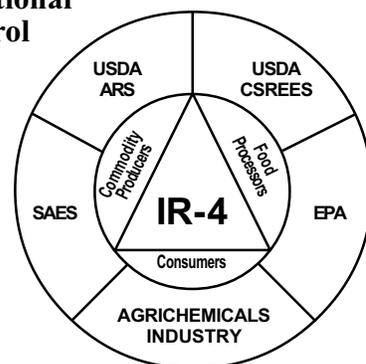


Minor Crop Pest Management, IR-4 - A National  
Agricultural Program to Clear Pest Control  
Agents for Minor Uses

# IR-4 Newsletter

IR-4 Project  
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\*For January - March 1999 (1st Quarter)

Center Insert: PCR Form and Food Use Workshop  
Registration Form

## IR-4 Highlights (Partner Outreach)

**Editor's Note:** IR-4 Highlights by the Executive Director is an outreach feature of the Newsletter, focused primarily on articles highlighted in this issue.

After the winter period, spring is a great season for most of us. The grass greens up, trees bloom and we spend more time in the great outdoors. Headquarters staffers tell me the winter months used to be a bit slower, but not anymore! Since joining the IR-4 team last June, everything seems to be at high speed with equivalent high energy levels. Considerable effort has gone into drafting, reviewing and sending out protocols and Field Data Notebooks to our Field Research Cooperators to initiate the 1999 field program. The entire organization is beginning to feel the pressure of our new Project Schedule which targets our 1999 project submissions to the EPA in 30 months from initiation last November or by April 2001. Our partners in the crop protection industry, the commodity groups and growers with whom we have discussed this schedule, are highly enthusiastic and supportive of this initiative. As FQPA implementation looms on the horizon in the next few years, our ability to partner with the EPA to bring the newer chemistries and Reduced Risk products to minor crop growers will be critical.

Continued on Page 2

### United States Department of Agriculture

Printed and Distributed by USDA-CSREES who provides major funding for the IR-4 Project through Congress

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## IR-4 Highlights (Partner Outreach)

Continued from Page 1

Our partnership initiatives discussed in the Winter Newsletter continue to flourish and blossom. Jim Jones' Registration Division Team and Margaret Stasikowski's Health Effects Division Team have been very proactive in working not only to develop the partnership but also to tackle important policy and procedural issues. We have held two senior level staff meetings with Jim's and Margaret's Teams as well as two EPA/IR-4 Technical Working Group Meetings organized in cooperation with Hoyt Jamerson, Minor Use Officer, with Sidney Jackson (RD), Jeff Herndon (HED) and Bernie Schneider (HED) as the EPA Team members. The following areas have been discussed with considerable progress as noted:

- (1). Petition Submission Schedule. For the first time in at least recent IR-4 history, we have provided the EPA with our projected petition submission schedule through 2001. This will allow the Agency and USDA's OPMP (discussed later) to prioritize workloads, gain efficiencies from bundling product petitions and address possible FQPA crop risk assessment issues with current products.
- (2). Blanket Tolerances for Select Chemicals. The Agency has responded very positively to our first proposal by Keith Dorschner (see page 20 for details) in this initiative for Spinosad, a new Reduced Risk insecticide, allowing IR-4 to combine residue data that we generated with data developed by the registrant, Dow AgroSciences, by using a reduced residue data set to gain tolerances on numerous minor crops utilizing established and proposed crop groupings and definitions. Data extrapolations were utilized when justified. Bottom line, IR-4 has been able to document \$550,000 in direct savings by not having to conduct field trials, do laboratory analysis, write petitions, etc. This does not take into account savings by the Agency in staff review time. Our indirect cost savings will be over \$6,500,000 with use of the crop group approach. The Agency also signed off on Dave Thompson's azoxystrobin proposal as noted in his article on page 20. Many thanks to Dave Thompson, Keith Dorschner and Jeff Herndon for their initiatives on these projects!
- (3). Residue Petition Summary. This is another of Jeff's initiatives in proposing that IR-4 put together before petition submissions a 6 table summary which is normally done by the Agency as part of the HED review. The EPA estimates a one to two month time savings in starting the actual petition review process which should lead to early tolerance decisions. This is certainly a WIN-WIN for both partners!
- (4). Storage Stability Requirements. We have been narrowly interpreting the need for conducting storage stability work on each minor crop. After discussions in our Technical Working Group, the Agency determined that the regulations required storage stability data for an active ingredient in three different crop matrices, just as they do for metabolism studies. In most cases, the registrants have conducted these studies thereby providing IR-4 with additional flexibility.
- (5). Reduced Risk Classifications for Minor Crops. Many of the newer crop protection chemicals have been granted the Reduced Risk classification by the EPA on major row crops based on strict health based standards as well as a lengthy justification document submitted by the registrants. Extending this classification to minor crops has been a greater challenge. Our initial interpretation of the regulations was that a justification would need to be compiled for each minor crop or at least crop grouping. We do not have the resources or expertise (some of the justification deals with market data and comparative efficacy data to currently registered products) to compile the document. The registrants were not interested for the same reasons that they can't justify internal resources for minor crop residue programs. Our initial discussions with the agency centered on a streamlined process including a summary justification with perhaps references to the registrants major crop justification proposal. Jim Jones recently indicated the Agency's willingness for IR-4 to construct a table of the products of interest along with their current Reduced Risk major crop approvals and our proposals for minor crop classifications. We have recently taken this step for tebufenozide proposing Reduced Risk classification for blueberry, caneberries, cranberry, canola, mint and turnip. What a great idea! Thanks Jim.
- (6). Methyl Bromide Alternatives Program. Jack Norton describes on page 16 our efforts to pull together various older and newer technologies on tomatoes and strawberries in partnership with the USDA-ARS, the land grant university system, the crop protection companies, commodity groups like the California Strawberry Commission, growers and the EPA to address the challenges of methyl bromide phase out by 2005. Our proposed program of two locations for each crop in two states (California and Florida) will be expensive due to the cost of the crop, especially strawberries, and crop destruction

