ANNUAL REPORT 1996

A NATIONAL AGRICULTURAL PROGRAM TO CLEAR PESTICIDES AND BIOLOGICAL PEST CONTROL AGENTS FOR MINOR USE

INTERREGIONAL RESEARCH PROJECT NO. 4
ANNUAL REPORT OF THE IR-4 PROJECT (NRSP-4/IR-4)
January 1, 1996 - December 31, 1996

INTRODUCTION

BACKGROUND

Interregional Research Project No. 4 (IR-4 Project) was organized in 1963 by Directors of the State Agricultural Experiment Stations (SAES) to obtain clearances for minor use pest control products on food and ornamental commodities where economic considerations preclude private sector involvement. Since its inception, IR-4 has been administered by USDA-CSREES. In 1976, USDA-ARS established a companion minor use program to provide further support for the minor use effort. The objectives of the IR-4 Project were expanded in 1977 to include the registration of pest control products for the protection of nursery and floral crops, forest seedlings and turf grass; and again in 1982 to include the registration of biological pest control agents (biopesticides) for agricultural pest control.

PROGRAM

Registration & Reregistration

The basic mission of IR-4 is to aid minor crop producers in obtaining properly labelled crop protection products. However, the focus of the program has changed over the years. FIFRA-88 presented IR-4 with the challenge of defending existing pesticide registrations that could not be supported by commercial registrants for economic reasons. Based on inputs from both the public and private sector, IR-4 developed a strategic plan in 1989 to register up to 1000 existing minor use registrations while continuing the ongoing program of new food use clearances. Similar changes will result from passage of the 1996 Food Quality Protection Act.

Biopesticides

IR-4 continues its commitment to aid in the development and clearance of biologically based alternatives for pest management on minor crops. This includes registrations for microbials and biochemicals as well as transgenics and reduced risk pesticides. IR-4 has earmarked funds for biopesticide clearances and is leveraging these monies with extramural public and private sector resources to expedite biopesticide research.

Ornamentals

Research to develop registration data for ornamental crops continues to be an important and successful IR-4 program. Opportunities exist to serve this $11 billion industry by facilitating the registration of new pesticides and biological alternatives that are worker friendly, adaptable to existing cultural practices and are effective in IPM systems.

FUTURE DIRECTIONS

IR-4's "Minor Crop Pest Control Strategy: 1995-2002" calls for the completion of minor use registrations by the 1997 deadline and continued emphasis on biologically based and reduced risk pesticides important to IPM programs. Tolerance reassessment and other provisions of the 1996 Food Quality Protection Act will require IR-4 to focus on developing additional dietary exposure information to support existing minor use registrations and to aid in the registration of effective alternatives for minor crops where pest management gaps exist. IR-4 will continue to seek guidance from its Commodity Liaison Committee and other producers to assure the program maintains its focus on important minor use needs.

This Annual Report highlights progress in 1996 toward achieving the objectives of the program to provide crop protection for the $32 billion U.S. minor crop industry.
PROJECT:


COORDERATING AGENCIES AND PRINCIPAL LEADERS:

Cooperating agencies, principal leaders of the project, support groups and IR-4 State and Federal Liaison Representatives are shown in Attachment 1. Scientists participating in the project are shown in Attachment 2.

PROGRESS OF WORK AND PRINCIPAL ACCOMPLISHMENTS:

FOOD USE RESEARCH PROJECTS:

There are currently 6702 IR-4 food-use requests, an increase of 223 over the 6479 requests reported in 1995. Of these, 1248 are researchable projects with 1077 representing requests for new uses and 171 representing reregistration requests. SAES and USDA-ARS cooperators scheduled research on 151 requested clearance projects (studies) which represented 518 field trials. Seven of these field trials were in Canada as part of a cooperative research project with Health Canada. Residue samples from 492 field trials went to SAES, USDA-ARS, and other cooperating analytical laboratories. Research protocols were prepared or revised for each study as required by EPA Good Laboratory Practice Standards. The pesticides/commodities researched in 1996 are shown in Attachment 3.

FOOD USE REGULATORY ACCOMPLISHMENTS:

The IR-4 Project was responsible for 80 minor use pesticide clearances in 1996. Fifty-two (52) of these were for new tolerances and exemptions and 28 were data packages supporting label amendments and reregistration projects accepted by EPA or state regulatory agencies. It should be noted that essentially all pesticide regulatory decisions were delayed after the 1996 Food Quality Protection Act which was signed into law August 3 in order to allow EPA to develop a new policy. Following is a report of successfully completed projects.

New Tolerance, Exemption and Reregistration Approvals

During the year EPA published 27 Federal Register notices and reregistration eligibility letters establishing 52 new tolerance and exemptions and 19 reregistration approvals. Label amendments accounted for 9 new uses. These are shown in Attachment 4.

Crop Group Definitions

EPA crop group definitions provide for the extension of tolerances or exemptions for a pest control agent from a crop to other closely related crops [see 40 CFR 180.1(h)]. IR-4 petitions to expand crop definitions substantially leverage the number of pest control options available to producers of minor crops. In 1996, IR-4 submitted 6 crop group definition petitions to EPA. These are shown in Attachment 5.

REGULATORY PROGRESS:

The clearance of a pesticide or biological control agent can be a lengthy process, sometimes taking five or more years. Following is a report of progress in obtaining future registrations and reregistrations.
Tolerance Approvals Proposed

In addition to tolerances and exemptions approved by EPA in 1996 in response to IR-4 petitions, 45 proposals for tolerances have been published for comment in the Federal Register and should become rules in 1997. These are shown in Attachment 6.

EPA Responses to IR-4 Petitions

EPA provides valuable assistance to IR-4 by reviewing all researchable projects before initiation of research. Nevertheless, some data concerns may not be revealed until the actual crop tolerance petition is submitted. In 1996, IR-4 received responses from EPA to 5 petitions requesting additional data and/or information. These are shown in Attachment 7.

Data Package Development

During 1996, IR-4 worked on 117 regulatory data packages which are presently under review by registrants or EPA. These include 37 new tolerance petition requests, 56 data packages to support reregistrations, 13 major amendments to prior submitted data packages, and 11 packages to support label expansions. These are shown in Attachment 8.

Regulatory Documents in Preparation

Regulatory packages representing 224 new uses and reregistrations are currently in various stages of preparation. These are shown in Attachment 9.

ORNAMENTAL RESEARCH AND REGISTRATIONS:

Since the beginning of the IR-4 ornamental program, 13,081 Pesticide Clearance Requests have been received. There are presently 2115 researchable ornamental requests including 1066 new requests added in 1996. IR-4 funded 445 ornamental research trials this year and prepared 6 registration packages containing 461 reports that were sent to registrants for labelling. These included 3 insecticides, 2 herbicides and 1 plant growth regulator. During the year, industry labelled 891 ornamental uses based on IR-4 data. These are shown in Attachment 10.

BIOPESTICIDE RESEARCH AND REGISTRATIONS:

In 1996, IR-4 supported ten research projects: Non-aflatoxin producing Aspergillus flavus to reduce aflatoxin contamination in cotton; Flavobacterium balustinum and Trichoderma hamatum as disease suppressive agents in potting mix; biopesticides for use on specialty mushrooms; Macleaya plant extract for control of insects on greenhouse ornamentals; Pseudomonas fluorescens PRA25 and Burkholderia cepacia AMMD as a seed treatment for disease suppression in pea, snapbean, sweet corn and supersweet corn; Beauvaria bassiana for control of citrus root weevil; Fusarium tricinctum and Alternaria conjuncta/infectoria for dodder control in cranberry, MCH pheromone bubble caps for control of spruce beetles; and Trichoderma harzianum for control of botrytis on grape and strawberry. Also, EPA approved temporary tolerance exemptions for Aspergillus flavus AF36 on cotton to prevent aflatoxin of cotton seed and Trichoderma hamatum and Flavobacterium balustinum on vegetable bedding plants for control of damping-off and root rot. In 1996, IR-4 submitted five biopesticide petitions to EPA requesting exemptions from the requirements of a tolerance. These are shown in Attachment 11.
QUALITY ASSURANCE:

The IR-4 Project's Quality Assurance Unit continues to provide monitoring and support of cooperating scientists throughout the United States and Puerto Rico. Quality Assurance Coordinators have continued conducting on-site facility compliance inspections, in-life critical phase inspections, and raw data and final report audits as required by the Good Laboratory Practice Standards, 40 CFR 160 (GLPs). QA findings, recommendations and documentation of corrective actions (160.35b(3)) are forwarded to the Study Directors and Testing Facility Management.

The IR-4 QAU is comprised of Regional QA Coordinators, University cooperating QA Officers and USDA-ARS QA Officers. The IR-4 QAU functions under a set of mutually accepted Standard Operating procedures (SOPs), by which it maintains consistent monitoring activities of IR-4 GLP research studies. Three new QA participants have joined the IR-4 Quality Assurance unit. New QA members attended out-side QA/GLP training programs and were provided in-house QA instruction. Field GLP training was provided to IR-4 participants in a program sponsored by the North Central Region on April 18 and 19, 1996. Quality Assurance Coordinators from all four regions and HQ participated.

Quality Assurance scheduling for the 1997 project year took place at a meeting held at IR-4 Headquarters on February 11-12, 1997.

PROGRAM COOPERATION AND COORDINATION:

The IR-4 Project has been cited as a "prime example of Federal interagency cooperation with academic institutions, pesticide industry and commodity interest groups to meet effectively the growing need for registration and reregistration of safe pesticides for minor crops."

Indicative of the cooperative nature of the IR-4 Minor Use Program, 361 food use field trials were scheduled by SAES cooperators, 159 by federal agricultural scientists and 2 by private sector researchers in cooperation with IR-4.

IR-4 is actively involved in the USDA-CSREES Interagency Reregistration Task Force, the USDA Pesticide Issues Discussion Group and is a participant in the ESCOP Pest Management Strategies Subcommittee, American Crop Protection Association Regulatory Sub-Committee and the CUSTA/NAFTA Technical Working Group on Pesticides. IR-4 addressed the ministries of agriculture in Japan and the Federal Republic of Germany on the organization and operation of the IR-4 minor use program and participated in APCA-sponsored regulatory symposium in Mexico.

A meeting of the IR-4 Commodity Liaison Committee (CLC) was held coincident with the IR-4 meeting in March. CLC suggestions for improving the efficiency of IR-4 have been implemented where feasible.

A food use workshop and an ornamental crops workshop were held in September to review and prioritize clearance requests and develop plans for 1997 research. These were the 19th and 20th workshops, respectively, held by IR-4 for the purpose of peer reviewing priority needs. Both workshops received generous public sector support. A combined meeting of state and federal IR-4 liaison representatives was held in October. This meeting afforded an opportunity for all IR-4 personnel in a general session and regional workshops to review progress and plan future actions.

USEFULNESS OF THE FINDINGS:

IR-4 is the only public effort supporting the registration of pesticides and biological pest control agents for use on minor crops. The program has been responsible for data to support 4550 food use clearances (1210 since 1984), 4493 ornamental registrations and has sponsored research on 33 biopesticide active ingredients which has resulted in registrations on 19 minor crops.

IR-4 relies on commodity producers, state and federal research scientists and extension personnel to submit pest control needs important to the agricultural community. These needs are evaluated by industry registrants and EPA and are prioritized for purposes of research by regional and national committees of agricultural specialists. IR-4 provides coordination, funding and scientific guidance for both field and laboratory research to develop data for the registration by the EPA of pest control products on a wide variety of commodities. All IR-4 research is carried out according to EPA approved Good Laboratory Practice Standards. Without assistance from the IR-4 Project, few safe and effective pesticides and biological alternatives would be available for use on minor crops.
WORK PLANNED FOR 1997:

Although IR-4 will complete its minor use reregistration commitment in 1997, tolerance reassessment and other provisions of the 1996 Food Quality Protection Act will require IR-4 to focus on developing additional tolerance information to support existing minor use registrations and to aid in the registration of effective alternatives for minor crops where pest management gaps exist. IR-4's interim plan to respond to the new challenges of the FQPA has been integrated with the IR-4 Minor Pest Control Strategy: 1995-2002.

In 1996, IR-4 made some changes in project prioritization procedures. The goal was to have the regional and national prioritization committees provide a clear indication of the most important minor needs. Committees were also asked to consider and place a high priority on pesticide uses that were "reduced risk" or uses that are part of Integrated Pest Management programs. Based on the committees' recommendation, IR-4 has selected 133 food use projects for 1997 research. This new work will enable IR-4 to complete about 100 projects.

