Organic gardening. July 1984. v. 31 (7). p. 28-32. ill. (NAL Call No.: 57.8 OR32).

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Hutt, R.B. White, L.D. Washington, D.C., The Administration. Agricultural reviews and manuals. ARM-W. United States. Dept. of Agriculture. Science and Education Administration. Western Region. Office of the Regional Administrator for Federal Research. July 1979. July 1979. (9). 10 p. 34 ref. (NAL Call No.: aS21.A75U64).

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Boivin, G. EVETB. Stewart, R.K.; Rivard, I. College Park : Entomological Society of America. Environmental entomology. Oct 1982. v. 11 (5). p. 1067-1070. Includes references. (NAL Call No.: QL461.E532).

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Burts, E.C. PWHAA. Wenatchee : The Association. Proceedings - Washington State Horticultural Association. 1982. 1982. (78th). p. 159-162. (NAL Call No.: 81 W273).

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Carroll, D. WSEPA. Pullman : The Society. Proceedings - Washington State Entomological Society. Apr/Nov 1982. Apr/Nov 1982. (44). p. 633-635. (NAL Call No.: QL461.W3).

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Studies on the mechanism of permethrin resistance in *Amblyseius fallacis* (Acarina: Phytoseiidae) relative to previous insecticide use on apple (Predator mite).
 Scott, J.G. Croft, B.A.; Wagner, S.W. College Park, Md. : Entomological Society of America. Journal of economic entomology. Feb 1983. v. 76 (1). p. 6-10. Includes references. (NAL Call No.: 421 J822).

0683

Studies on the mechanisms responsible for variable toxicity of azinphosmethyl to various larval instars of the tufted apple budmoth, *Platynota idaeusalis*.
 Wells, D.S.PCBPB. Rock, G.C.; Dauterman, W.C. New York : Academic Press. Pesticide biochemistry and physiology. Oct 1983. v. 20 (2). p. 238-245. Includes references. (NAL Call No.: SB951.P49).

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 Rothschild, G.H.L. Boca Raton, Fla. : CRC Press, 1982. Insect suppression with controlled release pheromone systems / editors, Agis F. Kydonieus, Morton Beroza. Literature review. p. 117-134. 91 ref. (NAL Call No.: SB933.5.I48 v. 2).

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Survival of apple maggot larvae, *Rhagoletis pomonella* (Diptera: Tephritidae), in picked and unpicked apples.
 Reissig, W.H. Ottawa. Canadian entomologist. Feb 1979. v. 111 (2). p. 181-187. ill. 7 ref. (NAL Call No.: 421 C16).

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Survival potential of first instars of the codling moth (*Laspeyresia pomonella*, pest of apples) in laboratory experiments.
 Jackson, D.M. AR-SO. Harwood, R.F. College Park, Md., The Society. Annals of the Entomological Society of America. Entomological Society of America. Mar 15, 1980. v. 73 (2). p. 160-163. ill. 10 ref. (NAL Call No.: 420 EN82).

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Susceptibility of apple to injury by tarnished plant bug adults (*Lygus lineolaris*, Massachusetts).
 Prokopy, R.J. Hubbell, G.L. College Park, Md., Entomological Society of America. Environmental entomology. Dec 1981. v. 10 (6). p. 977-979. Includes 8 ref. (NAL Call No.: QL461.E532).

0688

Synthetic pyrethroids: use patterns in Oregon pear orchards (Pesticides, pear psylla).
 Westigard, P.H. Allen, R.B. Portland, Ore., The Society. Annual report - Oregon Horticultural Society. 1980. v. 71. p. 44, 46, 48, 50. 1 ref. (NAL Call No.: 81 OR32).

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The tarnished plant bug--how it effects your apples and your pocketbook (*Lygus lineolaris*).
 Weires, R.W.NEMFA. North Amherst : The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1983. v. 89. p. 52-54, 56-59. Includes references. (NAL Call No.: 81 M384).

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Tethered flight of apple maggot flies (*Rhagoletis pomonella*).
 Sharp, J.L. Gainesville, Florida Entomological Society. Florida entomologist. Dec 1978. v. 61 (4). p. 199-200. ill. (NAL Call No.: 420 F662).

0691

Thermoperiodic effects on the regulation of larval diapause in the tufted apple budmoth (*Lepidoptera: Tortricidae*) (*Platynota idaeusalis*).
 Rock, G.C.EVETB. College Park : Entomological Society of America. Environmental entomology. Oct 1983. v. 12 (5). p. 1500-1503. Includes references. (NAL Call No.: QL461.E532).

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0693

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McIntyre, J.L. Lacy, G.H. New Haven, Connecticut Agricultural Experiment Station. Frontiers of plant science. Spring 1979. v. 31 (2). p. 2-4. ill. 2 ref. (NAL Call No.: 100 F92).

0696

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0698

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Bode, W.M. New Brunswick, N.J., New Jersey State Horticultural Society. Horticultural news. Spring 1980. v. 61 (2). p. 28-31. (NAL Call No.: 81 N46).

0699

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0700

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Shaffer, P.L. EVETB. Rock, G.C. College Park : Entomological Society of America. Environmental entomology. Feb 1983. v. 12 (1). p. 76-80. Includes references. (NAL Call No.: QL461.E532).

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0702

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Bode, W.M. PA. University Park, Pa., The Station. Science in agriculture - Pennsylvania Agricultural Experiment Station. Summer 1980. v. 27 (4). p. 5. ill. (NAL Call No.: 100 P3815).

0703

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Mowery, P.D. Hull, L.A.; Asquith, D. College Park, Md., Entomological Society of America. Environmental entomology. Apr 15, 1980. v. 9 (2). p. 159-163. ill. 6 ref. (NAL Call No.: QL461.E532).

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SB21.A7A7).

0705

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Jorgensen, C.D. Martinsen, M.E. East Lansing, Michigan Entomological Society. The Great Lakes entomologist. Winter 1979. v. 12 (4). p. 203-212. ill. 2 ref. (NAL Call No.: QL461.M5).

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Prokopy, R.J. Hubbell, G.L.; Adams, R.G.; Hauschild, K.I. College Park, Md., Entomological Society of America. Environmental entomology. Feb 1982. v. 11 (1). p. 200-203. ill. Includes 11 ref. (NAL Call No.: QL461.E532).

0708

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0709

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0710

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0711

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0712

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0713

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0714

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0715

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Hogmire, H.W. Jr. Martinsburg, W. Va., West Virginia Horticultural Society. Mountaineer grower. Mar 1980. Mar 1980. (407). p. 3-4. 2 ref. (NAL Call No.: 80 M86).

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0716

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0717

1982--year of the aphid (*Aphis pomi*, *Myzus persicae*, on apple, pear, peach and nectarine).

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0718

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Dondale, C.D. Parent, B. Ottawa. Canadian entomologist. Mar 1979. v. 111 (3). p. 377-380. ill. 9 ref. (NAL Call No.: 421 C16).

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Yarris, L. SEA-WO-AR-W. Washington, D.C., The Administration. Agricultural research - U.S. Department of Agriculture, Science and Education Administration. United States. Dept. of Agriculture. Science and Education Administration. Mar 1980. v. 28 (9). p. 16. (NAL Call No.: 1.98 AG84).

0720

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0721

Distribution of plant-parasitic nematodes in Quebec apple orchards (*Xiphinema americanum*, *Pratylenchus penetrans*).
Vrain, T.C. Rousselle, G.L. St. Paul, Minn., American Phytopathological Society. Plant disease. June 1980. v. 64 (6). p. 582-583. map. 14 ref. (NAL Call No.: 1.9 P69P).

0722

The effect of Nemacur 3S on plant parasitic nematodes and apple growth and yield in Virginia, 1982 (*Pratylenchus* spp., *Xiphinema* spp., *Malus sylvestris*).
Niles, R.K. FNETD. Yoder, K.S.; Elliott, A.P. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 1. (NAL Call No.: 464.9 AM31R).

0723

Effect of *Xiphinema americanum* and *Rhizoctonia solani* on browning of apple roots, 1979 (Apple (*Malus sylvestris*), dagger nematode; *Xiphinema americanum*, *Rhizoctonia solani*).
Miller, P.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 214. (NAL Call No.: 464.9 AM31R).

0724

Effects of soil-applied postplant insecticides and nematicides on the pest complex and growth habits of young apple trees.
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Includes references. (NAL Call No.: S95.E23).

0725

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Koch, B.L. Covey, R.P. Jr.; Haglund, W.A. Alexandria, Va., American Society for Horticultural Science. HortScience. Oct 1980. v. 15 (5). p. 598-600. 10 ref. (NAL Call No.: SB1.H6).

0726

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0727

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0728

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Wallace, M.K. SEA. MacDonald, D.H. Beltsville, Md., The Administration. Plant disease reporter. United States. Dept. of Agriculture. Science and Education Administration. Dec 1979. v. 63 (12). p. 1063-1067. ill. 11 ref. (NAL Call No.: 1.9 P69P).

0729

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Jaffee, B.A. Abawi, G.S.; Mai, W.F. St. Paul, Minn., American Phytopathological Society. Phytopathology. Feb 1982. v. 72 (2). p. 247-251. ill. Includes 23 ref. (NAL Call No.: 464.8 P56).

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0730

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Pratylenchus penetrans during apple orchard
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nematode).**

Johnson, P.W. Dirks, V.A.; Pree, D.J.; Marks,
C.F. St. Paul, Minn., American
Phytopathological Society. Plant disease. Apr
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(NAL Call No.: 1.9 P69P).

0731

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Pakistan (Apple, orange and sugarcane as hosts,
soil fauna).**

Maqbool, M.A. Ames, Iowa, Society of
Nematologists. Journal of nematology. July
1982. v. 14 (3). p. 317-323. ill. 7 ref. (NAL
Call No.: QL391.N4J62).

0732

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descriptions of three new species (from peaty
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Proceedings - Helminthological Society of
Washington. Helminthological Society of
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0733

Apple pest control for home gardeners.

Mahr, D. L. Boone, D. M. & Urban phytonarian series. 1981. This publication discusses disease and insect control for apple trees. It includes a spraying guide, spray record sheet and gives some spraying tips. Document available from: Agricultural Bulletin Building, 1535 Observatory Drive, University of Wisconsin, Madison, WI 53706. 4 p. : ill. (NAL Call No.: A2179).

0734

Apple scab in the home fruit planting.

Pecknold, Paul C. Scott, Donald H.; Stevenson, Walter R. & Plant disease control. Document available from: Purdue University, Publication Mailing Room, 301 South Second Street, Lafayette, Indiana 47905 1975. Outlines apple scab symptoms, cause, disease cycle and control. 3 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: BP-3-2).

0735

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Sutton, T.B. Hayne, D.W.; Sullivan, W.T. Jr.; Nardacci, J.F.; Klimstra, D.E. St. Paul, Minn., American Phytopathological Society. Plant disease. Apr 1981. v. 65 (4). p. 330-332. 12 ref. (NAL Call No.: 1.9 P69P).

0736

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Cater, R.R. Fayetteville, Ark. : Arkansas State Horticultural Society. Proceedings of the ... annual meeting - Arkansas State Horticultural Society. 1983. 1983. (104th). p. 49-53. Includes references. (NAL Call No.: SB21.A7A7).

0737

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Mai, W.F. Abawi, G.S. St. Paul, Minn., American Phytopathological Society. Plant disease. Nov 1981. v. 65 (11). p. 859-864. ill. 16 ref. (NAL Call No.: 1.9 P69P).

0738

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Byther, R.S. Antonelli, A.L. Pullman, Wash., The Service. Extension bulletin - Washington State University, Cooperative Extension.

Service. Mar 1981. Mar 1981. (0846). 4 p. ill. (NAL Call No.: 275.29 W27P).

0739

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Maloy, D.C. Retan, A.H. Pullman, Wash., The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Mar 1981. Mar 1981. (0836). 5 p. ill. (NAL Call No.: 275.29 W27P).

0740

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Pecknold, Paul C. Documet avai University, Publication Mailing Room, 301 South Second Street, Lafayette, Indiana 47905 1976. Gives tables for spraying for apples, pears, strawberries, raspberrie and grapes. 6 p. : ill. (NAL Call No.: Document available from source.). (NAL Call No.: BP-3-1).

0741

Disease management for apples in Massachusetts: 1982 results and summary of the five-year program (Includes cost-benefit analysis for fungicide usage).

Becker, C.M. Bardinelli, T.R.; Cooley, D.R.; Pategas, K.G.; Manning, W.J. Amherst : The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1983. v. 48 (1). p. 10-16. (NAL Call No.: 275.29 M381FR).

0742

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Olcott-Reid, B. Sutton, T.B.; Unrath, C.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1981. v. 106 (4). p. 469-474. 20 ref. (NAL Call No.: 81 S012).

0743

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Seem, R.C. Jones, A.L. Minneapolis, Minn. : Published for the Congress by Burgess Pub., c1981. Proceedings of symposia : IX International Congress of Plant Protection, Washington, D.C., U.S.A., August 5-11, 1979 / editor, Thor Kommedahl. p. 596-599. Includes 10 ref. (NAL Call No.: SB951.I5 1979).

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0744

'Freedom', a new disease-resistant apple (Varieties, performance, disease resistance). Lamb, R.C. Aldwinckle, H.S.; Terry, D.E. Geneva, N.Y. : New York (State), Agricultural Experiment Station, Geneva. New York's food and life sciences bulletin. 1983. 1983. (102). 2 p. ill. Includes references. (NAL Call No.: S95.E22).

0745

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0746

Influence of preplant soil fumigants on growth and survival of Delicious apple trees planted on a peach tree short life site (Nematoda, Fungi, Georgia). Miller, S.S.GARBB. Athens : The Stations. Research bulletin - University of Georgia, Experiment Stations. Apr 1982. Apr 1982. (274). 7 p. 12 ref. (NAL Call No.: S51.E2).

0747

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Croft, Brian A.; Hoyt, S. C. New York Wiley c1983. "A Wiley-Interscience publication.". xvi, 454 p. : ill. ; 24 cm. -. Includes bibliographies and index. (NAL Call No.: SB608.F8152).

0748

Investigations of internal bark necrosis in delicious apple trees / by Timothy Eugene Crocker.

Crocker, Timothy Eugene, 1944. 1970. Thesis (Ph.D.)--Michigan State University, 1970. Photocopy. Ann Arbor, Mich. : University Microfilms, 1971. vi, 71 leaves ; 21 cm. Bibliography: leaves 67-71. (NAL Call No.: DISS 71-2,051).

0749

Investigations of the cause and control of biennial bearing of apple trees by C.P. Harley ... (et al.).

Harley, C. P. Washington, D.C. U.S. Dept. of Agriculture 1942. 58 p. : ill. -. Bibliography: p. 56-58. (NAL Call No.: Fiche S-69 no.792).

0750

Pest resistance in horticultural crops: tomato and apple (*Malus domestica*, *Lycopersicon esculentum*, includes breeding for disease resistance).

Janick, J. Washington, D.C., The Department. Miscellaneous publication - United States Dept. of Agriculture. July 1982. July 1982. (1422). p. 66-71. 3 ref. (NAL Call No.: 1 AG84M).

0751

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0752

Spray information for North Carolina apples (Pesticides, fungicides, growth-regulating chemicals).

Rock, G.C. Sorensen, K.A.; Kolbe, M.H.; Skroch, W.A.; Unrath, C.R. Raleigh : The Service. AG - North Carolina Agricultural Extension Service, North Carolina State University. Jan 1983. Supplement to 1982 Spray Information for North Carolina Apples. Jan 1983. (37suppl.). 6 p. (NAL Call No.: S544.3.N6N62).

0753

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Jones, B.F. Johnson, D.R.; Mason, C.L.; McDaniel, M.C. Little Rock : The Service. Leaflet EL - Arkansas University, Cooperative Extension Service. Nov 1983. Nov 1983. (239,rev.). 8 p. (NAL Call No.: 275.29 AR4LE).

0754

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White, T. Emmaus, Pa. : Rodale Press. Organic gardening. July 1984. v. 31 (7). p. 28-32. ill. (NAL Call No.: 57.8 OR32).

0755

1980 spray guide for apples and pears in the Willamette Valley (Pesticides, insect; pest and disease control).

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PLANT DISEASES - FUNGAL

0756

After-infection control of scab with Dichlone and Quintar, 1980 (Apple (*Malus sylvestris* 'McIntosh', 'Mac Spur'), scab; *Venturia inaequalis*).

Jones, A.L. Ehret, G.R.; Comstock, R.E. (s.l.). The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 10. (NAL Call No.: 464.9 AM31R).

0757

Air application for apple (scab) disease control (caused by *Venturia inaequalis*). Gottlieb, A.R. North Amherst, Mass., The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1980. v. 86. p. 70-71. (NAL Call No.: 81 M384).

0758

Analysis of apple scab (*Venturia inaequalis*) epidemics and attempts at improved disease prediction (Computer simulations). Jones, A.L. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 19-22. ill. 9 ref. (NAL Call No.: S95.E24).

0759

Analysis of factors affecting dispersal of (apple powdery mildew caused by *Podosphaera leucotricha*) *Podosphaera leucotricha* conidia (in the Northeast and North Central United States).

Sutton, T.B. Jones, A.L. St. Paul, American Phytopathological Society. Phytopathology. Apr 1979. v. 69 (4). p. 380-383. ill. 13 ref. (NAL Call No.: 464.8 P56).

