ANNUAL REPORT 1995

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

INTERREGIONAL RESEARCH PROJECT NO. 4
INTRODUCTION

Interregional Research Project No. 4 (IR-4 Project) was organized in 1963 by Directors of the State Agricultural Experiment Stations (SAES) to obtain residue tolerances for minor use pesticides on food and feed crops where economic considerations precluded private sector registration. 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 pesticides for protection of nursery and floral crops, forest seedlings and turf grass; and again in 1982 to include an initiative to register biological pest control agents (biopesticides) for agricultural pest control.

While the basic mission of IR-4 has always been to aid producers of minor food crops and ornamentals in obtaining needed crop protection products, the focus of the program has changed over the years. The 1988 Amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) presented IR-4 with the challenge of defending existing pesticide registrations needed by commodity producers but not supported by commercial registrants for economic reasons. Based on inputs from both the public and private sector, IR-4 developed a plan to reregister up to 1000 existing minor use registrations while continuing the ongoing program of new food and ornamental clearances. IR-4 will accomplish its current reregistration commitments by the December 1997 Congressionally-mandated deadline.

IR-4 continues its commitment to aid in the development and clearance of biologically based alternatives for pest management on minor crops. The objectives of the biopesticide program have been extended to include not only microbials and biochemicals but also transgenics and "safer" pesticides for use on minor crops. IR-4 has earmarked funds to support research in this area and efforts are moving forward to form coalitions with public and private sector individuals and organizations in order to leverage funding.

Research to develop registration data for ornamental crops continues both as an important and successful IR-4 programmatic thrust. Opportunities exist to serve the industry by facilitating the registration of new pesticides, especially those that are worker friendly, and biological alternatives which will achieve effective pest control when used alone or in IPM systems.

IR-4 has updated its strategic plan developed in 1989 by establishing program goals that address both grower needs and advance effective, environmentally-sound pest management practices on minor crops. Entitled "A Minor Crop Pest Control Strategy: 1995-2002", this plan calls for a greater emphasis on the registration of alternative pest control technology for minor crops.

This Annual Report highlights progress in 1995 toward achieving the objectives of the program to provide crop protection for the $31 billion U.S. minor crop industry.
PROJECT:


COOPERATING 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 6479 IR-4 food-use requests, an increase of 199 over the 6280 requests reported in 1994. Of these, 1218 are researchable projects with 904 representing requests for new uses and 314 representing reregistration requests. SAES and USDA-ARS cooperators scheduled research on 177 requested clearance projects (studies) which represented 483 field trials coordinated by IR-4 Regional Laboratories. Residue samples from 458 field trials went to SAES and USDA-ARS, contract and agrichemical laboratories. Research protocols were prepared or revised for each study as required by EPA Good Laboratory Practice Standards. The pesticides/commodities researched in 1995 are shown in Attachment 3.

FOOD USE REGULATORY ACCOMPLISHMENTS:

The IR-4 Project was responsible for 104 minor use pesticide clearances in 1995. Fifty-three (53) of these were for new tolerances and exemptions, 39 were tolerance extensions through crop groupings and 12 were data packages supporting label amendments and reregistration projects accepted by EPA or state regulatory agencies. Following is a report of successfully completed projects.

New Tolerance, Exemption and Reregistration Approvals

During the year EPA published 28 Federal Register notices and reregistration eligibility letters establishing 53 new tolerance and exemptions and 3 reregistration approvals. Label amendments accounted for 9 new uses. These are shown in Attachment 4.

Crop Group Definition Approvals

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 1995, EPA approved crop group definitions representing 39 new uses. 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 1995 in response to IR-4 petitions, 8 proposals for tolerances have been published for comment in the Federal Register and should become rules in 1996. 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 1995, IR-4 received responses from EPA to 9 petitions requesting additional data and/or information. These are shown in Attachment 7.

Data Package Development

During 1994, IR-4 worked on 109 regulatory data packages which are presently under review by registrants or EPA. These include 48 new tolerance petition requests, 33 data packages to support reregistrations, 13 major amendments to prior submitted data packages, and 15 packages to support label expansions. These are shown in Attachment 8.

Regulatory Documents in Preparation

Regulatory packages representing 159 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, 12,109 Pesticide Clearance Requests have been received. There are presently 1141 researchable ornamental requests including 282 new requests added in 1995. IR-4 funded 443 ornamental research trials this year and prepared 19 registration packages containing 723 reports that were sent to registrants for labelling. These included 9 fungicides, 3 insecticides, 6 herbicides and 1 plant growth regulator. During the year, industry labelled 377 ornamental uses based on IR-4 data. These are shown in Attachment 10.

BIOPESTICIDE RESEARCH AND REGISTRATIONS:

In 1995, IR-4 supported nine research projects: pepper extract field trials on minor crops to control insects; Alternaria spp. and Fusarium tricinctum for the control of dodder on cranberries; Beauvaria bassiana for control of citrus root weevil larvae; development and evaluation of recombinant viruses as biological insecticides; Entomophaga maimaiga for the control of gypsy moth; Bacillus cereus for the control of alfalfa diseases; Flavobacterium balustinum and Trichoderma hamatum fortified potting mixes for control of damping off and root rot pathogens of vegetable bedding plants and ornamentals; Paecilomyces fumosoroseus for control of insects on greenhouse cuttings; and Pseudomonas fluorescens PRA25 and Burkholderia cepacia for control of soilborne diseases of peas, snap beans and sweet corn. Also, EPA approved the following tolerance exemptions based on IR-4 petitions: methyl anthranilate as a bird repellent on blueberries, cherries, and grapes; codling moth granulosis virus for apple, pear, walnut, and plum (prune); and cinnamaldehyde on mushrooms for the control of Verticillium spot and dry bubble disease. In 1995, IR-4 submitted five biopesticide petitions to EPA or industry requesting exemptions from the requirement of a tolerance. These are shown in Attachment 11.
QUALITY ASSURANCE:

The IR-4 Project's Quality Assurance Unit (QAU) continues to provide assistance to cooperating scientists throughout the United States and Puerto Rico. Quality Assurance Officers (QAO's) have been conducting on-site facility inspections and in-life critical phase inspections to identify if compliance has been met or if attention is required for the research to comply with the Good Laboratory Practice Standards 40 CFR 160 (GLPs). All QA findings and recommendations are reported to the study directors and management as required by the GLPs.

The IR-4 QAU is comprised of regional QA staff located at each of the Leader Laboratories, university cooperating QAO's, USDA-ARS laboratory and field QAO's and Headquarters personnel. The IR-4 QAU functions under a set of Standard Operating Procedures (SOPs) by which it maintains consistent monitoring activities of IR-4 GLP research studies. National and required QA training sessions for field and laboratory personnel were conducted during the year.

PROGRAM COOPERATION AND COORDINATION:

The IR-4 Project has been cited as a "prime example of Federal interagency cooperation with academic institutions, pesticide industries 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, 288 food use field trials were scheduled by SAES cooperators, 131 by federal agricultural scientists and 39 by private sector researchers in cooperation with IR-4.

IR-4 is actively involved in the USDA-CSREES Interagency Reregistration Task Force, the USDA Minor Use Working group and is a participant in the ESCOP Pest Management Strategies Subcommittee, American Crop Protection Association Regulatory Sub-Committee and the Canada-United States Trade Agreement Technical Working Group on Pesticides.

A meeting of the IR-4 Commodity Liaison Committee (CLC) was held coincident with the IR-4 Annual Meeting in March. Representatives of the CLC attended each IR-4 Regional Liaison meeting in 1995 and the chair of the CLC met with the IR-4 Technical Committee.

