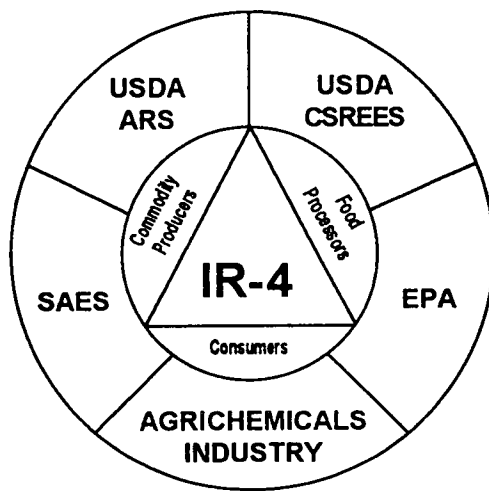

ANNUAL REPORT 1997



**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, 1997 - December 31, 1997

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 crops 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

Pesticide Registration

While the basic mission continues to be that of assisting minor crop producers obtain properly labelled crop protection products, the scope of the program has enlarged over the years. FIFRA 88 presented IR-4 with the challenge of defending needed existing pesticide registrations where industry would not. IR-4 developed a Strategic Plan to carry out the minor crop reregistration task and successfully defended nearly 700 minor crop registrations.

New challenges have been presented to IR-4 and minor crop producers alike with the passage of the 1996 Food Quality Protection Act. While it is still not clear how FQPA will affect the availability of pest control products, it is generally understood that minor crops will be negatively impacted. The IR-4 FQPA response strategy is to move aggressively to focus on safer pest management on minor crops by accelerating the registration of reduced risk pesticides, biologically-based pest control products and products important to integrated pest management systems.

Biopesticides

The IR-4 Biopesticides program is an important component of the IR-4 strategy to develop safer pest management for minor crops. Biopesticides, including microbials, biochemicals and genetically transformed plants and microbes, hold great potential for general and niche pest control on high value minor crops. IR-4 has earmarked funds for research and registration on biopesticides and is leveraging these funds through

cooperative research with venture capital biotechnology companies and public sector researchers.

Ornamentals

Research to develop registration data for new pest control products on ornamental crops continues to be an important and successful component of the IR-4 program. The IR-4 safer pest management strategy is clearly compatible with the programs objective of developing reduced risk pesticides and biopesticides that are worker friendly, adaptable to existing cultural practices and are effective in IPM programs.

FUTURE DIRECTIONS

The IR-4 Project is committed to a FQPA response strategy that will assure continued effective pest management for minor crops. The Project has embarked on an aggressive program to seek low risk alternatives to existing pesticides that are used on minor crops and expedite their registration. While this policy actually began with the 1997 crop season, it will dominate research in 1998 and beyond. This does not mean that existing effective pesticides will be abandon. In specific instances where risk mitigation measures are feasible, they will be researched and implemented with the concurrence of product registrations and commodity producers. However, the principal program thrust that will drive IR-4 in the future will be the development of reduced risk pest control products, including biologically-based pest control products, for minor food and ornamental crops.

The IR-4 strategy will address the pest management needs of minor crop producers by supporting registrations of new pesticides that fulfill the FQPA standard of "reasonable certainty of no harm". The goal of this strategy is to assure that all producers of minor crops have available products that represent a reduced risk to the user, the consumer and the environment. The estimated cost of this assurance is significant but ignoring the problem is to deny the farmers and nurserymen who produce minor crops access to the modern reduced risk pest control products that are available to the producers of major crops.

This Annual Report highlights progress in 1997 toward achieving a reduced risk pest control strategy for the \$32 billion U.S. minor crop industry.

PROJECT:

National Research Service Project No. 4 (NRSP/IR-4). A National Agricultural Program to Clear Pest Control Agents for Minor Uses. January 1, 1997 to December 31, 1997.

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 6954 IR-4 food-use requests, an increase of 252 over the 6702 requests reported in 1996. Of these, 849 are researchable projects with 712 representing requests for new uses and 137 representing reregistration requests. SAES and USDA-ARS cooperators scheduled research on 145 requested clearance projects (studies) which represented 555 field trials. Seven of these field trials were in Canada as part of a cooperative research project with Health Canada. Residue samples from 539 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 1997 are shown in Attachment 3.

FOOD USE REGULATORY ACCOMPLISHMENTS:

In terms of regulatory accomplishments, 1997 was a very difficult year. EPA spent a great deal of their efforts interpreting and implementing the 1996 Food Quality Protection Act with very little action on petitions submitted for permanent tolerances. As a result, IR-4, as well as chemical company registrants, have little to show for their efforts. The greatest accomplishment is the number of Section 18 time-limited tolerances granted (27) that were supported by IR-4 data. Only one new permanent tolerance was established in 1997. Five reregistration projects were considered complete and there were seven label expansions. EPA also extended or established time-limited tolerances on eight crops (crop groups). Therefore, the total accomplishments or regulatory actions were for 48 clearances. 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 35 time-limited tolerances, 1 new tolerance and 5 reregistration approvals. Label amendments accounted for 8 new uses. These are shown in Attachment 4.

Crop Group Definitions

EPA crop groups and 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) and 180.41]. IR-4 petitions to expand crop groups and definitions substantially leverage the number of pest control options available to producers of minor crops. In 1997, IR-4 submitted 2 crop group definition petitions to EPA and obtained 2 favorable EPA reviews which will represent 14 new uses in 1998. 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.

EPA's Notice of Filing of IR-4 Petitions

In addition to tolerances and exemptions approved by EPA in 1997 in response to IR-4 petitions, 14 Notice of Filings for tolerances have been published for comment in the Federal Register and should become rules in 1998. 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 1997, IR-4 received responses from EPA to 1 petition requesting additional data and/or information. These are shown in Attachment 7.

Data Package Development

During 1997, IR-4 worked on 119 regulatory data packages which are presently under review by registrants or EPA. These include 38 new tolerance petition requests, 39 data packages to support reregistrations, 34 major amendments to prior submitted data packages, and 8 packages to support label expansions. These are shown in Attachment 8.

Regulatory Documents in Preparation

Regulatory packages representing 180 new uses and reregistrations are currently in various stages of preparation. These are shown in Attachment 9.

ORNAMENTAL RESEARCH AND REGISTRATIONS:

Since the IR-4 Ornamental Program was initiated, 13,237 pesticide clearance requests have been received. There are now 2,148 researchable ornamental requests including 156 new requests in 1997. IR-4 funded 432 ornamental research trials this year and prepared 26 registration packages containing 884 reports that were sent to registrants for future labeling. These included 5 fungicides, 4 herbicides and 6 insecticides. During the year, industry labelled 154 ornamental uses based on IR-4 data. These are shown in Attachment 10.

BIOPESTICIDE RESEARCH AND REGISTRATIONS:

In 1997, IR-4 supported eight 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; herbicide-resistant creeping bentgrass; *Dactylaria higginsii* to control nutsedge in vegetables, ornamentals and turf; *Trichoderma harzianum* for control of Botrytis on strawberry; Macleaya plant extract for control of insects on greenhouse ornamental; evaluation of a biochemical pesticide, Triad[®], for control of greenhouse pests on floriculture crops; and management of sparganothis fruitworm by pheromone-mediated mating disruption in cranberries. Also, EPA approved a temporary exemption from the requirements of a tolerance and an Experimental Use Permit for kaolin for insect control on numerous crops.

Data from IR-4 sponsored research was also used to support the registration of *Beauveria bassiana* Strain GHA for control of Western flower thrips on greenhouse ornamentals in California. In addition, the following five Notices of Filings for IR-4 biopesticide projects were published for comment in the Federal Register in 1997 and should become rules in 1998: a full tolerance exemption for kaolin for insect control on numerous crops; a temporary tolerance exemption for phospholipid (lysophosphatidylethanolamine) as a plant growth regulator on grape, tomato, apple, pear, peach, nectarine, citrus, cranberry and strawberry; *Pseudomonas fluorescens* PRA25 as a seed treatment on peas, snapbeans and sweetcorn; formic acid in beehives for control of mites; *Trichoderma harzianum* for control of Botrytis on various food crops. In 1997, nine biopesticide petitions or amendments were submitted to EPA. 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 (160.25b(3)) are forwarded to the Study Directors and Testing Facility Management.