0760

Antagonism of *Athelia bombacina* and *Chaetomium globosum* to the apple scab pathogen, *Venturia inaequalis* (*Malus pumila*, biological control). Heye, C.C. PHYTA. Andrews, J.H. St. Paul : American Phytopathological Society. Phytopathology. May 1983. v. 73 (5). p. 650-654. Includes references. (NAL Call No.: 464.8 P56).

0761

The antifungal activity of polyoxin B and iprodione against phytopathogenic fungi recently isolated from diseased plants in Japan (Leaf spot of apple, *Alternaria mali*, pear black spot, *Alternaria kikuchiana*, and grey mould, *Botrytis* spp.). Sakurai, H. Fujita, S. London Society of

Chemical Industry. Pesticide science Society of Chemical Industry. June 1978. v. 9 (3). p. 207-212. ill. 7 ref. (NAL Call No.: SB951.P47).

0762

Antisporulant action of fungicides against *Venturia inaequalis* on apple, 1980 (Apple (*Malus sylvestris* 'Rome Beauty'), apple scab; *Venturia inaequalis*).

Hickey, K.D. Parish, P.J. (s.l.). The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 9-10. (NAL Call No.: 464.9 AM31R).

0763

Antisporulant activity of chemicals towards fungi (*Gloeosporium fructigenum*, *Gloeosporium perennans*, *Nectria galligena*) causing cankers on apple branches.

Corke, A.T.K. Sneh, B. London, The Association of Applied Biologists. Annals of applied biology. Apr 1979. v. 91 (3). p. 325-330. ill. 19 ref. (NAL Call No.: 442.8 AN72).

0764

Antisporulant activity of various fungicides on apple scab (*Venturia inaequalis*) foliage lesions.

Alexander, S.A. Lewis, F.H. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 28-29. (NAL Call No.: S95.E24).

0765

Apple disease control by experimental and standard fungicide combinations, 'Jonathan' cultivar, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*, scab; *Venturia inaequalis*, rust; *Gymnosporangium juniperi-virginianae*, sooty blotch; *Gloeodes pomigena*, fly speck; *Schizothyrium pomi*, brooks fruit spot; *Mycosphaerella pomi*, fruit rots). Yoder, K.S. Cochran, A.E. II.; Warren, J.R.; Nicholls, S.A. (s.l.). The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 26-27. (NAL Call No.: 464.9 AM31R).

0766

Apple disease control in western North Carolina, 1980 (Apple (*Malus sylvestris*), scab; *Venturia inaequalis*, mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*).

Sutton, T.B. Nardacci, J.F. (s.l.). The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 17. (NAL Call No.: 464.9 AM31R).

(PLANT DISEASES - FUNGAL)

0767

Apple disease control in western North Carolina, 1981 (Apple (*Malus sylvestris*; 'Golden Delicious', 'Rome Beauty'), mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*, brooks spot; *Mycosphaerella pomi*). Nardacci, J.F. Sutton, T.B. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 12. (NAL Call No.: 464.9 AM31R).

0768

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0830

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0834

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0835

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0836

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0837

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0838

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0840

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Spotts, R.A. Chen, P.M. St. Paul, Minn. : American Phytopathological Society. Phytopathology. May 1984. v. 74 (5). p. 542-544. Includes references. (NAL Call No.: 464.8 P56).

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0842

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0843

A comparison of the efficiency of sprays of two drop-size ranges in an apple orchard (to control powdery mildew *Podosphaera leucotricha*, red spider mite *Panonychus ulmi*).
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0844

Competition between benomyl-resistant and sensitive strains of *Venturia inaequalis* on apple seedlings (Fungicide tolerance).
McGee, D.C. Zuck, M.G. Laramie, The Station. Science monograph - University of Wyoming. Agricultural Experiment Station. May 1981. v. 71 (5). p. 529-532. 15 ref. (NAL Call No.: S131.E2).

0845

Continued protection against apple scab from fungicide residues depleted by rainfall, 1981 (Apple (*Malus sylvestris* 'Rome Beauty', 'McIntosh', 'Niagara'), apple scab; *Venturia inaequalis*).
Szkolnik, M. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 17. (NAL Call No.: 464.9 AM31R).

0846

Control of apple scab (*Venturia inaequalis* (Cooke) Winter) in the Kashmir Valley using Captafol and residues of the fungicide in fruits.
Agnihotrudu, V. Mithyantha, M.S. Bangalore. Proceedings ... Section B Indian Academy of Sciences. Nov 1978. v. 87 (11). p. 271-276.

111. 11 ref. (NAL Call No.: 513 IN25B).

0847

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0848

Control of benzimidazole tolerant and susceptible blue mold in pears, 1980 (Pear (*Pyrus communis* 'Josephine'), blue mold; *Penicillium expansum*). Koffmann, W. Roberts, E. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 24. (NAL Call No.: 464.9 AM31R).

0849

Control of crabapple rust and hawthorn rust with foliar sprays, 1979 (Crabapple (*Malus ioensis*), hawthorn (*Crataegus mollis*), crabapple rust; *Gymnosporangium juniperi-virginianae*, hawthorn rust; *Gymnosporangium globosum*). Neely, D. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 135. (NAL Call No.: 464.9 AM31R).

0850

Control of crabapple rust and hawthorn rust with foliar sprays, 1980 (Crabapple (*Malus ioensis*), hawthorn (*Crataegus mollis*), crabapple rust; *Gymnosporangium juniperi-virginia*, hawthorn rust; *Gymnosporangium globosum*). Neely, D. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 125. (NAL Call No.: 464.9 AM31R).

0851

Control of crabapple rust and hawthorn rust with foliar sprays, 1981 (Crabapple (*Malus ioensis*), hawthorn (*Crataegus mollis*), crabapple rust; *Gymnosporangium juniperi-virginianae*, hawthorn rust; *Gymnosporangium globosum*). Neely, D. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 130-131. (NAL Call No.: 464.9 AM31R).

0852

Control of crabapple rust and hawthorn rust with foliar sprays, 1982 (*Gymnosporangium juniperi-virginianae*, *Gymnosporangium globosum*, *Malus ioensis*, *Crataegus mollis*). Neely, D. FNETD. (s.l.). The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 172. (NAL Call No.: 464.9 AM31R).

0853

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0854

Control of powdery mildew by reduced volume applications of experimental fungicides, 1980 (Apple (*Malus sylvestris* 'Jonathan'/'M106'), powdery mildew; *Podosphaera leucotricha*, brooks fruit spot; *Mycosphaerella pomi*). Yoder, K.S. Nicholls, S.A.; Cochran, A.E. II.; Warren, J.R. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 22-23. (NAL Call No.: 464.9 AM31R).

0855

Control of powdery mildew of apple throughout a greenhouse room by Vanguard vapor activity, 1981 (Apple (*Malus sylvestris* 'McIntosh'), powdery mildew; *Podosphaera leucotricha*). Szkolnik, M. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 18. (NAL Call No.: 464.9 AM31R).

0856

Control of scab, mildew and summer diseases with seasonal low volume fungicide sprays, 1979 (Apple (*Malus sylvestris*, 'Stayman Winesap'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*). Hickey, K.D. Lalancette, N. Jr.; Berkett, L.P. (s.l.). The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 10. (NAL Call No.: 464.9 AM31R).

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0857

Control of scab with Bravo by S.A.T. (single application treatments), 1980 (Apple (*Malus sylvestris* 'Empire'), apple scab; *Venturia inaequalis*).
Gilpatrick, J.D. Smith, C.A. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 6. (NAL Call No.: 464.9 AM31R).

0858

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Latham, A.J. AL. Hollingsworth, M.H. Auburn, Ala., The Station. Circular - Agricultural Experiment Station, Auburn University. Mar 1980. Mar 1980. (248). 11 p. ill. 14 ref. (NAL Call No.: 100 AL1S (2)).

0859

Control of storage rots of pear--a review.
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0860

Control strategies for benomyl-resistant postharvest decays of apples (Mainly *Penicillium expansum* and *Botrytis cinerea*).
Rosenberger, D.A. (s.l., s.n.). Proceedings of the ... annual meeting - New York State Horticultural Society. 1980. v. 125 (125th). p. 98-102. 3 ref. (NAL Call No.: 81 N484).

0861

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Andrews, R. Wenatchee, Wash. : The Association. Proceedings - Washington State Horticultural Association. 1983. 1983. (79th). p. 105-106. (NAL Call No.: 81 W273).

0862

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Dayton, D.F. n.p. Transactions Illinois State Horticultural Society. 1978. v. 112. p. 31-32. (NAL Call No.: 81 IL6).

0863

Coriolus versicolor infection of young apple trees in Washington state.
Covey, R.P. Larson, H.J.; Fitzgerald, T.J.; Dilley, M.A. St. Paul, Minn., American Phytopathological Society. Plant disease. Mar 1981. v. 65 (3). p. 280. 6 ref. (NAL Call No.: 1.9 P69P).

0864

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0865

Current and projected future needs for new fungicides to control apple and pear diseases (*Venturia inaequalis*).
Hickey, K.D. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 35-37. (NAL Call No.: S95.E24).

0866

Current status of apple scab (*Venturia inaequalis*) resistant varieties.
Williams, E.B. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 18-19. 7 ref. (NAL Call No.: S95.E24).

0867

D'Anjou pear decay caused by a low temperature basidiomycete (Oregon).
Spotts, R.A. Traquair, J.A.; Peters, B.B. St. Paul, Minn., American Phytopathological Society. Plant disease. Feb 1981. v. 65 (2). p. 151-159. ill. 7 ref. (NAL Call No.: 1.9 P69P).

0868

Defoliation by bypsy moths predisposes young apple trees to canker and dieback (*Cytospora*).
Becker, C.M. Manning, W.J. Amherst, The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1982. v. 47 (1). p. 14-15. ill. (NAL Call No.: 275.29 M381FR).

0869

Demonstration of postinfection activity by Funginex on cedar apple rust, 1982 (*Gymnosporangium juniperi-virginianae*, *Malus sylvestris*).

Yoder, K.S.FNETD. Nicholls, S.A.; Cochran, A.E. II. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 163. (NAL Call No.: 464.9 AM31R).

0870

Development and commercialization of an in-field microcomputer deliver system for weather-driven predictive models (*Venturia inaequalis*, apple scab, timing of fungicide applications).

Jones, A.L. Fisher, P.D.; Seem, R.C.; Kroon, J.C.; Van DeMott, P.J. St. Paul, Minn. : American Phytopathological Society. Plant disease. June 1984. v. 68 (6). p. 458-463. ill. Includes references. (NAL Call No.: 1.9 P69P).

0871

Disease and insect spray schedule for home orchards: apples, pears, crab apples, western Washington.

Byther, R.S. WA. Antonelli, A.L. Pullman, Wash., The Service. EM - Cooperative Extension Service, Washington State University. Washington State University. Cooperative Extension Service. Nov 1979. Nov 1979. (3439). 4 p. ill. (NAL Call No.: 275.29 W27MI).

0872

Disease control by reduced volume applications of Bayelton and Rubigan on Jonathan apple, 1982 (*Malus sylvestris*).

Yoder, K.S.FNETD. Cochran, A.E. II; Warren, J.R.; Nicholls, S.A. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 158-159. (NAL Call No.: 464.9 AM31R).

0873

Disease control by reduced volume applications of experimental fungicides, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*, rust; *Gymnosporangium juniperi-virginianae*, brooks fruit spot; *Mycosphaerella pomi*).

Yoder, K.S. Cochran, A.E. II.; Warren, J.R.; Nicholls, S.A. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 22. (NAL Call No.: 464.9 AM31R).

0874

Disease incidence on apple sprayed dilute with experimental fungicides at 7-day (prebloom) and 14-day (postbloom) intervals, 1982 (Disease control, *Malus domestica*).

Hickey, K.D.FNETD. May, J.; Garretson, M. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 141-142. (NAL Call No.: 464.9 AM31R).

0875

Disease incidence on apple treated with fungicides applied for after-infection scab control, 1981 (Apple (*Malus sylvestris* 'Rome Beauty', 'Stayman Winesap', 'Delicious'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, cedar-apple rust; *Gymnosporangium juniperi-virginianae*).

Hickey, K.D. May, J.; Garretson, M. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 6-7. (NAL Call No.: 464.9 AM31R).

0876

Disease incidence on three cultivars sprayed with experimental fungicides, 1979 (Apple (*malus sylvestris*, 'Rome Beauty', 'Golden Delicious', 'Delicious'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*, cedar apple rust; *Gymnosporangium juniperi-virginianae*, black rot; *Physalospora obtusa*).

Hickey, K.D. Berkett, L.P.; Lalancette, N. Jr. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 7. (NAL Call No.: 464.9 AM31R).

0877

Disease incidence on trees sprayed with experimental fungicides, 1981 (Apple (*Malus sylvestris* 'Rome Beauty', 'Golden Delicious', 'Delicious'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, cedar apple rust; *Gymnosporangium juniperi-virginianae*, sooty blotch; *Gloeodes pomigena*, fly speck; *Schizothyrium pomi*).

Hickey, K.D. Garretson, M.; May, J. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 5-6. (NAL Call No.: 464.9 AM31R).

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0878

Disease management for apples in Massachusetts: 1982 results and summary of the five-year program (Includes cost-benefit analysis for fungicide usage).

Becker, C.M. Bardinelli, T.R.; Cooley, D.R.; Pategas, K.G.; Manning, W.J. Amherst : The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1983. v. 48 (1). p. 10-16. (NAL Call No.: 275.29 M381FR).

0879

Diseases and insects of pears--a panel discussion (Includes Botrytis storage rots).

Smith, F. AR-W. Covey, R.; Fye, R.; Burts, E.; Pierson, C. Wenatchee. Proceedings Washington State Horticultural Association. 1979. 1979. (75th). p. 196-201. (NAL Call No.: 81 W273).

0880

Distribution and control of *Sclerotium rolfsii* (southern blight) on apple (in Georgia).

Brown, E.A. II. St. Paul, Minn., American Phytopathological Society. Plant disease. Feb 1980. v. 64 (2). p. 205-206. ill. 9 ref. (NAL Call No.: 1.9 P69P).

0881

Dr. W. D. Mills and his system of predicting apple scab (*Venturia inaequalis*) infection.

Lewis, F.H. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 37-38. (NAL Call No.: S95.E24).

0882

Effect of apple cultivar on *Venturia inaequalis* ascospore emission in California.

Moller, W.U. St. Paul, Minn., American Phytopathological Society. Plant disease. Oct 1980. v. 64 (10). p. 930-931. ill. 7 ref. (NAL Call No.: 1.9 P69P).

0883

Effect of application interval on control of apple powdery mildew by Dikar-Benlate combinations, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*, brooks fruit spot; *Mycosphaerella pomi*, rust; *Gymnosporangium juniperi-virginianae*, sooty blotch; *Gloeodes pomigena*, fly speck; *Schizothyrium pomi*).

Yoder, K.S. Cochran, A.E. II.; Warren, J.R.; Nicholls, S.A. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 23. (NAL Call No.: 464.9 AM31R).

0884

Effect of application interval on control of powdery mildew by standard fungicides, 1980 (Apple (*Malus sylvestris* 'Jonathan'/M106'), powdery mildew; *Podosphaera leucotricha*, brooks fruit spot; *Mycosphaerella pomi*).

Yoder, K.S. Cochran, A.E. II.; Warren, J.R.; Nicholls, S.A. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 21. (NAL Call No.: 464.9 AM31R).

0885

Effect of bitertanol, fenarimol, and urea as fall treatments on *Venturia pirina* ascospore production (Pear scab fungus).

Latorre, B.A. Marin, G. St. Paul, American Phytopathological Society. Plant disease. July 1982. v. 66 (7). p. 585-586. 10 ref. (NAL Call No.: 1.9 P69P).

0886

Effect of early sprays on control of powdery mildew fruit russet on apples (*Podosphaera leucotricha*, Rome Beauty and Jonathan varieties, etaconazole, dinocap, benomyl, wettable sulphur, Utah).

Daines, R. Weber, D.J.; Bunderson, E.D.; Roper, T. St. Paul, Minn. : American Phytopathological Society. Plant disease. Apr 1984. v. 68 (4). p. 326-328. Includes references. (NAL Call No.: 1.9 P69P).

0887

Effect of insecticides, nutrients, and adjuvants on in vitro fungistatic and fungicidal activity of captan and mancozeb (Apple, *Colletotrichum gloeosporioides*, *Dothiorella* sp.).

Gradis, W.H. Sutton, T.B. St. Paul, Minn., American Phytopathological Society. Plant disease. Apr 1981. v. 65 (4). p. 356-358. 13 ref. (NAL Call No.: 1.9 P69P).

0888

Effect of low temperature on survival of apple buds infected with the powdery mildew fungus (*Podosphaera leucotricha*).

Spotts, R.A. Covey, R.P.; Chen, P.M. Alexandria, Va., American Society for Horticultural Science. HortScience. Dec 1981. v. 16 (6,sect.1). p. 781-783. ill. Includes 10 ref. (NAL Call No.: SB1.H6).

0889

Effect of orchard sprays on a population of *Fusarium lateritium* on apple bark.

Bishop, G.C. Cambridge, Cambridge University Press. Transactions. British Mycological Society. Oct 1979. v. 73 (2). p. 249-253. ill. 13 ref. (NAL Call No.: 451 B76).