Continued on Page 3

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## IR-4 Highlights (Partner Outreach)

Continued from Page 2

in the case of unregistered products. The Agency has scheduled final review of Basamid (one of the products in our study) tolerances on both crops for this summer and has promised to respond to our request on another (Enzone) for residue tolerances! This EPA support will greatly help our initiative.

- (7). Temporary Staff Assignment. This opportunity has just come up and needs further definition. Basically, we have been asked to place a senior IR-4 staffer in Marcia Mulkey's Office (Director of OPP) to facilitate minor crop issues. More about this great opportunity in the near future.

o o o o o

I hope my detailed accounting of our EPA Partnership does not overshadow all of our other partner alliances being built. Some of these deserve to be highlighted.

- USDA's Office of Pest Management Policy (OPMP) Al Jennings, Director, and Theresa Murtaugh have been extremely helpful in discussing ways IR-4 can partner with OPMP to help them address the challenges of FQPA implementation, especially as it pertains to minor crops, and the risk assessments for current products. We plan to work closely with the OPMP Team and the EPA as mentioned previously to prioritize our petition submissions. We also plan to integrate Jerry Baron's New Products/Transition Pesticides List into the OPMP Pesticide Pipeline Database for easier cross referencing of

new technologies available to minor crop growers. Willis Wheeler, our Washington, D.C. Liaison, has an office in OPMP and provides a constant support link to Al's Team from IR-4.

- Minor Crop Farmer Alliance (MCFA) Technical Committee. Dan Botts, Technical Committee Chairperson, has graciously invited Willis and I to several recent meetings in D.C. attended by minor use constituents from the EPA, commodity groups and IR-4 to address issues arising from the FQPA implementation process. We certainly appreciate being part of the MCFA Team to help with various issues facing minor crop growers in the U.S.
- Crop Protection Companies. Willis has been attending the American Crop Protection Association (ACPA) Registration Round Table Committee Meetings to provide an IR-4/minor crop perspective to the discussion. In addition, members of the New Technology Team (mainly Jerry Baron and I) are visiting the various ACPA member companies to encourage them to consider partnering with IR-4 to register their newest products on minor crops. The responses have been extremely encouraging.

In summary, it is an exciting yet challenging time in our history. We believe our organization is ready to provide proactive leadership for minor crop growers in the 21st century. Things are warming up for the spring, but just wait until this summer when things get hot. Thanks for your support in helping to make these partnerships happen.

Article by Bob Holm

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### Congratulations and News

Recently, Pat Sarica and Diane Infante of IR-4 Headquarters have been promoted to Associate Director for Administration and Assistant Research Scientist, respectively. Congratulations on your well deserved promotions.

Dr. Cheng-i Wei, IR-4 Southern Region Director, has moved from the University of Florida to Auburn University. We thank him for supporting IR-4 and wish him well in his new professional endeavors.

On 25 March 99, Rosie and Martin Beran were proud parents of a 7 lbs. baby boy, Escher Felix. We wish them well, Martin is part of the Western Region IR-4 QAU.

# Minor Crop Pest Management, Interregional Research Project No. 4 (IR-4) National Agricultural Program To Clear Pest Control Agents for Minor Uses

## NATIONAL HEADQUARTERS

- |                                      |   |
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| J. Baron (Assistant to the Director) | D. Kunkel (Registration Manager)              |
| M. Arsenovic (Associate Coordinator) | E. Lovuolo (Administrative Assistant)         |
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| M. Braverman (Associate Coordinator) | K. Samoil (Associate Coordinator)             |
| J. Corley (Associate Coordinator)    | P. Sarica (Associate Director Administration) |
| K. Dorschner (Coordinator)           | J. Streisand (Secretary)                      |
| C. Ferrazoli (Secretary)             | D. Thompson (Coordinator)                     |
| J. Frank (Manager, Ornamentals)      | T. White (QA Manager)                         |

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F. Horn, USDA / ARS  
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R. Durst, Cornell Univ.  
R. Holm, Rutgers Univ.  
M. Marshall, Univ. of Florida  
J. Parochetti, USDA / CSREES  
P. Sarica, Rutgers Univ.  
P. Schwartz, USDA / ARS  
T. Shibamoto, Univ. of California  
N. Thompson, Univ. of Florida

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S. Fernando, University of Florida  
D. Snook, Cornell University  
C. Vandervoort, Michigan State University

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|            | A. Jennings   |

### EPA MINOR USE OFFICER

H. Jamerson

### EPA MINOR USE TEAM LEADER

P. Cimino

## INDUSTRY REPRESENTATIVES

### IR-4 COMMODITY LIAISON COMMITTEE

J. Downing\*

### AMERICAN CROP PROTECTION ASSOCIATION

J. Holmdal

\*Committee Chair

## IR-4 REGIONAL/HEADQUARTERS AND OTHER NATIONAL/INTERNATIONAL CONTACTS - DIRECTORIES

To provide appropriate public accessibility to IR-4 State and Federal (USDA-ARS) Liaison Representatives, Regional Project Management Committee Representatives, Regional Field Coordinators, Regional Laboratory Coordinators, Re-

gional QA Coordinators, Headquarters, etc., we are including updated listings as attachments to this Newsletter. Telephone numbers, FAX numbers, and E-mail addresses are indicated for all contacts.