Thirty-five proposals have been submitted to the IR-4 Biopesticide Program for funding in 1997. Registrations and/or tolerance exemption petitions to be submitted to EPA include *Trichoderma hamatum/Flavobacterium balustinum* as potting mix amendments, *Verticillium lecanii* for use on greenhouse crops, neem/azadirachtin for ornamental use, Triad (biochemical) for ornamental use, and *Macleaya* plant extract for ornamental use. An Experimental Use Permit and temporary tolerance for egg lipid will be submitted to EPA in the first quarter 1997. The Biopesticide Program will continue to work with university and federal scientists, registrants and EPA to expand the list of registered biopesticides.

IR-4 will continue to address pest management needs for the Green Industry. Research will be conducted on pesticides and biological pest control agents for use in the production of nursery, floral, forestry and turf crops; the interior plantscape industry; and for use by commercial landscapers. IR-4 will support research on 300 projects in 1997 and will submit research reports for 200 new registrations.

IR-4 will continue its commitment to producing quality scientific data in order to meet EPA's Good Laboratory Practice requirements. IR-4 will continue to hold GLP and QA training sessions for IR-4 personnel and cooperators and to audit data and reports, review and revise SOPs and strive to further enhance the effectiveness and efficiency of the IR-4 Quality Assurance program.

IR-4 will continue to seek guidance from state and federal agricultural scientists, the IR-4 Commodity Liaison Committee and other producers to assure the program maintains its focus on important minor use needs.

PUBLICATIONS:


PUBLICATIONS: (Continued)


December 31, 1996

R.T. Guest, National Director
IR-4, Cook College, Rutgers - The State University of New Jersey

Approved:

1/23/97

P.H. Schwartz, Chair, Technical Committee
Staff Scientist, Office of Minor Use Pesticides
USDA-ARS

1/23/97

N.P. Thompson, Chair, Administrative Advisers
University of Florida
ATTACHMENT 1

COOPERATING DEPARTMENTS AND AGENCIES

U.S. Department of Agriculture, Agricultural Research Service
U.S. Department of Agriculture, Animal and Plant Health Inspection Service
U.S. Department of Agriculture, Cooperative State Research Education and Extension Service
U.S. Environmental Protection Agency, Office of Prevention, Pesticides and Toxic Substances

PRINCIPAL LEADERS

Administrative Advisers:
Dr. B. Robinson, U.S. Department of Agriculture
Dr. E. Knipling, U.S. Department of Agriculture
Dr. A. Lauchli, University of California, Davis
Dr. W. Sharp, Rutgers University
Dr. N. Thompson, University of Florida, Chair
Dr. R. Wyse, University of Wisconsin

Representing
USDA-CSREES
USDA-ARS
Western Region
Northeast Region
Southern Region
Northcentral Region

Technical Committee:
Dr. R. Durst, Cornell University, Geneva
Dr. R. Guest, Rutgers University, National Director
Dr. R. Hollingworth, Michigan State University
Dr. J. Parochetti, U.S. Department of Agriculture
Dr. P. Schwartz, Jr., U.S. Department of Agriculture, Chair
Dr. T. Shibamoto, University of California, Davis
Dr. C. Wei, University of Florida

Northeast Region
IR-4 Headquarters
Northcentral Region
USDA-CSREES
USDA-ARS
Western Region
Southern Region

SUPPORT GROUPS

Headquarters Technical Staff:
Dr. J. Baron, National Coordinator
Dr. W. Biehn, Coordinator
Dr. K. Dorschner, Coordinator
Mr. J. Frank, Coordinator
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Ms. K. Hackett-Fields, Project Assistant
Dr. C. Hartman, Coordinator
Mrs. D. Infante, Information Specialist
Dr. D. Kunkel, Coordinator
Mr. R. Libby, Coordinator
Ms. E. Lurvey, Coordinator
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Mr. K. Samoil, Coordinator
Mrs. P. Sarica, Assistant Director for Administration
Dr. D. Thompson, Coordinator
Ms. T. White, Quality Assurance Coordinator

Headquarters Support Staff:
Mrs. J. Eato, Sec
Mrs. C. Ferrazoli, Sec.
Mrs. J. Streisand, Sec.

The National Headquarters is located at the New Jersey Agricultural Experiment Station, Cook College, Rutgers-The State University of New Jersey, New Brunswick, NJ 08903-0231 (908) 932-9575; FAX: (908) 932-8481
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Dr. R. Hollingworth, Laboratory Director
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Ms. M. Reiff, Program Coordinator
Mr. C. Mourer, Laboratory Coordinator

Northeast Region
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Northcentral Region
Northcentral Region
Northcentral Region
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Southern Region
Southern Region
Western Region
Western Region
Western Region

Consultants Committee:
Mr. G. Herndon, EPA-OPP-HED
Mr. J. Holmdal, ACPA Representative
Mr. H. Jamerson, EPA-OPP-RD, Minor Use Officer
Dr. B. Schneider, EPA-OPP-HED

Western Region

Commodity Liaison Committee:
Dr. S. Bailing, Del Monte Foods
Dr. A. Bonanno, Bonanno Farm Trust
Mr. D. Botts, Florida Fruit and Vegetable Association
Mr. J. Downing, Cranberry Institute
Dr. H. Ewart, Northwest Horticulture Council
Ms. A. George, Washington Hop Commission
Dr. C. Kesner, Cherry Marketing Institute
Mr. E. Kurtz, EAK Ag., Inc.
Mr. R. Lundy, Mint Industry Research Council
Mr. R. Olszack, Brooks Tropicals
Mr. R. Prewett, Texas Vegetable Association
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Mr. S. Rawlins, American Farm Bureau Federation
Mr. C. Regelbrugge, American Association of Nurserymen
Ms. L. Schmale, Society of American Florists
Mr. M. Sorbello, Jr., Sorbello Farms
Mr. P. Traino, Vegetable Growers' Association of New Jersey
Mr. D. Trinka, MBG Marketing
Mr. D. Zuleger, Wisconsin Potato & Vegetable Growers Association, Inc.

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Marlton, NJ
Grand Junction, MI
Antigo, WI
## IR-4 Project/USDA Minor Use Program Quality Assurance Officers

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- Dr. J. Bourke, NY
- Ms. D. Snook, NY
- Mr. G. Hanes, USDA-ARS, MD

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- Dr. J. Maitlen, USDA-ARS, WA
- Mr. J. McFarland, CA
- Dr. R. Parker, IV, USDA-ARS, WA
- Mr. R. Viales, USDA-ARS, WA

### State and Federal IR-4 Liaison Representatives

#### Northeast Region
- Dr. R. Ashley, CT
- Dr. F. Caruso, MA
- Dr. G. Ghidie, NJ
- Dr. A. Gotlieb, VT
- Dr. A. Herner, USDA-ARS, MD
- Dr. J. Linduska, MD
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- Dr. D. Yarborough, ME
- Vacant, WV

#### Northcentral Region
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- Dr. L. Wax, USDA-ARS, IL
- Dr. J. Wedberg, WI
- Dr. D. Williams, IL
- Dr. L. Wragge, SD
- Vacant, IA
State and Federal IR-4 Liaison Representatives (continued):

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<td>Ms. N. Acin</td>
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ATTACHMENT 2

FIELD AND LABORATORY RESEARCH COOPERATORS

The IR-4 Project is grateful to the many agricultural scientists who participated in the field and laboratory research phases of the program in 1996. Although their efforts frequently are unrecognized, their cooperation is the essential element in producing the data, field residue samples and laboratory analyses which meet EPA data requirements and conform to Good Laboratory Practice Standards. The continuing association with the minor use program of many state and federal scientists not only enhances the quality of the data but adds credibility that the objectives of the program will be met.

**NORTHEAST REGION**

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<td>Dr. A. Averill</td>
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**WESTERN REGION**

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### CANADA

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Food Use Research Projects

- 2,4-D/Almond/PR 4306*
- Acephate/Coriander/PR 6279
- Acephate/Eggplant/PR 1351
- Acephate/Kenaf/PR 4621
- Acephate/Okra/PR 3649
- Acifluorfen/Bean (Lima)/PR 6300
- Azinphos-methyl/Spinach/PR 4928*
- Azoxystrobin/Spinach/PR 6602
- Bacillus thuringiensis/Chayote/PR 6227
- Bemomyl/Canola/PR 5144
- Bentazon/Cucumber/PR 5325
- Bifenthrin/Bean (Snap)/PR 6423
- Bifenthrin/Caneberry (Raspberry)/PR 5004
- Bifenthrin/Canola/PR 6057
- Bifenthrin/Grape/PR 5335
- Captan/Onion (Dry Bulb)/PR 4992
- Captan/Pepper (Bell & Non-Bell)/PR 3974*
- Captan/Tomato/PR 4337*
- Carbaryl/Chayote/PR 3914
- Carbaryl/Onion/PR 5419
- Chlorfenapyr/Strawberry/PR 6537
- Chlorothalonil/Persimmon/PR 5388
- Chlorpyrifos/Collard/PR 3670
- Chlorpyrifos/Onion (Dry Bulb)/PR 3414
- Chlorpyrifos/Sugar Apple/PR 3715
- Chlorpyrifos/Tumip (Roots & Tops)/PR 3671
- Clethodim/Broccoli/PR 5215
- Clethodim/Cabbage/PR 5216
- Clethodim/Lettuce (Leaf)/PR 5224
- Clethodim/Melon/PR 5225
- Clethodim/Onion (Green)/PR 6362
- Clethodim/Spinach/PR 6243
- Clethodim/Squash (Summer)/PR 5228
- Clopyralid/Greens (Mustard)/PR 5010
- Clopyralid/Hops/PR 6480
- Copper hydroxide/Persimmon/PR 6238
- Cryolite/Blueberry/PR 4600
- Cryolite/Blueberry (Lowbush)/PR 6264
- Cryolite/Caneberry (Raspberry)/PR 5792
- Cryolite/Mint/PR 6438
- Cryolite/Strawberry/PR 4360
- Cyfluthrin/Pea (Dry)/PR 6438
- Desmedipham/Beet (Garden)/PR 0337
- Diazinon/Fig/PR 4101*
- Diazinon/Filbert/PR 4099*
- Dimethenamid/Onion (Dry Bulb)/PR 6337
- Dimethoate/Canola/PR 5132
- Dimethoate/Carrot/PR 0156
- Dimethoate/Radish/PR 5426
- Dimethoate/Taro/PR 2884
- Disulfrom/Hops/PR 2854*
- Disulfrom/Hops/PR 6526
- Diuron/Olive/PR 5474*
- Diuron/Pear/PR 5441
- Endosulfan/Corn (Sweet)/PR 6074
- Esfenvalerate/Kenaf/PR 4857
- Esfenvalerate/Passion Fruit/PR 3694
- Ethofumesate/Beet (Garden)/PR 0742
- Ethoxyquin/Pear/PR 4346*
- Fenamiphos/Onion (Dry Bulb)/PR 2134
- Fenbuconazole/Blueberry (High Bush)/PR 6368
- Fenpropathrin/Cucumber/PR 2502
- Fenpropidrin/Pepper (Bell & Non-Bell)/PR 2503
- Fenpropidrin/Squash/PR 2507
- Ferbam/Caneberry (Raspberry)/PR 4981*
- Ferbam/Guava/PR 4081*
- Ferbam/Papaya/PR 4080*
- Fluvinate/Blueberry/PR 3976
- Fomesafen/Bean (Snap)/PR 3011
- Fosetyl-Al/Blueberry/PR 4937
- Fosetyl-Al/Hops/PR 6484
- Fosetyl/Pepper (Bell & Non-Bell)/PR 6172
- Glufosinate/Caneberry (Raspberry)/PR 5299
- Halosulfuron/Cucumber/PR 6364
- Halosulfuron/Melon/PR 6366
- Halosulfuron/Squash (Summer)/PR 6365
- Hexakis/Pea (Southern)/PR 4954
- Hexathiazox/Mint/PR 6436
- Hydrogen cyanamide/Apple/PR 6304
- Hydrogen cyanamide/Peach/PR 6303
- Hydrogen cyanamide/Plum/PR 6177
- Imidacloprid/Bean (Succulent)/PR 5477
- Imidacloprid/Carrot/PR 6307
- Imidacloprid/Dandelion/PR 6250
- Imidacloprid/Hops/PR 6525
- Imidacloprid/Tomato/PR 5487
- Imidacloprid/Tumip (Roots & Tops)/PR 6306
- Iprodione/Chives/PR 3390
- Iprodione/Mint (Fresh)/PR 2760
- Lactofen/Caneberry (Blackberry)/PR 3476
- Lactofen/Caneberry (Raspberry)/PR 3477
- Malathion/Sapote (Maneye)/PR 4064
- Mancozeb/Mango/PR 3028
- MCPA/Flax/PR 5000*
- MCPA/Pea/PR 4999*
• Metalaxyl/Kenaf/PR 4859
• Metalaxyl/Sugar Apple/PR 4940
• Metalaxyl + Copper/Beet (Garden)/PR 6240
• Metalaxyl + Copper/Arrugula/PR 5075
• Metalaxyl + Copper/Turnip (Roots & Tops)/PR 5350
• Metolachlor/Asparagus/PR 1908
• Metolachlor/Horseradish/PR 6470
• Metolachlor/Pepper (Bell & Non-Bell)/PR 2986
• Myclobutanil/Parsley/PR 6358
• Oxyfluorfen/Blueberry/PR 2133
• Oxyfluorfen/Caneberry (Raspberry)/PR 6205
• Oxyfluorfen/Kale/PR 6108
• Oxyfluorfen/Strawberry (Perennial)/PR 3443
• Oxyfluorfen/Sweetpotato/PR 3939
• Oxyfluorfen/Tanier/PR 6447
• Paraquat/Pea (Succulent)/PR 5193
• Pendimethalin/Carrot/PR 4084
• Pendimethalin/Kenaf/PR 5208
• Pendimethalin/Pecan/PR 6077
• Phosmet/Cranberry/PR 4625
• Prometryn/Carrot/PR 1682
• Propiconazole/Parsley/PR 6351
• Propiconazole/Swiss Chard/PR 6350
• Pyridate/Asparagus/PR 6389
• Sulfentrazone/Mint/PR 6343
• Tebuconazole/Beet (Garden)/PR 6353
• Tebuconazole/Greens (Turnip)/PR 6234
• Tebuconazole/Mango/PR 6426
• Tebuconazole/Melon/PR 5091
• Tebuconazole/Squash (Summer)/PR 5279
• Tebufenozide/Blueberry/PR 6407
• Tebufenozide/Caneberry (Raspberry)/PR 6405
• Tebufenozide/Canola/PR 6473
• Tebufenozide/Cranberry/PR 6344
• Tebufenozide/Mint/PR 6437
• Tebufenozide/Turnip (Roots & Tops)/PR 6346
• Thiabendazole/Pea (Dry)/PR 6532
• Thiobencarb/Radish/PR 2356
• Thiodicarb/Cranberry/PR 5380
• Thiodicarb/Eggplant/PR 5529
• Thiophanate methyl/Sunflower/PR 5352
• Triazamate/Hops/PR 6477
• Zinc phosphide/Bean (Snap)/PR 2126
• Zinc phosphide/Blueberry/PR 2958
• Zinc phosphide/Caneberry (Raspberry)/PR 2957
• Zinc phosphide/Cantaloup/PR 3928
• Zinc phosphide/Cucumber/PR 4333
• Zinc phosphide/Spinach/PR 1736
• Zinc phosphide/Squash (Summer)/PR 4331
• Ziram/Blueberry/PR 4745
• Ziram/Caneberry (Blackberry)/PR 4117
• Ziram/Caneberry (Raspberry)/PR 4118
• Ziram/Grape/PR 4116*
• Ziram/Strawberry/PR 4751
• Ziram/Pepper (Bell)/PR 4088*
• Ziram/Tomato/PR 4089*