In addition to the standard duties, the IR-4 QAU have been involved in twelve US EPA GLP compliance inspections in 1997. Eight IR-4 field testing sites and 5 IR-4 analytical laboratories were audited for compliance to the US EPA Good Laboratory Practice Regulations as found in 40 CFR 160.

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. The IR-4 QAU is a cooperative unit in which representatives mutually monitor studies and coordinate activities in an efficient manner. In 1997 regular inspections included some 68 facility inspections, approximately 100 field in-life inspections, and 286 analytical in-life and raw data inspections. In addition, 530 field data logbook audits and more than 75 final report audits were conducted by the IR-4 QAU.

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". In a spirit of continued cooperation, IR-4 requested that CSREES sponsor a Peer Review of the Project. This was accomplished in December at IR-4 Headquarters. The panel was chaired by Dr. Dean Plowman, USDA-ARS Administrator (retired) and representation from the land grant institutions, USDA, EPA, commodity producers and the agricultural chemicals industry. The final report of the Peer Review Team is expected in early 1998.

As an indication of the cooperative nature of the IR-4 Minor Use Program, 386 food use and 233 ornamental field trials were scheduled by SAES cooperators while 151 food use and 199 ornamental trials were scheduled by federal agricultural scientists. In addition, IR-4 funds were provided to both SAES and federal scientists under a competitive grant program to conduct biopesticide investigations.

IR-4 is actively involved in 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 staff made presentations at a variety of scientific, commodity and trade meetings to further raise awareness of the program.

A food use workshop was held in October to review and prioritize clearance requests and develop plans for 1998 research. This was the 21st workshop held by IR-4 for the purpose of peer reviewing priority needs. The workshop received generous public sector support. A combined meeting of state and federal IR-4 liaison representatives was held immediately following the workshop. This meeting afforded an opportunity for all IR-4 personnel in a general session and regional meetings 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 4598 food use clearances (1258 since 1984), 4647 ornamental registrations and has sponsored research on 40 biopesticide active ingredients which has resulted in registrations on 41 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 1998:

The Food Quality Protection Act of 1996 (FQPA) will strongly influence IR-4's activities in 1998 and beyond. In the conventional pesticide area, IR-4 will continue to work only on products that answer the most important pest control voids for minor crops and minor uses on major crops and which represent safer alternatives to existing registrations. These pest control needs have been identified and prioritized by national and regional committees of growers, grower group representatives, minor crop pest control researchers and extension personnel. Based on these priorities, IR-4 will work on 157 projects (studies) in 1998. For the second year in the row, the IR-4's research plan includes all of the projects that were classified as the most important research needs. The preponderance of the pesticides in IR-4's 1998 research program are considered "reduced risk" pesticides or they contribute to an integrated pest management program.

IR-4 1998 research plans also include studies to develop preliminary product performance data on some of the newly introduced pesticides. Some of these new pesticides have the potential to minimize the impact of expected loss of minor uses associated with the provisions of FQPA. This developmental work is an integral part of IR-4's strategy to expedite the clearance of safer alternatives to FQPA vulnerable uses.

Thirty-two proposals have been submitted to the IR-4 Biopesticide Program for funding in 1998. IR-4 will fund approximately double the number of biopesticide research projects in 1998 compared to 1997. The Biopesticide Program will continue to work with university and federal scientists, registrants and EPA to expand the number of registered biopesticides. The project also is prepared to work on transgenic plants falling under EPA regulatory authority.

IR-4 will continue to address pest management needs for the Green Industry. Research will include the pesticides and biopesticides needed for use in the production of nursery, floral, forestry and turf crops; the interior plant scape industry, the production of tissue culture plants and the commercial landscape. IR-4 will support research on 300 projects in 1998 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/or QA training sessions for IR-4 personnel and cooperators, audit data and reports, review and revise SOPs and strive to further enhance our effectiveness and efficiency.

The next formal IR-4 GLP training session is scheduled for March 1998 in San Francisco, CA. The program will focus on the results of recent US EPA inspections and spotlight the theme "Learning from Each Other".

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.

With the forthcoming retirement of Dr. Richard Guest, IR-4 will be seeking new leadership in the position of Executive Director.

PUBLICATIONS:

Frank, J.R. 1997. *Successes with the IR-4 Ornamental Weed Control Program in 1995-1996*. Proc. NEWSS 51:103

Frank, J.R. 1997. *IR-4 Plant Growth Research for Environmental Horticulture Crops*. PGRSA Quarterly 25: (2) (61) 87

Frank, J.R. 1997. *IR-4 Research for Pest Control in Nursery Crops - 1996*. Proc. Southern Nurserymen's Assoc., Inc. 42: 192-199 (In Press)

Frank, J.R. 1997. *IR-4 Plant Growth Regulator Research for Environmental Horticultural Crops*. Proc. 24th Annual Meeting. PGRSA 24:195

Frank, J.R. 1997. *The Use of Plant Growth Regulators in Environmental Horticulture: Introduction to Workshop*. Proc. 24th Annual Meeting. PGRSA 24:150

PUBLICATIONS: (Continued)

Hackett-Fields, K. 1997. *Steps to Regulatory Recall*. AALAS Tri-Branch Symposium Abstract. June, p. T4

Kunkel, D.L., J.J. Baron, and E.L. Lurvey. 1997. *IR-4 Minor Crop Pesticide Registration Update and Potential Impact of the Food Quality Protection Act of 1996*. Weed Science Society of America Abstracts 37:52

Markle, G.M. 1997. *IR-4 Newsletter*. NJAES No. P-27200-01-97. 27(1): 21 pp.

Markle, G.M. 1997. *IR-4 Newsletter*. NJAES No. P-27200-02-97. 27(2): 24 pp.

Markle, G.M. 1997. *IR-4 Newsletter*. NJAES No. P-27200-03-97. 27(3): 23 pp.

Markle, G.M. 1997. *IR-4 Newsletter*. NJAES No. P-27200-04-97. 27(4): 17 pp.

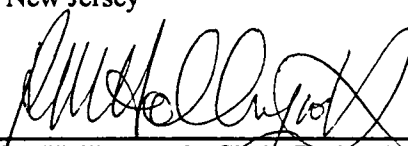
Thompson, D.C. and W.L. Biehn. 1997. *Minor Use - Fungicide and Nematicide Registration Update*. American Phytopathology Society, Abstract 87:6 (Supplement): S96

December 31, 1997

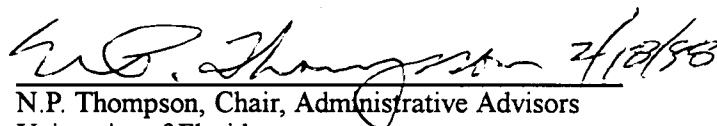


R.T. Guest, Executive Director
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Approved:



R.M. Hollingworth, Chair, Project Management
Committee
Michigan State University



N.P. Thompson, Chair, Administrative Advisors
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. E. Knipling, *U.S. Department of Agriculture*
Dr. A. Lauchli, *University of California, Davis*
Dr. E. Ortman, *Purdue University*
Dr. B. Robinson, *U.S. Department of Agriculture*
Dr. W. Sharp, *Rutgers University*
Dr. N. Thompson, *University of Florida, Chair*

Representing

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

Project Management 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*

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SUPPORT GROUPS

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Mr. M. Gnozzio, *Coordinator*
Dr. R. Guest, *Executive Director*
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Ms. E. Lurvey, *Coordinator*
Prof. G. Markle, *Associate Director*
Dr. J. Norton, *Coordinator*
Mr. K. Samoil, *Coordinator*
Mrs. P. Sarica, *Assistant Director for Administration*
Dr. D. Thompson, *Coordinator*
Ms. T. White, *Manager Quality Assurance*

Headquarters Support Staff:

Mrs. C. Ferrazoli, *Sec.*
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Mr. C. Mourer, <i>Laboratory Coordinator</i>	Western Region
Mr. J. McFarland, <i>Regional Quality Assurance Coordinator</i>	Western Region