## CALENDAR

### April 1999

- 14-15 IR-4 Project Management Committee Spring Meeting and Joint Meeting with Commodity Liaison Committee, Yakima, Washington

### June 1999

- 13-14 Specialty Mushroom Workshop, University Park, Pennsylvania

### July 1999

- 7-8 IR-4 Project Management Committee Summer Meeting, Tifton, Georgia
- 25-30 XIVth International Plant Protection Congress, Jerusalem, Israel

### August 1999

- 7-11 American Phytopathological Society and Canadian Phytopathological Society Joint Meeting, Montreal, Canada (see Fungicide News article)
- 17-19 Pacific NW Minor Crops Field Symposium, Pasco, Washington
- 25-27 IR-4 /USDA Food Use Workshop, Denver, Colorado
- 29-30 National Workshop on Optimal Use of Insecticidal Nematodes in Pest Management, Rutgers University, New Brunswick, New Jersey

### September 1999

- 12-16 National Association of County Agricultural Agents Annual Meeting, Omaha, Nebraska
- 20-23 Food and Forestry: Global Change and Global Challenges, Kidlington, Oxford, UK

### October 1999

- 4-5 IR-4 Project Management Committee Fall Meeting, Washington, DC
- 5-6 IR-4 Symposium "Future for Minor Crop Pest Management", Washington, DC
- 7 IR-4 36th Annual Meeting, Washington, DC
- Week of 18 IR-4 USDA-ARS Liaison Meeting, Portland, Oregon
- 18-22 IR-4/USDA Ornamentals Use Workshop, Portland, Oregon
- 26-27 IR-4 National Research Planning Meeting IR-4 Headquarters, Rutgers University, North Brunswick, New Jersey

- "Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture."
- "This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Hatch Act and Agreement No. 98-34383-5993."
- This Newsletter does not constitute a recommendation for use. The pesticide registrant or Cooperative Extension should be consulted for specific use information.
- IR-4 thanks the many research cooperators who have provided data to support the needed registrations.
- Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift.
- Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label clearances.

### *The IR-4 Newsletter*

The IR-4 NEWSLETTER is published quarterly for distribution to cooperators in our partner State/Federal/Industry research units, State and Federal officials, private interest groups, and private citizens. Scientists at the IR-4 National Headquarters, regional, state, and federal level, and on the IR-4 Project Management Committee contribute articles in their areas of expertise. The Newsletter design and layout are done by Cheryl Ferrazoli. This partnership publication is printed and distributed by the Cooperative State Research, Education, and Extension Service, United States Department of Agriculture, Washington, D.C. Material from the IR-4 Newsletter may be reproduced with credit to the publication. Major funding for IR-4 is provided by USDA-CSREES and USDA-ARS in cooperation with the State Agricultural Experiment Stations.

New Jersey Agricultural Experiment Station Publication No. P-27200-01-99, supported by state, U.S. Hatch Act, and other U.S. Department of Agriculture funds.

Sincerely,

George M. Markle, Editor  
Associate Director  
Newsletter Team  
IR-4 Project

cc: Rutgers University Library of Science and Medicine  
ATTENTION: University Archivist/Gov't Doc. Dept.

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## IR-4 FOOD-USE PROGRAM

### IR-4 Food-Use Research - 1999

The 1999 research program has been finalized. IR-4 will be conducting 136 studies supported by 597 field trials. Five hundred and sixty six (566) of these trials will be conducted for magnitude of residue studies and 31 for efficacy and phytotoxicity studies. As always, the 1999 research program will likely have several “add-on” projects as the season proceeds. Most of the protocols have been finalized and test substance requests have been shipped to the cooperating registrants. The 1999 field season is already in full swing for many of our Field Research Directors!

**In 1999  
597  
Field Trials**

The number of field trials by region is as follows:

Northeast:	72
Northcentral:	88
Southern:	110
Western:	197
USDA-ARS:	121
Canada:	9
Total:	597

Everyone’s efforts to support the new IR-4 Timeline Plan (to complete these studies within 30 months of initiation) is greatly appreciated! Therefore, IR-4 will be making all efforts to complete these projects and have them submitted to EPA by April of 2001!

**Industry Meetings with IR-4 during the 1st Quarter 1999:** Several members of IR-4’s New Technology Team met with various industry groups to discuss IR-4’s new initiatives and programs to promote work with new pesticides. Please see the Presentations article in this Newsletter for more details regarding these meetings. Soon IR-4 Headquarters staff will start their annual tour of all the chemical companies to review cooperative projects and prepare for the 1999 Food Use Workshop that will be held in late August.