0890

Effect of overtree misting for bloom delay on *Venturia inaequalis* (apple scab) ascospore maturity and release (Frost injury).

Spotts, R.A. Ferree, D.C. Beltsville, Md., Science and Education Administration, U.S. Dept. of Agriculture. Plant disease reporter. Feb 1979. v. 63 (2). p. 108-112. ill. 13 ref. (NAL Call No.: 1.9 P69P).

0891

Effect of Spray-Aide on performance of Benlate and Dikar in slightly alkaline water, 1982 (Control of diseases of apples, *Malus sylvestris*).

Yoder, K.S. FNETD. Cochran, A.E. II; Warren, J.R.; Nicholls, S.A.; Polk, D.C. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 161. (NAL Call No.: 464.9 AM31R).

0892

Effect of temperature and relative humidity on the latent period of *Venturia inaequalis* in apple leaves (Apple scab, greenhouse conditions).

Tomerlin, J.R. PHYTA. Jones, A.L. St. Paul : American Phytopathological Society. Phytopathology. Jan 1983. v. 73 (1). p. 51-54. 11 ref. (NAL Call No.: 464.8 P56).

0893

Effect of temperature on incidence and development of bitter rot lesions on apples (caused by *Glomerella cingulata*).

Noe, J.P. Starkey, T.E. St. Paul, Minn., American Phytopathological Society. Plant disease. Dec 1980. v. 64 (12). p. 1084-1085. 8 ref. (NAL Call No.: 1.9 P69P).

0894

Effect of *Xiphinema americanum* and *Rhizoctonia solani* on browning of apple roots, 1979 (Apple (*Malus sylvestris*), dagger nematode; *Xiphinema americanum*, *Rhizoctonia solani*).

Miller, P.M. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 214. (NAL Call No.: 464.9 AM31R).

0895

Effectiveness of Baycor, Rubigan and Difolatan as S.A.T. (single application treatments), 1980 (Control of scab, *Venturia pirina*, on pears, *Pyrus communis*).

Marin, G.R. FNETD. Latorre, B.A. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 165. (NAL Call No.: 464.9 AM31R).

0896

Effectiveness of fungicides for control of apple powdery mildew in 1980.

Luepschen, N.S. Ft. Collins, Colo., The Station. Progress report - Colorado State University Experiment Station. Jan 1981. Jan 1981. (3). 3 p. (NAL Call No.: 100 C71C).

0897

Effectiveness of various fungicides for control of apple diseases during, 1980 (Apple (*Malus sylvestris*), sooty blotch; (*Gloeodes pomigena*), fly speck; (*Microthyriella rubi*), fruit rots; (*Glomerella cingulata*, *Physalospora obtusa* and *Botryosphaeria dothidea*), apple scab; *Venturia inaequalis*, Golden Delicious leaf blotch, stress).

Drake, C.R. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 2-4. (NAL Call No.: 464.9 AM31R).

0898

Effects of benomyl on *Venturia inaequalis*, the cause of apple scab / by Ralph Bruce Paisley.

Paisley, Ralph Bruce, 1938. 1971. Thesis (Ph.D.)--University of Delaware, 1971. Photocopy of typescript. Ann Arbor: University Microfilms, 1972. iv, 37 leaves ; 21 cm. Bibliography: leaves 22-25. (NAL Call No.: DISS 72-14,480).

0899

Effects of buffering adjuvants on efficacy of fungicides on Jonathan apple, 1981 (Apple (*Malus sylvestris* 'Jonathan'), powdery mildew; *Podosphaera leucotricha*, fly speck; *Schizothyrium pomi*, sooty blotch; *Gloeodes pomigena*, brooks spot; *Mycosphaerella pomi*, fruit finish).

Yoder, K.S. Cochran, A.E. II; Warren, J.R.; Nicholls, S.A. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1982. v. 37. p. 21. (NAL Call No.: 464.9 AM31R).

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0900

Effects of metalaxyl on *Phytophthora cactorum* and collar rot of apple.
Ellis, M.A. PHYTA. Grove, G.G.; Ferree, D.C. St. Paul : American Phytopathological Society. Phytopathology. Nov 1982. v. 72 (11). p. 1431-1434. 22 ref. (NAL Call No.: 464.8 P56).

0901

Effects of pectin lyase from *Monilinia fructigena* on viability, ultrastructure and localization of acid phosphatase of cultured apple cells.
Hislop, E.C. Keon, J.P.R. London. Physiological plant pathology. May 1979. v. 14 (3). p. 371-381. ill., plates. 47 ref. (NAL Call No.: SB599.P45).

0902

Effects of spray timing on cedar apple rust fruit infections, 1980 (Apple (*Malus sylvestris* 'Golden Delicious'), cedar apple rust; *Gymnosporangium juniperi-virginianae*, blossom end rot; *Botrytis cinerea*; *Physalospora obtusa*).
Rosenberger, D.A. Meyer, F.W. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 14-15. (NAL Call No.: 464.9 AM31R).

0903

Effects of temperature during ascus formation and frequency of ascospore discharge in pseudothecial development of *Venturia inaequalis* (Apple scab, system to predict absolute inoculum levels or ascospore dose, New Hampshire).
Gadoury, D.M. MacHardy, W.E.; Hu, C.C. St. Paul, Minn. : American Phytopathological Society. Plant disease. Mar 1984. v. 68 (3). p. 223-225. ill. Includes references. (NAL Call No.: 1.9 P69P).

0904

Efficacy and in vitro activity of selected fungicides for control of *Phytophthora cactorum* collar rot of apple.
Brown, E.A. II. Hendrix, F.F. St. Paul, Minn., American Phytopathological Society. Plant disease. Mar 1980. v. 64 (3). p. 310-312. ill. 17 ref. (NAL Call No.: 1.9 P69P).

0905

Efficacy of autumn urea in reducing spring inoculum of apple scab (*Venturia inaequalis*).
Moller, W.J. Berkeley, Calif., The Service. California plant pathology - Cooperative Extension, University of California. Mar 1981. Mar 1981. (52). p. 1-2. 4 ref. (NAL Call No.: SB599.C3).

0906

Efficacy of captifol formulations applied sat for control of apple scab and summer diseases (Apple (*Malus sylvestris*, 'Rome Beauty'), apple scab; *Venturia inaequalis*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*).
Hickey, K.D. Davis, A.E.; Lalancette, N. Jr. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 8. (NAL Call No.: 464.9 AM31R).

0907

Efficacy of experimental fungicides against three major apples diseases, 1980 (Apple (*Malus sylvestris* 'Rome Beauty', 'Golden Delicious', 'Delicious'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, cedar apple rust; *Gymnosporangium juniper-virginianae*).
Hickey, K.D. Lalancette, N. Jr.; Berkett, L.P. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 8. (NAL Call No.: 464.9 AM31R).

0908

Efficacy of fungicide treatments for control of several diseases, 1979 (Apple (*Malus sylvestris*, 'Rome Beauty'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*, cedar apple rust; *Gymnosporangium juniperi-virginianae*).
Hickey, K.D. Davis, A.E.; Lalancette, N. Jr. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 7-8. (NAL Call No.: 464.9 AM31R).

0909

Efficacy of fungicides and fungicide combinations for control of moldy core in Delicious apple fruit, 1980 (*Alternaria* spp., *Malus sylvestris*).
Ellis, M.A. FNETD. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 136-137. (NAL Call No.: 464.9 AM31R).

0910

Efficacy of fungicides and fungicide combinations against apple scab and European red mite, 1981 (Apple (*Malus sylvestris* 'Rome', 'Delicious'), scab; *Venturia inaequalis*, European red mite; *Panonychus ulmi*). Ellis, M.A. Hall, F.R. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 4. (NAL Call No.: 464.9 AM31R).

0911

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0963

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Koffmann, W. Roberts, E. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 13-14. (NAL Call No.: 464.9 AM31R).

0964

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0965

Evaluation of fungicides for the control of apple powdery mildew, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*).

Thomson, S.V. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 22. (NAL Call No.: 464.9 AM31R).

0966

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Thompson, S.V. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 20. (NAL Call No.: 464.9 AM31R).

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Evaluation of morning and evening reduced volume applications of sterol-inhibiting fungicides for apple disease control and fruit effects, 1982 (Sooty blotch, *Gloeodes pomigena*, fly speck, *Microthyriella rubi* on *Malus sylvestris*).

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0972

Evaluation of new fungicides for scab and powdery mildew of apple, 1979 (Apple (*Malus sylvestris* 'McIntosh', 'Idared', 'Empire'), scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*).

Gilpatrick, J.D. Smith, C.A. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 5. (NAL Call No.: 464.9 AM31R).

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Evaluation of RPAR (Rebuttable Presumption Against Registration) fungicides and alternative compounds, 1982 (Control of cedar apple rust, *Gymnosporangium juniperi-virginianae*, sooty blotch, *Gloeodes pomigena* and fly speck, *Schizothyrium pomi*, on apples, *Malus sylvestris*).

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0975

Evaluation of RPAR (Rebuttable Presumption Against Registration) fungicides and alternative compounds on Delicious, Golden Delicious and Rome apples, 1980 (Apple (*Malus sylvestris* 'Delicious', 'Golden Delicious', 'Rome Beauty'), scab; *Venturia inaequalis*, rust; *Gymnosporangium juniperi-virginianae*, powdery mildew; *Podosphaera leucotricha*).

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0976

Evaluation of RPAR (Rebuttable Presumption Against Registration) fungicides and alternative compounds on 'Golden Delicious' and 'Rome' apple cultivars, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*, rust; *Gymnosporangium juniperi-virginianae*, brooks fruit spot; *Mycosphaerella pomi*, sooty blotch; *Gloeodes pomigena*, fly speck; *Schizothyrium pomi*, fruit rots).

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0977

Evaluation of RPAR (Rebuttable Presumption Against Registration) fungicides and alternative compounds on apples, 1981 (Apple (*Malus sylvestris* 'Golden Delicious', 'Delicious', 'Rome Beauty'), scab; *Venturia inaequalis*, cedar apple rust; *Gymnosporangium juniperi-virginianae*, powdery mildew; *Podosphaera leucotricha*, sooty blotch; *Gloeodes pomigena*, fly speck; *Schizothyrium pomi*, fruit rots, fruit finish).

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0978

Evaluation of RSAT and SAT treatments with Bravo and summer treatments of Captan and Rubigan + Captan, 1982 (Control of apple scab, *Venturia inaequalis* on *Malus sylvestris*).

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0979

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0981

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0982

Evaluation of tank mixtures for pear scab control in 1981 (*Venturia pirina* on *Pyrus communis*).

Latorre, B.A.FNETD. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 164. (NAL Call No.: 464.9 AM31R).

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0985

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0986

Evaluation of experimental fungicides on three apple cultivars, 1981 (Apple (*Malus sylvestris* 'Rome Beauty', 'Golden Delicious', 'Miller Sturdeespur Red Delicious'), disease control).

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0987

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0989

Field performance of sterol-inhibiting fungicides against apple powdery mildew in the Mid-Atlantic apple growing region (*Podosphaera leucotricha*, Virginia, West Virginia, Maryland, Pennsylvania, Kentucky, Missouri).

Hickey, K.D. Yoder, K.S. St. Paul, Minn., American Phytopathological Society. Plant disease. Dec 1981. Presented at a workshop on New Fungicides for Apple and Pear Diseases, August 24, 1980. Minneapolis, Minn. v. 65 (12). p. 1002-1006. 11 ref. (NAL Call No.: 1.9 P69P).

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Shabi, E. Katan, T. St. Paul, Minn., American Phytopathological Society. Phytopathology. Dec 1980. v. 70 (12). p. 1172-1174. ill. 9 ref. (NAL Call No.: 464.8 P56).

0993

Fruit decay control with postharvest fungicide dips, 1978-79 (Apple (*Malus sylvestris*, 'Golden Delicious'), postharvest decay; *Penicillium expansum*).

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0994

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Rosenberger, D.A. Burr, T.J. St. Paul, American Phytopathological Society. Plant disease. Nov 1982. v. 66 (11). p. 1073-1075. ill. 15 ref. (NAL Call No.: 1.9 P69P).

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Fungicide evaluation for control of pear scab in an orchard infected with *Venturia pirina* resistant to benzimidazole fungicides, 1981 (*Pyrus communis*).

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1001

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Shabi, E. Elisha, S.; Katan, T. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 17-18. (NAL Call No.: 464.9 AM31R).

1002

Fungicide evaluation for the control of apple scab and apple powdery mildew, 1982 (*Venturia inaequalis*, *Podosphaera leucotricha*, *Malus sylvestris*).

Shabi, E.FNETD. Elisha, S. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 150. (NAL Call No.: 464.9 AM31R).

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Fungicide evaluation for the control of apple scab and powdery mildew on various cultivars, 1982 (*Venturia inaequalis*, *Podosphaera leucotricha*, *Malus sylvestris*, comparison of varieties).

Shabi, E.FNETD. Elisha, S.; Zelig, Y. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 152. (NAL Call No.: 464.9 AM31R).

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1004

Fungicide evaluation for the control of pear scab in an orchard infected with *Venturia pirina* resistant to benzimidazole fungicides, 1979 (Pear (*Pyrus communis*), scab; *Venturia pirina*).

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1005

Fungicide evaluation of powdery mildew and russet on Jonathan apple, 1981 (*Podosphaera leucotricha*, scab; *Venturia inaequalis*).

MacSwan, I.C.FNETD. (s.l.), The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 146. (NAL Call No.: 464.9 AM31R).

1006

Fungicide evaluation of powdery mildew and scab on apple, 1978 (Apple (*Malus sylvestris*, 'Rome'), powdery mildew; *Podosphaera leucotricha*, scab; *Venturia inaequalis*).

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1007

Fungicide evaluation of powdery mildew and scab on Rome apple, 1981 (*Podosphaera leucotricha*, *Venturia inaequalis*, *Malus sylvestris*).

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Fungicide evaluation of powdery mildew and scab on Rome apples, 1978 (Apple (*Malus sylvestris*, 'Rome'), powdery mildew; *Podosphaera leucotricha*, scab; *Venturia inaequalis*).

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Fungicide evaluation of powdery mildew of Jonathan apples, 1978 (Apple (*Malus sylvestris*, 'Jonathan'), powdery mildew; *Podosphaera leucotricha*).

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Fungicide evaluation of scab on Red Delicious apples, 1980 (Apple (*Malus sylvestris* 'Red Delicious'), scab; *Venturia inaequalis*). MacSwan, I.C. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 12. (NAL Call No.: 464.9 AM31R).

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Fungicide test on apple scab, 1982 (*Venturia inaequalis*, *Malus sylvestris*). Ross, R.G. FNETD. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 149. (NAL Call No.: 464.9 AM31R).

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Fungicide tests for control of apple diseases, 1979 (Apple (*Malus sylvestris*), scab; *Venturia inaequalis*, quince rust; *Gymnosporangium clavipes*, sooty blotch; *Gloeodes pomigena*, fly speck; *Microthyriella rubi*, bitter rot; *Glomerella cingulata*, cedar apple rust; *Gymnosporangium juniperi-virginianae*). Zehr, E.I. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 27-28. (NAL Call No.: 464.9 AM31R).

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Fungicide vapor action in the control of apple powdery mildew, 1979 (Apple (*Malus sylvestris*), powdery mildew; *Podosphaera leucotricha*). Szkolnik, M. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1980. v. 35. p. 20. (NAL Call No.: 464.9 AM31R).

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1027

Fungitoxic and phytotoxic effect of some surface-active agents applied for the control of apple powdery mildew (caused by *Podosphaera leucotricha*).
Burchill, R.T. Frick, E.L. London. Annals of applied biology. Jan 1979. v. 91 (1). p. 41-49. 111. 10 ref. (NAL Call No.: 442.8 AN72).

1028

Gene for immunity against apple scab (*Venturia inaequalis*) (*Malus floribunda*, *Malus atrosanguinea*).
Sedov, E.N. Zhdanov, V.V. New York, Consultants Bureau. Soviet genetics. Aug 1981 (pub. 1982). Translated from: Genetika, p. 1479-1485. (QH431.A1G4). v. 17 (8). p. 970-974. Includes 9 ref. (NAL Call No.: QH431.A1G43).

1029

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Katan, T. PHYTA. Shabi, E.; Gilpatrick, J.D. St. Paul : American Phytopathological Society. Phytopathology. Apr 1983. v. 73 (4). p. 600-603. 111. Includes references. (NAL Call No.: 464.8 P56).

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1031

Germination, appressorium formation, and infection of immature and mature apple fruit by *Glomerella cingulata*.
Shane, W.W. Sutton, T.B. St. Paul, Minn., American Phytopathological Society. Phytopathology. Apr 1981. v. 71 (4). p. 454-457. 111. 9 ref. (NAL Call No.: 464.8 P56).

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Shane, W.W. Sutton, T.B. St. Paul, Minn., American Phytopathological Society. Plant disease. Feb 1981. v. 65 (2). p. 135-137. 9 ref. (NAL Call No.: 1.9 P69P).

1033

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Yoder, K.S. Cochran, A.E. II.; Warren, J.R.; Nicholls, S.A. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 27. (NAL Call No.: 464.9 AM31R).