Consultants Committee:

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 Mr. J. Holmdal, *ACPA Representative*
 Mr. H. Jamerson, *EPA-OPP-RD, Minor Use Officer*
 Dr. B. Schneider, *EPA-OPP-HED*

Commodity Liaison Committee:

Dr. S. Balling, <i>Del Monte Foods</i>	Walnut Creek, CA
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Mr. D. Botts, <i>Florida Fruit and Vegetable Association</i>	Orlando, FL
Mr. J. Downing, <i>Cranberry Institute</i>	East Wareham, MA
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Ms. A. George, <i>Washington Hop Commission</i>	Yakima, WA
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Mr. E. Kurtz, <i>EAK Ag., Inc.</i>	Salinas, CA
Mr. R. Lundy, <i>Mint Industry Research Council</i>	Stevenson, WA
Mr. R. Olszack, <i>Tropical Fruit Growers of South Florida, Inc.</i>	Homestead, FL
Mr. R. Prewett, <i>Texas Vegetable Association</i>	Mission, TX
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IR-4 Project/USDA Minor Use Program Quality Assurance Officers

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Ms. B. Anderson	NY
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Ms. D. Snook	NY
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Southern Region

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Mr. D. Evarts, USDA-ARS	GA
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Dr. J. Maitlen, USDA-ARS	WA
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Dr. J. Hinz	WV
Dr. J. Linduska	MD
Dr. J. Locke, USDA-ARS	MD
Mr. W. Lord	NH
Mr. J. Martini	NY
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Dr. R. Latin	IN
Dr. C. Marr	KS
Dr. S. Miyazaki	MI
Dr. J. Nalewaja	ND
Dr. C. Starbuck	MO
Dr. D. Walgenbach	MN
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Dr. J. Wedberg	WI
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Dr. H. Harrison, USDA-ARS	SC
Mr. T. Hendricks, USDA-ARS	GA
Dr. R. Holloway	TX
Dr. A. Johnson, USDA-ARS	GA
Dr. T. Lavy	AR
Dr. R. Leidy	NC
Dr. C. Meister	FL
Dr. A. Simmons, USDA-ARS	SC
Dr. C. Southards	TN
Dr. R. Story	LA
Dr. M. Weaver	VA
Dr. L. Weston	KY
Vacant	VI

Western Region

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Dr. R. Hirnyck	ID
Dr. H. Deer	UT
Dr. M. Ferrell	WY
Dr. J. Jenkins	OR
Dr. M. Kawate	HI
Dr. R. Lee	NM
Dr. R. Linderman, USDA-ARS	OR
Dr. S. McDonald	CO
Dr. R. Miller	GU
Dr. R. Petroff	MT
Ms. M. Reiff	CA
Dr. A. Schreiber	WA
Dr. J. Seiber	NV
Dr. H. Toba, USDA-ARS	WA
Vacant, USDA-ARS	WA

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 1997. 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 are being met.

NORTHEAST REGION

Dr. J. Ahrens	CT	Dr. P. Kovach	NY
Dr. A. Averill	MA	Dr. J. Linduska	MD
Dr. R. Bellinder	NY	Dr. W. Lord	NH
Dr. E. Beste	MD	Dr. J. Mervosh	CT
Dr. F. Caruso	MA	Mr. L. Rossell	NJ
Dr. F. Drummond	ME	Dr. A. Senesac	NY
Dr. C. Eckenrode	NY	Mr. D. Wallace	RI
Mr. L. Englander	RI	Dr. D. Yarborough	ME
Dr. B. Goulart	PA		

NORTHCENTRAL REGION

Dr. L. Binning	WI	Dr. R. Lindquist	OH
Dr. S. Clay	SD	Dr. J. Nalewaja	ND
Dr. J. Fleeker	ND	Dr. D. Nielsen	OH
Dr. R. Harvey	WI	Dr. G. Su	MI
Dr. H. Hopen	WI	Ms. D. Tyess	ND
Dr. C. Hoy	OH	Dr. M. Weiss	ND
Dr. D. Jardine	KS	Dr. R. Wilson	NE
Dr. A. Jones	MI	Mr. J. Wise	MI
Dr. E. Kerr	NE	Dr. J. Wyman	WI
Dr. A. Lamey	ND	Dr. A. York	IN
Dr. R. Leavitt	MI	Dr. B. Zandstra	MI
Dr. J. Lorenze	ND		

SOUTHERN REGION

Dr. J. Amador	TX	Dr. C. Mullins	TN
Dr. M. Benson	NC	Dr. J. Pena	FL
Dr. J. Crane	FL	Dr. P. Schultz	VA
Dr. D. Fare	TN	Dr. W. Shamiyeh	TN
Dr. C. Gilliam	AL	Dr. W. Stall	FL
Dr. R. Johnson	FL	Dr. R. Talbert	AR
Mr. W. Mitchem	NC	Mr. S. Taylor	FL
Dr. D. Monks	NC	Ms. J. Yoh	FL

WESTERN REGION

Dr. J. Adaskaveg	CA
Mr. M. Allan	CA
Dr. D. Anderson	OR
Ms. B. Autotto	CA
Dr. J. Barbour	ID
Dr. M. Bari	CA
Mr. C. Bell	CA
Mr. J. Calkin	OR
Dr. W. Cone	WA
Mr. D. Curtis	OR
Mr. J. DeFrancesco	OR
Mr. B. Fischer	CA
Mr. V. Fischer	CA
Mr. K. Hembree	CA

Dr. M. Kawate	HI
Dr. J. Klett	CO
Dr. R. Lambe	WA
Dr. Q. Li	HI
Mr. S. Mangini	CA
Mr. R. McReynolds	OR
Mr. W. Meeks	ID
Dr. G. Moller	ID
Dr. C. Mourer	CA
Dr. T. Prather	CA
Dr. A. Schreiber	WA
Mr. R. Smith	CA
Ms. D. Stoffel	CA

USDA-ARS

Ms. S. Benzen	CA
Mr. L. Birch	WA
Dr. R. Boydston	WA
Mr. C. Burriff	OH
Mr. B. Fraelich	GA
Dr. H. Harrison	SC
Dr. T. Hendricks	GA
Dr. A. Herner	MD
Dr. A. Johnson	GA

Dr. C. Krause	OH
Dr. R. Linderman	OR
Dr. J. Locke	MD
Mr. D. McCommas	TX
Ms. K. Morford	WA
Dr. A. Simmons	SC
Mr. C. Tappan	OH
Dr. H. Toba	WA
Dr. L. Wax	IL

CANADA

Mr. G. Walker	ON
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ATTACHMENT 3