Article by Daniel Kunkel

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## IR-4 ORNAMENTALS PROGRAM

### New Pesticide Registrations for Ornamentals Supported by IR-4 Data

Since the last IR-4 Newsletter, 24 new ornamental use registrations have been obtained. They are represented by the following:

- Clethodim - Bleeding Heart, Coral Bells, Loosestrife
- Fludioxonil - Ageratum, Bolton Aster (Boltonia), Japanese Aster (Kalimeris), Bleeding Heart, Chrysanthemum,
- Dahlia, Silver and Gold Daisy (Ajania), Fescue, Geranium
- Uniconazole - Coleus

## Presentations This Quarter (Ornamentals Program)

J. Ray Frank, IR-4 Ornamentals Program Manager, made three presentations this quarter at the following meetings.

- Presented paper entitled: "IR-4 Ornamental Research for 1998". Also spoke on topic "FQPA - Impact on Ornamentals" as a part of the Section "Current Topics in Weed Management for the Green Industry" at the Northeast Weed Science Society (NEWSS) in Cambridge, Massachusetts, January 4-7, 1999.
- Presented paper entitled: "1998 Research with the IR-4 Ornamental Program" at the Weed Science Society of America (WSSA) Meeting in San Diego, California - February 7-11, 1999.
- Presented invited paper "The IR-4 Ornamental Research Program" at the Society of American Florists (SAF) 15th Conference on Insect and Disease Management on Ornamentals held in Ft. Lauderdale, Florida - February 20-22, 1999.

<b>Research Protocols for Ornamentals</b>	
IR-4 developed 101 ornamental protocols during this quarter. They include:	
29	Fungicides
34	Herbicides
29	Insecticides
3	Nematicides
6	Plant Growth Regulators
101	Total

## 1999 IR-4 / USDA Ornamentals Use Workshop

The 1999 Ornamentals Workshop will be held in conjunction with the IR-4 USDA-ARS Liaison Meeting during the week of October 18-22, 1999 in Portland, Oregon. The workshop participants will include state and federal researchers, and growers of floral, forestry, nursery and turf crops. The workshop will also include representatives of the agricultural chemical industry working with the Green Industry.

This year the three working groups will not meet concurrently to allow those who need to participate in more than one group to do so.

The three groups will include the entomologists (insecticides), plant pathologists (bactericides and fungicides), and weed scientists and plant growth regulator researchers (herbicides and PGR's).

**Pesticide Clearance Request Form:** To help in our planning, please get your needs in before the Workshop. It can be done electronically, see IR-4 Web Page, or with the actual form which has been included as an insert to this Newsletter. If more are needed, please copy. The standardized request form (insert) can be used for either the Ornamentals or Food Use Workshops.

Article by J. Ray Frank

## IR-4 BIOPESTICIDE PROGRAM

### Approvals

- IR-4 Petition Results in the Clearance of Formic Acid for Use In Honey Bee Hives for Control of Tracheal Mites and Suppression of Varroa Mites

In the last several years, several states as well as the USDA have submitted pesticide clearance requests to IR-4

requesting assistance in obtaining a clearance for formic acid for use in honey bee hives for mite control. IR-4 in cooperation with the USDA-ARS scientists at Weslaco, TX and Beltsville, MD obtained the necessary honey bee safety data and residue data required by EPA. After obtaining the necessary data, IR-4 Headquarters wrote a petition request-

Continued on Page 14

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## Approvals

Continued from Page 13

ing an exemption from the requirement of a tolerance for formic acid in beeswax and honey and submitted the petition to EPA. IR-4, in cooperation with MANN LAKE Ltd. and the USDA, prepared a data package to label a formic acid gel pack, which is a user friendly (reduced risk) formulation of formic acid. An exemption from the requirement of a tolerance for formic acid in or on beeswax and honey was established by EPA on 22 February 1999 ([Federal Register](#)). BETTERBEE Inc. is also pursuing registration of a formic acid gel pack.

2. Mating Disruption Pheromone for Control of Sparganothis Fruitworm in Cranberry Approved by EPA

In 1997 and 1998, IR-4 funded research in New Jersey under

the direction of Dr. Sridhar Polavarapu of the Rutgers Blueberry and Cranberry Research and Extension Center at Chatsworth, NJ to evaluate the efficacy and define the use parameters for the 3M microencapsulated formulation of (E)-11-tetradecen-1-yl acetate for the control of the sparganothis fruitworm. The field research was supported by IR-4 as well as by the cranberry growers and 3M Canada. Two applications at 50 to 125 mls/acre (10-25 grams ai/A) are recommended. The mating disruptant pheromone for management of Sparganothis fruitworm will reduce the use of organophosphate insecticides in cranberries. The microencapsulated (E)-11-tetradecen-1-yl acetate is now approved by EPA and is commercially available for the first time in the 1999 season. The use of mating disruptant pheromone fits into an Integrated Pest Management Program since it will not kill beneficial insects.

Article by Bill Biehn

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## IR-4 QUALITY ASSURANCE

### QA Focus - Training and 1999 Quality Assurance Planning (14th in a series of QA updates)

IR-4 Technical Training- "You should have been there!!!!"

The IR-4 program has held three outstanding technical training programs in 1999. The first was held January 13-14 in Gainesville, Florida, the second on February 2-3 in Davis, CA and the final on March 2-3 in Madison, WI. A large HOORAY goes out to the personnel that made these training workshops a huge success. The primary focus at all of these training workshops was to review the basics of calibration of application equipment, defining the different types of applications, review and revision of the Field Data Notebook, EPA inspection results, and hold a discussion of technical issues which affect the conduct of GLP trials. Speakers at these sessions included Wayne Currey of Weed Systems, Inc. (Florida and Wisconsin), Dan Kunkel (Florida), Ken Samoil (California, Florida and Wisconsin), Margaret Reiff (California), James McFarland (California and Wisconsin) and Tammy White (Florida and Wisconsin). The feedback from the participants in the training programs has been very positive. Opportunities to share experiences and ask questions of the Study Directors and each other are vital in our never-ending quest for improvements of our knowledge and to building quality systems. Dr. Neal Thompson, Chair of the IR-4 Administrative Advisors Committee and member of the Project Management Committee attended all three meetings.