1034

Greenhouse evaluation of the curative and protective action of sterol-inhibiting fungicides against apple scab (*Venturia inaequalis*, *Malus*).
Schwabe, W.F.S. Jones, A.L.; Jonker, J.P. St. Paul : American Phytopathological Society. Phytopathology. Feb 1984. v. 74 (2). p. 249-252. Includes references. (NAL Call No.: 464.8 P56).

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Williams, E.B. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 16-18. 4 ref. (NAL Call No.: S95.E24).

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Harris, D.C. Boston, Pitman Advanced Publishing Program. Proceedings ... Pest, pathogens, and vegetations. 1980 (pub. 1981). 1980 (pub. 1981). p. 429-436. 111. Includes 3 p. ref. (NAL Call No.: SB599.2.P47).

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Snell, J.M. Latham, A.J. Auburn, The Station. Highlights of agricultural research - Alabama, Agricultural Experiment Station. Summer 1981. v. 28 (2). p. 17. 111. (NAL Call No.: 100 AL1H).

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Impact of formulation and rainfall on the protective action of fungicides against apple scab, 1982 (*Venturia inaequalis* infecting *Malus sylvestris*).
Szkolnik, M. FNETD. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v.

38. p. 155-156. (NAL Call No.: 464.9 AM31R).

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Implementation of predictive disease control (New techniques, computers, field sensors, models, Michigan State University, Apple Pest Management Project, apple scab predictions).
Jones, A.L. Fisher, P.D. St. Paul, American Phytopathological Society. Plant disease. Feb 1984. v. 68 (2). p. 87. Includes references. (NAL Call No.: 1.9 P69P).

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Incidence and development of apple scab on fruit during the late summer and while in storage by Cyril O. Bratley.
Bratley, Cyril O. Washington, D.C. U.S. Dept. of Agriculture 1937. 46 p. : ill. -. Bibliography: p. 43-45. (NAL Call No.: Fiche S-69 no.563).

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Incidence and severity relationships of secondary infections of powdery mildew (*Podosphaera leucotricha*) on apple.
Seem, R.C. Gilpatrick, J.D. St. Paul, Minn., American Phytopathological Society. Phytopathology. Sept 1980. v. 70 (9). p. 851-854. ill. 15 ref. (NAL Call No.: 464.8 P56).

1042

Incidence of scab and powdery mildew on 'Rome Beauty' apple sprayed seasonally with dilute sprays of Baycor 44F, 1981 (Apple (*Malus sylvestris* 'Rome Beauty'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*).
Hickey, K.D. Lalancette, N. Jr. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 7. (NAL Call No.: 464.9 AM31R).

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Induction and quantification of microsclerotia in *Rosellinia necatrix* (isolated from roots of apple trees).
Szteinberg, A. Madar, Z.; Chet, I. St. Paul, Minn., American Phytopathological Society. Phytopathology. June 1980. v. 70 (6). p. 525-527. ill. 15 ref. (NAL Call No.: 464.8 P56).

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Infection of Anjou pear fruit by *Podosphaera leucotricha* (Apple powdery mildew, Oregon).
Spotts, R.A. St. Paul, Minn. : American Phytopathological Society. Plant disease. Oct 1984. v. 68 (10). p. 857-859. ill. Includes 10 references. (NAL Call No.: 1.9 P69P).

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Infection periods of *Gymnosporangium juniperi-virginianae* on apple (by basidiospores).
Aldwinckle, H.S. Pearson, R.C.; Seem, R.C. St. Paul, Minn., American Phytopathological Society. Phytopathology. Nov 1980. v. 70 (11). p. 1070-1073. ill. 12 ref. (NAL Call No.: 464.8 P56).

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Hunter, L.D. London. Annals of applied biology. Jan 1979. v. 91 (1). p. 119-123. 56 ref. (NAL Call No.: 442.8 AN72).

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1101

Powdery mildew incidence on apple sprayed during specific phenological stages in 1980 (Apple (*Malus sylvestris* 'Rome Beauty'), powdery mildew; *Podosphaera leucotricha*).

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36. p. 7. (NAL Call No.: 464.9 AM31R).

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Preparation and interpretation of squash mounts of pseudothecia of *Venturia inaequalis* (Apple scab).

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Szkolnik, M.FNETD. (s.l.) : The Society. Fungicide and nematocide tests : results - American Phytopathological Society. 1983. v. 38. p. 156-157. (NAL Call No.: 464.9 AM31R).

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Primary infection of apple buds by *Botryosphaeria obtusa* (Georgia).

Smith, M.B. Hendrix, F.F. Jr. St. Paul, Minn. : American Phytopathological Society. Plant disease. Aug 1984. v. 68 (8). p. 707-709. ill. Includes 7 references. (NAL Call No.: 1.9 P69P).

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Production and dispersal of ascospores and conidia by *Physalospora obtusa* and *Botryosphaeria dothidea* in apple orchards.

Sutton, T.B. St. Paul, Minn., American Phytopathological Society. Phytopathology. June 1981. v. 71 (6). p. 584-589. ill. 11 ref. (NAL Call No.: 464.8 P56).

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Szkolnik, M. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 18. (NAL Call No.: 464.9 AM31R).

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Zuck, M.G. MacHardy, W.E. St. Paul, Minn., American Phytopathological Society. Plant disease. Dec 1981. Presented at a workshop on New Fungicides for Apple and Pear Diseases, August 24, 1980. Minneapolis, Minn. v. 65 (12). p. 995-998. ill. 13 ref. (NAL Call No.: 1.9 P69P).

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Szkolnik, M.FNETD. (s.l.) : The Society. Fungicide and nematicide tests : results - American Phytopathological Society. 1983. v. 38. p. 157. (NAL Call No.: 464.9 AM31R).

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Reduction of substrate colonization by *Botryosphaeria obtusa* (on apple prunings in Georgia).

Starkey, T.E. Hendrix, F.F. Jr. St. Paul, Minn., American Phytopathological Society. Plant disease. Mar 1980. v. 64 (3). p. 292-294. ill. 2 ref. (NAL Call No.: 1.9 P69P).

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Relationship of apple fruit maturity and inoculum concentration to infection by *Glomerella cingulata*.

Noe, J.P. Starkey, T.E. St. Paul, Minn., American Phytopathological Society. Plant disease. May 1982. v. 65 (5). p. 379-381. Includes 14 ref. (NAL Call No.: 1.9 P69P).

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Relative susceptibility to scab (*Venturia inaequalis*) and production of conidia among 30 apple varieties.

Szkolnik, M. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 11-14. ill. (NAL Call No.: S95.E24).

1113

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Borecki, Z. Czynczyk, A.; Puchala, Z.; Millikan, D.F. St. Paul, American Phytopathological Society. Plant disease. Nov 1982. v. 66 (11). p. 1027-1029. 8 ref. (NAL Call No.: 1.9 P69P).

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The retention and redistribution of captan on apple foliage.

Smith, F.D. MacHardy, W.E. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Aug 1984. v. 74 (8). p. 894-899. ill. Includes 16 references. (NAL Call No.: 464.8 P56).

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Role of conidia of *Venturia inaequalis* in the epidemiology of apple scab.

Sutton, T.B. Geneva. Special report New York (State). Agricultural Experiment Station, Geneva. June 1978. June 1978. (28). p. 6-9. 22 ref. (NAL Call No.: S95.E24).

1117

Russetting potentials of commonly used pesticides in apple orchards, 1979 (Apple (*Malus sylvestris*), russetting; cause-abiotic). Nesmith, W.C. Morrison, F. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1980. v. 35. p. 15-16. (NAL Call No.: 464.9 AM31R).

1118

Scab and mildew incidence on apple sprayed with FMC 63440, 1981 (Apple (*Malus sylvestris* 'Rome Beauty', 'Delicious', 'Golden Delicious'), apple scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*).

Hickey, K.D. Garretson, M.; May, J. (s.l.), The Society. Fungicide and nematicide tests;

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1119

Scab and powdery mildew control with fungicides applied after scab infection periods, 1979 (Apple (*Malus sylvestris* 'Granny Smith'), scab; *Venturia inaequalis*, powdery mildew; *Podosphaera leucotricha*).
Washington, W.S. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1981. v. 36. p. 20. (NAL Call No.: 464.9 AM31R).

1120

Scab control on crabapple, 1981 (Crabapple (*Malus* sp.), scab; *Venturia inaequalis*).
Peterson, J.L. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 131. (NAL Call No.: 464.9 AM31R).

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Scab control with fungicides applied after infection periods, 1980 (Apple (*Malus sylvestris* 'Granny Smith'), scab; *Venturia inaequalis*).
Washington, W.S. (s.l.), The Society. Fungicide and nematocide tests; results - American Phytopathological Society. 1982. v. 37. p. 19. (NAL Call No.: 464.9 AM31R).

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Scab of flowering crabapples.
Pecknold, P. C. Document available from: Purdue University, Publication Mailing Room, 301 South Second Street, Lafayette, Indiana 47905 1976. Discusses scab of flowering crabapples symptoms, cause and control. 1 sheet : ill. (NAL Call No.: Document available from source.). (NAL Call No.: BP-2-16).

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Scab (*Venturia inaequalis*) immune apples for commercial production.
Emerson, F.H. East Lansing, Mich., International Dwarf Fruit Tree Association. Compact fruit tree. June 1980. v. 13. p. 105-108. 7 ref. (NAL Call No.: 93.5 D96).

1124

Simple decision aids for practical control of pests (*Gymnosporangium juniperi-virginianae*, pest forecast models, apples).
Seem, R.C. Russo, J.M. St. Paul, Minn. : American Phytopathological Society. Plant disease. Aug 1984. v. 68 (8). p. 656-660. ill. Includes 9 references. (NAL Call No.: 1.9 P69P).

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1203

Some properties of *Erwinia amylovora* bacteriophages (causative agent of fire blight of apple trees in Michigan orchards).

Ritchie, D.F. Klos, E.J. St. Paul, Minn., American Phytopathological Society. Phytopathology. Oct 1979. v. 69 (10). p. 1078-1083. ill. 25 ref. (NAL Call No.: 464.8 P56).

1204

Streptomycin resistance in *Erwinia amylovora* (detected in California pear orchards).

Schroth, M.N. Thomson, S.V. St. Paul, American Phytopathological Society. Phytopathology. June 1979. v. 69 (6). p. 565-568. ill. 10 ref. (NAL Call No.: 464.8 P56).

(PLANT DISEASES - BACTERIAL)

1205

Transformation of *Erwinia herbicola* (isolated from pear leaves) with plasmid pBR322 deoxyribonucleic acid.

Lacy, G.H. Sparks, R.B. Jr. St. Paul, Minn., American Phytopathological Society. Phytopathology. Dec 1979. v. 69 (12). p. 1293-1297. ill. 35 ref. (NAL Call No.: 464.8 P56).

1206

Tree loss due to fire blight infection of rootstocks and interstems in Ohio apple orchards (*Erwinia amylovora*).

Ferree, D.C.CFRTA. Ellis, M.A.; Hall, F.R. East Lansing : International Dwarf Fruit Tree Association. Compact fruit tree. May 1983. v. 16. p. 116-120. Includes references. (NAL Call No.: 93.5 D96).

1207

Trends in integrated pear (insect) pest management (and *Erwinia amylovora* fire blight control, California).

Zoller, B.G. Portland, Ore. Annual report Oregon Horticultural Society. 1978. v. 69 (92d). p. 57-71. ill. 9 ref. (NAL Call No.: 81 OR32).

1208

What about fire blight? (Biological control of the causal bacterium, pear trees).

Covey, R.P.PWHAA. Wenatchee : The Association. Proceedings - Washington State Horticultural Association. 1982. 1982. (78th). p. 171-173. (NAL Call No.: 81 W273).

1209

Xylem parenchyma plasmolysis and vessel wall disorientation caused by *Erwinia amylovora* (Apples, fire blight).

Goodman, R.N. White, J.A. St. Paul, Minn., American Phytopathological Society. Phytopathology. Aug 1981. v. 71 (8). p. 844-852. ill. 21 ref. (NAL Call No.: 464.8 P56).

PLANT DISEASES - VIRAL

1210

Apple union necrosis: histopathology and distribution of tomato ringspot virus in affected trees (Delayed incompatibility of graft unions).

Tuttle, M.A. Gotlieb, A.R. Burlington, Vt. : University of Vermont. Research report - Vermont Agricultural Experiment Station. Jan 1984. Jan 1984. (36). 12 p. ill. Includes references. (NAL Call No.: S541.5.V5R4).

1211

Comparison of enzyme-linked immunosorbent assay procedures for detection of tomato ringspot virus in woody and herbaceous hosts (Chenopodium quinoa, geraniums, apples, and peaches, Pelargonium X hortorum).

Powell, C.A. St. Paul, Minn. : American Phytopathological Society. Plant disease. Oct 1984. v. 68 (10). p. 908-909. Includes 12 references. (NAL Call No.: 1.9 P69P).

1212

Comparison of particle properties of heracleum latent and apple chlorotic leaf spot viruses.

Bem, F. Murant, A.F. Cambridge, Eng., Cambridge University Press. Journal of general virology. Sept 1979. v. 44 (pt.3). p. 817-826. ill. Bibliography p. 825-826. (NAL Call No.: QR360.A1J6).

1213

Decline of apple, prune, and peach trees caused by a nematode-transmitted virus.

Rosenberger, D.A. NYHSA. Gonsalves, D.; Cummins, J.N. (S.I.) : The Society. Proceedings of the ... annual meeting - New York State Horticultural Society. 1983. v. 128. p. 81-85. Includes references. (NAL Call No.: 81 N484).

1214

The detection of apple chlorotic leafspot virus by a modified procedure of enzyme-linked immunosorbent assay (ELISA).

Flegg, C.L. Clark, M.F. London. Annals of applied biology. Jan 1979. v. 91 (1). p. 61-65. ill. 12 ref. (NAL Call No.: 442.8 AN72).

1215

Differentiation of syndromes caused in apple by graft-transmissible, xylem-affecting agents (Apple stem grooving virus).

Welsh, M.F. Uyemoto, J.K. St. Paul, Minn., American Phytopathological Society. Phytopathology. Apr 1980. v. 70 (4). p. 349-352. ill. 15 ref. (NAL Call No.: 464.8 P56).

1216

Effect of apple mosaic virus on bud-take and growth of trees in the nursery.

Rebandel, Z. Zawadzka, B.J. Skierniewice, Research Institute of Pomology. Fruit science reports. 1979. v. 6 (1). p. 9-17. ill. 13 ref. (NAL Call No.: SB354.F72).

1217

Effect of apple rubbery wood disease (caused by a Mycoplasma-like organisms) on the bud take and growth of trees in the nursery.

Zawadzka, B.J. Rebandel, Z. Skierniewice, Research Institute of Pomology. Fruit science reports. 1979. v. 6 (1). p. 19-25. ill. 13 ref. (NAL Call No.: SB354.F72).

1218

Effect of pear vein yellows virus and a nonviral factor on the performance of pear trees (Processing quality).

Fridlund, P.R. Drake, S.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1981. v. 106 (4). 412-414. 6 ref. (NAL Call No.: 81 S012).

1219

Effect of scar skin and dapple apple diseases (caused by graft-transmissible agents presumed to be viruses) on certain groups of phenolic compounds in apple.

Huang, M.C. Agrios, G.N. St. Paul, American Phytopathological Society. Phytopathology. Jan 1979. v. 69 (1). p. 35-40. ill. 21 ref. (NAL Call No.: 464.8 P56).

1220

Fire blight and its control (Erwinia amylovora, apples, pears).

Aldwinckle, H.S. Beer, S.V. Westport, Conn., Avi. Horticultural reviews. 1979. Literature review. v. 1. p. 423-474. Bibliography p. 461-474. (NAL Call No.: SB317.5.H6).

1221

Immunosorbent electron microscopy of detecting apple chlorotic leaf spot and plum pox viruses (Fruit trees).

Kerlan, C. Mille, B.; Dunez, J. St. Paul, Minn., American Phytopathological Society. Phytopathology. Apr 1981. v. 71 (4). p. 400-404. ill. 19 ref. (NAL Call No.: 464.8 P56).

(PLANT DISEASES - VIRAL)

1222

In vitro micrografting of apple shoot tips (Stem grooving virus).

Huang, S.C. Millikan, D.F. Alexandria, Va., American Society for Horticultural Science. HortScience. Dec 1980. v. 15 (6). p. 741-743. ill. 13 ref. (NAL Call No.: SB1.H6).

1223

Irregular distribution of tomato ringspot virus in apple trees (Effect of inoculation site of infection, virus concentration sites, New York).

Bitterlin, M.W. Gonsalves, D.; Cummins, J.N. St. Paul, Minn. : American Phytopathological Society. Plant disease. July 1984. v. 68 (7). p. 567-571. ill. Includes references. (NAL Call No.: 1.9 P69P).

1224

Isolation, characterization, and transmission of apple mosaic virus in white birch and isolation and characterization of a latent virus in yellow birch.

Gotlieb, Alan R. Ann Arbor, Mich. University Microfilms International 1977. Thesis--University of Wisconsin, 1974. xi, 94 leaves. Bibliography: leaf 94. (NAL Call No.: DISS 74-22,121).

1225

Orchard weeds as hosts of tomato ringspot and tobacco ringspot viruses (Apple and peach orchards, Pennsylvania, New York, Indiana).

Powell, C.A. Forer, L.B.; Stouffer, R.F.; Cummins, J.N.; Gonsalves, D. St. Paul, Minn. : American Phytopathological Society. Plant disease. Mar 1984. v. 68 (3). p. 242-244. Includes references. (NAL Call No.: 1.9 P69P).