Food Use Research Projects

- Acifluorfen/Bean (Lima)/PR 6300
- Acifluorfen/Pea (Southern)/PR 6301
- Azoxystrobin/Grasses (Seed)/PR 6690
- Azoxystrobin/Spinach/PR 6602
- Azoxystrobin/Watercress/PR 6722
- Bacillus thuringiensis/Lychee/PR 6679
- Benomyl/Canola/PR 5144
- Benomyl/Lentil/PR 6127
- Bentazon/Onion (Dry Bulb)/PR 2156
- Bifenthrin/Bean (Lima)/PR 6252
- Bifenthrin/Bean (Snap)/PR 6423
- Bifenthrin/Caneberry (Raspberry)/PR A5004
- Bifenthrin/Celery/PR A4945
- Carbaryl/Chayote/PR 3914
- Chlorfenapyr/Caneberry (Raspberry)/PR 6670
- Chlorfenapyr/Greens (Mustard)/PR 6574
- Chlorfenapyr/Hops/PR 6696
- Chlorfenapyr/Onion (Dry Bulb)/PR 6638
- Chlorfenapyr/Onion (Green)/PR 6637
- Chlorfenapyr/Strawberry/PR 6537
- Chlorothalonil/Pepper (Bell)/PR A0032
- Clethodim/Asparagus/PR 5427
- Clethodim/Basil/PR 5759
- Clethodim/Cabbage/PR 5216
- Clethodim/Cantaloup/PR 5225
- Clethodim/Chives/PR 6246
- Clethodim/Endive/PR 5221
- Clethodim/Greens (Mustard)/PR 5222
- Clethodim/Lettuce (Head)/PR 5223
- Clethodim/Lettuce (Leaf)/PR 5224
- Clethodim/Spinach/PR 6243
- Clethodim/Squash (Summer)/PR 5228
- Clomazone/Mint/PR 6680
- Cryolite/Strawberry/PR 4360*
- Cyfluthrin/Pea (Southern)/PR 5524
- Desmedipham/Spinach/PR 1922
- Diazinon/Caneberry/PR 5589*
- Dicofol/Caneberry (Blackberry)/PR 4102*
- Dicofol/Caneberry (Raspberry)/PR 4103*
- Diflubenzuron/Pear/PR 6367
- Dimethenamid/Onion (Dry Bulb)/PR 6337
- Dimethoate/Pea (Dry)/PR 6650
- Dimethoate/Pea (Edible Podded)/PR 6410
- Dimethoate/Pea (Succulent)/PR 6693
- Diquat/Garlic/PR 6492
- Diquat/Tanier/PR 3066
- Dodine/Spinach/PR 5815
- Endothall/Hops/PR 6575*
- Ethalfluralin/Dill/PR 5320
- Ethoprop/Pepper (Bell & Non-Bell)/PR 5323
- Fenbuconazole/Blueberry (High Bush)/PR 6368
- Fenbuconazole/Pepper (Bell & Non-Bell)/PR 6372
- Fosetyl-Al/Beet (Garden)/PR 5341
- Fosetyl-Al/Cranberry/PR A3504
- Fosetyl-Al/Onion (Green)/PR 6151
- Fosetyl-Al/Turnip (Roots & Tops)/PR A5085
- Glufosinate/Blueberry/PR 5291
- Glufosinate/Corn (Sweet)/PR 6515
- Glyphosate/Bean (Dry)/PR 1128
- Glyphosate/Carrot/PR 1243
- Glyphosate/Flax/PR 6156
- Glyphosate/Garlic/PR 6493
- Glyphosate/Horseradish/PR 6704
- Glyphosate/Pepper (Bell)/PR 6222
- Halosulfuron/Cantaloup/PR 6366
- Halosulfuron/Squash (Summer)/PR 6365
- Hexakis/Avocado/PR 2379
- Imazethapyr/Lettuce (Head)/PR A4156
- Imazethapyr/Lettuce (Leaf)/PR A4157
- Imidacloprid/Artichoke/PR 6622
- Imidacloprid/Bean (Dry)/PR 6528
- Imidacloprid/Beet (Garden)/PR 6305
- Imidacloprid/Blueberry (High Bush)/PR 6122
- Imidacloprid/Blueberry (Low Bush)/PR 6700
- Imidacloprid/Coffee/PR 5760
- Imidacloprid/Cranberry/PR 5745
- Imidacloprid/Passion Fruit/PR 6449
- Imidacloprid/Pea/PR 6398
- Imidacloprid/Radish/PR 6308
- Imidacloprid/Sapote (Mamey)/PR 6450
- Linuron/Celery/PR A4936
- Linuron/Coriander/PR 1625
- MCPA/Clover (Seed)/PR 6527*
- MCPA/Flax/PR 5000*
- MCPA/Rice/PR 6586*
- Metolachlor/Carrot/PR 6281
- Metolachlor/Horseradish/PR 6470
- Metolachlor/Melon/PR 6178
- Metolachlor/Pepper (Non-Bell)/PR A2986
- Metolachlor/Spinach/PR 6336
- Metolachlor/Sweetpotato/PR A5413
- Myclobutanol/Pepper (Bell & Non-Bell)/PR 6071
- Oxyfluorfen/Banana/PR 6697
- Oxyfluorfen/Caneberry (Raspberry)/PR 6205
- Oxyfluorfen/Mint/PR 6699
- Oxyfluorfen/Pejibaye (Peach Palm)/PR 6606
- Oxyfluorfen/Rhubarb/PR 6592

FOOD USE RESEARCH PROJECTS (CON'T)

- Pendimethalin/Apple/PR 6608
- Pendimethalin/Cabbage/PR 6387
- Pendimethalin/Cherry/PR 6609
- Pendimethalin/Fig/PR 6607
- Pendimethalin/Mint/PR A3888
- Phenmedipham/Spinach/PR 5693
- Pirimicarb/Asparagus/PR 1500
- Pirimicarb/Hops/PR 1499
- Pirimicarb/Lettuce (Head & Leaf)/
PR 0898
- Prometryn/Carrot/PR 1682
- Prometryn/Parsley/PR 3618
- Pronamide/Caneberry (Blackberry)/
PR A3201
- Propiconazole/Beet (Garden)/PR 6352
- Propiconazole/Parsley/PR 6351
- Propiconazole/Pineapple/PR 6585
- Propiconazole/Turnip (Roots & Tops)/
PR 6237
- Pyrethrin + PBO/Basil/PR 5911*
- Pyridaben/Cranberry/PR 6671
- Pyridaben/Hops/PR 6705
- Pyridaben/Papaya/PR 6695
- Spinosad/Asparagus/PR 6649
- Spinosad/Lychee/PR 6675
- Spinosad/Pear/PR 6714
- Spinosad/Potato/PR 6653
- Tebuconazole/Barley/PR 6513
- Tebuconazole/Cherry/PR 6554
- Tebuconazole/Hops/PR 6672
- Tebuconazole/Melon/PR 5091
- Tebuconazole/Okra/PR 6261
- Tebuconazole/Peach/PR 6551
- Tebuconazole/Sunflower/PR 6414
- Tebufenozide/Sweetpotato/PR 6512
- Terbacil/Watermelon/PR 2841
- Thiobencarb/Celery/PR 6086
- Thiophanate Methyl/Sunflower/PR 5352
- Tribenuron-Methyl/Blueberry (Lowbush)/
PR 5727
- Triflurosulfuron-Methyl/Chicory (Roots)/
PR 6709
- Zinc Phosphide/Alfalfa/PR 6632
- Zinc Phosphide/Barley/PR 6626
- Zinc Phosphide/Beet (Sugar)/PR A3951
- Zinc Phosphide/Spinach/PR 1736
- Zinc Phosphide/Wheat/PR 2440
- Ziram/Caneberry (Raspberry)/PR 4118
- Ziram/Tomato/PR 4089