#### QA Planning

The 1999 QA planning meeting was held on February 3 & 4 at the University of California, Davis. Attending were all

eight full time members of the IR-4 QAU and Dr. Neal Thompson. The 1999 field in-life critical phase target inspections were established. At the time of the QA planning meeting, 91 field trials were targeted for inspection during the 1999 research year. That accounts for 16% of the 566 scheduled IR-4 field residue trials for the 1999 season. Targeting decisions were made based on number of trials at a particular site, avoiding duplication of multiple field in-life critical inspections on a per study basis (in order to monitor as many studies while in the field as possible) and efficiency of utilizing QA resources. There were identified at the time of the planning meeting 60 Field Research Testing Sites conducting IR-4 research trials in 1999. This does not include the 9 Field Research Testing Sites conducting participatory trials as part of the NAFTA pesticide working group's joint projects.

The QA workload distribution was also analyzed during this meeting. As an average, it will take each QA person 174.25 day equivalents (DE) to complete the auditing required (in-life, data, reports, etc.) for the 1999 season. Actual distribution based on QA assignments ranged from 137 to 218 DE's per QA. The breakdown of workload on an office basis was:

IR-4 Headquarters 308 DE's  
IR-4 North Eastern 275 DE's  
IR-4 North Central 205 DE's  
IR-4 Southern 218 DE's  
IR-4 Western 388 DE's

Article by Tammy White

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## IR-4 Food-Use Workshop

IR-4 is pleased to announce the date for the 1999/2000 Food-Use Workshop. This year's Workshop is scheduled for August 25-27 in Denver, Colorado at the Adam's Mark Hotel. On-site registration fee is \$70.00. Based on your suggestions, the format for this year's Workshop has been slightly modified. The time allotted for the fungicide and insecticide workgroup sessions will be reduced by two hours. There will be plans for a reception one evening to allow workshop participants to discuss items in a more informal setting. When making your travel plans, please note the following schedule:

### Wednesday - August 25

8:00 am - 2:45 pm - Disease/Nematode Management Session  
3:00 pm - 5:00 pm - Insect/Rodent Management Session I  
Evening - Social

### Thursday - August 26

8:00 am - 11:45 am - Insect/Rodent Management Session II  
12:00 pm - 5:00 pm - Weed and Crop Management Session I

### Friday, August 27

8:00 am - 12:00 pm - Weed and Crop Management Session II

For further information or to register for the IR-4 Food Use Workshop please contact Cheryl Ferrazoli at 732-932-9575 ext. 601 or [ferrazoli@aesop.rutgers.edu](mailto:ferrazoli@aesop.rutgers.edu)

Pesticide Clearance Request Form: To help make this Workshop successful, please get new pesticide clearance requests in early. New requests can now be submitted electronically via the IR-4 Website (<http://www.cook.rutgers.edu/~ir4>). Of course, we still accept new requests via paper. For your convenience, a copy of the Pesticide Clearance Request Form is included as an insert to this Newsletter, as is the Workshop Registration form.

Article by Jerry Baron

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## New Technology Team (NTT) Report

The NTT continues to have discussions with agricultural chemical and biopesticide registrants about innovative methodology to manage pests with the goal of moving this new technology into minor crops pest management programs. A listing of these new pest control tools is available in the [New Products/Transition Pesticides List](#). This list has been added to the IR-4 Web Site. IR-4 plans on moving this information into a searchable database format by July.

Team members Bob Holm and Jerry Baron traveled to North Carolina to meet with cooperating registrants, BASF, Novartis, and Rhone-Poulenc. These meetings offered an opportunity to present IR-4's new campaign with new technology and discuss ways the respective organizations could better partner. Some other key items discussed included IR-4's role in developing preliminary performance data, European zone maps, and EPA petition review priority system.

In other activities, the NTT has issued two Requests for Proposals. The first one is for efficacy testing of advance stage biopesticides. Here IR-4 is willing to fund the develop-

ment of efficacy data to expand the label of registered biopesticides and for developing efficacy data for biopesticides for which the EPA Subpart M Tier I data requirements have been completed. The biopesticide proposals are due in by April 1, 1999.

The second NTT Request for Proposals is to fund investigations with new chemical pest control technology. The goal is to assist IR-4 in expediting the development of chemical pest management products needed to fill pest management voids for minor crops, especially with the development of EPA-identified Reduced-Risk chemicals and crop protection products considered "safer" for use on minor crops. The program will also cover research to identify alternatives for uses that are considered vulnerable as a result of FQPA and the methyl bromide phaseout. The proposals are due in by April 15, 1999.

For additional information on any of the above subjects, contact Jerry Baron at 732-932-9575 ext. 605 or [jbaron@aesop.rutgers.edu](mailto:jbaron@aesop.rutgers.edu).

Article by Jerry Baron

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# IR-4 Methyl Bromide Alternatives Program

## Background

Methyl bromide is a highly effective soil fumigant used extensively on several minor crops for broad spectrum control of soilborne diseases, nematodes, soil insects, and weeds. Approximately 40% of the worldwide supply of methyl bromide is used in North America (43 million pounds total produced annually). About 80% of the preplant use in the United States is used on two crops, tomatoes and strawberries, and primarily in two states, Florida and California. Other preplant crop uses include ornamental uses, peppers and other solanaceous crops, cucurbit vegetables and other high value minor crops.