A joint USDA IR-4/EPA Minor Use Biopesticide Workshop was held in Washington, DC in November. In addition to speakers from both the public and private sector, conference attendees were addressed by the Deputy Secretary of Agriculture. A National Food Use Workshop was attended by 120 public and private sector research personnel. This was the 18th in a series of food and ornamental workshops held by IR-4 for the purpose of reviewing and prioritizing new clearance requests and reregistration needs.

USEFULNESS OF THE FINDINGS:

IR-4 is the principal 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 2074 food use clearances (1127 since 1984), 3602 ornamental registrations and has supported research on 26 biopesticides which has resulted in 18 minor use registrations.

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 1996:

IR-4 will continue its mission to clear safe and effective pest control products for minor food crops and ornamentals. An updated Strategic Plan for the period 1995-2002 has been developed by the IR-4 Technical Committee which outlines annual productivity and funding goals for the three IR-4 thrust areas: registration/reregistration research, biopesticide research and ornamentals research.

Based on priorities established by regional and national workshop committees, 144 food use projects were selected for research in 1996 at the November IR-4 national research planning meeting. The 1996 research program will enable IR-4 to complete about 100 clearance projects. The major emphasis is to reregistration and the program expects to accomplish its current reregistration commitments by December 1997.

Eighteen proposals have been submitted to the IR-4 Biopesticide Program for funding in 1996. Two proposal from 1995 will receive a second year of funding and other projects will be chosen from the new proposals as finances permit. Four Experimental Use Permits and their associated temporary tolerance exemption petitions will be prepared for submission to EPA. Three exemptions from tolerances to support full registrations will also be submitted to the Agency. The Biopesticide Program will continue to seek out new projects and move forward on registrations for minor use crops. Presentations about the IR-4 Biopesticide Program will be given at the Third National IPM Symposium/Workshop in Washington, DC on February 29.

IR-4 will continue to address pest control needs of the $8 billion nursery, floral crop, interior landscape, and landscape industry. IR-4 will support research on 350 pesticides and biopesticides in 1996 and submit completed research reports supporting about 200 new registrations.

IR-4 will continue its commitment to producing quality scientific data in order to meet EPA Good Laboratory Practice requirements. IR-4 will continue to hold quality training sessions for IR-4 personnel and cooperators, conduct facility and in-life inspections and review raw data and final reports.
PUBLICATIONS:


December 31, 1995

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

Approved:

1/22/96

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

1/23/96

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

COOPERATING REGULATORY 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 Advisors:
Dr. W. Carlson, U.S. Department of Agriculture
Dr. F. Horn, U.S. Department of Agriculture
Dr. A. Lauchli, University of California, Davis
Dr. D. Lund, Cornell 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. 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. T. Spittler, Cornell University, Geneva
Dr. C. Wei, University of Florida

SUPPORT GROUPS

Headquarters Technical Staff:
Dr. J. Baron, National Coordinator
Dr. W. Biehn, Coordinator
Dr. K. Dorschner, Coordinator
Mr. J. Frank, Coordinator
Dr. R. Guest, National Director
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
Prof. G. Markle, Associate Director
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-Griffin, Sec.
Mrs. C. Ferrazoli, Sec.
Mrs. B. Mitchell, 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
Regional Technical Staff:

Dr. T. Spittler, Laboratory Director, Northeast Region
Mr. J. Martini, Field Research Coordinator, Northeast Region
Dr. P. Kovach, Laboratory Coordinator, Northeast Region
Dr. R. Hollingworth, Laboratory Director, Northcentral Region
Dr. S. Miyazaki, Field Research Coordinator, Northcentral Region
Dr. R. Leavitt, Laboratory Coordinator, Northcentral Region
Dr. C. Wei, Laboratory Director, Southern Region
Dr. C. Meister, Field Research Coordinator, Southern Region
Ms. J. Yoh, Laboratory Coordinator, Southern Region
Dr. T. Shibamoto, Laboratory Director, Western Region
Mr. R. Melnicoe, Field Research Coordinator, Western Region
Ms. M. Reiff, Program Coordinator, Western Region
Mr. C. Mourer, Laboratory Coordinator, 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

Commodity Liaison Committee:

Mr. D. Ahrens, Twin Garden Farms, Harvard, IL
Dr. S. Balling, Del Monte Foods, Walnut Creek, CA
Dr. A. Bonanno, Bonanno Farm Trust, Methuen, MA
Mr. D. Botts, Florida Fruit and Vegetable Association, Orlando, FL
Mr. J. Downing, Cranberry Institute, East Wareham, MA
Dr. H. Ewart, Northwest Horticulture Council, Yakima, WA
Ms. A. George, Washington Hop Commission, Yakima, WA
Dr. C. Kesner, Cherry Marketing Institute, Okemos, MI
Mr. T. Kodet, Grower Shipping Vegetable Association, Salinas, CA
Mr. E. Kurtz, EAK Ag., Inc., Salinas, CA
Mr. R. Lundy, Mint Industry Research Council, Hood River, OR
Mr. G. Obenauf, Prune, Raisin and Walnut Marketing Boards, Fresno, CA
Mr. R. Olszack, Brooks Tropicals, Homestead, FL
Mr. R. Prewett, Texas Vegetable Association, Mission, TX
Mr. R. Ratto, Ratto Brothers, Modesto, CA
Mr. S. Rawlins, American Farm Bureau Federation, Park Ridge, IL
Mr. C. Regelbrugge, American Association of Nurserymen, Washington, DC
Mr. M. Sorbello, Jr., Sorbello Farms, Fulton, NY
Mr. P. Traino, Vegetable Growers' Association of New Jersey, Marlton, NJ
Mr. W. Zellers, K.W. Zellers Co., Hartville, OH
Mr. D. Zuleger, Wisconsin Potato & Vegetable Growers Association, Inc., Antigo, WI
IR-4 Project/USDA Minor Use Program Quality Assurance Officers

**Northeastern Region**

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<td>Dr. J. Bourke</td>
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<td>Ms. D. Snook</td>
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<td>Mr. G. Hanes, USDA-ARS</td>
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**Southern Region**

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<td>Dr. M. Ali</td>
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<td>Ms. D. Bertrand, USDA-ARS</td>
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<td>Ms. J. Day, USDA-ARS</td>
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<td>Dr. J. Smart, USDA-ARS</td>
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<td>Dr. R. Talbert</td>
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**Northcentral Region**

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<td>Dr. B. Jensen</td>
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<td>Dr. D. Killilea</td>
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<td>Dr. G. Noel, USDA-ARS</td>
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<td>Dr. R. Rowe, USDA-ARS</td>
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**Western Region**

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<td>Mr. J. Gefre, Sr., USDA-ARS</td>
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<td>Dr. B. Hawley</td>
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**State and Federal IR-4 Liaison Representatives**

**Northeast Region**

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<td>Dr. R. Ashley</td>
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**Northcentral Region**

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State and Federal IR-4 Liaison Representatives (continued):

### Southern Region

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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 1995. Although their efforts frequently are unrecog-
nized, their cooperation is the essential element in producing the data, field residue samples and labora-
tory 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 sci-
entists not only enhances the quality of the data but adds credibility that the objectives of the program
will be met.