* = Reregistration

ATTACHMENT 4

New Tolerance, Exemption, Registration and Reregistration Approvals

PROJECT	Fungicides and Nematicides	DATE (FEDERAL REGISTER)*	TYPE ACTION
• Chlorothalonil/Ginseng/PR 988		12-12-97	Sect. 18 TLT
• Fenarimol/Filbert/PR A5012		11-18-97	Sect. 18 TLT
• Metalaxyl + Copper/Grapes/PR 6266		8-21-97	Label Expansion
• Myclobutanil/Peppermint, Spearmint/PR 5409		7-9-97	Sect. 18 TLT
• Myclobutanil/Strawberry/PR 4015		4-11-97	Sect. 18 TLT
• Propiconazole/Cranberry/PR 6320		4-11-97	Sect. 18 TLT
• Triadimefon/Artichoke/PR 3530		9-10-97	Sect. 18 TLT
Herbicides and Plant Growth Regulators			
• 2,4-D/Wild Rice/PR 1015		9-5-97	Sect. 18 TLT
• Acifluorfen/Lima Bean, Southern Pea/ PR 6300, 6301		7-25-97	Sect. 18 TLT
• Bensulide/Collard, Mustard Greens/ PR 4929, 4930		2-97	24(c)
• Clomazone/Watermelon/PR 3943		5-2-97	Sect. 18 TLT
• Clopyralid/Canola/PR 5125		5-16-97	Sect. 18 TLT
• Clopyralid/Cranberry/PR 3882		3-12-97	Sect. 18 TLT
• Desmedipham/Garden Beet/PR 337		8-29-97	Sect. 18 TLT
• Fluazifop/Turfgrass grown for seed/PR 4985			24(c)
• Fomesafen/Dry Bean/PR 5403		11-18-97	Sect. 18 TLT
• Fomesafen/Snap Bean/PR 3472		7-9-97	Sect. 18 TLT
• Glyphosate/Pistachio/PR 6377		8-28-97	24(c)
• Lactofen/Kenaf/PR 5243		9-97	24(c)
• Napropamide/Basil/PR 3439		8-12-97	Label expansion FL & NY
• Oxyfluorfen/Strawberry/PR 3442		4-25-97	Sect. 18 TLT
• Paraquat/Dry Pea/PR 3200		8-29-97	Sect. 18 TLT
• Pendimethalin/Mint (Hay & Oil)/PR 5523		5-23-97	Sect. 18 TLT
• Pyridate/Garbanzo (Chickpea)/PR 3866		8-22-97	Sect. 18 TLT
• Quizalofop/Pineapple/PR 3893			24(c) labeled HI
• Sethoxydim/Asparagus, Peppermint, Spearmint, Cranberry, Endive, Escarole, Carrot/PR 2202, 4009, 2200, 2132, 4614, 2046		4-11-97	Extend TLT
• Sethoxydim/Horseradish/PR 2471		8-22-97	Sect. 18 TLT
• Terbacil/Watermelon/PR 2841		6-20-97	Sect. 18 TLT
Insecticides & Miticides			
• Abamectin/Hop (Dried)/PR 63334		3-24-97	TLT
• Amitraz/Deer/PR 90B		6-20-97	EPA Approval Letter for EUP
• Bifenthrin/Canola/PR 6057		9-5-97	Sect. 18 TLT
• Bifenthrin/Cucurbits/PR 4150, 4151, 4152		6-6-97	Sect. 18 TLT
• Bifenthrin/Hop (Dried)/PR 3949		11-26-97	Permanent Tolerance
• Bifenthrin/Raspberry/PR 5004		6-6-97	Sect. 18 TLT
• Cryolite/Cranberry/PR 5416		4-21-97	Reregistration - EPA Opinion Letter
• Cyromazine/Lima Bean/PR 3908, 6744		12-10-97	Sect. 18 TLT
• Imidacloprid/Beet & Turnip/PR 6305, 6306		12-12-97	Sect. 18 TLT
• Imidacloprid/Cucurbit Veg. Group 6425		4-25-97	Rotational TLT
• Imidacloprid/Cucurbits/PR 5179, 5180, 5181 A5179, A5180, A5181		3-19-97	Sect. 18 TLT
• Kaolin/Selected Crops/PR 83B		4-23-97	Temporary Tolerance Exemption
• Permethrin/Avocado/PR 1727		6-30-97	Reregistration - EPA Opinion Letter
• Permethrin/Cherry/PR 5744		3-18-97	Reregistration - EPA Opinion Letter
• Permethrin/Cucumber/PR 5126		3-18-97	Reregistration - EPA Opinion Letter
• Permethrin/Squash/PR 5127		3-18-97	Reregistration - EPA Opinion Letter

* Or EPA Opinion Letter

ATTACHMENT 5

Crop Groups: Definitions and Favorable Reviews

Submissions

Leafy Vegetables Crop Group = Upland Watercress

Grass (Seed Crop): Delete straw fraction as a significant feed item.

Favorable Reviews

Tree Nuts Crop Group = Pistachio, accepted in crop group by EPA science review; waiting on publication 6 tolerances/uses.

Grass (seed Crop): Favorable EPA science review to define grass (seed crop) straw as insignificant feed item; waiting on EPA Opinion Letter 8 uses

ATTACHMENT 6

Notice of Filings of IR-4 Petitions

Fungicides

- Pseudomonas fluorescens PRA 25/Pea, Snapbean, Sweetcorn/PR 25B
- Fenarimol/Filbert/PR 5012
- Chlorothalonil/Asparagus/PR 319
- Chlorothalonil/Mango/PR 2162
- Chlorothalonil/Pistachio/PR 5196
- Copper ethylenediamine/Potato/PR 6329
- Triadimefon/Artichoke/PR 3530
- Triadimefon/Pome Fruit/PR 4274

Herbicides/Plant Growth Regulators

- Quizalofop/Peppermint and Spearmint/PR 2719
- Fomesafen/Snap Bean/PR 3472
- Glyphosate/Root & Tuber Vegetables/PR 4782
- Phospholipid/Grape, Tomato, Apple, Pear, Peach, Nectarine, Citrus, Cranberry, Strawberry/PR 85B

Insecticides and Miticides

- Abamectin/Hop (Dried)/PR 4019 as Notice of Filing
- Formic Acid/honey and Beeswax/PR 54B
- Kaolin/All Food Commodities/PR 83B

ATTACHMENT 7

EPA Responses to IR-4 Petitions

- DCNA (Dichloran)/Radicchio (Leafy greens subgroup except spinach)/PR 6316

ATTACHMENT 8

Data Packages Completed

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

NEW TOLERANCE PETITIONS

• All Pesticides/Added Upland Watercress to Leafy Veg./PR 6818	E	• Metolachlor/Broccoli & Cauliflower/PR 1526, 1957, 3225, 3226	M
• Azinphos-methyl/Bell Pepper/PR 6017	M	• Metolachlor/Carrot (Muck Soil Only)/PR 2154	E
• Clomazone/Cucurbits/PR 4047, 3943	E	• Metolachlor/Radish for Muck Soils/PR 2988	M
• Cryolite/Cranberry/PR 6465	E	• Metolachlor/Spinach/PR 1217	M
• Cyromazine/Lima Bean/PR 3908	E	• Myclobutanil/Asparagus/PR 5414, A5414	E
• Esfenvalerate/Canola/PR 5150	M	• Myclobutanil/Bean (Snap)/PR 3966	E
• Fosetyl-AL/Macadamia Nuts/PR A3187	E	• Myclobutanil/Caneberry/PR 5057, 5058	E
• Glyphosate/Durian, Mangosteen, Rambutan/PR 6466, 6467, 6468	E/M	• Myclobutanil/Currant, Gooseberry/PR 5309, 5308	E/M
• Glyphosate/Pistachio/PR 6377-	M	• Myclobutanil/Mint/PR 5409	E
• Hexakis/Artichoke (Globe)/PR 4977	M	• Oxytetracycline/Apple/PR 4943, A4943	E
• Imidacloprid/Cucurbit/PR 6425	E	• Paraquat/Dry Pea Harvest Aid/PR 3200	E
• Imidacloprid/Upland Watercress/PR 6723	E/M	• Pendimethalin/Mint PNW only/PR 5523	E/M
• Imidacloprid/Subgroup tuberous and Corm Vgs (1C) + Taro Leaves/PR 6605	E/M	• Pendimethalin/Tree Nuts/PR 6077, 6219, 6221	M
• Linuron/Celeriac/PR 3557	M	• Propiconazole/Cranberry/PR 6320	E/M
• Mancozeb/Sugar Apple/PR 3130	M	• Propiconazole/Mint/PR A4911, 4911E/M	
• Metalaxyl/Turnip/PR 4451	M	• Sethoxydim/Safflower/PR 2531	M
• Metalaxyl/Basil, Chive/PR 5756, 6045	M	• Tebuconazole/Mustard Greens/PR 6233	M
• Metalaxyl/Papaya/PR 5404, 5184	M	• Triadimefon/Caneberry/PR 3018, 3495	M