Methyl bromide was listed as a Class 1 ozone depleting substance by U.S. EPA in December 1993. Accordingly, production and importation levels were frozen to the levels used in 1991 and it was then scheduled to be phased out entirely and no longer available for use after January 1, 2001. On October 20, 1998, President Clinton postponed the banning of methyl bromide in the U.S. until 2005 providing some relief to the urgency of finding and developing viable methyl bromide alternatives for agricultural uses.

## Methyl Bromide Alternatives Program

A New Technology Team (NTT) was formed at IR-4 Headquarters in 1998. The team recognized the importance of methyl bromide as a production tool and the economic impact that would occur for minor crop producers if viable alternatives are not available when methyl bromide is no longer available. The team gave high priority to the discovery and the development of safe products and new technologies that have the potential of filling the crop protection void that will be created when methyl bromide is phased out. The team recognized that much good work has been done and is ongoing with the standard products currently used to control the spectrum of pests controlled by methyl bromide. These products include Metam Sodium (marketed in the U.S. by three companies: UCB Corporation, Sundance Corporation, and Amvac Corporation), Telone (sold by Dow AgroSciences as Telone C-17 and C-35), Chloropicrin alone (produced by Niklor Chemical Company, Inc. and marketed by several formulators), and Methyl Bromide (sold in combination with chloropicrin by Great Lakes Chemical, Inc.).

An accepted weakness of all of the above standard products is lack of, or poor, control of annual and perennial weeds. IR-4 has programs ongoing to address this weakness for tomato producers (petitions pending EPA acceptance for metolachlor and pendimethalin) and IR-4 has also initiated a

new program evaluating halosulfuron for crop safety and for control of the especially problematic perennial weeds, yellow and purple nutsedge in tomatoes. IR-4's NTT is also partnering with DNA Plant Technologies and Monsanto in the development of transgenic plants tolerant to glyphosate applications. This unique approach to control weeds in strawberries will be coupled with the standard programs with metam sodium and Telone for broad spectrum pest control in this crop. IR-4 is also planning to evaluate new and yet to be registered products as methyl bromide alternatives for strawberries and tomatoes. These products include Plantpro 45, an iodine based product, from Ajay, North America; Dazitol, a natural product from Champon Natural Products; Basamid/Dazonet from BASF; and Enzone (sodium tetrathiocarbonate) from Entek Corporation. The actual void that these products will fill is yet to be determined.

IR-4, through ongoing contacts with agricultural chemical companies, becomes aware of products and product combinations that can control pests currently controlled by methyl bromide. A specific example is the use of a product from Novartis, fluodioxonil (CGA-173506) which provides excellent control of root rot/vine decline (*Monosporascus cannonballus*) of cucurbit vegetables in Texas, Arizona and California. IR-4 is in a position to give high priority in the development of fluodioxinil as a methyl bromide alternative for U.S. cucurbit producers. Specific plans for this example must still be agreed to by Novartis. This example applies to cucurbit vegetables but serves to make the point that IR-4 is in a uniquely favorable position to obtain information on new products much faster than most other groups.

IR-4 plans to incorporate cultural practices into its methyl bromide alternatives program and is currently discussing with Speedling, Inc. the evaluation of plug versus bare rooted strawberry plants across the standard methyl bromide alternative fumigation treatments. Another possible variable under discussion for the same purpose will be to evaluate the benefits of various chilling periods on the vigor and subsequent favorable growth responses versus the damaging effects of soilborne diseases and nematodes on less vigorous plants.

## Funding

IR-4's methyl bromide alternatives program will be funded primarily through contributions from interested third party cooperating companies. Currently, unless a company contributes to the IR-4 program monetarily, their product cannot be included. IR-4's program will be coordinated from Headquarters but run by contract research organizations strategically located in the centers of U.S. production areas

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# IR-4 Methyl Bromide Alternatives Program

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for strawberries and tomatoes (California and Florida). Plant Sciences, Inc., Watsonville, California is tentatively scheduled to conduct California trials and it is also planned that they will have the "oversight" responsibility for the program. Also it is currently planned that Bob Johnson, of Ag. Consulting, Inc. will conduct the trials in Florida and will provide data back to Plant Sciences, Inc. for statistical analysis and incorporation into a single report.

## Recent Meeting

Jack Norton met in Salinas, California on 22 March 1999 with representatives from the USDA-ARS, University of California, and the California Strawberry Commission involved in methyl bromide alternative research and reviewed IR-4's tentative plans for strawberries and tomatoes. Members of IR-4's methyl bromide alternatives advisory board were present and along with other researchers involved, contributed significantly in an advisory capacity to the planned IR-4 program. This meeting was hosted by Dr. Jim McCreight, USDA-ARS (Salinas).

## Advisory Board

Several scientists from USDA-ARS, universities in California and Florida and from the private sector have agreed to serve in an advisory capacity for the IR-4 methyl bromide

alternatives program. Their input is highly valued by IR-4. Members of the Advisory Board include:

- Mr. Dan Botts, FFVA, Orlando, FL
- Dr. Dan Chellemi, USDA-ARS, Ft. Pierce, FL
- Dr. Edwin Civerolo, USDA-ARS, Davis, CA
- Dr. John Duniway, Department of Plant Pathology, UC-Davis, Davis, CA
- Dr. Steve Fennimore, UC-Davis, Salinas, CA
- Dr. Jim Gilreath, University of Florida, Bradenton
- Dr. Roy Gingery, USDA-ARS, Beltsville, MD
- Dr. Bob Johnson, Ag. Consulting Inc., Mt. Dora, FL
- Dr. Charles Meister, IR-4, University of Florida, Gainesville
- Dr. Mike Nelson, Plant Sciences, Inc., Watsonville, CA
- Dr. Joe Noling, University of Florida, Lake Alfred, FL
- Mrs. Margaret Reiff, IR-4, UC-Davis, Davis, CA
- Dr. David Rickard, Private Research Consultant, Westfield, IN
  
- Dr. Frank Westerlund, CA Strawberry Commission, Watsonville, CA

Members of the Advisory Board have agreed to provide critical reviews of IR-4's research plans, as they are developed, and, when necessary, to meet with IR-4 to discuss data and/or changes in the program.