NORTHEAST REGION

Dr. J. Ahrens CT
Dr. A. Averill MA
Dr. R. Bellinder NY
Dr. E. Beste MD
Mr. E. Bogus PA
Dr. C. Eckenrode NY
Dr. L. Engander RI
Dr. H. Forsythe ME
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Dr. S. Johnston NJ
Dr. P. Kovach NY
Dr. J. Linduska MD

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Dr. A. Shelton NY
Dr. D. Wallace RI
Mr. J. Weaver WV
Ms. A. Wise NY
Dr. D. Yarborough ME
Dr. D. Young NY

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Dr. L. Binning WI
Ms. R. Ferree IL
Dr. J. Fleekei ND
Dr. M. Hausbeck MI
Dr. R. Harvey WI
Dr. H. Hopen WI
Dr. C. Hoy OH
Dr. J. Johnson MI
Dr. A. Jones MI
Dr. J. Koenig WI
Dr. M. Lacy MI

Dr. A. Lamey ND
Dr. R. Leavitt MI
Dr. D. Nielsen OH
Dr. D. Noetzel MN
Dr. J. Parke WI
Dr. D. Ramsdell MI
Dr. W. Stevenson WI
Dr. M. Weiss ND
Dr. S. Weller IN
Dr. R. Wright NE
Dr. J. Wyman WI
Dr. B. Zandstra MI

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Ms. L. Anderson FL
Mr. A. Armstrong PR
Dr. C. Averre NC
Dr. R. Baranowski FL
Dr. D. Benson NC
Dr. T. Bewick FL
Ms. I. Cabrera PR
Dr. J. Crane FL

Dr. T. Crocker FL
Dr. W. Curry FL
Dr. J. Derr VA
Mr. G. Dixon AL
Dr. F. Easton GA
Mr. R. Ingles PR
Dr. D. Johnson AR
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ATTACHMENT 3

Food Use Research Projects

NEW REGISTRATIONS

- Acephate/Carrot/PR 1471
- Acephate/Eggplant/PR 1351
- Acephate/Endive/PR 0780
- Acephate/Mustard Greens/PR 4016
- Acephate/Radish/PR 2130
- Benomyl/Canola/PR 5144
- Benomyl/Dandelion/PR 5167
- Benomyl/Endive/PR 1865
- Bifenthrin/Grape/PR 5335
- Bifenthrin/Raspberry/PR 5004
- Bromoxynil/Leek/PR 6058
- Captan/Cherry/PR 5418
- Carbarly/Basil/PR 3720
- Carbarly/Basil/PR 5210

- Carbarly/Chinese Cabbage/PR 5496
- Carbarly/Coriander/PR 5211
- Clethodim/Cantaloupe/PR 5225
- Clethodim/Carrot/PR 5217
- Clethodim/Celery/PR 5218
- Clethodim/Clover/PR 6218
- Clethodim/Cucumber/PR 5219
- Clethodim/Endive/PR 5221
- Clethodim/Meadowfoam/PR 6059
- Clethodim/Mint/PR 5235
- Clethodim/Strawberry/PR 5230
- Copper Hydroxide/Dill/PR 2205
- Copper Hydroxide/Longan/PR 3124
- DCPA/Chives/PR 3541
- Difenoconazole/Onion/PR 6265
- Dimethoate/Canola/PR 5132
- Dimethoate/Cucumber/PR 0071
- Dimethoate/Summer Squash/PR 0095
- Esfenvalerate/Blueberry/PR 5499
- Esfenvalerate/Brussels Sprout/PR 1656
- Esfenvalerate/Chinese Cabbage/PR 3161
- Esfenvalerate/Kale/PR 2843
- Ethalfluralin/Kenaf/PR 4858
- Ethephon/Coffe/PR 5489
- Ethephon/Carrot/PR 5490
- Ethephon/Radish/PR 5731
- Fenamiphos/Asparagus/PR 4275
- Fenamiphos/Bean (Lima)/PR 3180
- Fenamiphos/Strawberry/PR 3026
- Fluvalinate/Blueberry/PR 3976
- Fomesafen/Bean (Dry)/PR 5403
- Fonofos/Grasses (Bluegrass)/PR 4328
- Glyphosate/Cantaloupe/PR 1747
- Glyphosate/Carrot/PR 1243
- Glyphosate/Coriander/PR 3554
- Glyphosate/Cucumber/PR 1748
- Glyphosate/Lentil/PR 6137
- Glyphosate/Pea (Dry)/PR 6139
- Glyphosate/Pepper (Bell)/PR 6222
- Glyphosate/Squash/PR 1851
- Glyphosate/Strawberry/PR 1409
- Hexakis/Bean (Lima)/PR 4952
- Hexakis/Pea (Southern)/PR 4954
- Hexakis/Mint/PR 5377
- Imidacloprid/Bean (Lima)/PR 6201
- Imidacloprid/Bean (Succulent)/PR 5477
- Imidacloprid/Spinach/PR 5450
- Imidacloprid/Tomato/PR 5487
- Iprodione/Pepper (Bell)/PR 2830
- Linuron/Coriander/PR 1625
- Linuron/Dill/PR 1432
- Malathion/Sugar Apple/PR 3438
- Mancozeb/Apple/PR 6299
- Mancozeb/Sugar Apple/PR 3130
- Metalaxy/Basil/PR 5756
- Metalaxy/Broccoli Raab/PR 6370
- Metalaxy/Carambola/PR 4939
- Metalaxy/Chives/PR 6045
- Metalaxy/Squash/PR 5203
- Metalaxy/Sugar Apple/PR 4940
- Metalaxy + Copper/Arrugula/PR 5075
- Metalaxy + Copper/Chinese Cabbage/PR 2283
- Metalaxy + Copper/Collard, Kale/PR 1696
- Metalaxy + Copper/Grape/PR 6266
- Metalaxy + Copper/Mustard Greens/PR 5351
- Metalaxy + Copper/Papaya/PR 5404
- Metalaxy + Copper/Swiss Chard/PR 5349
- Metalaxy + Copper/Turnip/PR 5350
- Metiram/Apple/PR 6302
- Metolachlor/Asparagus/PR 1908
- Metolachlor/Collard/PR 1216
NEW REGISTRATION PROJECTS (CON'T)

- Metolachlor/Pepper/PR 2986
- Metolachlor/Spinach/PR 1217
- Metolachlor/Strawberry/PR 1676
- Myclobutanil/Asparagus/PR 5414
- Myclobutanil/Currant/PR 5309
- NAA/Pomegranate/PR 5389
- Napropamide/Daikon/PR 3253
- Norflurazon/Leucaena/PR 5185
- Oryzalin/Hops/PR 5321
- Oxyfluorfen/Dill/PR 5367
- Paraquat/Cabbage/PR 1479
- Paraquat/Pea (Succulent)/PR 5193
- PCNB/Cantaloupe/PR 5090
- PCNB/Turnip (Roots & Tops)/PR 0836
- Pendimethalin/Almond/PR 6219
- Pendimethalin/Grape/PR 5740
- Pendimethalin/Grapefruit/PR 5748
- Pendimethalin/Kenaf/PR 5208
- Pendimethalin/Lemon/PR 5749
- Pendimethalin/Mustard Greens/PR 1986
- Pendimethalin/Orange/PR 5732
- Pendimethalin/Pecan/PR 6077
- Pendimethalin/Pepper (Bell)/PR 2740
- Pendimethalin/Pepper (Non-Bell)/PR 2219
- Pendimethalin/Pistachio/PR 6221
- Pendimethalin/Strawberry/PR 2739
- Pendimethalin/Turnip Greens/PR 1987
- Permethrin/Pepper (Non-Bell)/PR 2518
- Prometryn/Fennel/PR 2480
- Propargite/Bean (Lima)/PR 3661
- Propargite/Bean (Snap)/PR 3662
- Propargite/Pea (Southern)/PR 3663
- Propiconazole/Blueberry/PR 3576
- Propiconazole/Cranberry/PR 6320
- Propiconazole/Mint/PR 4911
- Pyridate/Pea (Succulent)/PR 5295
- Sethoxydim/Celery/PR 5702
- Tebuconazole/Cucumber/PR 5277
- Tebuconazole/Greens (Mustard)/PR 6233
- Tebuconazole/Melon/PR 5091
- Thioconazole/Radish/PR 2356
- Thioconazole/Sweetpotato/PR 3907
- Triadimefon/Cucumber/PR 2743
- Triadimefon/Pepper (Bell)/PR 5319
- Triadimefon/Raspberry/PR 3495
- Vinclozolin/Onion/PR 1446
- Zinc Phosphate/Grasses (Timothy)/PR 6055
- Zinc Phosphate/Potato/PR 6123