REREGISTRATIONS

• 2,4-D/Almond/PR 4306	E/M	• Malathion/Blackberry/PR 4774	E
• 2,4-D/Blueberry/PR 3085	E/M	• Malathion/Broccoli/PR 4776	E
• Azinphos-methyl/Bean (Snap)/PR 4517	E	• Malathion/Carrot/PR 4779	E/M
• Azinphos-methyl/Non-Bell Pepper/PR 6111	M	• Malathion/Guava/PR 4799	E
• Benomyl/Mustard Greens (Seed Treatment)/PR 4097	E/M	• Malathion/Mustard Green/PR 4817	E
• Captan/Caneberries/PR 3953	E	• Malathion/Okra/PR 4820	E
• Diazinon/Watercress/PR 3892	E	• Malathion/Papaya/PR 3727	E
• Dimethoate/Grass/PR 6037	E	• Malathion/Pea/PR 4823	E
• Diuron/Asparagus/PR 5415	M	• Malathion/Raspberry/PR 4835	E
• Diuron/Banana/PR 5514	M	• Malathion/Spinach/PR 4842	E
• Diuron/Bushberry/PR 5471	M	• Malathion/Turnip/PR 4847	E
• Diuron/Caneberry/PR 3675	E/M	• Malathion/Walnut/PR 4851	E
• Diuron/Clover/PR 5511	E/M	• Methomyl/Chicory/PR A407	M
• Diuron/Mint/PR 5439	E	• Methyl Parathion/Bell Pepper/PR 4903	M
• Diuron/Storage Stability/PR 6471	E/M	• Methyl Parathion/Hop/PR 4142	E
• Ethephon/Blueberry/PR 4460	E	• Permethrin/Avocado/PR 1727	E
• Endosulfan/Sweet Corn/PR 6074	E/M	• Phosmet/Sweetpotato/PR A3463	M
• Ethoxyquin/Pear/PR 4346	E/M	• Terbacil/Strawberry/PR 5987	E
• Malathion/Asparagus/PR 4770	E/M	• Ziram/Grape/PR A4116	
		• Ziram/Tomato/PR A4089	M

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

• Benomyl/Spinach (Seed Treatment)/ PR 4077, A4077	E/M	• Metolachlor/Pepper, FQPA Sum., Letter of Authorization/PR 2986	E
• Chlorothalonil/Asparagus FQPA Sum. & Auth Letter/PR A0319	E	• Norflurazone/Caneberry/PR 3233 NOF, FQPA	E
• Chlorothalonil/Mango FQPA Sum. & Auth Letter/PR 2162, B2162	E	• Paraquat/Artichoke FQPA Summary/ PR 2775	E
• Chlorothalonil/Pistachio FQPA Sum. & Auth Letter/PR 5196	E	• Pendimethalin/Carrot FQPA Letter/ PR 4084	E
• Clopyralid/Cabbage, Broccoli, Cauliflower/PR 3513, 3514, 3626	E	• Pendimethalin/Citrus/PR 5732, 5748, 5749	E
• Copper Ethylenediamine Complex & Copper Sulfate Pentahydrate FQPA Summary/Potato/PR 6329	E	• Pendimethalin/Tomato/PR 2741	E
• Cyfluthrin/Hops FQPA Sum. for NOF/PR 4120, A4120	E	• Propiconazole/Leaf Petiole Subgroup (Swiss Chard) NOF FQPA Summary/ PR 6350	E
• DCPA/Parsley/PR 4005	E	• Pyridate/Garbanzo FQPA Summary/ PR 3866	E
• Fenarimol/Filbert FQPA Petition Amendment with Suppl. Data	E	• Pyridate/Head & Stem Brassica Subgroup FQPA Summary/PR 3449	E
• Fenarimol/Filbert FQPA Petition Amendment Summary NOF/PR A5012	E	• Sethoxydim/Leafy Vegetables FQPA Letter/PR 2438, 3568, 4931	E
• Fomesafen/Snapbean NOF, FQPA Sum., Letter of Authorization/PR 3472	E	• Sethoxydim/Root & Tuber (except Radish) Crop Group FQPA Letter/ PR 2471, 5757, 3034, 2470, 2468, 3033, 3032, 2048	E
• Fosetyl-Al/Grape Suppl. Data/PR 3962	E	• Streptomycin/Bean (ST) FQPA Summary/PR 6347	E
• Fosetyl-Al/Grapes FQPA Sum. & Auth. Letter/PR 3962	E	• Triadimefon/Artichoke NOF, FQPA Letter of Authorization/PR 3530	E
• Imidacloprid/Cucurbit Crop Group, FQPA Suppl. Data & Auth. Letter PR 5179, 5180, 5181, A5180, A5181	E	• Triadimefon/Pome Fruit Group FQPA Summary, NOF/PR 4274	E
• Methyl Anthranilate/All Crops FQPA Summary/PR 5030, 5031	E		
• Metolachlor/Grass Grown for Seed, FQPA Sum., Letter of Authorization/ PR 6345	E		

REGISTRATIONS

• Carboxin/Kenaf/PR 4856	M	• Metalaxyl/Kenaf/PR 4859	M
• Captan/Kenaf/PR 4855	M	• Napropamide/Basil/PR 3439	M
• Diflubenzuron/Rangegrass/FPQA Summary & Auth. Letter/PR 757	E	• Permethrin/Papaya Label Expansion/PR 4123	M/S
• Diuron/Blueberry Label Expansion PR 3544	M	• Phosmet/Blueberry/PR 5397	M
• Glyphosate/Pistachio/PR 6377	E	• Spinosad/Asparagus (Fern) Petition for data waiver/PR 6649	E
• Lactofen/Kenaf Non Feed Use PR 5243	M	• Tebufenozide/Cranberry/PR 6344	S
• Metalaxyl + Copper/Grapes/ PR 6266	E		

ATTACHMENT 9

Regulatory Documents in Preparation

- 2,4-D/Caneberry (Raspberry)/PR 2844
- Bacillus thuringiensis/Pea (Pigeon)/PR 2812
- Bifenthrin/Broccoli/PR 5272
- Bifenthrin/Cabbage/PR 5176
- Bifenthrin/Canola/PR 6057
- Bifenthrin/Cauliflower/PR 5273
- Bifenthrin/Eggplant/PR 5401
- Bifenthrin/Grape/PR 5335
- Bifenthrin/Lettuce (Head)/PR 5274
- Bifenthrin/Pea (Succulent)/PR 5237
- Bifenthrin/Pepper (Bell)/PR 5281
- Bifenthrin/Pepper (Non-Bell)/PR 5280
- Bifenthrin/Tomato (GH)/PR 4868
- Captan/Celery/PR 3972
- Captan/Cherry/PR 5418
- Captan/Pepper (Bell & Non-Bell)/PR 3974
- Captan/Pepper (Bell & Non-Bell)/PR 6413
- Captan/Tomato/PR 4337
- Captan/Tomato/PR 6412
- Captan/Turnip/PR 4338
- Clethodim/Bean (Succulent)/PR 5205
- Clethodim/Carrot/PR 5217
- Clethodim/Celery/PR 5218
- Clethodim/Clover (Seed)/PR 6218
- Clethodim/Cranberry/PR 5358
- Clethodim/Cucumber/PR 5219
- Clethodim/Pea (Dry)/PR 5204
- Clethodim/Pea (Succulent)/PR 5202
- Clethodim/Pepper (Bell)/PR 5226
- Clethodim/Pepper (Non-Bell)/PR 5355
- Clethodim/Radish/PR 5227
- Clethodim/Strawberry/PR 5230
- Clomazone/Broccoli/PR 3569
- Clomazone/Mint (Peppermint)/PR 3155
- Clomazone/Mint (Spearmint)/PR 4972
- Clopyralid/Pear/PR 3624
- Clopyralid/Strawberry/PR 5262
- Cryolite/Blueberry/PR 4600
- Cryolite/Blueberry (Lowbush)/PR 6264
- Cyromazine/Bean (Snap)/PR 3909
- DCPA/Parsley/PR 3000
- DCPA/Parsley/PR 4005
- Diazinon/Fig/PR 4101
- Diuron/Mint (Spearmint)/PR 6952
- Diuron/Olive/PR 5474
- Diuron/Pear/PR 5441
- Ethephon/Blueberry/PR 3877
- Ethephon/Peach/PR 3920
- Ethylene/Pineapple/PR 4124
- Fenpropathrin/Cucumber/PR 2502
- Fenpropathrin/Pumpkin/PR 6495
- Fenpropathrin/Squash/PR 2507
- Ferbam/Grape/PR 3934
- Ferbam/Papaya/PR 4080
- Fomesafen/Bean (Dry)/PR 5403
- Fomesafen/Bean (Snap)/PR 3011
- Glyphosate/Cantaloup/PR 1747
- Glyphosate/Chayote/PR 6225
- Glyphosate/Cucumber/PR 1748
- Glyphosate/Garbanzo/PR 6141
- Glyphosate/Garbanzo/PR 6142
- Glyphosate/Hops/PR 4162
- Glyphosate/Lentil/PR 6137
- Glyphosate/Lentil/PR 6138
- Glyphosate/Pea (Dry)/PR 6139
- Glyphosate/Pea (Dry)/PR 6140
- Glyphosate/Pea (Pigeon)/PR 2029
- Glyphosate/Pumpkin/PR 1749
- Glyphosate/Squash/PR 1851
- Glyphosate/Strawberry/PR 1409
- Glyphosate/Tanier/PR 1634
- Glyphosate/Watermelon/PR 1750
- Hydrogen Cyanamide/Peach/PR 6303
- Lactofen/Eggplant/PR 6430
- Lactofen/Pepper (Bell)/PR 4400
- Lactofen/Pepper (Non-Bell)/PR 6143
- Lactofen/Tomato/PR 4163
- Linuron/Horseradish/PR 3609
- Linuron/Fennel/PR 3608
- Linuron/Rhubarb/PR 6591
- Malathion/Chestnut/PR 4783
- Malathion/Mango/PR 4814
- Malathion/Passion Fruit/PR 3726
- Mancozeb/Cucurbits/PR 4165
- Mancozeb/Ginseng/PR 992
- MCPB/Pea/PR 5470
- Metalaxyl/Artichoke (Seed)/PR 4978