Article by Jack Norton

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## The EPA/IR-4 Technical Working Group

The first of a series of meetings that will occur approximately quarterly between the IR-4 Headquarters staff and key scientists from the Environmental Protection Agency (EPA) was held on 25 January 1999, at IR-4 Headquarters, Rutgers University, North Brunswick, NJ. Visiting scientists from the EPA included Hoyt Jamerson, Bernie Schneider, Jeff Herndon, and Sidney Jackson.

The goal of these meetings is the creation of a more efficient system of IR-4 data submission and EPA review. The need to accelerate this process, particularly with regards to reduced-risk and other new pesticides, was increased with the passage of the Food Quality Protection Act. Relations between IR-4 and EPA have always been good, but it had become clear that certain issues could not be resolved via telephone calls or e-mail. Face-to-face meetings, with the immediate exchange of ideas, were needed to hammer out improvements to the current system.

Two major accomplishments were achieved at the first meeting. The first was an agreement by IR-4 to begin including a series of summary tables in its petitions that will expedite EPA review. These tables include Dietary Residue Considerations and Field Trial Residue Data, and summarize the field and analytical data in the manner that has been done by EPA reviewers. By preparing the tables as integral parts of the petitions, the time needed for review by EPA should be reduced substantially. Jeff Herndon presented draft versions of these tables at the January meeting. Minor revisions have been made by the IR-4 staff, and all new petitions not yet in the internal review process will include them.

The second major accomplishment was an agreement by EPA to accept a reduced residue data set for the registration of spinosad, a reduced-risk insecticide, on most minor crops. The direct savings to the IR-4 Project from this agreement

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## The EPA/IR-4 Technical Working Group

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has been calculated at \$550,000. The reduced data requirement will lead to reduced review time at the Agency, which means that minor crop growers across the country will get to use this safe, new compound much sooner than they could normally expect. Read the article by Keith Dorschner in this newsletter for more details.

The next meeting in this series was held on 18 March in Crystal City, Virginia. The agenda included a discussion of potential data requirement reductions for azoxystrobin, glyphosate, and sodium tetrathiocarbonate uses on minor crops, a demonstration of the EPA Food and Feed Vocabulary database, a preliminary discussion of guidelines for residue

decline data, draft procedures for IR-4 submissions of reduced-risk pesticide uses and registrant-generated data, and updates of issues from the previous meeting. The spirit of cooperation seen at the January meeting was still in evidence. Additional participants from EPA included Will Donovan, Bill Wassell, Dave Miller, Rick Keigwin, and Yuen-Shaung Ng. Tom Rabaey of Pillsbury also sat in. The two groups plan to meet again during the late spring or summer. By continuing to discuss how we may more efficiently use our resources, we can more effectively do our jobs, which will result in earlier decisions on new pest management tools and will benefit growers and consumers alike.

Article by Ken Samoil

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## Status Report - Specific IR-4 FQPA Objectives

In 1998, IR-4 established research projects designed specifically to address problems that could occur as a result of FQPA. One of IR-4's objectives was to mitigate risk of the fungicide, benomyl, by reducing the level of theoretical dietary exposure by at least one order of magnitude when used according to labeled directions for use on *Agaricus* type mushrooms; a secondary objective is to register benomyl for control of *Trichoderma* green mold on *Agaricus* type mushrooms (IR-4 PR#06954).

The 10 ppm residue tolerance established for benomyl in/on mushrooms is thought to be greatly exaggerated based on the use pattern actually needed to protect the crop. The use pattern needed for control of *Trichoderma* green mold would almost certainly result in much lower residues than the present use pattern that includes a postharvest treatment and a short, 2-day pre-harvest interval, and applications between the breaks (harvests).

### 1998/1999 Research - Benomyl Mushrooms

Residue trials were run in Pennsylvania and in California and although results are tentative at this time, there is no question that residues are considerably lower than the established 10 ppm tolerance level. Spawning plus casing

applications result in less than 1.0 ppm benomyl residues. If a pinning application is used, preliminary laboratory data show residues to be above 1.0 ppm or higher than the objective of reducing residues by an order of magnitude. We will likely propose that the use of the product be limited to spawning and casing applications only. However, the final decision will be made in conjunction with the mushroom growers.

### 1998/1999 Research - Switch Fungicide

Another objective of IR-4 was to assist Novartis in the development of Switch (a combination product containing cyprodinil and fludioxonil) as an alternative to iprodione (Rovral) and captan for control of *Botrytis* on caneberries (IR-4 PR# 06838). IR-4 also agreed to provide support to Novartis for the registration of Switch for control of *Botrytis* on strawberries and onions (IR-4 PR#s 06790, 05033). These objectives have been given high priority and significant progress has been made. An optimistic scenario is that Switch could be registered for use on strawberries as soon as 2000. IR-4 will submit the results of caneberry residue trials 4Q/99 - 1Q00 with a request for expeditious review. These IR-4 objectives are on target as planned.