REREGISTRATION PROJECTS

- 2,4-D/Asparagus/PR 5025
- 2,4-D/Corn (Sweet)/PR 4183
- 2,4-D/Filbert/PR 6106
- 2,4-D/Pear/PR 4256
- 2,4-D/Pecan/PR 6125
- 2,4-D/Strawberry/PR 4179
- Azinphos-methyl/Artichoke/PR 6019
- Azinphos-methyl/Cabbage/PR 4761
- Azinphos-methyl/Pepper (Bell)/PR 6017
- Azinphos-methyl/Pepper (Non-Bell)/PR 6111
- Captan/Celery/PR 3972
- Captan/Greens (Mustard)/PR 4334
- Captan/Pepper/PR 3974
- Captan/Raspberry/PR 3953
- Captan/Turnip (Roots & Tops)/PR 4338
- Captan/Watermelon/PR 4339
- Carbaryl/Okra/PR 5772
- Cryolite/Cranberry/PR 5416
- Diazinon/Fig/PR 4101
- Dimethoate/Grasses (Seed)/PR 6037
- Diuron/Caneberry/PR 3675
- Diuron/Pea (Austrian)/PR 5508
- Diuron/Pear/PR 5441
- Ferbam/Blueberry/PR 4212
- Ferbam/Grape/PR 3934
- Malathion/Chestnut/PR 4783
- Malathion/Guava/PR 4799
- Malathion/Mango/PR 4814
- Malathion/Passion Fruit/PR 3726
- Malathion/Spinach/PR 4842
- Malathion/Walnut/PR 4851
- Methidathion/Mango/PR 4537
- Parathion-methyl/Melon/PR 4897
- Permethrin/Avocado/PR 1727
- Permethrin/Cherry/PR 5744
- Permethrin/Squash/PR 5127
- Pronamide/Pea (Austrian)/PR 6217
- S OPP/Pear/PR 6052
- Terbacil/Blueberry/PR 5985
- Terbacil/Caneberry/PR 5469
- Terbacil/Strawberry/PR 5987
- Ziram/Grape/PR 4116
- Ziram/Strawberry/PR 4751

VIII
### Fungicides and Nematicides

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<td>Pronamide/Radicchio/PR 4601</td>
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<td>Sethoxydim/Asparagus/PR 2202, 4009</td>
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<td>Sodium Chlorate/Potato/PR 4386</td>
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### Insecticides & Repellents

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<td>Cyromazine/Chinese Cabbage/PR 2670, 2672</td>
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<td>Cyromazine/Chinese Mustard/PR 2671</td>
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<td>Opinion Letter 12-5-95</td>
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<td>Diazinon/Cranberry/PR 537</td>
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<td>Dimethoate/Asparagus/PR 2457</td>
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<td>Imidacloprid/Fruiting Vegetables except Cucurbits/PR 5178, 5182</td>
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<td>Permethrin/Bell Pepper/PR 1357</td>
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ATTACHMENT 5

Crop Group Definition Approvals

Summer Squash = Chayote (Fruit). Accordingly, 39 potentially useful tolerances will be extended to include Chayote (Fruit). Federal Register date: 8-16-95.

New EPA Crop Group/Subgrouping scheme which includes minor crops requested for inclusion by IR-4. Accordingly, many potentially useful tolerances will be extended to include more minor crops in the group/subgroups tolerance expression terminology. The "Food and Feed Crops of the United States" book by J.R. Magness, G.M. Markle, and C.C. Compton was used as a reference in developing the EPA crop grouping scheme and the Guide to Codex Recommendations Concerning Pesticide Residues, Codex Classification of Foods and Animal Feeds (Joint FAO/WHO Food Standards Programme, Codex Alimentarius Commission) which is used in international harmonization. Federal Register date: 5-17-95.
ATTACHMENT 6

Tolerance and Exemption Approvals Proposed

Fungicides
- Propiconazole/Mint/PR 4127
- Propiconazole/Mushroom/PR 5056

Herbicides
- Trifluralin/Peppermint/PR 5515
- Norflurazon/Caneberries/PR 3233
- Pronamide/Nongrass Animal Feed Group/PR 6056
- Pronamide/Stone Fruit Groups/PR 5286

Insecticides and Miticides
- Abamectin/Hop/PR 4019
- Imidaclorpid/Cucurbit Vegetables Group/PR 6425
ATTACHMENT 7

EPA Responses to IR-4 Petitions

- Abamectin/Hop/PR 4019
- Chlorpyrifos/Currant/PR 5149
- Chlorpyrifos/Olive/PR 3971
- Cryolite/Cranberry/PR 5046
- Dicofol/Caneberry/PR 4102
- Ethoprop/Mint/PR 4012
- Fosetyl-Al/Blueberry/PR 4937
- Oxyfluorfen/Blackberry, Raspberry/PR 3485, 3486
- Propargite/Avocado/PR 2378
ATTACHMENT 8

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

NEW TOLERANCES
- 2,4-D/Wild Rice/PR 1015 E
- Abamectin/Hop/PR 4019 E
- Abamectin/Hop/PR 6334 E
- Bentazion/Clover (Seed)/PR 1840 M
- Bifenthrin/Artichoke/PR 5145 E
- Bifenthrin/Celery/PR 4945 E
- Carbaryl/Arugula/PR 5209 M
- Chlorothalonil/Mushroom/PR 6204 E
- Chlorothalonil/Papaya/PR 3678 M
- Chlorothalonil/Pistachio/PR 5196 M
- Chlorpyrifos/Hop/PR 2611 M
- Clomazone/Bean (Snap)/PR 2707 E
- Clomazone/Tuber Veg. Group/PR 5371, 5372, 5373 M
- Copper-Ethylene diamine Complex/Potato/PR 6329 M
- Cyromazine/Cranberry/PR 5416 E
- Cypermethrin/Onion (Green)/PR 2963 E
- DCNA/Radicchio/PR 6316 E
- Diazinon/Pepinos/PR 3515 M
- Difenbutazon/Range Grass/PR 757 E
- Esfenvalerate/Kiwifruit/PR 3945 M
- Esfenvalerate/Kohlrabi/PR 3714 E
- Ethoprop/Mint/PR 4012 E
- Fenarimol/Filbert/PR 5012 E
- Fomesafen/Snap Bean/PR 3472 E
- Fonofos/Cucumber/PR 3653 M
- Fosetyl-Al/Grape/PR 3962 E
- Hexakis/Bell Pepper/PR 3585 M
- Imidacloprid/Cucurbits (Soil carryover)/PR 6425 E
- Ipodione/Apple/PR 5136 M
- Mancozeb/Mango/PR 3028 E
- Metalaxyl/Caneberry/PR 5513 E
- Metalaxyl/Sage/PR 2491 M
- Methyl Anthranilate/All Crops/PR 5030, 5031 M
- Metolachlor/Carrot/PR 2154 M
- Metolachlor/Grasses (Seed Crop)/PR 6354 E
- Myclobutanil/Snapbean/PR 3696 M
- Napropamide/Dill/PR 4174 M
- Napropamide/Oriental Radish/PR 5133 M
- Norflurazon/Leucaena/PR 5185 E
- Paraquat/Dry Pea/PR 3200 M
- PCNB/Radish/PR 633 M
- Pendimethalin/Carrot/PR 4084 E
- Pendimethalin/Citrus/PR 5732, 5748, 5749 M
- Pronamide/Non-grass Animal Feed/PR 6056 M
- Pyridate/Garbanzo/PR 3866 M
- Quizalofop/Mint/PR 2719 E
- Quizalofop/Pineapple/PR 3893 E
- Triadimefon/Sugarcane/PR 5187 E