* = Reregistration
### ATTACHMENT 4

**New Tolerance, Exemption, Registration and Reregistration Approvals**

#### Fungicides and Nematicides

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<td>Aspergillus flavus/Cotton/PR 52B</td>
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<td>Chlorothalonil/Blueberry/PR 238</td>
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<td>Chlorothalonil/Filbert/PR 4055</td>
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<td>Cinnamaldehyde/Mushroom/PR 4053</td>
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<td>Flavobacterium balustinum 299/ Vegetable Bedding Plants/PR 50B</td>
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<td>Fosetyl Al/Blueberry/PR 4937</td>
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<td>Propiconazole/Mushroom/PR 5056</td>
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<td>Triadimefon/Chili Pepper/PR 2101</td>
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<td>Trichoderma hamatum 382/Vegetable Bedding Plants/PR 49B</td>
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#### Herbicides and Plant Growth Regulators

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<td>2,4-D/Lowbush Blueberry/PR 4295</td>
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<td>2,4-D/Pome Fruit/PR 4182, 4256</td>
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#### Insecticides & Miticides

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<td>Diflubenzuron/Artichoke/PR 3500</td>
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<td>Naled/Hop/PR 4110</td>
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ATTACHMENT 5

Crop Group Definition Submissions to EPA in 1996

Apple = Crabapple
Cilantro = Parsley
Citrus Fruit = Sapote (White)
Guava = Starfruit, Passionfruit, Persimmon, Wax Jambu
Lychee = Rambutan, Spanish Lime, Longan, Pulasan
Papaya = Canistel, Mango, Sapodilla, Sapote (Black), Sapote (Mamey), Starapple
ATTACHMENT 6

Tolerance and Exemption Approvals Proposed

Fungicides
  • Fenarimol/Filbert/PR 5012
  • Chlorothalonil/Asparagus/PR 319

Herbicides
  • Metolachlor/Pepper (all)/PR 2986
  • Metolachlor/Grass Forage and Hay Group/PR 6345
  • Quinalofop/Peppermint and Spearmint/PR 2719
  • Fomesafen/Snap Bean/PR 3472
  • Glyphosate/Root & Tuber Vegetables/PR 4782

Insecticides and Miticides
  • Abamectin/Hop (Dried)/PR 4019 as Notice of Filing
  • Formic Acid/honey and Beeswax/PR 54B
ATTACHMENT 7

EPA Responses to IR-4 Petitions

- Azinphosmethyl/Carrot/PR 255
- Bifenthrin/Artichoke/PR 3530
- Bifenthrin/Celery/PR 4945
- Fosetyl Al/Grape/PR 3962
- Pendimethalin/Carrot/PR 4084
ATTACHMENT 8

Data Packages Completed
(E=submitted to EPA; M=submitted to manufacturer; S=submitted to state agency)

NEW TOLERANCES

- Bentazon/Clover (Seed)/PR 1840 E
- Bifenthrin/Cucumber/PR 4150 E
- Bifenthrin/Melon/PR 4151 E
- Bifenthrin/Squash/PR 4152 E
- Carbaryl/Lychee/PR 5201 E
- Carbofuran/Canola/PR 3163 E
- Chlorothalonil/Caneberry/PR 2165, 3498 M
- Chlorothalonil/Pistachio/PR 5196 E
- Chlorpyrifos/Root and Tuber Vegetables/PR 3983 E
- Clomazone/Cantaloup/PR 4047 M
- Clomazone/Watermelon/PR 3943 M
- Clopyralid/Cranberry/PR 3882 M
- Copper Complex/Potato/PR 6329 E
- Esfenvalerate/Kiwifruit/PR 3945 E
- Formic Acid/Beehives/PR 4896 E
- Imidacloprid/Cucumber/PR 5181 E
- Imidacloprid/Melon/PR 5180 E
- Imidacloprid/Squash/PR 5181 E
- Mefenoxam/Brassica (Cole) Leafy Vegetables/PR 1696, 2283, 2284, 5351, 6284, 6285, 6370 E
- Methyl Anthranilate/All Crops/PR 5030, 5031 E
- Myclobutanil/Asparagus/PR 5414 M
- Myclobutanil/Blackberry/PR 5057 M
- Myclobutanil/Mint/PR 5409 M
- Myclobutanil/Raspberry/PR 5058 M
- Oxyfluorfen/Hop/PR 5199 M
- Pendimethalin/Grapefruit/PR 5748 E
- Pendimethalin/Lemon/PR 5749 E
- Pendimethalin/Orange/PR 5732 E
- Propiconazole/Leaf Petioles Crop Subgroup/PR 6350
- Pyridate/Garbanzo Bean/PR 3866 E
- Sethoxydim/Caneberry/PR 5729, 5763 E
- Sethoxydim/Leafy Vegetables (except Brassica), Cilantro/PR 2438, 2349, 3568, 4931 E
- Sethoxydim/Root & Tuber Vegetables (except radish)/PR 2468, 3033, 2471, 5757, 3034, 2470, 2048 E
- Zinc Phosphide/Com (no-till)/PR 823 E

REREGISTRATIONS

- 2,4-D/Almond/PR 4306 M
- 2,4-D/Blueberry/PR 3085 M
- 2,4-D/Filbert/PR 6106 E
- 2,4-D/Grape/PR 4298 M
- 2,4-D/Pecan/PR 6125 E
- Azinphosmethyl/Broccoli/PR 4759 E
- Azinphosmethyl/Cabbage/PR 4762 E
- Carbaryl/Okra/PR 5772 E
- Carbaryl/Prickly Pear Cactus/PR 5146 E
- Captan/Blackberry/PR 4322 M
- Captan/Raspberry/PR 3953 M
- Captan/Spinach/PR 3975 M
- Cryolite/Cranberry/PR 5416 E
- Diazinon/Watercress/PR 3892 M
- Diuron/Mint/PR 5439 M
- Ethephon/Blueberry/PR 4460 M
- Ethephon/Cranberry/PR 4461 M
- Ethephon/Fig/PR 4120 M
- Ferbam/Cranberry/PR 4092 M
- Malathion/Apple/PR 4768 E
- Malathion/Apricot/PR 4769 E
- Malathion/Cabbage/PR 4778 E
- Malathion/Fig/PR 4793 E
- Malathion/Flax/PR 4795 E
- Malathion/Guava/PR 4799 M
- Malathion/Macadamia/PR 4812 E
- Malathion/Melon/PR 4815 E
- Malathion/Mushroom/PR 4816 E
- Malathion/Mustard Green/PR 4817 M
- Malathion/Orange/PR 5142 M
- Malathion/Peach/PR 4820 E
- Malathion/Pear/PR 4827 E
- Malathion/Peppermint/PR 4829 E
- Malathion/Spearmint/PR 4841 E
- Malathion/Strawberry/PR 5152 E
- Malathion/Turnip/PR 4847 M
- Malathion/Watercress/PR 4852 E
- Malathion/Watermelon/PR 4853 E
- Mancozeb/Carrot/PR 3836 E
- Oxyfluorfen/Cabbage/PR 5105 E
- Oxyfluorfen/Cauliflower/PR 4013 E
- Oxyfluorfen/Coffee/PR 5154 E
- Oxyfluorfen/Horseradish/PR 5738 E
- Oxyfluorfen/Onion (Dry)/PR 5739 E

XIII
ATTACHMENT 8

Data Packages Completed (Continued)

(E=submitted to EPA; M=submitted to manufacturer; S=submitted to state agency)

**REREGISTRATIONS (CONTINUED)**

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<td>Permethrin/Avocado/PR 1727</td>
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<td>Permethrin/Cherry/PR 5744</td>
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<td>SOPP/Pear/PR 6052</td>
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<td>Terbacil/Strawberry/PR 5987</td>
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<td>Ziram/Grape/PR 4116</td>
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<td>Ziram/Tomato/PR 4089</td>
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**MAJOR AMENDMENTS TO PREVIOUSLY SUBMITTED DATA**

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<td>Chlorothalonil/Mango/PR 2162</td>
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<td>Clopyralid/Cabbage, Broccoli,</td>
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<td>Cauliflower (Head and Stem</td>
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<td>Brassica Subgroup)/PR 3513,</td>
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<td>Cyfluthrin/Hops/PR 4120</td>
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<td>Diazinon/Pistachio/PR 3143</td>
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<td>Esfenvalerate/Artichoke/PR 3845</td>
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<td>Cranberry, Endive, Carrot/PR 2200, 2132, 4014, 2046</td>
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**REGISTRATIONS**

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<td>Chlorpyrifos/Grape/PR 5130</td>
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<td>Dimethoate/Blueberry/PR 0028</td>
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<td>Glyphosate/Perennial Peanut/PR 5360</td>
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<td>Malathion/Purslane/PR 6360</td>
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<td>Oxyfluorfen/Broccoli/PR 5256</td>
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ATTACHMENT 9