1226

Peach yellow leaf roll epidemic in northern California: effects of peach cultivar, tree age, and proximity to pear orchards.

Purcell, A.H. Nyland, G.; Raju, B.C.; Heringer, M.R. St. Paul, Minn., American Phytopathological Society. Plant disease. Apr 1981. v. 65 (4). p. 365-368. ill. 17 ref. (NAL Call No.: 1.9 P69P).

1227

Pear virus diseases in Oregon.

Cameron, H.R. Portland, Ore., The Society. Annual report - Oregon Horticultural Society. 1980. v. 71. p. 26. (NAL Call No.: 81 DR32).

1228

Recovery of tomato ringspot virus from inoculated apple trees.

Cummins, J.N. Gonsalves, D. Alexandria, The Society. Journal of the American Society for Horticultural Science. Sept 1982. v. 107 (5). p. 798-800. 9 ref. (NAL Call No.: 81 S012).

1229

Symptoms incited by apple type II virus isolates in Virginia crabapple trees.

Waterworth, H.E. AR-NE. Uyemoto, J.K. St. Paul, Minn., American Phytopathological Society. Plant disease. June 1980. v. 64 (6). p. 562-563. ill. 15 ref. (NAL Call No.: 1.9 P69P).

1230

Tomato ringspot virus associated with apple union necrosis and decline in Western United States.

Parish, C.L. Converse, R.H. St. Paul, Minn., American Phytopathological Society. Plant disease. Mar 1981. v. 65 (3). p. 261-263. ill. 7 ref. (NAL Call No.: 1.9 P69P).

1231

Treatment with antibiotics increases yields of declining pear trees (Mycoplasmic diseases transmitted by grafting or by the insect vector Psylla pryorica).

McIntyre, J.L. Lacy, G.H. New Haven, Connecticut Agricultural Experiment Station. Frontiers of plant science. Spring 1979. v. 31 (2). p. 2-4. ill. 2 ref. (NAL Call No.: 100 F92).

1232

Union necrosis of apple trees on MM.106 rootstocks in the Hudson Valley.

Cummins, J.N. Gonsalves, D. n.p. Proceedings of the ... annual meeting New York State Horticultural Society. 1979. 124th. p. 61-67. ill. 4 ref. (NAL Call No.: 81 N484).

1233

Viruses and crab apples as pollenizers.

Parish, L. PWHAA. Wenatchee : The Association. Proceedings - Washington State Horticultural Association. 1982. 1982. (78th). p. 104, 106. (NAL Call No.: 81 W273).

1234

Xiphinema spp. associated with tomato ringspot virus infection of Pennsylvania fruit crops (Apple, blueberry, grape, peach, raspberry).

Forer, L.B. Stouffer, R.F. St. Paul, American Phytopathological Society. Plant disease. Aug 1982. v. 66 (8). p. 735-736. 7 ref. (NAL Call No.: 1.9 P69P).

PLANT DISEASES - PHYSIOLOGICAL

1235

Agents influencing russet on 'Golden Delicious' apple fruits (Physiological disorders).
Creasy, L.L. Swartz, H.J. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Mar 1981. v. 106 (2). p. 203-206. ill. 9 ref. (NAL Call No.: 81 S012).

1236

Apple union necrosis: histopathology and distribution of tomato ringspot virus in affected trees (Delayed incompatibility of graft unions).
Tuttle, M.A. Gotlieb, A.R. Burlington, Vt. : University of Vermont. Research report - Vermont Agricultural Experiment Station. Jan 1984. Jan 1984. (36). 12 p. ill. Includes references. (NAL Call No.: S541.5.V5R4).

1237

Beat bitter pit and cork spot! (Calcium-related disorders of apples).
Greene, G.M. Willoughby, Ohio, Meister. American fruit grower. June 1980. v. 100 (6). p. 14. ill. (NAL Call No.: 80 G85).

1238

Bitter-pit: a physiological disorder of apple fruit (symptoms, causes, cultural practices, varieties).
Tukey, R.B. Pullman, Wash., The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Sept 1981. Sept 1981. (839). 6 p. (NAL Call No.: 275.29 W27P).

1239

Burrknot control on apple rootstocks.
Young, E.C.F.R.T.A. Tyler, R.H. East Lansing : International Dwarf Fruit Tree Association. Compact fruit tree. May 1983. v. 16. p. 121-123. ill. Includes references. (NAL Call No.: 93.5 D96).

1240

Calcium chloride usage in Pennsylvania (problem of corking, bitter pitting, York spotting, apples).
New Brunswick, N.J., New Jersey State Horticultural Society. Horticultural news. Fall 1980. v. 61 (4). p. 6-7, 9-11. ill. (NAL Call No.: 81 N46).

1241

Cellular ultrastructure and net photosynthesis of apple seedlings under iron stress (Effect of deficiency on chloroplasts).
Zhou, H.J. Korcak, R.F.; Wergin, W.P.; Fan, F.; Faust, M. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. v. 7 (6). p. 911-928. ill. Includes references. (NAL Call No.: QK867.J67).

1242

Chemical control of water sprouts and root suckers of apples (Varieties, physiological diseases, Massachusetts).
Lord, W.J. Sincuk, J.; Tumenas, M. Amherst, Mass., The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Spring 1982. v. 47 (2). p. 1-2. (NAL Call No.: 275.29 M381FR).

1243

Content of farnesene and its oxidation products in apples of southern USSR cultivars differing in scald susceptibility (Physiological disease).
Gudkovskii, V.A. Kareva, L.V.; Sal'kova, E.G. New York, Consultants Bureau. Applied biochemistry and microbiology. Jan/Feb 1980. v. 16 (1). p. 87-91. ill. 7 ref. (NAL Call No.: QH345.A1P73).

1244

Control of internal breakdown in Jonathan apple fruits by preharvest regulation of sorbitol content / by Rafael Amezcuita-Garcia.
Amezcuita-Garcia, Rafael. 1972. Thesis--Michigan State University. Photocopy of typescript. Ann Arbor: University Microfilms, 1973. viii, 108 leaves. Bibliography: leaves 99-108. (NAL Call No.: DISS 73-5,316).

1245

Control of iron chlorosis in apple trees with injections of ferrous sulfate and ferric citrate and with soil-applied iron-sul.
Barney, D. Walser, R.H.; Nelson, S.D.; Williams, C.F.; Jolley, V.D. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. Presented at the "Second International Symposium on Iron Nutrition and Interactions in Plants," August 2-5, 1983, Utah State University, Logan. v. 7 (1/5). p. 313-317. ill. Includes references. (NAL Call No.: QK867.J67).

1246

Disorders of d'Anjou pears--including alfalfa greening, cork, and black end (Pacific Northwest).

Raese, T. Wenatchee. Proceedings - Washington State Horticultural Association. 1980. 1980. (76th). p. 172-176. 9 ref. (NAL Call No.: 81 W273).

1247

Dos and don'ts for dead spur on 'Delicious' apples (Hormone imbalance, pruning).

Ketchie, D.O. Wenatchee. Proceedings Washington State Horticultural Association. 1979. 1979. (75th). p. 86, 88. 4 ref. (NAL Call No.: 81 W273).

1248

The effect of bicarbonate induced Fe (Iron) chlorosis on mineral content and Ca45 (Calcium isotope) uptake of apple seedlings.

Zhou, H.U. Korcak, R.F.; Fan, F.; Faust, M. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. v. 7 (9). p. 1355-1364. ill. Includes references. (NAL Call No.: QK867.J67).

1249

Effect of calcium and fundazol on ethylene production by apples and their resistance to physiological diseases.

Vorob'ev, V.F. APBMA. Bulantseva, E.A.; Sal'kova, E.G. New York : Consultants Bureau. Applied biochemistry and microbiology. May/June 1982. Translated from: Prikladnaia biokhimiia i mikrobiologiya, p. 418-422. (385 P93). v. 18 (3). p. 327-330. 10 ref. (NAL Call No.: QH345.A1P73).

1250

Effect of iron, zinc and calcium on manganese accumulation and internal bark necrosis in Delicious apple trees / by Jaman Sahira Imlan.

Imlan, Jaman Sahira, 1933. 1970. Thesis--University of Maryland. Photocopy of typescript. Ann Arbor: University Microfilms, 1971. vii, 62 leaves. Bibliography: leaves 58-62. (NAL Call No.: DISS 70-22,556).

1251

Effect of phenolic compounds on the stone cell formation and on metabolism of pears / by Arvind Santuram Ranadive.

Ranadive, Arvind Santuram, 1942. 1971. Thesis (Ph.D.)--Rutgers - The State University, 1971. Photocopy. Ann Arbor, Mich. : University Microfilms, 1975. ix, 161 leaves ; 21 cm. Bibliography: leaves 146-160. (NAL Call No.: DISS 72-858).

1252

Effect of soil fumigation on the early growth and production of 'Delicious' apple trees (Specific apple replant disease).

Koch, B.L. Covey Jr., R.P.; Haglund, W. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Nov 1980. v. 105 (6). p. 887-890. ill. 15 ref. (NAL Call No.: 81 S012).

1253

Effects of supraoptimal carbon dioxide concentrations on mitochondrial activity of "Richared Delicious" apples / by Michael Richard Shipway.

Shipway, Michael Richard, 1942. 1972. Thesis (Ph.D.)--University of Massachusetts, 1972. Photocopy of typescript. Ann Arbor: University Microfilms, 1972. ix, 123 leaves ; 21 cm. Bibliography: leaves 105-113. (NAL Call No.: DISS 72-18,033).

1254

Environmental and nutritional factors associated with scarf skin of Rome Beauty' apples (Russeting).

Ferree, D.C. Darnell, R.L.; Fox, R.D.; Brazee, R.D.; Wittmoyer, R.E. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. July 1984. v. 109 (4). p. 507-513. ill. Includes 13 references. (NAL Call No.: 81 S012).

1255

Factors affecting nutrient content of the foliage and fruits of apple trees (Fertilizer, deficiencies, fruit quality).

Lord, W.J. Bramlage, W.J. Amherst : The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1983. v. 48 (1). p. 17-23. (NAL Call No.: 275.29 M381FR).

1256

Metabolism of lipids applied to apples to reduce soft scald and their effect on respiration and ethylene production.

Hopkirk, G. Willis, R.B.H. Westport, Conn., Food and Nutrition Press. Journal of food biochemistry. 1981. v. 5 (2). p. 131-138. Includes 1 p. ref. (NAL Call No.: TX545.J6).

(PLANT DISEASES - PHYSIOLOGICAL)

1257

Mineral analysis and performance of chlorotic pear trees sprayed or injected with iron.
Raese, J.T. Parish, C.L. New York, N.Y. : Marcel Dekker. Journal of plant nutrition. 1984. Presented at the "Second International Symposium on Iron Nutrition and Interactions in Plants," August 2-5, 1983, Utah State University, Logan. v. 7 (1/5). p. 243-249. Includes references. (NAL Call No.: QK867.J67).

1258

Nutrition and alfalfa greening (disorder) of d'Anjou pear.

Raese, T. AR-W. Wenatchee. Proceedings Washington State Horticultural Association. 1979. (75th). p. 189-191. ill. 7 ref. (NAL Call No.: 81 W273).

1259

The ontogeny and cytogenesis of cork spot in (cultivar) 'York Imperial' apple fruit.

Miller, R.H. AR-BARC. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. American Society for Horticultural Science. May 1980. v. 105 (3). p. 355-364. ill. 30 ref. (NAL Call No.: 81 S012).

1260

Ontogeny and related factors of internal bark necrosis in apple / by Stephen Scarlett Miller.

Miller, Stephen Scarlett, 1944. 1971. Thesis (Ph.D.)--West Virginia University, 1971. Photocopy of typescript. Ann Arbor: University Microfilms, 1972. x, 145 leaves ; 21 cm. Bibliography: leaves 124-140. (NAL Call No.: DISS 72-14,078).

1261

Postharvest physiology of "Anjou" pear fruit : relations between mineral nutrition and cork spot, respiration, and ethylene evolution / by Abdulilah Mokhlif Al-Ani.

Al-Ani, Abdulilah Mokhlif. Ann Arbor, Mich. University Microfilms International 1979. Thesis--Oregon State University, 1978. Facsimile produced by microfilm-xerography. 251 leaves. Bibliography: leaves 232-236. (NAL Call No.: DISS 78-11,977).

1262

Reduction in russetting of 'Golden Delicious' apples with 2,4,5-TP and other compounds (Growth regulators).

Byers, R.E.HJHSA. Yoder, K.S.; Mattus, G.E. Alexandria : American Society for Horticultural Science. HortScience. Feb 1983. v. 18 (1). p. 63-65. Includes references. (NAL Call No.:

SB1.H6).

1263

Role of soil microflora and *Pratylenchus penetrans* in an apple replant disease (Nematodes, poor growth of replanted applied on old orchard sites).

Jaffee, B.A. Abawi, G.S.; Mai, W.F. St. Paul, Minn., American Phytopathological Society. Phytopathology. Feb 1982. v. 72 (2). p. 247-251. ill. Includes 23 ref. (NAL Call No.: 464.8 P56).

1264

A sensitive method for measuring changes in calcium concentration in 'McIntosh' apples demonstrated in determining effects of foliar calcium sprays (for deficiency prevention).

Weis, S.A. Drake, M.; Bramlage, W.J.; Baker, J.H. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. American Society for Horticultural Science. May 1980. v. 105 (3). p. 346-349. ill. 11 ref. (NAL Call No.: 81 S012).

1265

A shot of iron (Apple and pear trees, deficiencies).

Yarris, L. SEA-WO-AR-W. Washington, D.C., The Administration. Agricultural research - U.S. Department of Agriculture, Science and Education Administration. United States. Dept. of Agriculture. Science and Education Administration. Apr 1980. v. 28 (10). p. 15. (NAL Call No.: 1.98 AG84).

1266

Solution culture investigations of the influence of manganese, calcium, potassium, boron, and pH on internal bark necrosis of Delicious apple trees / by Richard Evans Cooper.

Cooper, Richard Evans, 1942. 1971. Thesis (Ph.D.)--University of Maryland, 1971. Photocopy. Ann Arbor, Mich. : University Microfilms, 1972. viii, 73 leaves ; 21 cm. Bibliography: leaves 70-73. (NAL Call No.: DISS 72-1,685).

1267

Some factors on russetting of Golden Delicious apples.

Edgerton, L.J. Martinsburg, W. Va., West Virginia Horticultural Society. Mountaineer grower. Feb 1980. Feb 1980. (406). p. 9-10. (NAL Call No.: 80 M86).

1268

Some nutritional aspects of physiological disorders of apple fruit / by Michael Wiley Kilby.

Kilby, Michael Wiley, 1943. 1971. Thesis (Ph.D.)--Michigan State University, 1971. Photocopy. Ann Arbor, Mich. : University Microfilms, 1972. vii, 77 leaves ; 21 cm. Bibliography: leaves 67-70. (NAL Call No.: DISS 71-31,243).

1269

Studies of the nature and control of york spot, a physiological disorder of the York Imperial apple / by Donald Bruce Williams.

Williams, Donald Bruce, 1934. 1962. Thesis (Ph.D.)--Pennsylvania State University, 1962. Photocopy. Ann Arbor, Mich. : University Microfilms International, 1979. (viii), 178 leaves ; 20 cm. Bibliography: leaves (155)-161. (NAL Call No.: DISS 63-3,099).

1270

Studies on the application of ferrous sulphate for controlling chlorosis of apple tree on calcareous soils.

Zhou, Z.G. Liu, C.Z. New York ; Basel : Marcel Dekker, 1982. Iron nutrition and interactions in plants : Brigham Young University, August 12-14, 1981 / edited by S.D. Nelson ... (et al.). p. 883-896. ill. 11 ref. (NAL Call No.: OK867.J67 v. 5, nos. 4-7).

1271

Two types of internal breakdown in 'Delicious' apples (Watercore, calcium).

Fukuda, H.HJHSA. Alexandria : American Society for Horticultural Science. HortScience. Dec 1983. v. 18 (6,sec.1). p. 917-918. ill. Includes references. (NAL Call No.: SB1.H6).

1272

Wetwood of shade trees in Wyoming (Slime flux is observed on apple, birch, cottonwood, willow and elm).

Roth, D.A. Laramie, Wyo., The Station. Bulletin - B - Wyoming. Agricultural Experiment Station. Apr 1980. Apr 1980. (696). 2 p. ill. (NAL Call No.: 100 W99 (1)).

1273

1980 progress report on McIntosh breakdown (Apples, skin and flesh discoloration).

Blanpied, D. North Amherst, Mass., The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1980. v. 86. p. 57-60. (NAL Call No.: 81 M384).

MISCELLANEOUS PLANT DISORDERS

1274

Agri-strep causes phytotoxicity on crabapples, 1980 (Crabapple (*Malus* sp. 'Pink Perfection'), phytotoxicity; Streptomycin induced).
Schreiber, L.R. Krause, C.R.; McHugh, J.B. (s.l.), The Society. Fungicide and nematicide tests; results - American Phytopathological Society. 1981. v. 36. p. 125-126. (NAL Call No.: 464.9 AM31R).

1275

Apple damage severe in N.D. (North Dakota).
Page, W.R. St. Paul, Minnesota State Horticultural Society. Minnesota horticulturist. Jan 1980. v. 108 (1). p. 29. (NAL Call No.: 81 M66).