REREGISTRATIONS
- 2,4-D/Apple/PR 4182 E
- 2,4-D/Asparagus/PR 4090 E
- 2,4-D/Blueberry/PR 4295 E
- 2,4-D/Cherry/PR 4254 E
- 2,4-D/Cranberry/PR 4297 E
- 2,4-D/Peach/PR 4255 E
- 2,4-D/Pear/PR 4256 E
- 2,4-D/Pistachio/PR 4301 E
- 2,4-D/Plum/PR 4257 E
- 2,4-D/Potato/PR 4302 E
- 2,4-D/Strawberry/PR 4179 E
- 2,4-D/Sweet Corn/PR 4183 E
- Benomyl/Mushroom/PR 6081 E
- Bromoxynil/Canary Grass/PR 4343 E
- Bromoxynil/Mint/PR 1291 E
- Captain/Pear/PR 4335 E
- Chlorothalonil/Onion (Green)/PR 5238 M
- Dicofol/Blackberry & Rasperry/PR 4103, 4102 E
- Dimethoate/Blueberry/PR 0028 M
- Linuron/Asparagus/PR 6241 E
- Malathion/Apricot/PR 4795 M
- Malathion/Blackberry/PR 4774 M
- Malathion/Celery/PR 4781 E
- Malathion/Flax/PR 4793 M
- Malathion/Mushroom/PR 4816 M
- Malathion/Okra/PR 4820 M
- Malathion/Peach/PR 4826 M
- Malathion/Raspberry/PR 4835 M
- Malathion/Strawberry/PR 5152 M
- Mancozeb/Carrot/PR 3836 M
- Methyl Parathion/Hop/PR 4142 M
- Streptomycin/Beans/PR 6347 E
ATTACHMENT 8

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

MAJOR AMENDMENTS TO PREVIOUSLY SUBMITTED DATA

- Abamectin/Hop/PR 4091       E       - Fenamiphos/Melon/PR 887, 3511   M
- Acephate/Leaf Lettuce/PR 5164 E       - Fenamiphos/Squash & Cucumber E
- Chlorothalonil/Asparagus/PR 0319 M       - Subgroup/PR 3512
- Chlorothalonil/Mango/PR 2162 M       - Fosetyl-Al/Blueberry/PR 4937   E
- Esfenvalerate/Artichoke/PR 3845  M       - Malathion/Sugar Apple/PR 3438  E
- Esfenvalerate/Cranberry/PR 2174 E       - Paraquat/Artichoke/PR 2275  M
- Esfenvalerate/Mustard Greens/ PR 1757  E       - Triadimefon/Artichoke/PR 3530  M

REGISTRATIONS

- Acephate/Kenaf/PR 4621         M       - Napropamide/Chinese Mustard/ PR 3250 M
- Captan/Lettuce/PR 3168         M       - Napropamide/Rosemary/PR 3442 M
- Captan/Strawberry/PR 5326      M       - Napropamide/Summer Squash/ PR 3466 M
- Diuron/Blueberry/PR 3544       M       - Oxyfluorfen/Kenaf/PR 5245    M
- Glyphosate/Pineapple/PR 1554   M       - Pyrazon/Swiss Chard/PR 1681   M
- Linuron/Celery/PR 4936         M       - Sethoxydim/Kenaf/PR 4052    M
- Methyl Parathion/Kenaf/PR 4860 M       - Trifluralin/Kohlrabi/PR 1044  M
ATTACHMENT 9

Regulatory Documents in Preparation

- 2,4-D/Hops/PR 5024
- Amitraz/Pecan/PR 3876
- Azinphos-methyl/Broccoli/PR 4759
- Azinphos-methyl/Cauliflower/PR 4762
- 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/Tomato (GH)/PR 4868
- Captan/Spinach/PR 3975
- Carbaryl/Basil/PR 2597
- Carbaryl/Leek/PR 3073
- Carbaryl/Lychee/PR 5201
- Carbaryl/Pineapple/PR 5042
- Carbaryl/Radicchio/PR 5498
- Carbaryl/Sapote/PR 5518
- Carbofuran/Canola/PR 3163
- Chlorpyrifos/Greens (Mustard)/PR 3669
- Chlorpyrifos/Kale/PR 3668
- Chlorpyrifos/Kiwi/PR 5048
- Chlorpyrifos/Pea (Southern)/PR 0868
- Chlorpyrifos/Pepper (Bell)/PR 1641
- Chlorpyrifos/Persimmon/PR 4976
- Chlorpyrifos/Root-Tuber Crop Vegetables/PR 3983
- Clethodim/Pea (Dry)/PR 5204
- Clomazone/Broccoli/PR 3569
- Clomazone/Melon/PR 4047
- Clopyralid/Cabbage/PR 3513
- Clopyralid/Cranberry/PR 3882
- Clopyralid/Plum/PR 3625
- Copper Hydroxide/Longan/PR 3124
- Cyfluthrin/Hops/PR 4120
- DCPA/Asparagus/PR 1548
- Diazinon/Chives/PR 3543
- Diazinon/Pistachio/PR 3143
- Diazinon/Watercress/PR 3892
- Dimethoate/Tomato/PR 3294
- Disulfoton/Collard/PR 2567
- Disulfoton/Greens (Mustard)/PR 2530
- Disulfoton/Kohlrabi/PR 460
- Disulfoton/Turnip (Roots & Tops)/PR 2192
- Diuron/Mint/PR 5439
- Esfenvalerate/Endive/PR 2241
- Ethephon/Blueberry/PR 4460
- Ethephon/Cranberry/PR 4461
- Ethephon/Fig/PR 4126
- Ethephon/Peach/PR 3920
- Fenamiphos/Blueberry/PR 2872
- Fenamiphos/Calabaza/PR 3503
- Fenamiphos/Kiwi/PR 2735
- Ferbam/Caneberry/PR 3935
- Ferbam/Cranberry/PR 4092
- Fluazifop-P-Butyl/Pepper (Non-Bell)/PR 4387
- Fluazifop-P-Butyl/Rhubarb/PR 2404
- Fonofos/Watermelon/PR 3655
- Fosetyl-Al/Macadamia/PR 3187
- Glyphosate/Pea (Pigeon)/PR 2029
- Glyphosate/Pistachio/PR 6377
- Hexakis/Artichoke/PR 4977
- Iprodione/Clover/PR 5728
- Iprodione/Pistachio/PR 5391
- Lactofer/Pepper (Bell)/PR 4400
- Lactofer/Tomato/PR 4163
- Linuron/Celery/PR 3557
- Linuron/Fennel/PR 3608
- Malathion/Apple/PR 4768
- Malathion/Apricot/PR 4769
- Malathion/Broccoli/PR 4776
- Malathion/Cabbage/PR 4778
- Malathion/Flax/PR 4795
- Malathion/Greens (Mustard)/PR 4817
- Malathion/Macadamia/PR 4812
- Malathion/Melon/PR 4815
- Malathion/Orange/PR 5142
- Malathion/Pea (Succulent)/PR 4823
- Malathion/Peach/PR 4826
- Malathion/Pear/PR 4827
- Malathion/Peppermint/PR 4829
- Malathion/Spearmin/PR 4841
- Malathion/Turnip (Roots & Tops)/PR 4847
- Malathion/Watercress/PR 4852
ATTACHMENT 9