Regulatory Documents in Preparation

- 2,4-D/Caneberry (Raspberry)/PR 2844
- 2,4-D/Hops/PR 5024
- Acephate/Radish/PR 2130
- Amitraz/Pecan/PR 3876
- Azinphos-methyl/Cabbage/PR 4761
- Azinphos-methyl/Pea (Blackeyed)/PR 4926
- Bacillus thuringiensis/Pea (Pigeon)/PR 2812
- Benomyl/Greens (Mustard) (Seed Treatment)/PR 4097
- Benomyl/Spinach (Seed Treatment)/PR 4077
- Bifenthrin/Broccoli/PR 5272
- Bifenthrin/Cabbage/PR 5176
- Bifenthrin/Cauliflower/PR 5273
- Bifenthrin/Eggplant/PR 5401
- Bifenthrin/Lettuce (Head)/PR 5274
- Bifenthrin/Pea (Succulent)/PR 5237
- Bifenthrin/Pepper (Bell)/PR 5281
- Bifenthrin/Tomato (GH)/PR 4868
- Captan/Kenaf/PR 4855
- Carbaryl/Basil/PR 2597
- Carbaryl/Basil/PR 3720
- Carbaryl/Basil/PR 5210
- Carbaryl/Cabbage, Chinese (Bok Choy)/PR 5496
- Carbaryl/Canola/PR 5200
- Carbaryl/Coriander/PR 5211
- Carbaryl/Leek/PR 3073
- Carbaryl/Pineapple/PR 5042
- Carbaryl/Radicchio/PR 5498
- Carboxin/Kenaf/PR 4856
- Chlorothalonil/Balsam Pear/PR 3860
- Chlorpyrifos/Bean (Snap)/PR 2393
- Chlorpyrifos/Greens (Mustard)/PR 3669
- Chlorpyrifos/Kale/PR 3668
- Chlorpyrifos/Kiwi/PR 5048
- Chlorpyrifos/Pea (Southern)/PR 868
- Chlorpyrifos/Persimmon/PR 4976
- Chlorpyrifos/Persimmon/PR 5197
- Clethodim/Bean (Succulent)/PR 5205
- Clethodim/Cucumber/PR 5219
- Clethodim/Pea (Dry)/PR 5204
- Clethodim/Pepper (Bell)/PR 5226
- Clethodim/Pepper (Non-Bell)/PR 5355
- Clethodim/Radish/PR 5227
- Clomazone/Broccoli/PR 3569
- Clopyralid/Pear/PR 3624
- Clopyralid/Plum/PR 3625
- Clopyralid/Strawberry/PR 5262
- Copper hydroxide/Longan/PR 3124
- Cyromazine/Bean (Lima)/PR 3908
- Cyromazine/Pea (Southern)/PR 3906
- DCPA/Asparagus/PR 1548
- DCPA/Parsley/PR 3000
- Diazinon/Chayote/PR 3916
- Diazinon/Chives/PR 3543
- Dimethoate/Hops/PR 4998
- Dimethoate/Grasses (Seed)/PR 6037
- Dimethoate/Tomato/PR 3294
- Disulfoton/Turnip (Roots & Tops)/PR 2192
- Diuron/All Crops Storage Stability/PR 6471
- Diuron/Asparagus/PR 5415
- Diuron/Banana/PR 5514
- Diuron/Blueberry/PR 3544
- Diuron/Blueberry/PR 5471
- Diuron/Caneberry/PR 3675
- Diuron/Clover/PR 5511
- Diuron/Pear/PR 5441
- Esfenvalerate/Canola/PR 5150
- Esfenvalerate/Endive/PR 2241
- Esfenvalerate/Pea (Pigeon)/PR 2026
- Ethephon/Blueberry/PR 3877
- Ethephon/Peach/PR 3920
- Ethylene/Pineapple/PR 4124
- Fenamiphos/Blueberry/PR 2972
- Fenamiphos/Kiwifruit/PR 2735
- Fluazifop-p-butyl/Rhubarb/PR 2404
- Fluazifop-p-butyl/Pepper (Chili)/PR 3461
- Fluazifop-p-butyl/Pepper (Chili)/PR 4137
- Fluazifop-p-butyl/Pepper (Cubanelle)/PR 3385
- Fluazifop-p-butyl/Pepper (Non-Bell)/PR 4387
- Fluvalinate/Coffee/PR 4135
ATTACHMENT 9

Regulatory Documents in Preparation (Continued)

- Fonofos/Squash/PR 3654
- Fonofos/Watermelon/PR 3655
- Fosetyl-Al/Macadamia/PR 3187
- Glyphosate/Durian/PR 6466
- Glyphosate/Mangosteen/PR 6467
- Glyphosate/Pea (Pigeon)/PR 2029
- Glyphosate/Pistachio/PR 6377
- Glyphosate/Rambutan/PR 6468
- Glyphosate/Tanier/PR 1634
- Imidacloprid/Taro/PR 6605
- Iprodione/Clover/PR 5728
- Iprodione/Dill/PR 3232
- Iprodione/Pistachio/PR 5391
- Lactofen/Eggplant/PR 6430
- Lactofen/Kenaf/PR 5243
- Lactofen/Pepper (Bell)/PR 4400
- Lactofen/Pepper (Non-Bell)/PR 6143
- Lactofen/Tomato/PR 4163
- Linuron/Celeriac/PR 3557
- Linuron/Fennel/PR 3608
- Linuron/Rhubarb/PR 6591
- Malathion/Broccoli/PR 4776
- Malathion/Chestnut/PR 4783
- Malathion/Mango/PR 4814
- Malathion/Papaya/PR 3727
- Malathion/Passion Fruit/PR 3726
- Malathion/Pea (Succulent)/PR 4823
- Malathion/Persimmon/PR 4159
- Malathion/Spinach/PR 4842
- Malathion/Vegetables (Leafy)/PR 4848
- Malathion/Walnut/PR 4851
- Mancozeb/Apple/PR 6299
- Mancozeb/Sugar Apple/PR 3130
- Metalaxyl/Artichoke (Field)/PR 4979
- Metalaxyl/Artichoke (Seed)/PR 4978
- Metalaxyl/Caneberry (Blackberry)/PR 3078
- Metalaxyl/Chives/PR 6045
- Metalaxyl/Kiwifruit/PR 3050
- Metalaxyl/Papaya/PR 5184
- Metalaxyl + copper/Caneberry (Raspberry)/PR 1169
- Metalaxyl + copper/Grape/PR 6266
- Metalaxyl + copper/Papaya/PR 5404
- Metalaxyl + copper/Papaya/PR 5406
- Methomyl/Chicory (Tops)/PR 4107
- Metiram/Apple/PR 6302
- Metolachlor/Blueberry/PR 2616
- Metolachlor/Broccoli/PR 1526
- Metolachlor/Broccoli/PR 3226
- Metolachlor/Broccoli, Chinese/PR 3247
- Metolachlor/Cabbage, Chinese (Bok Choy)/PR 2256
- Metolachlor/Caneberry (Blackberry)/PR 2617
- Metolachlor/Caneberry (Blackberry)/PR 4994
- Metolachlor/Caneberry (Raspberry)/PR 3497
- Metolachlor/Cauliflower/PR 1957
- Metolachlor/Cauliflower/PR 3225
- Metolachlor/Collard/PR 1216
- Metolachlor/Daikon/PR 4348
- Metolachlor/Mustard, Chinese/PR 3248
- Metolachlor/Radish/PR 2988
- Metolachlor/Rhubarb/PR 6666
- Metolachlor/Swiss Chard/PR 6391
- Myclobutanil/Currant/PR 5309
- Myclobutanil/Gooseberry/PR 5308
- NAA/Almond/PR 3524
- NAA/Pomegranate/PR 5389
- NAA/Plum/PR 3523
- NAA/Walnut/PR 3525
- Naphropamide/Marjoram/PR 3440
- Naphropamide/Mint/PR 762
- Naphropamide/Mint/PR 3441
- Naphropamide/Persimmon/PR 5094
- Naphropamide/Tarragon/PR 2148
- Oryzalin/Banana/PR 1344
- Oxyfluorfen/Brussels Sprout/PR 5123
- Oxyfluorfen/Cantaloup/PR 3710
- Oxyfluorfen/Chinese Broccoli/PR 3256
- Oxyfluorfen/Chives/PR 3572
- Oxyfluorfen/Cucumber/PR 3711
- Oxyfluorfen/Kenaf/PR 6318
- Oxyfluorfen/Pepper (Chili)/PR 2125
- Oxyfluorfen/Squash (Summer)/PR 3712
ATTACHMENT 9

Regulatory Documents in Preparation (Continued)

- Oxyfluorfen/Squash (Summer)/PR 3712
- Oxyfluorfen/Sugarcane/PR 4980
- Paraquat/Bean (Lima)/PR 309
- Paraquat/Bean (Snap)/PR 1573
- Paraquat/Cabbage/PR 1479
- Paraquat/Calabaza/PR 3926
- Paraquat/Cucumber/PR 2978
- Paraquat/Gourds (Edible)/PR 3070
- Paraquat/Lettuce (Head)/PR 2979
- Paraquat/Mayhaw/PR 5171
- Paraquat/Melon (Canta, Musk)/PR 1476
- Paraquat/Okra/PR 1913
- Paraquat/Onion (Dry Bulb)/PR 2983
- Paraquat/Onion (Green)/PR 2984
- Paraquat/Pea (Pigeon)/PR 3890
- Paraquat/Pumpkin/PR 2985
- Paraquat/Squash (Summer)/PR 2982
- Paraquat/Squash (Winter)/PR 6503
- Paraquat/Watermelon/PR 2976
- Parathion-methyl/Pepper (Bell)/PR 4903
- Pendimethalin/Almond/PR 6219
- Pendimethalin/Carrot/PR 4084
- Pendimethalin/Grasses (Seed)/PR 4912
- Pendimethalin/Leek/PR 4578
- Pendimethalin/Mint/PR 5523
- Pendimethalin/Onion (Green)/PR 5097
- Pendimethalin/Pistachio/PR 6221
- Pendimethalin/Tomato/PR 2741
- Permethrin/Cabbage, Chinese (Bok Choy)/PR 2771
- Permethrin/Collard/PR 3566
- Permethrin/Collard/PR 4884
- Permethrin/Pumpkin/PR 1732
- Permethrin/Turnip (Roots & Tops)/PR 3565
- Phenmedipham/Cabbage/PR 4057
- Phosmet/Blueberry/PR 5397
- Phosmet/Sweetpotato/PR 3463
- Prometryn/Dill/PR 1630
- Prometryn/Dill/PR 3040
- Prometryn/Fennel/PR 2480
- Prometryn/Parsley/PR 5160
- Pronamide/Beet (Sugar)/PR 4074
- Pronamide/Chicory (Tops)/PR 5027
- Pronamide/Pea (Austien)/PR 6217
- Pronamide/Rhubarb/PR 3686
- Propiconazole/Cranberry/PR 6320
- Sethoxydim/Basil/PR 2063
- Sethoxydim/Basil/PR 4010
- Sethoxydim/Chives/PR 2064
- Sethoxydim/Kenaf/PR 6319
- Sethoxydim/Okra/PR 2339
- Sethoxydim/Pistachio/PR 3707
- Sethoxydim/Radish/PR 2469
- Sethoxydim/Safflower/PR 2531
- Sethoxydim/Turnip (Tops)/PR 6289
- Tebuconazole/Barley/PR 6513
- Terbacin/Cranberry/PR 199
- Thiobencarb/Cabbage, Chinese (Bok Choy)/PR 2355
- Thiobencarb/Cabbage, Chinese (Bok Choy)/PR 3058
- Thiobencarb/Cabbage, Chinese (Napa)/PR 3508
- Thiobencarb/Collard/PR 3057
- Triadimefon/Caneberry (Blackberry)/PR 3018
- Triadimefon/Caneberry (Raspberry)/PR 3495
- Triadimefon/Cucumber (GH)/PR 2743
- Triadimefon/Pepper (Non-Bell)/PR 2101
- Zinc Phosphide/Potato/PR 6123
Ornamental Pesticide Registrations