1276

Apple scab in Central Washington.
Covey, R.P. PWHA. Wenatchee : The Association. Proceedings - Washington State Horticultural Association. 1982. 1982. (78th). p. 112, 114-116. (NAL Call No.: 81 W273).

1277

Apples--critical temperatures for blossom buds (Injuries).
Ballard, J.K. Proebsting, E.L.; Tukey, R.B. Pullman, Wash., The Service. Extension bulletin - Washington State University, Cooperative Extension Service. Aug 1981. Aug 1981. (O913). 2 p. ill. (NAL Call No.: 275.29 W27P).

1278

An assessment and illustration of winter injury to selected apple cultivars in Nova Scotia, 1980-81.
Embree, C.g. University Park : American Pomological Society. Fruit varieties journal. Jan 1984. v. 38 (1). p. 8-13. ill. Includes references. (NAL Call No.: 80 F9464).

1279

Association of calyx green end disorder of 'Golden Delicious' apples with tissue fluoride.
Barritt, B.H. JOSHB. Kammereck, R. Alexandria : The Society. Journal of the American Society for Horticultural Science. Mar 1983. v. 108 (2). p. 342-346. ill. Includes references. (NAL Call No.: 81 S012).

1280

The behavior of peach and pear trees under extreme drought stress.
Proebsting, E.L. Jr. Middleton, J.E. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. American Society for Horticultural Science. May 1980. v. 105 (3). p. 380-385. ill. 5 ref. (NAL Call No.: 81 S012).

1281

Benefits or disaster from growth regulator sprays (Injury, apples, pears, chemical thinning, cherries).
Williams, M.W. AR-W. Wenatchee. Proceedings Washington State Horticultural Association. 1979. 1979. (75th). p. 135-139. (NAL Call No.: 81 W273).

1282

Critical temperatures for blossom buds--pears (Frost damage).
Ballard, J.K. Tukey, R.B. Pullman, Wash., The Service. Extension Bulletin - Washington State University, Cooperative Extension Service. Oct 1981. Formerly published as EC0870. Oct 1981. (O978). 6 p. ill. (NAL Call No.: 275.29 W27P).

1283

Cuticular behavior of cadmium studied using isolated plant cuticles (Heavy metal penetration and retention in leaves of apples, pears, tomatoes).
Chamel, A.R. Gambonnet, B.; Genova, C.; Jourdain, A. Madison, Wis. : American Society of Agronomy. Journal of environmental quality. July/Sept 1984. v. 13 (3). p. 483-487. ill. Includes references. (NAL Call No.: QH540.J6).

1284

Effect of (apple) orchard heaters on vertical temperature profiles.
Fox, R.D. OH-AR-NC. Brazee, R.D.; Ferree, D.C. Wooster, Ohio, The Center. Research circular - Ohio Agricultural Research and Development Center. Aug 1980. Aug 1980. (259). p. 16-19. ill. (NAL Call No.: 100 OH3R).

1285

Effect of duration and rate of freezing and tissue hydration on 'Bartlett' pear buds, flowers, and small fruit (Injury).
Strang, J.G. Lombard, P.B.; Westwood, M.N.; Weiser, C.J. Mount Vernon, Va., The Society. Journal of the American Society for Horticultural Science. American Society for Horticultural Science. Jan 1980. v. 105 (1). p. 102-107. ill. 21 ref. (NAL Call No.: 81 S012).

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Christensen, R.L. Prokopy, R.J. Amherst, The Council. Extract: The purpose of this paper is to describe one pest management strategy which would significantly reduce the amount of pesticides used while, it was hypothesized, having no significant effect on yields or fruit quality. The alternate middle treatment involves spraying alternate halves of each tree on alternate spray dates instead of both halves (every middle) on all spray dates. The method of economic analysis employed was partial budgeting. Only direct costs and returns were considered with no attempt made to assess the social or environmental benefits resulting from reduced use of pesticides. Journal - Northeastern Agricultural Economics Council. Oct 1979. v. 8 (2). p. 243-247. 5 ref. (NAL Call No.: HD1773.A2N6).

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Hall, F.R. Martinsburg, W. Va., West Virginia Horticultural Society. Mountaineer grower. Feb 1980. Feb 1980. (406). p. 10, 12, 14. (NAL Call No.: 80 M86).

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Croft, B.A. Miller, R.W.; Nelson, R.D.; Westigard, P.H. College Park, Md. : Entomological Society of America. Journal of economic entomology. June 1984. v. 77 (3). p. 574-578. Includes references. (NAL Call No.: 421 J822).

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Suckling, D.M. Chapman, R.B.; Penman, D.R. College Park, Md. : Entomological Society of America. Journal of economic entomology. June 1984. v. 77 (3). p. 579-582. Includes references. (NAL Call No.: 421 J822).

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Hill, D.W. CT. Kelley, T.R.; Morrow, G.R.; Matiuck, S.W. Storrs, The Station. Research report - Storrs Agricultural Experiment Station. Connecticut. Storrs Agricultural Experiment Station. Dec 1979. Dec 1979. (57). 8 p. ill., map. 13 ref. (NAL Call No.: 100 C76RE).

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Allen, J.G. Hall, K.J. Washington, D.C., American Chemical Society. Journal of agricultural and food chemistry. Mar/Apr 1980. v. 28 (2). p. 255-258. ill. 10 ref. (NAL Call No.: 381 J8223).

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New spray techniques for apple orchards (Pesticide application equipment).

Meador, D.B. IL. Urbana, The Station. Illinois research. Illinois. Agricultural Experiment Station. Winter 1980. v. 22 (1). p. 14-15. ill. (NAL Call No.: 100 IL64).

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Pryde, A. JAFCA. Hanni, R.P. Washington : American Chemical Society. Journal of agricultural and food chemistry. May 1983. v. 31 (3). p. 564-567. ill. Includes references. (NAL Call No.: 381 J8223).

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Drake, S.R. Burts, E.C.; Nelson, J.W. Pullman, Wash., The Center. Bulletin - College of Agriculture Research Center, Washington State University. 1980. 1980. (0889). 3 p. 7 ref. (NAL Call No.: 100 W27E).

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Physical modes of action of sterol-inhibiting fungicides against apple diseases (*Venturia inaequalis*).

Szkolnik, M. St. Paul, Minn., American Phytopathological Society. Plant disease. Dec 1981. Presented at a workshop on New Fungicides for Apple and Pear Diseases, August 24, 1980. Minneapolis, Minn. v. 65 (12). p. 981-985. ill. 6 ref. (NAL Call No.: 1.9 P69P).

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Phytotoxic responses of cherries, nectarines, peaches, pears, and plums fumigated with methyl bromide for control of Mediterranean fruit fly (*Ceratitis capitata*, quarantine).

Harvey, J.M. JOSHB. Harris, C.M. Alexandria : The Society. Journal of the American Society for Horticultural Science. Nov 1982. v. 107 (6). p. 993-996. 5 ref. (NAL Call No.: 81 S012).

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Davis, J.E. BECTA. Stevens, E.R.; Staiff, D.C. New York : Springer-Verlag. Bulletin of environmental contamination and toxicology. Dec 1983. v. 31 (6). p. 631-638. Includes references. (NAL Call No.: RA1270.P35A1).

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Potential exposure to dislodgeable residues after application of two formulations of methyl parathion to apple trees.

Davis, J.E. Staiff, D.C.; Butler, L.C.; Stevens, E.R. New York, Springer. Bulletin of environmental contamination and toxicology. July 1981. v. 27 (1). p. 95-100. Bibliography p. 100. (NAL Call No.: RA1270.P35A1).

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Webb, S.H. Washington, The Service. Extract: Pesticide use in the production of apples, peaches, pears, and tart cherries in 1978 is reported for four producing regions--Northeast, South, North Central, and West (excluding California). Growers of these fruits used an estimated 36.5 million pounds of pesticides in 1978--12.8 million pounds of organic pesticides, 17 million pounds of oil as an insecticide, .9 million pounds of oil as a herbicide, and 5.8 million pounds of sulfur as a fungicide. Most of the organic pesticides were fungicides and insecticides with

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herbicides and other pesticides used in relatively small amounts. The West was the largest user of pesticides followed by the Northeast, South, and North Central regions. ERS staff report - U.S. Dept. of Agriculture, Economic Research Service. July 1981. July 1981. (AGESS810626). 33 p. 1 ref. (NAL Call No.: 916762(AGE)).

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Pyrethroid resistance persists in spider mite predator (*Metaseiulus* (=Typhlodromus) *occidentalis*, apple pests, biological control).
Hoy, M.A. Knop, N.F.; Joos, J.L. Berkeley, Calif., The Station. California agriculture - California Agricultural Experiment Station. Nov/Dec 1980. v. 34 (11/12). p. 11-12. ill. (NAL Call No.: 100 C12CAG).

1434

Relative abundance of the spotted tentiform leafminer, *Phyllonorycter blancardella* (F.), and the apple blotch leafminer, *Phyllonorycter crataegella* (Clemens) (Lepidoptera: Gracillariidae), on sprayed and unsprayed apple trees in Connecticut.
Maier, C.T. AESAA. College Park : The Society. Annals of the Entomological Society of America. Nov 1983. v. 76 (6). p. 992-995. maps. Includes references. (NAL Call No.: 420 EN82).

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Release and evaluation of a laboratory-selected, pyrethroid-resistant strain of the predaceous mite *Metaseiulus occidentalis* (Acari: Phytoseiidae) in southern Oregon pear orchards and a Washington apple orchard (Biological control).
Hoy, M.A. JEENA. Westigard, P.H.; Hoyt, S.C. College Park : Entomological Society of America. Journal of economic entomology. Apr 1983. v. 76 (2). p. 383-388. Includes references. (NAL Call No.: 421 J822).

1436

Removal of captan from treated apples (Fungicide residues).
Frank, R. AECTCV. Braun, H.E.; Stanek, J. New York : Springer-Verlag. Archives of environmental contamination and toxicology. May 1983. v. 12 (3). p. 265-269. Includes references. (NAL Call No.: TD172.A7).

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Removal of lead spray residues from apples grown in the Shenandoah-Cumberland Valley by M.H. Haller ... (et al.) United States Department of Agriculture, Bureau of Plant Industry and Entomology and Plant Quarantine, in cooperation with the Agricultural Experiment Stations of Maryland and West Virginia.
Haller, M. H.; (Mark Hughlin). Washington, D.C. U.S. Dept. of Agriculture 1938. 32 p. : ill. -. Bibliography: p. 31. (NAL Call No.: Fiche S-69 no.622).

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Responses of cherries, nectarines, peaches, pears and plums to fumigation with methyl bromide for control of Mediterranean fruit fly (*Ceratitidis capitata*, USA, quarantine, ripening, phytotoxicity).
Harvey, J.M. PFSHA. Harris, C.M. Lake Alfred : The Society. Proceedings of the ... annual meeting - Florida State Horticultural Society. 1982. v. 95. p. 229-231. Includes references. (NAL Call No.: 81 F66).

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The retention and redistribution of captan on apple foliage.
Smith, F.D. MacHardy, W.E. St. Paul, Minn. : American Phytopathological Society. Phytopathology. Aug 1984. v. 74 (8). p. 894-899. ill. Includes 16 references. (NAL Call No.: 464.8 P56).

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Simazine herbicide suitable for production of rooted stoolshoots of MM 106 apple rootstocks.
Curtis, D.F. Jr. Cummins, J.N. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1981. v. 16 (4). p. 524-528. 14 ref. (NAL Call No.: SB1.H6).

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Veneman, P.L.M. JEVQA. Murray, J.R.; Baker, J.H. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1983. v. 12 (1). p. 101-104. 19 ref. (NAL Call No.: QH540.J6).

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Spotted cutworm (*Amathes c-nigrum*): control in apple orchards with chlorpyrifos (Includes residue analyses).
Howell, J.F. George, D.A. Baltimore, Entomological Society of America. Journal of economic entomology. Feb 15, 1979. v. 72 (1).

p. 27-29. ill. 6 ref. (NAL Call No.: 421 J822).

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1981 spray guide for apples and pears in the Willamette Valley.

MacSwan, L.C. Fisher, G.C.; William, R. Corvallis, Or., The Service. Extension circular - Oregon State University, Extension Service. Jan 1981. Jan 1981. (677). 22 p. ill. (NAL Call No.: 275.29 OR32C).

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Sterol-inhibiting fungicides for control of certain diseases of apple in the Cumberland-Shenandoah region (*Venturia inaequalis*, *Gymnosporangium juniperivirginianae*, Pennsylvania, Virginia).

Yoder, K.S. Hickey, K.D. St. Paul, Minn., American Phytopathological Society. Plant disease. Dec 1981. Presented at a workshop on New Fungicides for Apple and Pear Diseases, August 24, 1980. Minneapolis, Minn. v. 65 (12). p. 998-1001. 23 ref. (NAL Call No.: 1.9 P69P).

1444

Synthetic pyrethroids: use patterns in Oregon pear orchards (Pesticides, pear psylla).

Westigard, P.H. Allen, R.B. Portland, Ore., The Society. Annual report - Oregon Horticultural Society. 1980. v. 71. p. 44, 46, 48, 50. 1 ref. (NAL Call No.: 81 OR32).

1445

Toxicities of three synthetic pyrethroids and selected orchard insecticides to the tufted apple budmoth, *Platynota ideausalis* (Lepidoptera: Tortricidae).

Rock, G.C. JEENAI. Shaltout, A.D. College Park : Entomological Society of America. Journal of economic entomology. Dec 1983. v. 76 (6). p. 1384-1389. Includes references. (NAL Call No.: 421 J822).

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ANIMAL NUTRITION

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ANIMAL PHYSIOLOGY AND BIOCHEMISTRY

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Tufted apple budmoth (Lepidoptera: Tortricidae): photoperiodic induction of larval diapause and stages sensitive to induction (*Platynota idaeusalis*).

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ANIMAL TAXONOMY AND GEOGRAPHY

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1535

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blancardella*) control (Apple trees).**

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ANIMAL DISEASES - PHYSIOLOGICAL

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Bitter-pit of apple and its control
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ANIMAL DISORDERS – PHYSICAL TRAUMA

1541

Impact of volcanic ash on pear psylla (Homoptera: Psyllidae) and associated predators (Psylla pyricola).

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Introduction and survival of susceptible and pyrethroid-resistant strains of Amblyseius fallacis (Acari: Phytoseiidae) in a Michigan apple orchard.

Whalon, M.E.EVETB. Croft, B.A.; Mowry, T.M. College Park : Entomological Society of America. Environmental entomology. Oct 1982. v. 11 (5). p. 1096-1099. ill. Includes references. (NAL Call No.: QL461.E532).

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Eastern apples Kraft Board Institute.

New York Foudrinier, Kraft Board Institute
1980. Abstract: Unitized distribution techniques bring apples from their point of harvest in a Shenandoah orchard to the supermarket consumer, without loss of quality. Apples are shown being loaded and trucked to the packing plant. There they are sprayed with fungicide; transferred to cold or controlled atmosphere rooms for storage; washed and waxed to enhance appearance and freshness; and dried, graded, sized, and boxed, all by conveyor belt systems. Several methods for packing, bagging and boxing the apples are illustrated. The apples are then shipped on pallets to the warehouse of a large supermarket chain, where they are loaded for delivery to the store's produce department and attractively displayed. These techniques increase shelf life, saleability, and consumer satisfaction. 1 film reel (10 min.) : sd., col. ; 16 mm. (NAL Call No.: SB363.E2 F&N AV).

STRUCTURES AND STRUCTURAL EQUIPMENT

1544

Building of CA (controlled atmosphere) apple storage (Costs and returns).
Blackler, W.H. (s.l., s.n.). Proceedings of the ... annual meeting - New York State Horticultural Society. 1980. v. 125 (125th). p. 36-38. (NAL Call No.: 81 N484).

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Menzies, D.R. Fisher, R.W. Ottawa, Canadian Society of Agricultural Engineering. Canadian agricultural engineering. June 1979. v. 21 (1). p. 15-18. ill. 7 ref. (NAL Call No.: 58.8 C164).

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Meador, D.B. IL. Urbana, The Station. Illinois research. Illinois. Agricultural Experiment Station. Winter 1980. v. 22 (1). p. 14-15. ill. (NAL Call No.: 100 IL64).

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Steam-cleaning thermocouple psychrometry equipment (contaminated by volatile substances from apple and potato).

Murase, H. St. Joseph, Mich., American Society of Agricultural Engineers. Agricultural engineering. Sept 1979. v. 60 (9). p. 23. ill. (NAL Call No.: 58.8 AG83).

NATURAL RESOURCES

1551

An anomaly of the calyx end of 'Golden Delicious' apple fruits associated with fluoride exposure (Air pollution effects, Washington).

Seeley, E.J. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. Apr 1979. v. 14 (2). p. 162-163. ill. 10 ref. (NAL Call No.: SB1.H6).

1552

Codling moth.

Solomon, M.E. Glen, D.M. London, Forbes Publications. Abstract: Modern insecticides can control codling moth, but the pest may develop resistance, the insecticide kills other helpful insects and mites, protection of spray machinery operators is required, and the chemical load on the environment is increased. Research at Long Ashton is aimed at integrated control through a combination of chemical and natural biological agents. Studies of cider apple orchards where insecticides are not used revealed birds, especially blue tits, were the most effective predators. Studies in dessert apple orchards where spray programs are used tested the extent to which sex-pheromone traps can be used to time sprays, to indicate population, and extent of crop damage. Long Ashton collaborates with other research organizations to improve chemical control and to develop integrated control. Nutrition and food science. May/June 1979. May/June 1979. (58). p. 12-14. ill. 2 ref.