Regulatory Documents in Preparation (Continued)

- Metalaxyl/Caneberry/PR 3078
- Metalaxyl/Papaya/PR 5404
- Metolachlor/Broccoli/PR 1526
- Metolachlor/Broccoli (Chinese)/PR 3247
- Metolachlor/Cabbage (Chinese)/PR 2256
- Metolachlor/Caneberry/PR 2617
- Metolachlor/Cauliflower/PR 1957
- Metolachlor/Radish/PR 2988
- Metribuzin/Bermuda/PR 1936
- Methylbutalin/Raspberry/PR 5058
- NAA/Almond/PR 3524
- NAA/Grape/PR 1219
- NAA/Plum/PR 3523
- NAA/Walnut/PR 3525
- Naptalamide/Marjoram/PR 3440
- Naptalamide/Persimmon/PR 5094
- Oryzalin/Banana/PR 1344
- Oxyfluorfen/Broccoli/PR 5256
- Oxyfluorfen/Cabbage/PR 5105
- Oxyfluorfen/Cantaloupe/PR 3710
- Oxyfluorfen/Cucumber/PR 3711
- Oxyfluorfen/Hops/PR 5199
- Oxyfluorfen/Squash (Summer)/PR 3712
- Oxyfluorfen/Onion (Dry Bulb)/PR 5739
- Paraquat/Bean (Lima)/PR 3098
- Paraquat/Calabaza/PR 3926
- Paraquat/Cucumber/PR 2978
- Paraquat/Lettuce (Head)/PR 2979
- Paraquat/Mayhaw/PR 5171
- Paraquat/Okra/PR 1913
- Paraquat/Onion (Green)/PR 2984
- Paraquat/Pea (Pigeon)/PR 3890
- Paraquat/Pepper/PR 4971
- Paraquat/Watermelon/PR 2976
- Parathion-methyl (EC)/Pepper (Bell)/PR 4903
- PCNB/Cantaloupe/PR 5090
- Pendimethalin/Leek/PR 4578
- Pendimethalin/Onion (Green)/PR 5097
- Permethrin/Cabbage (Chinese) (Bok Choy)/PR 2771

- Permethrin/Collard/PR 0941
- Permethrin/Cucumber/PR 5126
- Permethrin/Squash/PR 5127
- Permethrin/Turnip (Roots & Tops)/PR 3565
- Phenmedipham/Cabbage/PR 4057
- Phosmet/Sweetpotato/PR 3463
- Pronamide/Beet (Sugar)/PR 4074
- Pronamide/Chicory (Tops)/PR 5027
- Pronamide/Rhubarb/PR 3686
- Pronamide/Vetch/PR 6056
- Sethoxydim/Artichoke/PR 6102
- Sethoxydim/Avocado/PR 3701
- Sethoxydim/Beet (Garden)/PR 5757
- Sethoxydim/Caneberry/PR 5729
- Sethoxydim/Cassava/PR 3034
- Sethoxydim/Daikon/PR 2470
- Sethoxydim/Date/PR 3702
- Sethoxydim/Fig/PR 3703
- Sethoxydim/Horseradish/PR 2471
- Sethoxydim/Kiwifruit/PR 3704
- Sethoxydim/Okra/PR 2339
- Sethoxydim/Persimmon/PR 3706
- Sethoxydim/Pistachio/PR 3707
- Sethoxydim/Pomegranate/PR 3708
- Sethoxydim/Radish/PR 2469
- Sethoxydim/Rhubarb/PR 2438
- Sethoxydim/Rutabaga/PR 2468
- Sethoxydim/Safflower/PR 2531
- Sethoxydim/Tanier/PR 3033
- Sethoxydim/Taro/PR 3032
- Sethoxydim/Turnip (Roots & Tops)/PR 2048
- Simazine/Mayhaw/PR 5170
- Terbacil/Cranberry/PR 0199
- Triadimefon/Cucumber (GH)/PR 2743
- Ziram/Caneberry/PR 4117
- Ziram/Pepper (Bell)/PR 4088
- Ziram/Tomato/PR 4089
ATTACHMENT 10

Ornamental Pesticide Registrations

- Abamectin/Andromeda/11855A, 11856A
- Abamectin/Azalea/10571A
- Abamectin/Blue Holly/11859A, 11860A
- Abamectin/Citrus (Non-Bearing)/11849A
- Abamectin/Coconut Palm/11846A
- Abamectin/English Holly/11853A, 11854A
- Abamectin/Hemlock/11767A, 11847A
- Abamectin/Japanese Holly/10573A, 11852A
- Abamectin/Rhododendron/11857A, 11858A
- Abamectin/West Indies Mahogany/11848A
- Acephate/African Violet/00276A
- Acephate/Balsam/01368A
- Acephate/Begonia/0332A, 03108A
- Acephate/Easter Lily/00277A
- Acephate/Eucalyptus/04649A
- Acephate/Geranium/01309A, 04965A
- Acephate/Indian Hawthorn/01375A
- Acephate/Lily/01424A
- Acephate/Marigold/06486A
- Acephate/Petunia/03112A
- Acephate/Snapdragon/06487A
- Ancymidol/Aralia Ivy/00871A
- Ancymidol/Blazing Star/08313A, 08320A
- Ancymidol/Bleeding Heart/08317A, 08324A
- Ancymidol/Candytuft/08314A, 08321A
- Ancymidol/Ceriman/08073A
- Ancymidol/Clematis/08318A, 08325A
- Ancymidol/Columbine/08316A, 08323A
- Ancymidol/Larkspar/08315A, 08322A
- Ancymidol/Umbrella Tree/08075A
- Azadiractin/Azalea/10621A
- Azadiractin/Balsam/10584A
- Azadiractin/Begonia/10590A
- Azadiractin/Chrysanthemum/10589A
- Azadiractin/Hibiscus/10595A
- Azadiractin/Hydrangea/10596A
- Azadiractin/Lisianthus/10594A
- Azadiractin/Marigold/10586A
- Azadiractin/Petunia/10585A
- Azadiractin/Scarlet Sage/10587A
- Azadiractin/Zinnia/10588A
- Bendiocarb/Azalea/07266A
- Bendiocarb/Baby's Breath/08784A
- Bendiocarb/Birch/10014A
- Bendiocarb/Carnation/07316A
- Bendiocarb/Cherry (Non-Bearing)/10103A
- Bendiocarb/Firethorn/07258A
- Bendiocarb/Parlor Palm/08880A
- Bendiocarb/Peach (Non-Bearing)/10102A
- Bendiocarb/Plane Tree/10021A
- Bendiocarb/Plum (Non-Bearing)/10104A
- Bendiocarb/Rhododendron/04245A
- Bendiocarb/Rose/10099A
- Bendiocarb/Yew/10023A
- Benefin+Oryzalin/Eucalyptus/10945A, 10946A
- Chlorpyrifos/Balsam/08066A
- Chlorpyrifos/Croton/06672A, 06673A
- Chlorpyrifos/Hibiscus/07024A
- Chlorpyrifos/Indian Hawthorn/01007A
- Chlorpyrifos/Rose/06666A, 06831A
- Chlorpyrifos (Micro)/Ageratum/10160A
- Chlorpyrifos (Micro)/Balsam/10165A
- Chlorpyrifos (Micro)/Calendula/10161A
- Chlorpyrifos (Micro)/Carnation/10164A
- Chlorpyrifos (Micro)/Dahlia/10162A
- Chlorpyrifos (Micro)/Geranium/10166A
- Chlorpyrifos (Micro)/Hydrangea/10182A
- Chlorpyrifos (Micro)/Marigold/10167A
- Chlorpyrifos (Micro)/Scarlet Sage/10171A
- Chlorpyrifos (Micro)/Shasta Daisy/10163A
- Copper Complex/Balsam/11235A
- Copper Complex/Poinsettia/11234A
- Copper Hydroxide/Egyptian Star Cluster/10864A, 10905A
- Copper Hydroxide/Indian Hawthorn/02709A, 09019A
- Copper Hydroxide/Mulberry/10883A
- Copper Hydroxide/Rose of Sharon/10871A
- Copper Hydroxide/Verbena/10878A, 10919A
- Diazinon (DZN)/Cotoneaster/00973A
- Diazinon (DZN)/Hemlock/00954A
- Diazinon (Micro)/Ageratum/08143A, 10276A
- Diazinon (Micro)/Balsam/08150A, 10278A
- Diazinon (Micro)/Carnation/10271A
- Diazinon (Micro)/Coleus/08145A
- Diazinon (Micro)/English Ivy/08151A
- Diazinon (Micro)/Good Luck Plant/08123A, 08165A
- Diazinon (Micro)/Madwort/08144A
- Diazinon (Micro)/Prayer Plant/08135A
- Diazinon (Micro)/Scarlet Sage/10281A
- Diazinon (Micro)/Shasta Daisy/08141A
- Diazinon (Micro)/Velvet Plant/08132A
- Diazinon (Micro)/Wandering Jew/08151A
Ornamental Pesticide Registrations (Continued)