- Abamectin/Aucuba/10570A
- Abamectin/Cotoneaster/10572A
- Abamectin/Holly (Ilex)/10573A
- Abamectin/Japanese holly (Ilex crenata)/11851A
- Abamectin/Japanese pittosporum (Pittosporum tobira)/10575A
- Abamectin/Juniper (Juniperus)/10574A
- Abamectin/Rose (Rosa)/10576A
- Abamectin/West indies mahogany (Swietenia)/11848A
- Acephate/Arborvitae (Thuja)/03533A
- Acephate/Balsam (Impatiens)/01370A
- Acephate/Christmas cactus (Schumbergera bridgesii)/01292A
- Acephate/Chrysanthemum/04545A
- Acephate/Geranium (Pelargonium)/03090A
- Acephate/Marigold (Tagetes)/03110A
- Acephate/Periwinkle (Vinca)/01509A
- Acephate/Petunia/03112A
- Acephate/Snapdragon (Antirrhinum majus)/00270A
- Azadirachtin/Citrus non-bearing (Sp.)/11842A
- Azadirachtin/Coconut palm (Cocos)/11841A
- Azadirachtin/Ornamental cabbage (Brassica sp.)/11423A, 12143A
- Azadirachtin/Ornamental kale (Brassica sp.)/11430A, 12144A
- Azadirachtin/West indies mahogany (Swietenia)/11838A
- Bendiocarb/Pear non-bearing (Pyrus communis)/10105A
- Benefin or oxyzalin/Lily turf (Liriope)/10953A, 10954A
- Benefin or oxyzalin/Pampas grass (Cortaderia)/10959A
- Bentazon/Algerian ivy (Hedera canariensis)/10814A, 10828A
- Bentazon/Arborvitae (Thuja)/00549A
- Bentazon/Balsam (Impatiens)/10819A
- Bentazon/Birch (Betula)/05605A
- Bentazon/Crape myrtle (Lagerstroemia indica)/05559A
- Bentazon/Dusty-miller (Centaurea cyanus)/10832A
- Bentazon/Flowering dogwood (Cornus florida)/10562A
- Bentazon/Hawthorn (Crataegus)/05619A
- Bentazon/Japanese pittosporum (Pittosporum tobira)/01593A
- Bentazon/Lily turf (Liriope)/10831A
- Bentazon/Marigold (Tagetes)/10820A
- Bentazon/Ornamental cabbage (Brassica sp.)/10835A
- Bentazon/Petunia/10822A
- Bentazon/Privet (Ligustrum)/00558A
- Bentazon/Red bud (Cercis canadensis)/00402A
- Bentazon/Snapdragon (Antirrhinum majus)/10846A
- Bentazon/Southern yew (Podocarpus macrophyllus)/01707A
- Bentazon/Yew (Taxus)/00986A
- Bifenthrin/Ash (Fraxinus)/12017A
- Bifenthrin/Japanese holly (Ilex crenata)/11358A
- Bifenthrin (G)/Pear non-bearing (Pyrus sp.)/12018A
- Calcium polysulfide (Lime sulfur)/Crabapple non-bearing (Malus)/11909A, 11910A
- Calcium polysulfide (Lime sulfur)/Hawthorn (Crataegus)/11905A, 11906A
- Calcium polysulfide (Lime sulfur)/Plum non-bearing (Prunus sp.)/11907A, 11908A
- Captan/Begonia/11471A
- Captan/Blueberry non-bearing (Vaccinium sp.)/01700A
- Captan/Camellia/01686A
- Captan/Cherry non-bearing (Prunus sp.)/01491A, 04826A
- Captan/Gladiolus/04076A, 11026A
- Captan/Shasta daisy (Chrysanthemum x superbum)/05806A, 05807A
- Captan/Staugustine grass (Stenotaphrum secundatum)/11025A
- Carbofuran (F)/Pine (Pinus)/00885A, 08182A
- Champoos 100% natural/Azalea (Rhododendron)/12050A, 12051A
- Champoos 100% natural/Chinese holly (Ilex cornuta)/12056A, 12048A
- Champoos 100% natural/Japanese holly (Ilex crenata)/12054A, 12055A
- Champoos 100% natural/Juniper (Juniperus)/12052A, 12053A
- Champoos 100% natural/Oak (Quercus)/12049A, 12057A
- Chlorothalonil/Firethorn (Pyracantha)/00236A, 00237A
- Chlorothalonil/Leatherleaf fig (Ficus)/02243A
- Chlorothalonil/Lilac (Syringa)/01636A, 04875A
- Chlorothalonil/Magnolia/01637A
- Chlorothalonil/Maple (Acer)/00265A, 01638A, 03034A
- Chlorothalonil/Marigold (Tagetes)/02645A
- Chlorothalonil/Poinsettia (Euphorbia pulcherrima)/02457A
- Chlorpyrifos/Camellia/07481A
- Chlorpyrifos/Croton (Codiaeum variegatum)/06673A
- Chlorpyrifos/Lobelia/09177A
- Chlorpyrifos/Weeping fig (Ficus benjamina)/11867A
- Chlorpyrifos (Microencap.)/Carnation (Dianthus caryophyllus)/10164, 10178A
- Chlorpyrifos (Microencapsulated)/Chrysanthemum/10179A
- Chlorpyrifos (Microencapsulated)/Hibiscus/10181A
- Chlorpyrifos (Microencapsulated)/Leatherleaf fig (Ficus)/10176A
- Chlorpyrifos (Microencapsulated)/Persian violet (Cyclamen)/10180A
- Chlorpyrifos (Microencapsulated)/Poinsettia (Euphorbia pulcherrima)/10183A
- Chlorpyrifos (Microencapsulated)/Rose (Rosa)/10184A
- Chlorpyrifos (Microencapsulated)/Snapdragon (Antirrhinum majus)/10172A
- Clothodim/Potentilla (Cinquefoil)/12191A
- Copper basic/Pine (Pinus)/04479A
- Copper complex (Phytos)/Poinsettia (Euphorbia pulcherrima)/11234A
- Copper hydroxide (Kocide)/Andromeda (Pieris)/04176A, 04182A
- Copper hydroxide (Kocide)/Arborvitae (Thuja)/05922A
- Copper hydroxide (Kocide)/Arrowwood (Viburnum)/04347A, 10869A, 10910A

XVIII
ATTACHMENT 10

Ornamental Pesticide Registrations (Continued)

- Copper hydroxide (Kocide)/Balsam (Impatiens)/02860A, 02861A
- Copper hydroxide (Kocide)/Boston fern (Nephrolepis exaltata)/11200A
- Copper hydroxide (Kocide)/Boxwood (Buxus)/04198A, 04199A
- Copper hydroxide (Kocide)/Bridal-wreath (Spiraea)/04812A
- Copper hydroxide (Kocide)/Camellia/02900A, 02901A
- Copper hydroxide (Kocide)/Canna/10881A, 10922A
- Copper hydroxide (Kocide)/Carnation (Dianthus caryophyllus)/10890A, 10930A
- Copper hydroxide (Kocide)/Cedar (Cedrus)/05780A
- Copper hydroxide (Kocide)/Cherry non-bearing (Prunus sp.)/11925, 11926, 11927, 19928A
- Copper hydroxide (Kocide)/Corn plant (Draeaca fragrans)/04903A, 04912A, 11939A
- Copper hydroxide (Kocide)/Crabapple non-bearing (Malus)/11919A, 11920A, 11921A
- Copper hydroxide (Kocide)/Date palm (Phoenix)/10893A, 10932A
- Copper hydroxide (Kocide)/Dumb cane (Dieffenbachia)/04910A, 04919A, 11914A
- Copper hydroxide/Egyptian-star-cluster (Pentas lanceolata)/10846A, 10905A
- Copper hydroxide (Kocide)/Elm (Ulmus)/02929A
- Copper hydroxide (Kocide)/Fern (Polypodium)/02842A, 02843A
- Copper hydroxide (Kocide)/Flag (Iris)/02885A
- Copper hydroxide/Flowering dogwood (Cornus florida)/02908A, 10847A, 11922A
- Copper hydroxide (Kocide)/Flowering quince (Chaenomeles)/02906A
- Copper hydroxide (Kocide)/Gardenia/02724A
- Copper hydroxide (Kocide)/Geranium (Pelargonium)/02862A, 02863A
- Copper hydroxide/Good-luck plt, ti pt (Cordyline terminalis)/04904A, 04913A
- Copper hydroxide (Kocide)/Grape ivy (Cissus)/11201A
- Copper hydroxide (Kocide)/Hibiscus/10911A
- Copper hydroxide (Kocide)/Holly (Ilex)/02914A, 02915A
- Copper hydroxide (Kocide)/Hydrangea/05938A
- Copper hydroxide (Kocide)/Indian hawthorn (Raphiolepis indica)/02709A, 09019A, 10452A
- Copper hydroxide (Kocide)/Japanese pittosporum (Pittosporum tobira)/05929A
- Copper hydroxide (Kocide)/Juniper (Juniperus)/04251A, 05926A, 10848A
- Copper hydroxide (Kocide)/Leatherleaf fig (Ficus)/11197A
- Copper hydroxide (Kocide)/Lilac (Syringa)/02926A, 02927A, 11923A, 11924A
- Copper hydroxide (Kocide)/Loquat (Eriobotrya japonica)/04809A, 10856A
- Copper hydroxide (Kocide)/Magnolia/02932A, 02033A
- Copper hydroxide (Kocide)/Magnolia, saucer (Magnolia x soulangiana)/10882A, 10923A
- Copper hydroxide (Kocide)/Maple (Acer)/02896A
- Copper hydroxide (Kocide)/Maple sugar (Acer saccharum)/11939A, 11940A, 11941A, 11942A
- Copper hydroxide (Kocide)/Maple, red (Acer rubrum)/11935A, 11936A, 11937A, 11938A
- Copper hydroxide (Kocide)/Marigold (Tagetes)/07715A
- Copper hydroxide (Kocide)/Mountain ash (Sorbus)/04810A
- Copper hydroxide (Kocide)/Oak (Quercus)/01837A, 02922A, 10929A
- Copper hydroxide (Kocide)/Oak, laurel (Quercus laurifolia)/10889A
- Copper hydroxide (Kocide)/Palm/11198A
- Copper hydroxide (Kocide)/Pansy (Viola)/02892A, 02893A
- Copper hydroxide (Kocide)/Pear non-bearing (Pyrus communis)/04811A, 10857A, 11935A, 11934A
- Copper hydroxide (Kocide)/Peony (Paeonia)/02880A, 02881A
- Copper hydroxide (Kocide)/Periwinkle (Vinca)/02931A
- Copper hydroxide (Kocide)/Phlox/02876A, 02877A
- Copper hydroxide (Kocide)/Photinia/02878A
- Copper hydroxide (Kocide)/Plum non-bearing (Prunus sp.)/11929A, 11930A, 11931A, 11932A
- Copper hydroxide (Kocide)/Pothos (Scindapsus aureus)/11195A
- Copper hydroxide (Kocide)/Queen palm (Arecastrum romanzoziannum)/10850A, 10896A
- Copper hydroxide (Kocide)/Rhododendron/02924A, 05937A
- Copper hydroxide (Kocide)/Rose periwinkle Catharanthus roseus)/09020A
- Copper hydroxide (Kocide)/Shasta daisy (Chrysanthemum x superbum)/02889A
- Copper hydroxide (Kocide)/Snapdragon (Antirrhinum majus)/05928A
- Copper hydroxide (Kocide)/Spathic flower (Spathiphyllum)/11199A
- Copper hydroxide (Kocide)/Umbrella flower (Schefflera)/11202A
- Copper hydroxide (Kocide)/Willow (Salix)/04356A, 10868A, 10909A
- Copper hydroxide (Kocide)/Zebra plant (Aphelandra squarrosa)/04918A
- Copper hydroxide (Kocide)/Zinnia/02848A
- Copper sulfate, basic (Begonia)/04634A
- Copper sulfate, basic (Rose (Rosa))/04763A
- Cyfluthrin/Ageratum/09761A
- Cyfluthrin/Carnation (Dianthus caryophyllus)/09766A, 10006A
Ornamental Pesticide Registrations (Continued)