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Effects of simulated deer browsing on branches of apple trees.

Katsma, D.E. Rusch, D.H. Washington, D.C., Wildlife Society. The Journal of wildlife management. July 1980. v. 44 (3). p. 603-612. ill. 17 ref. (NAL Call No.: 410 J827).

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Elemental content of apple, millet, and vegetables grown in pots of neutral soil amended with fly ash (waste material from coal-burning power plants).

Furr, A.K. Parkinson, T.F. Washington, American Chemical Society. Journal of agricultural and food chemistry. Jan/Feb 1979. v. 27 (1). p. 135-138. ill. Bibliography p. 137-138. (NAL Call No.: 381 J8223).

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Korcak, R.F. Mt. Vernon, Va., American Society for Horticultural Science. HortScience. Apr 1979. v. 14 (2). p. 163-164. ill. 6 ref. (NAL

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DRAINAGE AND IRRIGATION

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Effect of irrigation regimes and supplemental nitrogen on alfalfa greening, cork spot, and fruit quality of 'd'Anjou' pears (Water relations, plant nutrition, *Pyrus communis*). Reese, J.T. Brun, C.A.; Seeley, E.U. Alexandria, Va., American Society for Horticultural Science. HortScience. Aug 1982. v. 17 (4). p. 666-668. ill. 8 ref. (NAL Call No.: SB1.H6).

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The use of overtree irrigation for crop cooling and frost and freeze protection on apples. Unrath, C.R. Sneed, R.E. Silver Spring, Md., The Association. Technical conference proceedings. Irrigation Association. 1978. 1978. p. 131-134. (NAL Call No.: 55.9 SP8).

FOOD STORAGE, HORTICULTURAL CROP

1560

The action of lecithin and calcium dips on the control of bitter pit in apple fruit.
Watkins, C.B. Harman, J.E.; Ferguson, I.B.; Reid, M.S. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Mar 1982. v. 107 (2). p. 262-265. Includes 13 ref. (NAL Call No.: 81 S012).

1561

Beat bitter pit and cork spot! (Calcium-related disorders of apples).
Greene, G.M. Willoughby, Ohio, Meister. American fruit grower. June 1980. v. 100 (6). p. 14. ill. (NAL Call No.: 80 G85).

1562

Building of CA (controlled atmosphere) apple storage (Costs and returns).
Blackler, W.H. (s.l., s.n.). Proceedings of the ... annual meeting - New York State Horticultural Society. 1980. v. 125 (125th). p. 36-38. (NAL Call No.: 81 N484).

1563

Closed circulation fruit storage chambers with microcomputer control (Apples).
Chesson, J.H. Olsen, K.L. St. Joseph, Mich. : The Society. Paper - American Society of Agricultural Engineers (Microfiche collection). 1984. Paper presented at the 1984 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. 1984. (fiche no. 84-3030). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

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Control the temperature and atmosphere in your apple storage room.
Blanpied, G.D. North Amherst, Mass., The Association. New England fruit meetings ... Proceedings of the ... annual meeting - Massachusetts Fruit Growers' Association. 1981. v. 87. 30-39. ill. (NAL Call No.: 81 M384).

1565

Cost of building cold & CA (controlled atmosphere) storages (for apples).
Russell, C.A. (s.l., s.n.). Proceedings of the ... annual meeting - New York State Horticultural Society. 1980. v. 125 (125th). p. 39-40. (NAL Call No.: 81 N484).

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Fowler, R.G. (s.l., s.n.). Proceedings of the ... annual meeting - New York State Horticultural Society. 1980. v. 125 (125th). p. 30-32. (NAL Call No.: 81 N484).

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Spotts, R.A. Traquair, J.A.; Peters, B.B. St. Paul, Minn., American Phytopathological Society. Plant disease. Feb 1981. v. 65 (2). p. 151-159. ill. 7 ref. (NAL Call No.: 1.9 P69P).

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Smith, F. AR-W. Covey, R.; Fye, R.; Burts, E.; Pierson, C. Wenatchee. Proceedings Washington State Horticultural Association. 1979. 1979. (75th). p. 196-201. (NAL Call No.: 81 W273).

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Effects of modified atmosphere storage on overwintering populations of the apple rust mite and European red mite eggs (Aculus schlechtendali, Panonychus ulmi).
Lidster, P.D. Sanford, K.H.; McRae, K.B. Alexandria, Va., American Society for Horticultural Science. HortScience. June 1981. v. 16 (3). p. 328-329. ill. 4 ref. (NAL Call No.: SB1.H6).

1571

Effects of "Rapid CA" (controlled atmosphere), high CO2 (carbon dioxide), CaCl2 (calcium chloride) treatments on storage behavior of 'Golden Delicious' apples.
Lau, O.L. JOSH. Meheriuk, M.; Olsen, K.L. Alexandria : The Society. Journal of the American Society for Horticultural Science. Mar 1983. v. 108 (2). p. 230-233. Includes references. (NAL Call No.: 81 S012).

(FOOD STORAGE, HORTICULTURAL CROP)

1572

Effects of some postharvest and storage treatments on the incidence of flesh browning in controlled-atmosphere-stored 'Delicious' apples (Physiological disorders, calcium, gibberellic acid, diphenylamine).
Meheriuk, M. Lau, D.L.; Hall, J.W. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1984. v. 109 (3). p. 290-293. Includes references. (NAL Call No.: 81 S012).

1573

Effects of temperature on firmness and bruising of 'Starkrimson Delicious' and 'Golden Delicious' apples (Storage, mechanical injury).
Saltveit, M.E. Jr. Alexandria, Va. : American Society for Horticultural Science. HortScience. Aug 1984. v. 19 (4). p. 550-551. ill. Includes 7 references. (NAL Call No.: SB1.H6).

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Electrolyte leakage from daminozide-treated apples held in air, low-pressure, and controlled-atmosphere storage.
Berard, L.S. Loughheed, E.C. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. May 1982. v. 107 (3). p. 421-425. 15 ref. (NAL Call No.: 81 S012).

1575

Guidelines for constructing and operating controlled atmosphere storages for apples.
Dewey, D.H. East Lansing, Mich. : The Service. Extension bulletin E - Cooperative Extension Service, Michigan State University. Apr 1984. Apr 1984. (1754). 6 p. ill. (NAL Call No.: 275.29 M58B).

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Improvement of fruit firmness and acidity in controlled-atmosphere-stored 'Golden Delicious' apples by a rapid O₂ (oxygen) reduction procedure (Postharvest physiology, senescence).
Lau, D.L. Looney, N.E. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1982. v. 107 (4). p. 531-534. ill. 6 ref. (NAL Call No.: 81 S012).

1577

Influence of calcium treatment on Golden Delicious' apple quality.
Orake, S.R. Spayd, S.E. Chicago : Institute of Food Technologists. Abstract: Food quality characteristics of apples treated with calcium chloride in standard cold storage were compared

with untreated apples in standard cold storage and controlled-atmosphere storage. Ca treatment improved the storage quality of fresh apples in prolonged cold storage with no loss of quality from that of the processed product. While fresh apples in controlled-atmosphere storage were firmer and had higher ascorbic acid than Ca-treated apples in standard cold storage, fresh Ca-treated apples had less green color and more firmness (with a high acidity and ascorbic acid content) than untreated apples in standard cold storage. Further, processed Ca-treated apple products had superior color and firmness than products made from apples stored under standard cold storage, and had better consistency and less "weep" than products from apples stored under controlled-atmosphere conditions. (wz). Journal of food science. Mar/Apr 1983. v. 48 (2). p. 403-405. charts. Includes 13 references. (NAL Call No.: 389.8 F7322).

1578

Keeping qualities of 'Stayman' and 'Delicious' apples treated with calcium chloride, scald inhibitors, and other chemicals (Malus domestica, Penicillium expansum).
Hardenburg, R.E. Anderson, R.E. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Nov 1981. v. 106 (6). p. 776-779. Includes 27 ref. (NAL Call No.: 81 S012).

1579

Low-ethylene CA (controlled atmosphere) of 'McIntosh' apples.
Liu, F.W. NYHSA. (S.1.) : The Society. Proceedings of the ... annual meeting - New York State Horticultural Society. 1983. v. 128. p. 114-115. (NAL Call No.: 81 N484).

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Low ethylene CA (controlled atmosphere) storage for apples.
Blanpied, G.D. Turk, J.R.; Douglas, J.B. Beaverton, Or. : Timber Press, (1982). Proc. Third Natl. Controlled Atmosphere Research Conf. on Controlled Atmospheres for Storage and Transport of Perishable Agric. Commodities, July 22-24, 1981, Ore. State Univ., Corvallis / D.G. Richardson, M.M. Meheriuk, eds. p. 337-344. (NAL Call No.: TP373.3.C66 1982).

1581

Low oxygen CA (controlled atmosphere) storage of McIntosh apples.
Dewey, D.H. Bourne, M.L. Beaverton, Or. : Timber Press, (1982). Proc. Third Natl. Controlled Atmosphere Research Conf. on Controlled Atmospheres for Storage and Transport of Perishable Agric. Commodities, July 22-24, 1981, Ore. State Univ., Corvallis /

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1582

Market quality of eastern-grown 'Golden Delicious' apples after prestorage CO₂ (carbon dioxide) treatment and controlled-atmosphere storage.

Tietjen, W.H. Hudson, D.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1984. v. 19 (3,sec.1). p. 427-429. Includes references. (NAL Call No.: SB1.H6).

1583

The Microbiology of apples and apple products. Doores, Stephanie. Boca Raton, Fla. : CRC Press. Abstract: The characteristics of spoilage bacteria on apples and apple products (e.g., pie filling, juice, baby food), and the patulin mycotoxin associated with mold in apple products are outlined and discussed. Processes for altering apple microbial load and for controlling patulin formation include atmosphere, light, and temperature control. Guidelines given for ensuring the production of quality apples and apple products cover procedures for proper harvesting, processing (e.g., trimming), and storage. Data are included on the etiology of apple microflora, and on the toxicity, incidence, measurement, and control of patulin. (wz). CRC critical reviews in food science and nutrition. 1983. Literature review. v. 19 (2). p. 133-149. charts. Includes 86 references. (NAL Call No.: TP368.C7).

1584

Mucor rot of pears and apples (caused by Mucor piriformis).

Bertrand, P. OR. Saulie-Carter, J. Corvallis, Or., The Station. Special report - Oregon Agricultural Experiment Station. Oregon. Agricultural Experiment Station. Feb 1980. (568). 21 p. ill. 9 ref. (NAL Call No.: 100 OR3M).

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Objective measurement of aroma quality of Golden Delicious apples as a function of controlled-atmosphere storage time.

Willaert, G.A.JAFCA. Dirinck, P.U.; De Pooter, H.L.; Schamp, N.M. Washington : American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1983. v. 31 (4). p. 809-813. Includes references. (NAL Call No.: 381 J8223).

1586

Rapid CA (controlled atmosphere) and low oxygen storage of apples--a new concept for long storage of Golden Delicious and more effective storage of Red Delicious apples (Catalytic converter).

Olsen, K.L. Wenatchee. Proceedings - Washington State Horticultural Association. 1980. 1980. (76th). p. 121-125. ill. (NAL Call No.: 81 W273).

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Relative humidity in CA (controlled atmosphere) apple storage rooms.

Blanpied, G.D. Beaverton, Or. : Timber Press. (1982). Proc. Third Natl. Controlled Atmosphere Research Conf. on Controlled Atmospheres for Storage and Transport of Perishable Agric. Commodities, July 22-24, 1981, Ore. State Univ., Corvallis / D.G. Richardson, M.M. Meheriuk, eds. p. 55-60. (NAL Call No.: TP373.3.C66 1982).

1588

Stem-end decay and quality of low oxygen stored 'd' anjou' pears (Botrytis cinera, Pezizula malicorticis, Penicillium expansum, Mucor piriformis).

Chen, P.M. Spotts, R.A.; Mellenthin, W.M. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Nov 1981. v. 106 (6). p. 695-698. Includes 26 ref. (NAL Call No.: 81 S012).

1589

Storage responses of four apple cultivars to a "rapid CA" procedure in commercial controlled-atmosphere facilities.

Lau, O.L.JOSHB. Alexandria : The Society. Journal of the American Society for Horticultural Science. July 1983. v. 108 (4). p. 530-533. ill. Includes references. (NAL Call No.: 81 S012).

1590

Use of AVG (aminoethoxyvinylglycine) to control ripening of apples.

Bramlage, W.U. Autio, W.R. Beaverton, Or. : Timber Press. (1982). Proc. Third Natl. Controlled Atmosphere Research Conf. on Controlled Atmospheres for Storage and Transport of Perishable Agric. Commodities, July 22-24, 1981, Ore. State Univ., Corvallis / D.G. Richardson, M.M. Meheriuk, eds. p. 349-358. 7 ref. (NAL Call No.: TP373.3.C66 1982).

(FOOD STORAGE, HORTICULTURAL CROP)

1591

Use of dips containing diphenylamine and edible oils to reduce soft scald of apples (Cold storage, physiological disorder).

Wills, R.B.H.HJHSA. Scott, K.J. Alexandria : American Society for Horticultural Science. HortScience. Dec 1982. v. 17 (6). p. 964-965. 3 ref. (NAL Call No.: SB1.H6).

1592

The use of rapid CA (controlled atmosphere) to maximize storage life of apples.

Lau, O.L. Beaverton, Or. : Timber Press, (1982). Proc. Third Natl. Controlled Atmosphere Research Conf. on Controlled Atmospheres for Storage and Transport of Perishable Agric. Commodities, July 22-24, 1981, Ore. State Univ., Corvallis / D.G. Richardson, M.M. Meheriuk, eds. p. 201-210. 11 ref. (NAL Call No.: TP373.3.C66 1982).

1593

Insecticide inhibition of growth and patulin production by *Penicillium urticae*.

Draughon, Frances A. Ayres, John C. Chicago, Institute of Food Technologists. Abstract: Patulin is a potent mycotoxin that can be formed in rotting apples and other fruits or vegetables infected by fungi. Since certain chemical compounds are known to inhibit production of other mycotoxins, including aflatoxin, the effect of insecticides in inhibiting growth and patulin production by the fungus, *Penicillium urticae*, was investigated using 3 concentrations of insecticide. The organophosphate insecticides Naled and Dichlorvos inhibited patulin production by 100 and 89%, respectively, at the highest (100 mg/l) concentration. The organophosphate insecticides Malathion and Diazinon inhibited patulin production by 0-52% at the same concentration. The carbamate insecticides Landrin and Sevin inhibited patulin production by 85 and 100%, respectively, and completely inhibited fungal sporulation at the 100 mg/l concentration. However, they did not significantly inhibit fungal growth. Thus, insecticides with antimycotoxic effects may be very useful in mycotoxin prevention in food crops. The biochemical mechanism of action of these inhibitory chemicals is not well understood. Journal of food science. July/Aug 1979. v. 44 (4). p. 1232-1234. charts. 14 ref. (NAL Call No.: 389.8 F7322).

1594

The Microbiology of apples and apple products.
Doores, Stephanie. Boca Raton, Fla. : CRC
Press. Abstract: The characteristics of
spoilage bacteria on apples and apple products
(e.g., pie filling, juice, baby food), and the
patulin mycotoxin associated with mold in apple
products are outlined and discussed. Processes
for altering apple microbial load and for
controlling patulin formation include
atmosphere, light, and temperature control.
Guidelines given for ensuring the production of
quality apples and apple products cover
procedures for proper harvesting, processing
(e.g., trimming), and storage. Data are
included on the etiology of apple microflora,
and on the toxicity, incidence, measurement,
and control of patulin. (wz). CRC critical
reviews in food science and nutrition. 1983.
Literature review. v. 19 (2). p. 133-149.
charts. Includes 86 references. (NAL Call No.:
TP368.C7).

FOOD CONTAMINATION AND TOXICOLOGY

1595

Stem-end decay and quality of low oxygen stored 'd' anjou' pears (*Botrytis cinera*, *Pezizula malicorticis*, *Penicillium expansum*, *Mucor piriformis*).

Chen, P.M. Spotts, R.A.; Mellenthin, W.M. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Nov 1981. v. 106 (6). p. 695-698. Includes 26 ref. (NAL Call No.: 81 S012).

FOOD CONTAMINATION, HORTICULTURAL CROP

1596

Behavior of parathion in apple juice processed into cider and vinegar (Pesticide residues).
Banna, A.A.JPFCD. Kavar, N.S. New York : Marcel Dekker. Journal of environmental science and health. Part B. Pesticides, food contaminants, and agricultural wastes. 1982. v. B17 (5). p. 505-514. 8 ref. (NAL Call No.: TD172.J61).

1597

Determination of diphenylamine residues in apples.
Luke, B.G. Cossens, S.A. New York, Springer Verlag. Bulletin of environmental contamination and toxicology. May 1980. v. 24 (5). p. 746-751. ill. 8 ref. (NAL Call No.: RA1270.P35A1).