- Dienochlor/Parlor Palm/08807A
- Etridazole/Andromeda/07597A
- Etridazole/Azalea/01524A
- Etridazole/Boxwood/01784A
- Etridazole/Daphne/01567A, 01568A
- Etridazole/Dogwood/05979A
- Etridazole/Japanese Andromeda/07597A
- Etridazole/Japanese Holly/08586A
- Etridazole/Juniper/08583A
- Etridazole/Larkspur/01873A, 02542A
- Etridazole/Lily/02494A
- Etridazole/Mountain Laurel/04512A
- Etridazole/Natal Plum/01534A, 01536A
- Etridazole/Norfolk Island Pine/06021A, 06022A
- Etridazole/Periwinkle (Vinca)/08046A, 08047A
- Etridazole/Rhododendron/08584A
- Etridazole/Siasta Daisy/01249A, 02516A, 04986A
- Etridazole/Tailflower/02549A, 02550A
- Etridazole + Thiophanate/Nasturtium/02964A
- Fenpropamine/Azalea/11100A, 11101A
- Fenpropamine/Firethorn/11092A, 11093A
- Fenpropamine/Gardenia/11098A, 11099A
- Fenpropamine/Holly/11094A
- Fenpropamine/Juniper/11096A, 11097A
- Isoxaben/Daylily/10983A, 10984A
- Isoxaben/Lilyturf/10985A, 10986A
- Isoxaben/Potentilla/11323A
- Isoxaben + Oryzalin/Firethorn/10614A
- Isoxaben + Oryzalin/Weigela/10615A
- Mancozeb/Balsam/02672A, 02673A
- Mancozeb/Fir/09370A
- Mancozeb/Hickory/02713A
- Mancozeb/Larkspur/08039A, 08040A
- Mancozeb/Loquat/06025A
- Mancozeb/Nasturtium/07735A
- Mancozeb/Palm/07129A, 07783A
- Mancozeb/Palm-Beach-Bells/07736A
- Mancozeb/Phlox/02688A, 02689A
- Mancozeb/Pine/08203A
- Mancozeb/Poplar/05987A
- Mancozeb/Scotch Pine/08204A
- Mancozeb/Spathie Flower/09382A, 09383A
- Metalaxyl/Baby's Breath/07242A, 07243A
- Metalaxyl/Columbine/08534A, 08549A
- Metalaxyl/New Guinea Impatiens/10422A
- Metalaxyl/Prozinia/09100A
- Metalaxyl/Rose/07247A, 07248A, 08076A
- Metalaxyl/Stonecrop/08533A, 08548A
- Metalaxyl/Tailflower/07238A
- Metalaxyl/Yew/05334A
- Metolachlor/Lamb's-Ears/10790A
- Metolachlor/Madwort/10785A
- Metolachlor/Pampas Grass/06447A
- Metolachlor/Rose/09368A
- Metolachlor/Speedwell (Veronica)/10795A
- Metolachlor/Yarrow/10786A
- Metolachlor + Simazine/Arrowwood/07362A
- Metolachlor + Simazine/Bridal-Wreath/06480A
- Metolachlor + Simazine/Christmas Trees/06465A
- Metolachlor + Simazine/Cleyera Japonica/06549A
- Metolachlor + Simazine/Crape Myrtle/07811A
- Metolachlor + Simazine/Firethorn/08180A
- Metolachlor + Simazine/Forsythia/06471A
- Metolachlor + Simazine/Gardenia/06550A
- Metolachlor + Simazine/Heavenly Bamboo/07419A
- Metolachlor + Simazine/Japanese Pittosporum/06479A, 06626A
- Metolachlor + Simazine/Lilyturf/06575A
- Metolachlor + Simazine/Maple/06478A
- Metolachlor + Simazine/Photinia/06625A, 07809A
- Metolachlor + Simazine/Pine/07360A
- Metolachlor + Simazine/Private/07361A
- Metolachlor + Simazine/Purpleleaf Winter creeper/06474A, 07418A
- Metolachlor + Simazine/Rose/08183A
- Metolachlor + Simazine/Southern Yew/06627A
- Metolachlor + Simazine (Herbigation)/Arrowwood/06788A
- Metolachlor + Simazine (Herbigation)/Aucuba/06652A
- Metolachlor + Simazine (Herbigation)/Azalea/06653A
- Metolachlor + Simazine (Herbigation)/Gardenia/06679A
- Metolachlor + Simazine (Herbigation)/Heavenly Bamboo/07422A
- Metolachlor + Simazine (Herbigation)/Japanese Pittosporum/06777A
- Metolachlor + Simazine (Herbigation)/Lilyturf/06735A
- Metolachlor + Simazine (Herbigation)/Purpleleaf Winter creeper/07421A
- Myclobutanil/Phlox/11400A, 11821A
- Napropamide/Indian Hawthorn/01415A, 05949A, 06294A
Ornamental Pesticide Registrations (Continued)