ATTACHMENT 9

Regulatory Documents in Preparation (Continued)

- Metalaxyl/Caneberry (Blackberry)/PR 3078
- Metalaxyl/Carambola/PR 4939
- Metalaxyl/Chives/PR 6045
- Metalaxyl/Kiwifruit/PR 3050
- Metalaxyl + copper/Caneberry (Raspberry)/PR 1169
- Methidathion/Mango/PR 4537
- Metolachlor/Asparagus/PR 1908
- Metolachlor/Broccoli (Chinese)/PR 3247
- Metolachlor/Cabbage (Bok Choy)/PR 2256
- Metolachlor/Caneberry (Blackberry)/PR 2617
- Metolachlor/Caneberry (Blackberry)/PR 4994
- Metolachlor/Collard/PR 1216
- Metolachlor/Mustard (Chinese)/PR 3248
- Metolachlor/Onion (Dry Bulb)/PR 2702
- Metolachlor/Onion (Dry Bulb)/PR 5396
- Metolachlor/Rhubarb/PR 6666
- Metolachlor/Swiss Chard/PR 6391
- NAA/Pomegranate/PR 5389
- Napropamide/Marjoram/PR 3440
- Napropamide/Mint/PR 762
- Napropamide/Mint/PR 3441
- Napropamide/Persimmon/PR 5094
- Napropamide/Tarragon/PR 2148
- Oxyfluorfen/Blueberry/PR 2133
- Oxyfluorfen/Brussels Sprout/PR 5123
- Oxyfluorfen/Caneberry (Raspberry)/PR 3616
- Oxyfluorfen/Cantaloup/PR 3710
- Oxyfluorfen/Chives/PR 3572
- Oxyfluorfen/Cucumber/PR 3711
- Oxyfluorfen/Kenaf/PR 6318
- Oxyfluorfen/Pepper (Chili)/PR 2125
- Oxyfluorfen/Squash (Summer)/PR 3712
- Oxyfluorfen/Sugarcane/PR 4980
- Paraquat/Cabbage/PR 1479
- Paraquat/Calabaza/PR 3926
- Paraquat/Cantaloup/PR 1476
- Paraquat/Cucumber/PR 2978
- Paraquat/Gourds (Edible)/PR 3070
- Paraquat/Lettuce (Head)/PR 2979
- Paraquat/Onion (Dry Bulb)/PR 2983
- Paraquat/Pea (Pigeon)/PR 3890
- Paraquat/Pea (Succulent)/PR 5193
- Paraquat/Pumpkin/PR 2985
- Paraquat/Squash (Summer)/PR 2982
- Paraquat/Squash (Winter)/PR 6503
- Paraquat/Tanier/PR 4968
- Paraquat/Watermelon/PR 2976
- PCNB/Radish/PR 633
- Pendimethalin/Almond/PR 6219
- Pendimethalin/Grape/PR 5740
- Pendimethalin/Grasses (Seed)/PR 4912
- Pendimethalin/Greens (Mustard)/PR 1986
- Pendimethalin/Kenaf/PR 5208
- Pendimethalin/Leek/PR 4578
- Pendimethalin/Turnip Greens/PR 1987
- Pendimethalin/Onion (Green)/PR 5097
- Pendimethalin/Pecan/PR 6077
- Pendimethalin/Pepper (Bell)/PR 2740
- Pendimethalin/Pepper (Non-Bell)/PR 2219
- Pendimethalin/Pistachio/PR 6221
- Pendimethalin/Strawberry/PR 2739
- Pendimethalin/Tomato/PR 2741
- Phenmedipham/Cabbage/PR 4057
- Phosmet/Cranberry/PR 4625
- 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/Grasses (Orchard, Seed)/PR 5109
- Pronamide/Pea (Austrian)/PR 6217
- Pronamide/Rhubarb/PR 3686
- Pyridate/Mint/PR 3927
- Sethoxydim/Kenaf/PR 6319
- Sethoxydim/Okra/PR 2339
- Sethoxydim/Safflower/PR 2531
- Tebuconazole/Squash (Summer)/PR 5279
- Tebufenozide/Blueberry/PR 6407
- Tebufenozide/Caneberry (Blackberry)/PR 6406
- Tebufenozide/Caneberry (Raspberry)/PR 6405
- Tebufenozide/Canola/PR 6473

ATTACHMENT 9

Regulatory Documents in Preparation (Continued)

- Tebufenozide/Cranberry/PR 6344
- Tebufenozide/Mint/PR 6437
- Tebufenozide/Turnip (Roots & Tops)/
PR 6346
- Thiobencarb/Cabbage, Chinese (Bok
Choy)/PR 2355
- Thiobencarb/Cabbage, Chinese (Napa)/
PR 3508
- Zinc Phosphide/Bean (Snap)/PR 2126
- Zinc Phosphide/Blueberry/PR 2958
- Zinc Phosphide/Caneberry (Blackberry)/
PR 6463
- Zinc Phosphide/Caneberry (Raspberry)/
PR 2957
- Zinc Phosphide/Potato/PR 6123
- Zinc Phosphide/Squash (Summer)/PR 4331