1598

Effect of pesticide formulation on the distribution of fenitrothion on apple foliage.
Chang-Yen, I.JAFCA. Nickless, G.; Pickard, J.A. Washington : American Chemical Society. Journal of agricultural and food chemistry. Nov/Dec 1983. v. 31 (6). p. 1137-1139. Includes references. (NAL Call No.: 381 J8223).

1599

Effects of some postharvest and storage treatments on the incidence of flesh browning in controlled-atmosphere-stored 'Delicious' apples (Physiological disorders, calcium, gibberellic acid, diphenylamine).
Meheriuk, M. Lau, O.L.; Hall, J.W. Alexandria, Va. : The Society. Journal of the American Society for Horticultural Science. May 1984. v. 109 (3). p. 290-293. Includes references. (NAL Call No.: 81 S012).

1600

Further studies on the removal of spray residues from Eastern-grown apples by M.H. Haller ... (et al.) ; United States Department of Agriculture, Bureau of Plant Industry and Entomology and Plant Quarantine, in cooperation with the West Virginia and Maryland Agricultural Experiment Stations.
Haller, M. H.; (Mark Hughlin). Washington, D.C. U.S. Dept. of Agriculture 1942. 36 p. : ill. -. Bibliography: p. 31-32. (NAL Call No.: Fiche S-69 no.828).

1601

Gas-liquid chromatographic determination of fenvalerate insecticide residues in processed apple products and by-products (Fruit products, food hygiene, synthetic pyrethroids, chemical analysis chromatography, New York).
Spittler, T.D.JANCA. Argauer, R.J.; Lisk, D.J.; Mumma, R.O.; Winnett, G. Arlington : The Association. Journal of the Association of Official Analytical Chemists. Sept 1982. v. 65 (5). p. 1106-1111. 3 ref. (NAL Call No.: 381 AS7).

1602

Gas-liquid chromatographic-mass spectrometric confirmation of endosulfan and endosulfan sulfate in apples and carrots.
Wilkes, P.S.. Arlington, Va., The Association. Journal of the Association of Official Analytical Chemists. Sept 1981. v. 64 (5). p. 1208-1210. ill. 5 ref. (NAL Call No.: 381 AS7).

1603

Incidence and development of apple scab on fruit during the late summer and while in storage by Cyril O. Bratley.
Bratley, Cyril O. Washington, D.C. U.S. Dept. of Agriculture 1937. 46 p. : ill. -. Bibliography: p. 43-45. (NAL Call No.: Fiche S-69 no.563).

1604

Inhibition of patulin production (by Penicillium urticae) with the insecticide Naled (Includes testing on apples in storage).
Draughon, F.A. Link, M.A.; Ayres, J.C. Ames, Iowa, International Association of Milk, Food, and Environmental Sanitarians. Journal of food protection. July 1980. v. 43 (7). p. 575-578. ill. 18 ref. (NAL Call No.: 44.8 J824).

1605

Mycotoxin production by Alternaria species grown on apples, tomatoes, and blueberries (Storage diseases, food contamination).
Stinson, E.E. AR-ERRC. Bills, D.D.; Osman, S.F.; Siciliano, J.; Ceronis, M.J.; Heisler, E.G. Washington, D.C., American Chemical Society. Journal of agricultural and food chemistry. Sept/Oct 1980. v. 28 (5). p. 960-963. 25 ref. (NAL Call No.: 381 J8223).

1606

Mycotoxin production in whole tomatoes, apples, oranges and lemons (Alternaria molds).
Stinson, E.E. Osman, S.F.; Heisler, E.G.; Siciliano, J.; Bills, D.D. Washington, D.C., American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1981. v. 29 (4). p. 790-792. 8 ref. (NAL Call No.: 381 J8223).

1607

Pear quality as influenced by amitraz insecticide.
Drake, S.R. Burts, E.C.; Nelson, J.W. Pullman, Wash., The Center. Bulletin - College of Agriculture Research Center, Washington State University. 1980. 1980. (0889). 3 p. 7 ref. (NAL Call No.: 100 W27E).

1608

Removal of captan from treated apples (Fungicide residues).
Frank, R.AECTCV. Braun, H.E.; Stanek, J. New York : Springer-Verlag. Archives of environmental contamination and toxicology. May 1983. v. 12 (3). p. 265-269. Includes references. (NAL Call No.: TD172.A7).

FOOD ADDITIVES, HORTICULTURAL CROP

1609

How to shine an apple.

Lecos, Chris. Washington, Food and Drug Administration. Abstract: American fruit and vegetable packers and processors have been coating many of their perishable products for more than 50 years. Most of the fruits and vegetables contain 80-95% water by weight; when plucked, loss of water causes weight loss, shriveling and wilting, leading to losses in quality as well as vitamins and other nutrients. Many products are cleaned with solvent detergents by packers, which may remove the natural wax covering. In addition to cold storage, the commercial use of wax preparations is rather extensive on citrus, rutabagas, and cucumbers and less on other crops such as peppers, tomatoes, and apples. A study for the Washington Apple Commission showed that waxing of apples resulted in a measurable decrease in water loss during storage (3.12-4.69% weight loss for untreated apples; 2.23-3.21% for waxed apples). The waxing process used does not introduce measurable amounts of foreign wax into the apple. The use of various waxes for fruits and vegetables and FDA findings are discussed. (wz). F.D.A. consumer. Feb 1982. v. 16 (1). p. 8-11. ill. (NAL Call No.: HD9000.9.U5A1).

FOOD COMPOSITION, HORTICULTURAL CROP

1610

The action of lecithin and calcium dips on the control of bitter pit in apple fruit.

Watkins, C.B. Harman, J.E.; Ferguson, I.B.; Reid, M.S. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. Mar 1982. v. 107 (2). p. 262-265. Includes 13 ref. (NAL Call No.: 81 S012).

1611

Determination of fenvalerate, a synthetic pyrethroid, in grapes, peppers, apples, and cottonseeds by gas-liquid chromatography (Pesticide residues).

Greenberg, R.S. Washington, D.C., American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1981. v. 29 (4). p. 856-860. 9 ref. (NAL Call No.: 381 J8223).

1612

Effect of light environment and spur age on "Delicious" apple fruit size and quality (Malus domestica).

Robinson, T.L. JOSH. Seeley, E.J.; Barritt, B.H. Alexandria : The Society. Journal of the American Society for Horticultural Science. Sept 1983. v. 108 (5). p. 855-861. ill. Includes references. (NAL Call No.: 81 S012).

1613

Effect of pear vein yellows virus and a nonviral factor on the performance of pear trees (Processing quality).

Fridlund, P.R. Drake, S.R. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1981. v. 106 (4). 412-414. 6 ref. (NAL Call No.: 81 S012).

1614

Electrolyte leakage from daminozide-treated apples held in air, low-pressure, and controlled-atmosphere storage.

Berard, L.S. Loughheed, E.C. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. May 1982. v. 107 (3). p. 421-425. 15 ref. (NAL Call No.: 81 S012).

1615

Elemental content of vegetables and apple trees grown on Syracuse sludge-amended soils.

Furr, A.K. Parkinson, T.F.; Elfving, D.C.; Bache, C.A.; Gutenmann, W.H.; Doss, G.J.; Lisk, D.J. Washington, D.C., American Chemical Society. Journal of agricultural and food chemistry. Jan/Feb 1981. v. 29 (1). p. 156-160. Bibliography p. 159-160. (NAL Call No.: 381

J8223).

1616

Factors affecting nutrient content of the foliage and fruits of apple trees (Fertilizer, deficiencies, fruit quality).

Lord, W.U. Bramlage, W.U. Amherst : The Service. Fruit notes - Cooperative Extension Service, University of Massachusetts. Winter 1983. v. 48 (1). p. 17-23. (NAL Call No.: 275.29 M381FR).

1617

Influence of calcium treatment on Golden Delicious' apple quality.

Drake, S.R. Spayd, S.E. Chicago : Institute of Food Technologists. Abstract: Food quality characteristics of apples treated with calcium chloride in standard cold storage were compared with untreated apples in standard cold storage and controlled-atmosphere storage. Ca treatment improved the storage quality of fresh apples in prolonged cold storage with no loss of quality from that of the processed product. While fresh apples in controlled-atmosphere storage were firmer and had higher ascorbic acid than Ca-treated apples in standard cold storage, fresh Ca-treated apples had less green color and more firmness (with a high acidity and ascorbic acid content) that untreated apples in standard cold storage. Further, processed Ca-treated apple products had superior color and firmness than products made from apples stored under standard cold storage, and had better consistency and less "weep" than products from apples stored under controlled-atmosphere conditions. (wz). Journal of food science. Mar/Apr 1983. v. 48 (2). p. 403-405. charts. Includes 13 references. (NAL Call No.: 389.8 F7322).

1618

Market quality of eastern-grown 'Golden Delicious' apples after prestorage CO₂ (carbon dioxide) treatment and controlled-atmosphere storage.

Tietjen, W.H. Hudson, D.E. Alexandria, Va. : American Society for Horticultural Science. HortScience. June 1984. v. 19 (3,sec.1). p. 427-429. Includes references. (NAL Call No.: SB1.H6).

1619

Objective measurement of aroma quality of Golden Delicious apples as a function of controlled-atmosphere storage time.

Willaert, G.A. JAFCA. Dirinck, P.J.; De Pooter, H.L.; Schamp, N.M. Washington : American Chemical Society. Journal of agricultural and food chemistry. July/Aug 1983. v. 31 (4). p. 809-813. Includes references. (NAL Call No.: 381 J8223).

(FOOD COMPOSITION, HORTICULTURAL CROP)

1620

Pear quality as influenced by amitraz insecticide.

Drake, S.R. Burts, E.C.; Nelson, J.W. Pullman, Wash., The Center. Bulletin - College of Agriculture Research Center, Washington State University. 1980. 1980. (0889). 3 p. 7 ref. (NAL Call No.: 100 W27E).

1621

Qualitative aspects of pear flavor (Fire blight resistance).

Russell, L.F. Quamme, H.A.; Gray, J.I. Chicago, Institute of Food Technologists. Journal of food science. July 1981. v. 46 (4). p. 1152-1158. 20 ref. (NAL Call No.: 389.8 F7322).

FOOD SERVICE MANAGEMENT

1622 1623

Eastern apples Kraft Board Institute. Eastern apples Kraft Board Institute.

New York Foudrinier, Kraft Board Institute 1980. New York Foudrinier, Kraft Board Institute 1980. Abstract: Unitized distribution techniques bring apples from their point of harvest in a Shenandoah orchard to the supermarket consumer, without loss of quality. Apples are shown being loaded and trucked to the packing plant. There they are sprayed with fungicide; transferred to cold or controlled atmosphere rooms for storage; washed and waxed to enhance appearance and freshness; and dried, graded, sized, and boxed, all by conveyor belt systems. Several methods for packing, bagging and boxing the apples are illustrated. The apples are then shipped on pallets to the warehouse of a large supermarket chain, where they are loaded for delivery to the store's produce department and attractively displayed. These techniques increase shelf life, saleability, and consumer satisfaction.

Abstract: Unitized distribution techniques bring apples from their point of harvest in a Shenandoah orchard to the supermarket consumer, without loss of quality. Apples are shown being loaded and trucked to the packing plant. There they are sprayed with fungicide; transferred to cold or controlled atmosphere rooms for storage; washed and waxed to enhance appearance and freshness; and dried, graded, sized, and boxed, all by conveyor belt systems. Several methods for packing, bagging and boxing the apples are illustrated. The apples are then shipped on pallets to the warehouse of a large supermarket chain, where they are loaded for delivery to the store's produce department and attractively displayed. These techniques increase shelf life, saleability, and consumer satisfaction. 1 film reel (10 min.) : sd., col. ; 16 mm. 1 film reel (10 min.) : sd., col. ; 16 mm. (NAL Call No.: SB363.E2 F&N AV).(NAL Call No.: SB363.E2 F&N AV).

PHYSIOLOGY OF HUMAN NUTRITION

1624

Inhibition of iron absorption by certain foods.

Dallman, Peter R. Chicago, American Medical Association. Abstract: The interaction of food iron with other dietary constituents is an important and underrated mechanism affecting iron absorption, especially for infants starting on solid foods. One study has shown that absorption from breast milk alone was about four times greater than from breast milk combined with strained pears. Another study showed that the rate of iron accumulation decreased in breast-fed infants when solid foods (primarily fruits and vegetables) were introduced. Iron absorption studies show that in composite meals, meat and ascorbic acid enhance overall iron absorption. Milk and other dairy products have the reverse effect. More information is needed about absorption patterns in infants. From what is known, prolonged breast feeding and later introduction of solid foods are recommended. American journal of diseases of children. May 1980. v. 134 (5). p. 453-454. 19 ref. (NAL Call No.: 448.8 AM38).

HOME ECONOMICS

1625

Dynamics of disappearance of benzimidazole derivatives in stored apples (Fungicides, residues).

Kekpczynska, E.K. Borecka, H. Skierniewice, Research Institute of Pomology. Fruit science reports. 1979. v. 6 (2). p. 45-55. ill. 16 ref. (NAL Call No.: SB354.F72).

POLLUTION

1626

Effects of acid rain on apple tree productivity and fruit quality (*Malus domestica*, ozone, sulfur dioxide).

Forsline, P.L.J0SHB. Musselman, R.C.; Kender, W.J.; Dee, R.J. Alexandria : The Society. Journal of the American Society for Horticultural Science. Jan 1983. v. 108 (1). p. 70-74. ill. Includes references. (NAL Call No.: 81 S012).

1627

Foliar response and growth of apple trees following exposure to ozone and sulfur dioxide (Air pollution, injury).

Shertz, R.D. Kender, W.J.; Musselman, R.C. Alexandria, Va., The Society. Journal of the American Society for Horticultural Science. July 1980. v. 105 (4). p. 594-598. ill. 22 ref. (NAL Call No.: 81 S012).

1628

Orchard studies utilizing fluidized bed material (Coal/limestone combustion byproduct, *Malus domestica*, *Prunus persia*).

Wrubel, J.J.CS0SA. Korcak, R.F.; Childers, N. New York : Marcel Dekker. Communications in soil science and plant analysis. 1982. v. 13 (12). p. 1071-1080. 13 ref. (NAL Call No.: S590.C63).

1629

Potential exposure to dislodgable residues after application of two formulations of methyl parathion to apple trees.

Davis, J.E. Staiff, D.C.; Butler, L.C.; Stevens, E.R. New York, Springer. Bulletin of environmental contamination and toxicology. July 1981. v. 27 (1). p. 95-100. Bibliography p. 100. (NAL Call No.: RA1270.P35A1).

1630

Spatial distribution of pesticide residues in a former apple orchard.

Veneman, P.L.M.JEVQA. Murray, J.R.; Baker, J.H. Madison : American Society of Agronomy. Journal of environmental quality. Jan/Mar 1983. v. 12 (1). p. 101-104. 19 ref. (NAL Call No.: QH540.J6).

MATHEMATICS AND STATISTICS

1631

Changes in the susceptibility of developing apple fruit to *Venturia inaequalis* (Malus, statistical analysis, mathematical models).
Schwabe, W.F.S.PHYTAJ. Jones, A.L.; Jonker, J.P. St. Paul : American Phytopathological Society. Phytopathology. Jan 1984. v. 74 (1). p. 118-121. Includes references. (NAL Call No.: 464.8 P56).

1632

A heat transfer model for ice encapsulated apple buds (Sprinkler system for frost protection).
Phillips, J.R. Sastry, S.K.; Morrow, C.T. 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. 82-4008). 1 microfiche : ill. Includes references. (NAL Call No.: FICHE S-72).

1633

Models for integrated pest management of apple: a primer.
Russo, J.M. Seem, R.C. Ithaca, N.Y., The Station. Abstract: A primer has been prepared for developing an apple tree growth model. The primer is in the form of suggestions which address the concepts of model definition, design, and evaluation. A simple whole-plant-level model was chosen as a starting point for integrating and implementing the research of diverse groups of agricultural scientists. The model is defined as being an abstract, open, dynamic, and stable type. The model design is based on the two major assumptions that yield, as dry matter accumulation, is linearly related to transpiration and that transpiration is linearly related to open pan evaporation. The theoretical formulation of the model sets the model precision at approximately plus or minus 20 per cent of the computed value of yield over a given growing period. The primer could be useful for directing the design and evaluation of other crop models in addition to the apple tree model presented. Search agriculture - New York State Agricultural Experiment Station, Ithaca. 1980. (10). 8 p. ill. 17 ref. (NAL Call No.: S95.E23).

HUMAN MEDICINE, HEALTH AND SAFETY

1634

Potential exposure of apple thinners to azinphosmethyl and comparison of two methods for assessment of hand exposure (Time that must be allowed to elapse before workers can safely re-enter a crop that has been sprayed with a pesticide).

Davis, J.E.BECTA. Stevens, E.R.; Staiff, D.C. New York : Springer-Verlag. Bulletin of environmental contamination and toxicology. Dec 1983. v. 31 (6). p. 631-638. Includes references. (NAL Call No.: RA1270.P35A1).

TECHNOLOGY

1635

Closed circulation fruit storage chambers with microcomputer control (Apples).

Chesson, J.H. Olsen, K.L. St. Joseph, Mich. :
The Society. Paper - American Society of
Agricultural Engineers (Microfiche collection).
1984. Paper presented at the 1984 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
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Includes references. (NAL Call No.: FICHE
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