- Oryzalin/Acacia/07433A
- Oryzalin/Agave/07435A
- Oryzalin/Arrowwood/01181A
- Oryzalin/Ash/05335A
- Oryzalin/Aster/07182A
- Oryzalin/Bellflower/07177A
- Oryzalin/Blazing Star/09143A, 09150A
- Oryzalin/Elephant's Ear/10125A
- Oryzalin/False Spirea/09142A, 09149A
- Oryzalin/Flag/09057A
- Oryzalin/Indian Hawthorn/05504A, 05505A
- Oryzalin/Peach (Non-Bearing)/02260A, 09652A
- Oryzalin/Scarlet Sage/06118A
- Oryzalin/Shasta Daisy/07044A, 07045A
- Oryzalin/Stokes Aster/10719A
- Oxadiazon/Acacia/08330A
- Oxadiazon/Ajuga/09964A
- Oxadiazon/Indian Hawthorn/05220A
- Oxadiazon/Potentilla/11313A
- Oxadiazon/Protea/10539A
- Oxyfluorfen/Hemlock/08189A
- Oxyfluorfen + Oryzalin/Indian Hawthorn/09514A
- PCNB/Agaonema/03001A
- PCNB/Azalea (Rhododendron)/08481A
- PCNB/Balsam/08503A
- PCNB/Bee Balm/08466A
- PCNB/Betel Palm/06169A, 06180A
- PCNB/Canna/05920A
- PCNB/Carnation/08461A
- PCNB/Columbine/08459A
- PCNB/Elephant’s Ear/02511A
- PCNB/Flowering Maple/08505A
- PCNB/Foxglove/08463A
- PCNB/Gardenia/07614A
- PCNB/Gazania/08462A
- PCNB/Grape Ivy/08519A
- PCNB/House Leek/08456A
- PCNB/Larkspur/03413A, 08849A
- PCNB/Lupine/08468A
- PCNB/Madwort/03282A
- PCNB/Maple/06174A
- PCNB/Natal Plum/08484A
- PCNB/New Guinea Impatiens/10457A
- PCNB/Parlor Palm/03003A
- PCNB/Persian Violet/08472A
- PCNB/Pocketbook Flower/08470A
- PCNB/Privet/05757A, 08492A
- PCNB/Shasta Daisy/08474A
- PCNB/Southern Yew/08494A
- PCNB/Spathe Flower/08489A
- PCNB/Stonecrop/08458A
- PCNB/Tailflower/03264A
- PCNB/Vervain/08513A
- Pendimethalin/Eucalyptus/11017A, 11020A
- Pendimethalin/Gaillardia/11162A, 11163A
- Pendimethalin/Leyland Cypress/11018A, 11021A
- Piperalin/Rose/11544A, 11565A
- Prodimine/Ajuga/09723A
- Prodimine/Andromeda/07365A, 11631A
- Prodimine/Bahia Grass/09655A
- Prodimine/Barberry/09250A
- Prodimine/Carpobrotus/09271A
- Prodimine/Cast Iron Plant/11281A
- Prodimine/Cypress/09273A
- Prodimine/Daffodil/09496A
- Prodimine/Delosperma/09274A
- Prodimine/English Ivy/06619A
- Prodimine/False Cypress/09719A
- Prodimine/Heavenly Bamboo/07379A
- Prodimine/Hemlock/00578A
- Prodimine/Honeysuckle/09334A
- Prodimine/Hopbush/09275A
- Prodimine/Indian Hawthorn/09656A
- Prodimine/Creeping Lily Turf/11866A
- Prodimine/Giant Lily Turf/11348A
- Prodimine/Magnolia/09721A, 11757A
- Prodimine/Maple/09235A
- Prodimine/Pampas Grass/04432A
- Prodimine/Periwinkle (Vinca)/09191A
- Prodimine/Photinia/06599A
- Prodimine/Privet/06595A
- Prodimine/Redroot/09272A
- Prodimine/Spruce/09337A
- Prodimine/Stonecrop/09724A
- Prodimine (Barricade)/Leatherleaf Fern/08027A, 08032A
- Prodimine (Barricade)/Tree Fern (Asparagus)/11282A
- Resmethrin/Balsam/07977A
- Resmethrin/Begonia/05028A
- Resmethrin/Carnation/05012A
- Resmethrin/Parlor Palm/08833A
- Resmethrin/Petunia/05032A
- Resmethrin/Poinsettia/05011A
- Sethoxydim/Andromeda/08961A, 09600A
- Sethoxydim/Avens/10689A, 10726A
Ornamental Pesticide Registrations (Continued)

- Sethoxydim/Baby's Breath/10690A, 10727A
- Sethoxydim/Blue Beard/09663A, 09669A
- Sethoxydim/Christmas Trees/10672A
- Sethoxydim/Coneflower/10691A, 10728A
- Sethoxydim/Daffodil/09400A
- Sethoxydim/False Cypress/09659A, 09665A
- Sethoxydim/Lamb's Ear/10693A, 10730A
- Sethoxydim/Black Locust/09660A, 09666A
- Sethoxydim/Oregon Grape/09007A
- Sethoxydim/Stokes Aster/10694A, 10731A
- Sethoxydim/Tulip/09398A
- Sethoxydim/Yarrow/10725A
- Simazine/Arborvitae/05969A
- Simazine/Holly/02492A, 05340A
- Simazine/Juniper/02748A, 07756A
- Simazine/Palm/07414A
- Simazine/Yew/05968A
- Sunspray Ultra-Fine Spray Oil/Azalea/10632A
- Sunspray Ultra-Fine Spray Oil/Begonia/10603A
- Sunspray Ultra-Fine Spray Oil/Chrysanthemum/10602A
- Sunspray Ultra-Fine Spray Oil/Dumb Cane/10627A
- Sunspray Ultra-Fine Spray Oil/Easter Lily/10601A
- Sunspray Ultra-Fine Spray Oil/Gardenia/10629A
- Sunspray Ultra-Fine Spray Oil/Hibiscus/10630A
- Sunspray Ultra-Fine Spray Oil/Palm/10628A
- Sunspray Ultra-Fine Spray Oil/Poinsettia/10600A
- Triflumazole/Azalea/11042A, 11043A
- Triflumazole/Rhododendron/11044A, 11045A
- Triflumazole/Spathe Flower/11041A
Biopesticide Research and Development

Biopesticide Petitions and Submitted to EPA or the Registrant in 1995:

*Flavobacterium balustinum* strain 299/vegetable bedding plants and *Trichoderma hamatum* isolate 382/vegetable bedding plants.

In February 1995, IR-4 in cooperation with The Ohio State University and Earthgro Inc. submitted two petitions to EPA requesting temporary tolerance exemptions from the requirement of a tolerance for the microbial pest control agents *F. balustinum* strain 299 and *T. hamatum* isolate 382 in or on vegetable bedding plants to control damping off and root rot pathogens. These petitions were submitted to EPA to support an Experimental Use Permit Application for "Earthgro's Disease Suppressive Potting Mix" for use on ornamentals and vegetable bedding plants.

Non-aflatoxin producing *Aspergillus flavus* as a niche competitor in cotton fields in Arizona.

IR-4 in cooperation with Dr. Peter Cotty submitted a petition to EPA on August 8, 1995 for a temporary tolerance exemption for *Aspergillus flavus* AF36 to support an Experimental Use Permit Application for use on cotton to reduce aflatoxin accumulation in cotton meal.

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

In October 1995, IR-4 prepared a petition requesting an exemption from the requirement of a tolerance for formic acid in honey and beeswax. This petition has been reviewed by the registrant and is scheduled to be submitted to EPA in the first quarter of 1996.

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

In December 1995, IR-4 prepared a petition requesting an exemption from the requirement of a tolerance for methyl anthranilate on all raw agricultural commodities. This petition has been reviewed by the registrants and will be submitted to EPA in January 1996.