- Cyfluthrin/Dahlia/09764A
- Cyfluthrin/Geranium (Pelargonium)/09767A
- Cyfluthrin/Marigold (Tagetes)/09768A
- Cyfluthrin/Pansy (Viola)/09769A
- Cyfluthrin/Petunia/09770A
- Cyfluthrin/Rose (Rosa)/10008A
- Cyfluthrin/Scarlet sage (Salvia splendens)/09774A
- Cyfluthrin/Shasta daisy (Chrysanthemum x superbum)/09765A
- Cyfluthrin/Snapdragon (Antirrhinum majus)/09772A
- Cyfluthrin/Zinnia/09773A
- Cyromazine/Daylily (Hemerocallis)/10569A
- Cyromazine/Dumb cane (Dieffenbachia)/10568A
- Cyromazine/Lily turf (Lirioppi)/10567A
- Cyromazine (Foliar)/Baby's-breath (Gypsophila elegans)/09233A
- Cyromazine (Foliar)/Calendula/09222A
- Cyromazine (Foliar)/Marigold (Tagetes)/08898A, 09226A
- Cyromazine (Foliar)/Pansy (Viola)/08899A, 09227A
- Cyromazine (Foliar)/Periwinkle (Vinca)/08904A, 09228A
- Cyromazine (Foliar)/Shasta daisy (Chrysanthemum x superbum)/08897A, 09224A
- Cyromazine (Foliar)/Snapdragon (Antirrhinum majus)/08902A
- Cyromazine (Soil)/Calendula/10217A
- DCPA/Ageratum/05854A
- DCPA/Marigold (Tagetes)/05883A
- DCPA/Moss rose (Portulaca)/05885A
- DCPA/Prunus (Peach)/00150A, 01712A
- Diazinon/Balsam (Impatiens)/11484A
- Diazinon/Chrysanthemum/11480A, 11490A, 12146A
- Diazinon/Gazania/11492A
- Diazinon/Marigold (Tagetes)/11494A
- Diazinon/Petunia/11485A, 11491A
- Diazinon/Primrose (Primula)/11486A
- Diazinon/Rose (Rosa)/11479A, 11489A
- Diazinon/Scarlet sage (Salvia splendens)/11498A
- Diazinon/Vervain (Verbena)/11487A
- Diazinon (E)/Almond non-bearing (Prunus dulcis)/00920A, 00921A
- Diazinon (E)/Arrowwood (Viburnum)/00939A
- Diazinon (E)/Ash (Fraxinus)/00982A
- Diazinon (E)/Aspen (Populus)/05631A
- Diazinon (E)/Baby's-breath (Gypsophila elegans)/06919A
- Diazinon (E)/Bridal-wreath (Spirea)/00938A
- Diazinon (E)/Carnation (Dianthus caryophyllus)/03466A
- Diazinon (E)/Cherry non-bearing (Prunus sp.)/00922A
- Diazinon (E)/Christmas trees/00953A
- Diazinon (E)/Chrysanthemum/03467A
- Diazinon (E)/Crabapple non-bearing (Malus)/00923A
- Diazinon (E)/Flowering dogwood (Cornus florida)/00924A
- Diazinon (E)/Gladiolus/03471A, 05071A
- Diazinon (E)/Honey locust (Gleditsia)/00287A
- Diazinon (E)/Honeysuckle (Lonicera)/00989A
- Diazinon (E)/Lily (Lilium)/03789A, 06947A
- Diazinon (E)/Marigold (Tagetes)/01288A, 06951A
- Diazinon (E)/Pansy (Viola)/01289A
- Diazinon (E)/Peach non-bearing (Prunus persica)/04507A
- Diazinon (E)/Petunia/01290A, 03140A, 03588A, 06956A
- Diazinon (E)/Plane tree (Platanus)/04275A
- Diazinon (E)/Purpleleaf wintercreeper (Euonymus radicans)/00932A
- Diazinon (E)/Rose (Rosa)/01274A, 03477A
- Diazinon (E)/Shasta daisy (Chrysanthemum x superbum)/03790A, 06943A
- Diazinon (E)/Wax vine (Hoya)/03594A, 03614A, 03636A
- Diazinon (E)/Yellowwood (Cladrastis)/00994A
- Diazinon (E)/Yew (Taxus)/00960A
- Diazinon (Microencapsulated)/Azalea (Rhododendron)/01153A
- Diazinon (Microencapsulated)/Balsam (Impatiens)/08150A, 10278A
- Diazinon (Microencapsulated)/Calendula/10277A
- Diazinon (Microencapsulated)/Crape myrtle (Lagerstroemia indica)/08115A
- Diazinon (Microencapsulated)/Firethorn (Pyracantha)/08122A
- Diazinon (Microencapsulated)/Flowering dogwood (Cornus florida)/08116A
- Diazinon (Microencapsulated)/Geranium (Pelargonium)/10272A
- Diazinon (Microencapsulated)/Good-luck pt (Sansevieria)/08131A
- Diazinon (Microencapsulated)/Honeysuckle (Lonicera)/08119A
- Diazinon (Microencapsulated)/Marigold (Tagetes)/10279A
- Diazinon (Microencapsulated)/Oleander (Nerium oleander)/08162A
- Diazinon (Microencapsulated)/Petunia/08142A, 10274A
- Diazinon (Microencapsulated)/Poinsettia (Euphorbia pulcherrima)/10265A
- Diazinon (Microencapsulated)/Primrose (Primula)/10280A
- Diazinon (Microencapsulated)/Snapdragon (Antirrhinum majus)/08152A, 10282A
- Diazinon (Microencapsulated)/Wax vine (Hoya)/1339A, 08129A, 08134A
- Diazinon (Microencapsulated)/Zinnia/10275A
- Dichlobenil/Heather (Calluna)/07052A
- Dienenochlor/Bottle ponytail (Beaucarnea)/08806A
- Dienenochlor/Cast-iron plant (Aspidistra elatior)/08805A
- Dienenochlor/Periwinkle (Vinca)/04600A
- Dienenochlor/Good-luck pt (Sansevieria)/08816A
- Dienenochlor/Nephthys (Syngonium podophyllum)/08813A
- Dienenochlor/Spathe flower (Spathiphyllum)/08818A
- Dienenochlor/Tupidanthus calyptratus/08819A
- Diflubenzuron/Aglaonema/06938A, 09436A
- Diflubenzuron/Betel palm (Areca)/06966A
- Diflubenzuron/Bottle ponytail (Beaucarnea)/06973A
- Diflubenzuron/Cast-iron plant (Aspidistra elatior)/06972A
- Diflubenzuron/Corn plant (Dracaena fragrans)/07140A
- Diflubenzuron/Dumb cane (Dieffenbachia)/07032A, 09440A
- Diflubenzuron/English ivy (Hedera helix)/07158A
Ornamental Pesticide Registrations (Continued)

- Diflubenzuron/Good-luck pt (Sansevieria)/07377A
- Diflubenzuron/Hydrangea/09445A
- Diflubenzuron/Leatherleaf fig (Ficus)/07149A, 09441A
- Diflubenzuron/Nepthytis (Syngonium podophyllum)/07197A, 09443A
- Diflubenzuron/Parlor palm (Chamaedorea elegans)/07030A
- Diflubenzuron/Periwinkle (Vinca)/09454A
- Diflubenzuron/Philodendron/07198A
- Diflubenzuron/Poinsettia (Euphorbia pulcherrima)/09444A
- Diflubenzuron/Pothos (Scindapsus aureus)/07199A
- Diflubenzuron/Sentry palm (Kentia=hoeva forsterana)/08942A
- Diflubenzuron/Spath flower (Spathiphyllum)/07424A, 09442A
- Diflubenzuron/Tupidanthus calyptratus/07645A
- Diflubenzuron/Umbrella tree (Schefflera)/09439A
- Dimethoate/Arbor vitae (Thuja)/04501A, 06784A
- Dimethoate/Camellia/08763A, 08764A, 08765A
- Dimethoate/Carnation (Dianthus caryophyllus)/03144A, 06743A
- Dimethoate/Citrus non-bearing (Sp.)/04987A
- Dimethoate/Gardenia/06655A, 06771A
- Dimethoate/Holly (Ilex)/06654A, 06773A
- Dimethoate/Leatherleaf fig (Ficus)/03720A, 03734A, 06768A
- Dimethoate/Oak (Quercus)/04499A, 05984A
- Dimethoate/Purple leaf winter creeper (Euonymus radicans)/06755A, 08760A, 08761A
- Dimethoate/Rose (Rosa)/07507A
- Dimethoate/Yew (Taxus)/00009A
- Disulfoton/Camellia/00997A
- Diuron/Elm (Ulmus)/12009A
- Endosulfan/Chrysanthemum/10232A
- Ethofumesate/Bentgrass (Agrostis)/07821A
- Etridiazole/Andromeda (Pieris)/01584A, 01820A, 07597A
- Etridiazole/Aucuba/01783A, 04944A
- Etridiazole/Betel palm (Areca)/02569A, 02570A
- Etridiazole/Blanket flower (Gaillardia)/08590A, 08704A
- Etridiazole/Boxwood (Buxus)/09021A
- Etridiazole/Christmas cactus (Schumbergera bridgesii)/01261A, 02510A, 04980A
- Etridiazole/Cineraria/01245A
- Etridiazole/Columbine (Aquilegia)/08598A, 08612A
- Etridiazole/Coralbells (Heuchera sanquinea)/08596A, 08610A
- Etridiazole/Daphne/01567A, 01568A
- Etridiazole/English ivy (Hedera helix)/09022A
- Etridiazole/Flowering dogwood (Cornus florida)/05979A
- Etridiazole/Good-luck pt (Sansevieria)/07313A
- Etridiazole/Heather (Calluna)/08416A
- Etridiazole/Larkspur (Delphinium)/01873A, 02542A
- Etridiazole/Laurel (Kalmia)/04512A
- Etridiazole/Mugwort (Artemisia)/08593A, 08607A
- Etridiazole/Natal plum (Carissa grandiflora)/01534A, 01536A
- Etridiazole/Norfolk isle pine (Araucaria heterophylla)/06021A, 06022A
- Etridiazole/Palm/07305A
- Etridiazole/Periwinkle (Vinca)/08046A, 08047A
- Etridiazole/Primrose (Primula)/08600A, 08614A
- Etridiazole/Shasta daisy (Chrysanthemum x superbum)/01249A, 02516A, 04986A
- Etridiazole/Song of jamaica (Dracaena cincta)/07310A
- Etridiazole/Umbrella tree (Schefflera)/01650A
- Etridiazole (G)/Ageratum/11503A
- Etridiazole (G)/Balsam (Impatiens)/11508A
- Etridiazole (G)/Chrysanthemum/11504A, 11513A
- Etridiazole (G)/Dahlia/11505A
- Etridiazole (G)/Foxglove (Digitalis)/11506A
- Etridiazole (G)/Marigold (Tagetes)/11517A
- Etridiazole (G)/Petunia/11509A, 11514A
- Etridiazole (G)/Scarlet sage (Salvia splendens)/11520A
- Etridiazole (G)/Transvaal daisy (Gerbera)/11518A
- Etridiazole (G)/Vervain (Verbena)/11511A
- Fenamidone/Sweet pea (Lathyrus odoratus)/09938A
- Fenpropathrin/Holly (Ilex)/11095A
- Ferbam/Betel palm (Areca)/01397A, 01399A
- Ferbam/Cherry non-bearing (Prunus sp.)/01563A
- Fluazifop-butyl/Auja/09609A
- Fluazifop-butyl/Aucuba/09260A
- Fluazifop-butyl/Begonia/09242A
- Fluazifop-butyl/Christmas trees/09599A
- Fluazifop-butyl/Chrysanthemum/09618A
- Fluazifop-butyl/Tickseed (Coreopsis)/10699A, 10736A
- Flurprimidol/Ash (Fraxinus)/11266A
- Flurprimidol/Maple (Acer)/09883A
- Flurprimidol/Oak, red (Quercus rubra)/11265A
- Flurprimidol/Sycamore (Platanus)/11263A
- Fonofos (5G)/Kentucky bluegrass (Poa pratensis)/04135A
- Fosetyl al/Baby’s breath (Gypsophila elegans)/08418A, 10305A
- Fosetyl al/Pinks (Dianthus)/11190A, 11191A
- Fosetyl al/Snapdragon (Antirrhinum majus)/08432A, 10645A, 10646A, 10665A
- Fosetyl al/Vervain (Verbena)/11188A, 11189A
- Gibberellic acid/Azalea (Rhododendron)/00927A, 02246A
- Gibberellic acid/Chrysanthemum/00919A
- Gibberellic acid/Persian violet (Cyclamen)/07812A
- Gliocladium virens/Dahlia/11231A
- Gliocladium virens/Geranium (Pelargonium)/11228A
- Gliocladium virens/Pansy (Viola)/11224A
- Gliocladium virens/Periwinkle (Vinca)/11226A
- Glyphosate/Kentucky bluegrass (Poa pratensis)/09907A
- Glyphosate/Marigold (Tagetes)/02700A
- Glyphosate (Topical)/Spruce (Picea)/07056A
- Hexythiazox/Arbor vitae (Thuja)/10546A
- Hexythiazox/Crabapple non-bearing (Malus)/10433A
- Hexythiazox/Forsythia/10435A
- Hexythiazox/Honey locust (Gleditsia)/10436A
- Hexythiazox/Japanese spurge (Pachysandra terminalis)/10439A
- Hexythiazox/Maple (Acer)/10437A
- Hexythiazox/Oak (Quercus)/10438A
- Hexythiazox/Purple leaf winter creeper (Euonymus radicans)/10434A
Ornamental Pesticide Registrations (Continued)