ATTACHMENT 10

Ornamental Pesticide Registrations

- Bendiocarb/Andromeda (Pieris)/12086A
- Bendiocarb/Apple (Non-Bearing) (Malus)/10101A
- Bendiocarb/Arborvitae (Thuja)/12092A
- Bendiocarb/Azalea (Rhododendron)/12081A
- Bendiocarb/Crabapple (Non-Bearing) (Malus)/10015A
- Bendiocarb/Geranium (Pelargonium)/12088A
- Bendiocarb/Juniper (Juniperus)/12083A
- Bendiocarb/Privet (Ligustrum)/12087A, 12093A
- Bendiocarb/Rhododendron/12082A, 12091A
- Chlormequat/Columbine (Aquilegia)/08302A, 08309A
- Chlormequat/False Spirea (Astilbe)/08305A, 08312A
- Chlormequat/Geranium (Pelargonium)/09643A
- Chlormequat/Hibiscus/10127A
- Chlorothalonil/Aster/01140A, 01141A
- Chlorothalonil/Baby's Breath (Gypsophila Elegans)/01977A, 08624A
- Chlorothalonil/Balsam (Impatiens)/04855A
- Chlorothalonil/Cactus/08627A
- Chlorothalonil/Croton/02052A, 05004A
- Chlorothalonil/Flowering Dogwood/12495A
- Chlorothalonil/Good Luck Plant, Ti Plant (Cordyline)/02952A, 02953A
- Chlorothalonil/Jade Plant (Crassula)/02958A, 02959A
- Chlorothalonil/Pine, Air (Aechmea)/07664A
- Chlorothalonil/Pine, Norfolk Island (Araucaria)/02369A
- Chlorothalonil/Plum (Non-Bearing) (Prunus)/01896A
- Chlorothalonil/Redwood (Sequoia)/05852A, 05853A
- Clethodim/Daylily (Hemerocallis)/12194A
- Clethodim/Stonecrop (Sedum Spurium)/11876A
- Clethodim/Sedum x Spectabile/11632A
- Daminozide/Larkspur (Delphinium)/08294A
- DCPA/Kentucky Blue Grass/00228A
- Diquat-Dibromide/Easter Lily/08248A
- Dithiopyr/Geranium (Pelargonium)/12309A
- Dithiopyr/Hawthorn (Crataegus)/11342A
- Dithiopyr/Juniper/11335A
- Dithiopyr/Maple, Sugar/11338A
- Dithiopyr/Red Oak/11337A
- Dithiopyr/Yew (Taxus)/11336A
- Fluazifop-Butyl/Ajuga/09601A
- Fluazifop-Butyl/Iceplant (Carpobrotus)/09268A
- Fosetyl-Al/Azalea (Rhododendron)/12513A, 12525A
- Fosetyl-Al/Rose (Rosa)/12505A, 12516A
- Isofenphos/Andromeda (Pieris)/12063A
- Isofenphos/Arborvitae (Thuja)/12068A
- Isofenphos/Ash (Fraxinus)/10035A
- Isofenphos/Azalea (Rhododendron)/08048A, 12058A
- Isofenphos/Birch (Betula)/10036A
- Isofenphos/Crabapple (Non-Bearing) (Malus)/10037A
- Isofenphos/Geranium (Pelargonium)/12065A
- Isofenphos/Hemlock (Tsuga)/12066A, 12067A
- Isofenphos/Japanese Holly (Ilex Crenata)/10685A
- Isofenphos/Japanese Maple (Acer Palmatum)/12062A
- Isofenphos/Juniper/12060A
- Isofenphos/Kentucky Bluegrass/07430A
- Isofenphos/Laurel (Kalmia)/12061A
- Isofenphos/Linden (Tilia)/10038A
- Isofenphos/Locust, Black (Robinia)/10039A
- Isofenphos/Maple (Acer)/10040A
- Isofenphos/Oak (Quercus)/10041A
- Isofenphos/Plane Tree (Platanus)/10043A
- Isofenphos/Privet (Ligustrum)/12064A, 12069A
- Isofenphos/Rhododendron/08049A, 10042A, 12059A, 12107A
- Isofenphos/Yellowwood (Cladrastis)/10044A
- Isofenphos/Yew (Taxus)/00643A
- Isoxaben/Flowering Dogwood (Cornus)/12751A
- Isoxaben/Fosters Holly (Ilex)/12759A
- Isoxaben/Holly (Ilex)/12761A
- Malathion/Chrysanthemum/12720A
- Mancozeb/Gloxinia/07737A
- Methiocarb/African Violet (Saintpaulia)/13078A
- Methiocarb/Chrysanthemum/13075A
- Oxydemeton-Methyl/Spruce (Picea)/09351A
- Oxytetracycline/Pear (Non-Bearing) (Pyrus)/11687A
- Paraquat/Easter Lily/08249A
- PCNB/Pansy (Viola)/08510A
- PCNB/Snapdragon (Antirrhinum)/07619A
- Sunspray Ultra-Fine Spray Oil/Ageratum/10606A
- Sunspray Ultra-Fine Spray Oil/Ash (Fraxinus)/12020A
- Sunspray Ultra-Fine Spray Oil/Azalea (Rhododendron)/12722A
- Sunspray Ultra-Fine Spray Oil/Balsam (Impatiens)/10605A
- Sunspray Ultra-Fine Spray Oil/Camellia/12723A
- Sunspray Ultra-Fine Spray Oil/Carnation/11214A
- Sunspray Ultra-Fine Spray Oil/Coconut Palm (Cocos)/11213A
- Sunspray Ultra-Fine Spray Oil/Crown of Thorns (Euphorbia Milii)/11215A
- Sunspray Ultra-Fine Spray Oil/Hydrangea/10631A
- Sunspray Ultra-Fine Spray Oil/Leatherleaf Fig (Ficus)/10609A
- Sunspray Ultra-Fine Spray Oil/Maidenhair Fern (Adiantum)/11218A
- Sunspray Ultra-Fine Spray Oil/Marigold (Tagetes)/10608A
- Sunspray Ultra-Fine Spray Oil/Moth Orchid (Phalaenopsis)/12721A
- Sunspray Ultra-Fine Spray Oil/Petunia/10607A
- Sunspray Ultra-Fine Spray Oil/Philodendron/12724A
- Sunspray Ultra-Fine Spray Oil/Rose (Rosa)/12567A, 12568A
- Sunspray Ultra-Fine Spray Oil/Shasta Daisy/11071A
- Sunspray Ultra-Fine Spray Oil/Transvaal Daisy/11216A
- Sunspray Ultra-Fine Spray Oil/Zinnia/10604A
- Triademeton/Purpleleaf Wintercreeper (Euonymus)/07815A
- Trifluralin/Bellflower (Campanula)/12136A
- Trifluralin/Coneflower (Rudbeckia)/11177A
- Trifluralin/Pincushion Flower (Scabiosa)/12455A
- Trifluralin/Sage (Salvia)/12454A
- Trifluralin/Speedwell (Veronica)/11439A, 11651A
- Vinclozolin/Balsam (Impatiens)/08105A

ATTACHMENT 10

Ornamental Pesticide Registrations (Continued)

- Vinclozolin/Begonia/07900A
- Vinclozolin/Carnation (Dianthus)/07902A, 07910A
- Vinclozolin/Cherry (Non-Bearing) (Prunus)/11963A
- Vinclozolin/Chrysanthemum/07903A, 07911A
- Vinclozolin/English Ivy (Hedera Helix)/07904A
- Vinclozolin/Geranium (Pelargonium)/07906A
- Vinclozolin/Hydrangea/07980A
- Vinclozolin/Madwort (Alyssum)/07893A
- Vinclozolin/Marigold (Tagetes)/07897A
- Vinclozolin/Petunia/07895A
- Vinclozolin/Plum (Non-Bearing) (Prunus)/11964A
- Vinclozolin/Poinsettia ((Euphorbia)/07898A
- Vinclozolin/Snapdragon (Antirrhinum)07899A, 07909A
- Vinclozolin/Zinnia/07892A

ATTACHMENT 11

Biopesticide Research and Development

Biopesticide Petitions/ Amendments Submitted to EPA in 1997:

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

IR-4 in cooperation with Engelhard Corporation submitted a petition to EPA requesting an exemption from the requirements of a tolerance for kaolin on various crops.

Methyl anthranilate as a bird repellent on all food commodities.

An FQPA petition amendment summary was submitted to EPA

Lysophosphatidylethanolamine (phospholipid) as a plant growth regulator on grape, tomato, apple, pear, peach, nectarine, citrus, cranberry and strawberry.

IR-4 in cooperation with JP BioRegulators submitted a petition to EPA requesting a temporary exemption from the requirements of a tolerance for lysophosphatidylethanolamine on various fruit crops. The petition supports an Experimental Use Permit.

Cinnamaldehyde as an insecticide/fungicide on all food commodities.

Azadirachtin plus Neem Oil as an insecticide on ornamentals and lawns.

Sucrose fatty-acid esters as an insecticide on all food commodities.

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

IR-4 in cooperation with The Ohio State University and Earthgro Inc. submitted two petitions to EPA requesting exemptions from the requirement of a tolerance for the microbial pest control agents *F. balustinum* strain 299 and *T. hamatum* isolate 382 to control damping off and root rot pathogens. These petitions were submitted to EPA to support registration of Earthgro's Potting Mix with Floraguard for use on ornamentals and vegetable bedding plants.

Bacillus subtilis GB03 for control of soil diseases of turf and ornamentals

IR-4 in cooperation with Growth Products, Ltd. prepared a petition to support an Experimental Use Permit for *Bacillus subtilis* GB03 on turf and ornamentals.