- Hexythiazox/Spruce (Picea)/10440A
- Hexythiazox/Yew (Taxus)/10441A
- Imidacloprid/Arrowwood (Viburnum)/11575A
- Imidacloprid/Ashe (Fraxinus)/11574A
- Imidacloprid/California poppy (Eschscholzia)/11528A, 11532A, 12160A
- Imidacloprid/Crape myrtle (Lagerstroemia indica)/11570A
- Imidacloprid/Dahlia/11531A, 11541A, 12163A
- Imidacloprid/Elm (Ulmus)/11572A
- Imidacloprid/Flowering dogwood (Cornus florida)/11568A
- Imidacloprid/Foxglove (Digitalis)/11529A, 11539A, 12161A
- Imidacloprid/Fuchsia/11523A, 11534A, 12157A
- Imidacloprid/Gazania/11530A, 11540A, 12162A
- Imidacloprid/Hibiscus/11524A, 11535A
- Imidacloprid/Holly (Ilex)/11573A
- Imidacloprid/Juniper (Juniperus)/11567A
- Imidacloprid/Larkspur (Delphinium)/11532A, 11542A, 12164A
- Imidacloprid/Lavender (Lavandula)/11526A, 11537A, 12159A
- Imidacloprid/Lilac (Syringa)/11571A
- Imidacloprid/Linden (Tilia)/11520A
- Imidacloprid/Maple (Acer)/11566A
- Imidacloprid/Oak (Quercus)/11569A
- Imidacloprid/Poinsettia (Euphorbia pulcherrima)/11527A, 11533A
- Imidacloprid/Shrub verbena (Lantana)/11525A, 11536A, 12158A
- Iprodione/Almond non-bearing (Prunus dulcis)/07298A
- Iprodione/Apricot non-bearing (Prunus armeniaca)/07293A, 07299A
- Iprodione/Begonia/07271A, 07288A
- Iprodione/Boston fern (Nephrolepis exaltata)/07956A
- Iprodione/Conifer/08703A, 08719A
- Iprodione/Dusty-miller (Centarea gymnocastra)/11036A
- Iprodione/Foxglove (Digitalis)/08712A
- Iprodione/Leaflet fern (Rumohra adiantiformis)/07089A
- Iprodione/Marigold (Tagetes)/07276A, 07277A, 07285A, 07289A, 11037A
- Iprodione/Oriech/08251A
- Iprodione/Petunia/07137A, 07138A
- Iprodione/Pothos (Scindapsus aureus)/00502A
- Iprodione/Shasta daisy (Chrysanthemum x superbum)/07729A, 07733A
- Iprodione/Song of Jamaica (Dracaena cincta)/10671A
- Isoxaben/Dahyli (Hemorcellis)/10984A
- Isoxaben + oryzalin/Lily turf, creeping (Liriopespicata)/11241A, 11242A
- Isoxaben + oryzalin/Magnolia/10612A
- Lindane/Austrian pine (Pinus nigra)/11677A
- Lindane/Red pine (Pinus resinosa)/11676A
- Lindane/Scotch pine (Pinus sylvestris)/11675A
- Malathion/Carnation (Dianthus Caryophyllus)/03357A
- Malathion/Christmas cactus (Schumbergera bridgesii)/08058A
- Malathion/Rose (Rosa)/03366A
- Mancozeb + copper hydroxide/Geranium (Pelargonium)/12534A, 12536A
- Mefenoxam/Blanket flower (Gaillardia)/08526A, 08541A
- Mefenoxam/Christmas cactus (Schumbergera bridgesii)/05318A
- Metam-sodium/Pine (Pinus)/10583A
- Metolachlor (EC)/Blanket flower (Gaillardia)/11119A
- Metolachlor (G)/Blanket flower (Gaillardia)/11120A, 11652A
- Metolachlor (G)/Columbine (Aquilegia)/11655A
- Metolachlor + simazine/Douglas fir (Pseudotsuga menziesii)/09638A
- Myclobutanil/Bees balm (Monarda didyma)/11401A, 11822A
- Myclobutanil/Cherry non-bearing (Prunus sp.)/11969A, 11970A
- Myclobutanil/Cherry non-bearing (Prunus sp.)/11970A
- Myclobutanil/Crabapple non-bearing (Malus)/11967A, 11968A
- Myclobutanil/Crabapple non-bearing (Malus)/11968A
- Myclobutanil/Hydrangea/11399A, 11820A
- Myclobutanil/Pear non-bearing (Pyrus communis)/11973A, 11973A
- Myclobutanil/Phlox/11400A, 11821A
- Myclobutanil/Plum non-bearing (Prunus sp.)/11971A, 11972A
- Myclobutanil/Poinsettia (Euphorbia pachellrima)/11819A, 11398A
- Naled (ULV)/Marigold (Tagetes)/10410A
- Naled (ULV)/Shasta daisy (Chrysanthemum x superbum)/10409A
- Naphthinoamide (G)/Photinia/05893A
- Naphthoamide (W)/Dahlia/08380A
- Naphthoamide (WP)/Gazania/11125A
- Oryzalin/Baby's-breath (Gypsophila elegans)/10716A
- Oryzalin/Bear grass (Dasyliorrho)/07437A
- Oryzalin/Bleeding heart (Dicentra)/11614A
- Oryzalin/Buttercup (Ranunculus)/10531A
- Oryzalin/Daylily (Hemerocallis)/10528A
- Oryzalin/False spirea (Astillbe)/09149A
- Oryzalin/Flowering dogwood (Cornus florida)/10670A
- Oryzalin/Honey locust (Gleditsia)/09649A
- Oryzalin/Lilac (Syringa)/12033A
- Oryzalin/Lily turf (Liriopes)/01172A
- Oryzalin/Moss rose (Portulaca)/06116A
- Oryzalin/Palo verde (Cercidium floridum)/07436A
- Oryzalin/Plane tree (Platanus)/09651A
- Oryzalin/Plantain lily (Hosta)/07175A, 10527A
- Oryzalin/Potentilla (Cinquefoil)/11830A
- Oryzalin/Stonecrop (Sedum)/11829A
- Oxadiazon/Ajuga/09964A
- Oxadiazon/Oxadiazon/Ajuga reptans)/11624A, 11862A
- Oxadiazon/Kentucky bluegrass (Poa pratensis)/11314A
- Oxadiazon (G)/Honeysuckle (Lonicera)/11836A
- Oxadiazon (G)/Lilac (Syringa)/11843A
- Oxadiazon (G)/Tatarian maple (Acer tataricum l.)/11835A
ATTACHMENT 10

Ornamental Pesticide Registrations (Continued)

- Oxadiazion (Irrig./Aucuba)/06565A
- Oxadiazion (Irrig./Azalea (Rhododendron))/06581A
- Oxadiazion (Irrig./Boxwood (Buxus))/06580A
- Oxadiazion (Irrig./Gardenia)/06562A
- Oxadiazion (Irrig./Japanese pittosporum (Pittosporum tobira))/05777A
- Oxadiazion (Irrig./Photinia)/06579A
- Oxadiazion (Irrig./Pine (Pinus))/06843A
- Oxadiazion (Irrig./Privet (Ligustrum))/06582A
- Oxadiazion (Irrig./Purpleleaf wintercreeper (Euonymus radicans))/07393A
- Oxadiazion (Irrig./Southern yew (Podocarpus macrophyllus))/06851A
- Oxamy/Aster/04976A, 04979A
- Oxamy/Camellia/01843A
- Oxamy/Christmas cactus (Schumbergera bridgesii)/06713A
- Oxamy/Tagetes)/03196A, 05058A
- Oxamy/Persian violet (Cyclamen)/07974A
- Oxfluorfen + oxyzalin (Rout)/Baby's-breath (Gypsophila elegans))/11782A
- Oxfluorfen + oxyzalin (Rout)/Corn plant (Dracaena fragrans)/10477A
- Oxfluorfen + oxyzalin (Rout)/False cypress (Chamaecyparis))/09499A, 09543A
- Oxfluorfen + oxyzalin (Rout)/Flowering dogwood (Cornus florida))/09509A
- Oxfluorfen + oxyzalin (Rout)/Forsythia)/09466A, 09510A
- Oxfluorfen + oxyzalin (Rout)/Holly olive (Osmanthus heterophyllus))/09474A, 09518A
- Oxfluorfen + oxyzalin (Rout)/Honeysuckle (Lonicera))/09513A
- Oxfluorfen + oxyzalin (Rout)/Potentilla (Cinquefoil))/09498A, 09542A
- Oxfluorfen + oxyzalin (Rout)/Privet (Ligustrum))/11633A
- Oxfluorfen + oxyzalin (Rout)/Protea)/10474A
- Oxfluorfen + oxyzalin (Rout)/Red bud (Cercis canadensis))/09478A, 0922A
- Oxfluorfen + oxyzalin (Rout)/Tailflower (Anthurium)/10478A, 10479A
- Oxfluorfen + oxyzalin (Rout)/Yew (Taxus))/09479A, 09523A
- Oxfluorfen + pendimethalin/Maple, red (Acer rubrum)/10965A, 10966A
- PCNB/Aster/03515A, 08850A
- PCNB/Baby's-breath (Gypsophila elegans)/08477A
- PCNB/Camellia/08483A
- PCNB/Carnation (Dianthus caryophyllus)/10455A
- PCNB/Cherry non-bearing (Prunus sp.))/11952A
- PCNB/Crabapple non-bearing (Malus))/11951A
- PCNB/Fern (Polypodium))/03300A
- PCNB/Flowering dogwood (Cornus florida))/11956A
- PCNB/Good-luck plt (Sansevieria))/06185A
- PCNB/Hawthorn (Crataegus))/11954A
- PCNB/Hollyhock (Alcea rosea))/08507A, 08508A
- PCNB/Jade plant (Crassula argentea))/03008A, 03009A
- PCNB/Maple sugar (Acer saccharum))/11958A
- PCNB/Maple, red (Acer rubrum))/11957A
- PCNB/Norfolk isle pine (Araucaria heterophylla))/03270A
- PCNB/Pansy (Viola))/08509A
- PCNB/Philodendron)/02993A
- PCNB/Plum non-bearing (Prunus sp.))/11953A
- PCNB/Purpleleaf wintercreeper (Euonymus radicans))/08485A
- PCNB/Red bud (Cercis canadensis))/11955A
- PCNB/Statice (Limonium))/00781A
- Pendimethalin/Baby's-breath (Gypsophila elegans))/10058A, 10998A
- Pendimethalin/Baby's-breath (Gypsophila elegans))/10998A
- Pendimethalin/Blanket flower (Gaillardia))/11162A, 11163A
- Pendimethalin/Blanket flower (Gaillardia))/11163A
- Pendimethalin/Cast-iron plant (Aspidistra elatior))/11277A
- Pendimethalin/Montauk daisy (Chrysanthemum keibeli))/11593A
- Pendimethalin/Pea (Paeonia))/06062A
- Pendimethalin/Purple coneflower (Echinacea))/11345A
- Pendimethalin/Statice (Limonium))/11169A
- Pendimethalin/Stokes aster (Stokesia))/10997A, 11008A
- Pendimethalin/G/Daylily (Hemerocallis))/11468A, 11469A
- Pendimethalin/G/Lily turf (Liriope))/11455A, 11463A
- Pendimethalin/G/Pansy (Viola))/11452A, 11460A
- Pendimethalin/G/Tree fern (Asparagus virgatus))/11278A
- Permethrin/Azalea (Rhododendron))/05380A
- Permethrin/Baby's-breath (Gypsophila elegans))/00460A
- Permethrin/Bromeliads))/02383A
- Permethrin/Carnation (Dianthus caryophyllus))/00461A
- Permethrin/Chloranthus))/02383A
- Permethrin/Lily-of-the-inca (Alstroemeria))/08449A, 11187A
- Permethrin/Rose (Rosa))/05446A, 05448A
- Prodiamine (2G)/English ivy (Hedera helix))/05263A, 07368A
- Prodiamine (WG)/Azalea (Rhododendron))/06601A, 06602A
- Prodiamine (WG)/Butchers broom, israeli ruscus (R. aculeatus))/11279A
- Prodiamine (WG)/Cotoneaster))/07371A
- Prodiamine (WG)/Forsythia))/06611A
- Prodiamine (WG)/Cotoneaster))/07371A
- Prodiamine (WG)/Leaflet (Chamaedaphne calyculata))/11280A
- Prodiamine (WG)/Leaflet fern (Rumohra adiantiformis))/08027A, 08032A
- Prodiamine (WG)/Photinia)/06599A
- Prodiamine (WG)/Privet (Ligustrum))/06595A
- Prodiamine (WG)/Redroot (Ceanothus))/09272A
- Prodiamine (WG)/Rose (Rosa))/06457A
- Prodiamine (WG)/Tree fern (Asparagus virgatus))/11282A
- Prodiamine (WG)/Tulip (Tulipa))/09339A
- Pronamide/Cotoneaster))/02230A
- Propiconazole/Rhododendron))/11678A
- Propiconazole/Spellbound (Antirrhinum majus))/11038A
Ornamental Pesticide Registrations (Continued)

• Resmethrin/Aster/03152A, 05014A
• Resmethrin/Christmas cactus (Schumbergera bridgesii)/01723A, 07978A
• Resmethrin/Marigold (Tagetes)/03168A
• Resmethrin/Orchid/03153A, 05015A
• Resmethrin/Pansy (Viola)/03169A, 05031A
• Resmethrin/Pervinca (Vinca)/02580A
• Resmethrin/Scarlet sage (Salvia splendens)/03172A, 05034A
• Resmethrin/Wandering jewel (Tradescantia albiflora)/07979A
• Sethoxydim/Bellflower (Campanula)/10697A, 10734A
• Sethoxydim/Coral bells (Heuchera sanquinea)/12178A
• Sethoxydim/Hydrangea/09664A
• Simazine/Honey locust (Gleditsia)/12019A
• Simazine/Juniper (Juniperus)/07756A
• Simazine (Herbigation)/Juniper (Juniperus)/06948A
• Sun spray ultra-fine spray oil/Aglaoeuma/10610A
• Sun spray ultra-fine spray oil/Corn plant (Dracaena fragrans)/10611A
• Sun spray ultra-fine spray oil/Daffodil (Narcissus)/11080A
• Sun spray ultra-fine spray oil/Fuchsia/10598A
• Sun spray ultra-fine spray oil/Jade plant (Crassula argentea)/11217A
• Sun spray ultra-fine spray oil/Lisianthus/10599A
• Sun spray ultra-fine spray oil/Moth orchid (Phalaenopsis)/11219A
• Sun spray ultra-fine spray oil/Ornamental cabbage (Brassica sp.)/11447A, 12145A
• Sun spray ultra-fine spray oil/Ornamental kale (Brassica sp.)/11446A, 11448A
• Sun spray ultra-fine spray oil/Pear non-bearing (Pyrus sp.)/12021A
• Sun spray ultra-fine spray oil/Umbrella tree (Schefflera)/11220A
• Thiophanate methyl/Cherry non-bearing (Prunus sp.)/12214A
• Thiophanate methyl/Chinese holly (Ilex crenata)/11587A
• Thiophanate methyl/Dogwood (Pseudotsuga menziesii)/11584A, 12244A
• Thiophanate methyl/Dusty-miller (Centaura gymnocarpa)/11219A
• Thiophanate methyl/Elephant’s ear (Caladium)/12227A
• Thiophanate methyl/English ivy (Hedera helix)/12218A
• Thiophanate methyl/European larch (Larix decidua)/11576A
• Thiophanate methyl/Fir (Abies)/12243A
• Thiophanate methyl/Foxglove (Digitalis)/11550A, 12241A
• Thiophanate methyl/Fuchsia/11551A
• Thiophanate methyl/Holly (Ilex)/12245A
• Thiophanate methyl/Hollyhock (Alcea rosea)/12209A
• Thiophanate methyl/Hydrangea/12210A
• Thiophanate methyl/Jack pine (Pinus banksiana)/11581A
• Thiophanate methyl/Japanese holly (Ilex crenata)/11586A
• Thiophanate methyl/Larch (Larix)/07354A, 12242A
• Thiophanate methyl/Norway spruce (Picea abies)/11580A
• Thiophanate methyl/Poinssettia (Euphorbia pulcherrima)/12249A
• Thiophanate methyl/Rose (Rosa)/12203A
• Thiophanate methyl/Scotch pine (Pinus sylvestris)/11585A
• Thiophanate methyl/White Spruce (Picea glauca)/11578A
• Thiophanate methyl + mancozeb/Daffodil (Narcissus)/09693A
• Thiophanate methyl + mancozeb/Photinia/10554A
• Triadimefon/Alumroot (Heuchera)/08559A
• Triadimefon/Ash (Fraxinus)/11823A
• Triadimefon/Aster/08560A
• Triadimefon/Azalea (Rhododendron)/07794A, 09691A, 09692A, 10432A
• Triadimefon/Bee balm (Monarda didyma)/08577A
• Triadimefon/Cineraria/08574A
• Triadimefon/Colorado spruce (Picea pungens)/09737A
• Triadimefon/Crape myrtle (Lagerstroemia indica)/07770A
• Triadimefon/Dahlia/08564A
• Triadimefon/Douglass fir (Pseudotsuga menziesii)/07805A
• Triadimefon/Elm (Ulmus)/11826A
• Triadimefon/Fern (Polypodium)/08015A
• Triadimefon/Fir (Abies)/07356A
• Triadimefon/Fuchsia/08557A
• Triadimefon/Honey locust (Gleditsia)/09969A
• Triadimefon/Larch (Larix)/07358A
• Triadimefon/Marigold (Tagetes)/10464A
• Triadimefon/Phlox/08566A
• Triadimefon/Shasta daisy (Chrysanthemum x superbum)/08569A
• Triadimefon/Spruce (Picea)/07357A
• Triadimefon/Stonecrop (Sedum)/08571A
• Triadimefon/Sunflower (Helianthus)/08017A
• Triadimefon/Sweet pea (Lathyrus odoratus)/09937A
• Triadimefon/Zinnea/08562A
• Triflumizole/Zinnea/10649A
• Trifluralin/Arrowwood (Viburnum)/02838A
• Trifluralin/Avens (Geum)/10808A, 11047A
• Trifluralin/Azalea (Rhododendron)/02478A
• Trifluralin/Big’s breath (Gypsophila elegans)/10809A, 11048A
• Trifluralin/Bald cypress (Taxodium distichum)/02773A
• Trifluralin/Barberry (Berberis)/06646A
• Trifluralin/Birch (Betula)/02774A
• Trifluralin/Blanket flower (Gaillardia)/11438A, 11650A
• Trifluralin/Bottlebrush (Callistemon)/02775A
• Trifluralin/Boxwood (Buxus)/02777A
• Trifluralin/Cotoneaster/02475A
• Trifluralin/Creeeping phlox (Phlox subulata)/12135A
• Trifluralin/Cypress (Cupressus)/02783A
• Trifluralin/Daffodil (Narcissus)/08397A
• Trifluralin/Elm (Ulmus)/02785A
• Trifluralin/Firethorn (Pyracantha)/02477A
• Trifluralin/Flag (Iris)/08400A
• Trifluralin/Gardenia/02788A
• Trifluralin/Heavenly bamboo (Nandina domestica)/02810A
• Trifluralin/Holly (Ilex)/02797A
ATTACHMENT 10

Ornamental Pesticide Registrations (Continued)

- Trifluralin/Holly olive (Osmanthus heterophyllus)/02816A
- Trifluralin/Honeysuckle (Lonicera)/02789A
- Trifluralin/Indian hawthorn (Raphiolepis indica)/06706A
- Trifluralin/Japanese pittosporum (Pittosporum tobira)/02819A
- Trifluralin/Lamb’s-ear (Stachys byzantina)/10810A, 11049A
- Trifluralin/Madwort (Alyssum)/06181A,c09925A
- Trifluralin/Magnolia/02807A
- Trifluralin/Mock orange (Philadelphus)/00046A
- Trifluralin/Moss rose (Portulaca)/06214A
- Trifluralin/Pecan non-bearing (Carya illinoinensis)/02817A
- Trifluralin/Photinia/06711A
- Trifluralin/Poplar (Populus)/02782A
- Trifluralin/Privet (Ligustrum)/02480A
- Trifluralin/Red bud (Cercis canadensis)/02831A
- Trifluralin/Russian olive (Elaeagnus angustifolia)/02784A
- Trifluralin/Shasta daisy (Chrysanthemum x superbum)/11175A
- Trifluralin/Southern yew (Podocarpus macrophyllus)/02822A
- Trifluralin/Spanish-bayonet (Yucca aloifolia)/02839A
- Trifluralin/Statice (Limonium)/09237A
- Trifluralin/Stokes aster (Stokesia)/10811A, 11050A
- Trifluralin/Sumac (Rhus)/02835A
- Trifluralin/Sweetgum (Liquidambar)/02837A
- Trifluralin/Tulip (Tulipa)/08403A
- Trifluralin/Yarrow (Achillea millfolium)/11046A
- Triflorine/Azalea (Rhododendron)/04015A
- Triflorine/Begonia/04017A
- Triflorine/Rose (Rosa)/04027A
- Vinclozolin/Baby’s-breath (Gypsophila elegans)/07907A
- Vinclozolin/Crape myrtle (Lagerstroemia indica)/08234A
- Vinclozolin/Elm (Ulmus)/08235A
- Vinclozolin/Fir (Abies)/08236A
- Vinclozolin/Juniper (Juniperus)/08004A, 08007A
- Vinclozolin/Leatherleaf fig (Ficus)/08089A
- Vinclozolin/Marigold (Tagetes)/08098A, 08099A
- Vinclozolin/Orange grape (Mahonia aquifolium)/08237A
- Vinclozolin/Poopy (Papaver)/08103A
- Vinclozolin/Pothos (Scindapsus aureus)/07944A
- Vinclozolin/Protea/08735A, 08753A
- Vinclozolin/Stock (Matthiola incana)/08262A
- Vinclozolin/Tulip (Tulipa)/08755A
ATTACHMENT 11

Biopesticide Research and Development

Biopesticide Petitions Submitted to EPA in 1996:

*Burkholderia cepacia* strain AMMD for American ginseng, potatoes, carrots, tomatoes, turf, peas, snapbeans, sweet corn and supersweet corn.

*Pseudomonas fluorescens* strain PRA-25 for peas, snapbeans, sweet corn and supersweet corn.

In November 1996, IR-4 in cooperation with the University of Wisconsin and Good Bugs, Inc. submitted two petitions to EPA requesting temporary tolerance exemptions from the requirements of a tolerance for the microbial pest control agents *Burkholderia cepacia* strain AMMD and *Pseudomonas fluorescens* strain PRA-25 in or on peas, snapbeans, sweet corn, and supersweet corn to control seedling diseases. *Burkholderia cepacia* AMMD is also used as a foliar application in or on American ginseng, potatoes, carrots, tomatoes and turf. These petitions were submitted to EPA to support four Experimental Use Permit Applications.

Kaolin as an insecticide/fungicide for apples, apricots, pears, peaches, bananas, citrus nuts, potatoes, grapes, tomatoes, cotton, peanuts, ornamentals, small grains, beans, cucurbits, strawberries, caneberrys, seed crops, corn, soybeans, sugar beets, and peppers.

In October 1996, IR-4 in cooperation with Engelhard Corporation, submitted a petition to EPA requesting a temporary tolerance exemption from the requirements of a tolerance for kaolin on various crops. This petition supports two Experimental Use Permits.

Methyl anthranilate as a bird repellent on all raw agricultural commodities.

In April 1996, IR-4 submitted a petition to EPA requesting an exemption from the requirement of a tolerance for methyl anthranilate on all raw agricultural commodities.

Formic acid for use in honey bee hives to control tracheal mite.

In March 1996, IR-4 submitted a petition to EPA requesting an exemption from the requirements of a tolerance for formic acid in honey and beeswax.