Article by Jack Norton

# IR-4 Web Page:

## Minor Crop Pest Management Information on the Web

<http://www.cook.rutgers.edu/~ir4>

Since the last Newsletter, we have added a few very important and useful features as follows:

### IR-4 News and EPA Submissions

In this section, we have added information regarding IR-4 petitions submitted to EPA in 1999, IR-4 petitions scheduled for review by EPA in 1998-1999 & 1999-2000, and IR-4 petitions scheduled for submission to the EPA in 1999. This information will be extremely useful to farmers, grower groups and university agricultural extension specialists as well as the EPA, who will be able to learn which IR-4 petitions have been submitted to the agency, and which are scheduled to be submitted. This will assist the agency and states in planning and/or scheduling reviews of IR-4 petitions and Section 18's supported by IR-4.

### New Pesticide Chemistries

This section contains a list of new pesticides with potential for use on minor crops which was compiled by Jerry Baron. The list is not an endorsement by IR-4 of any particular pesticide or manufacturer. It is extremely useful to farmers and grower groups who are interested in finding safer and more effective solutions for their pest problems. This is IR-4's proactive way of helping farmers comply with the Food Quality Protection Act (FQPA).

### New Clearances

This section lists those uses petitioned by IR-4 and cleared for use by the EPA. Currently, this list contains clearances obtained by IR-4 in 1997, but will reflect all clearances obtained by IR-4 from 1997 onwards.

### Pesticide Clearance Request Form

This is fully operational and several cooperators have been inquiring about this feature, however, only a few have been actually using it. It is very simple, just answer the questions in the spaces provided. You will not be able to send the form until certain information has been entered. Once submitted, this form will automatically be e-mailed to Jerry

Baron in the same format as the hard copy (paper format). A copy will be forwarded to the appropriate Regional Coordinator(s). If you have any questions or need assistance in using this feature, please do not hesitate to call Johannes Corley. He can assist

you in filling out the electronic request.

Again, there are several new features in the IR-4 web page that are being updated every week. News about the Biopesticide grant availability can be found in the Biopesticides Section. Some sections are still under development, so please bear with us while we continue to improve our web page. Your ideas and suggestions are extremely important, please keep them coming.

Article by Johannes Corley

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## Insecticide News: Spinosad Update on Reduced Residue Data Set

Spinosad is the active ingredient in Success<sup>R</sup> and SpinTor<sup>R</sup> insecticides from Dow AgroSciences. It is a fermentation product of a soil bacterium and has wide margins of safety to man and the environment. Spinosad is also a highly effective insecticide active against Lepidoptera larvae, thrips, leafminers, and certain other pest species including the Colorado potato beetle. The EPA has thoroughly reviewed the toxicological and environmental fate data associated with spinosad and has determined that it is a reduced risk insecticide and a potential organophosphate replacement. Spinosad's low toxicity, low use rates, and short half-life in sunlight were just a few of the factors EPA used to come to this decision.

IR-4 has received requests to register this product on almost every crop group and on many miscellaneous crops. Recognizing both the need for spinosad on minor crops and the EPA's level of comfort with the chemistry, IR-4 developed a plan to move spinosad into minor crop agriculture as soon as possible. The plan involved reducing the numbers of crops and field trials compared to what would normally be required for a more traditional chemical pesticide. We then presented our proposal to EPA's Jeff Herndon for consider-

ation and held our breath waiting for his response.

Much to our delight, Jeff was very receptive to our proposal and approved it with only minor changes. IR-4 will perform the research required to register spinosad on every minor crop with an identified need during 1999. Between the registrant and IR-4, spinosad will end up being registered for 19 miscellaneous crops in addition to crops in the following Crop Groups: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 19. Under this plan with our 1999 research, IR-4 will complete all current requests for spinosad. We estimate that the adoption of our proposal by EPA will save IR-4 at least \$550,000 in direct costs of conducting field trials and sample analysis. When the adoption of crop grouping by the proposal is considered, the savings balloon to approximately \$6,530,000.

In the future, IR-4 will use similar logic to expand the registrations of other reduced risk pesticides for minor crops. You just never know what is possible until you put your heads together, come up with a sound proposal, and ask!

Article by Keith Dorschner

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## Fungicide News: Azoxystrobin and Sodium Tetrathiocarbonate Reduced Residue Data Programs Accepted by EPA; and Fungicide Working Groups

### Azoxystrobin

As a follow-up to the spinosad success story noted above, IR-4 requested and received from EPA a reduction in the residue program for the Reduced Risk fungicide, azoxystrobin, on minor crops. These reductions were implemented in the 1999 field residue program resulting in a savings of 37 field trials and the subsequent analyses. EPA has become familiar enough with spinosad and azoxystrobin for them to accept surrogate data for many crops. The safety of these two compounds is paramount to this process. Some of the reductions are listed below.

#### Crop Group 5. Brassica Leafy Vegetables

IR-4 has developed a 9 trial data package for mustard greens that is nearly complete (only 5 required if part of the crop group). IR-4 plans to conduct residue trials on broccoli and cabbage in the 1999 growing season. IR-4 proposes that we conduct 3 trials on broccoli and 3 trials on cabbage instead of the required 6 trials for each commodity.

#### Crop Group 13. Berries

IR-4 has nearly completed a 7 trial data package for strawberries and a 7 trial data package for blueberries. These data packages should be submitted to the Agency in

late 1999 or early 2000. IR-4 plans to conduct additional trials on caneberrries and cranberries in the 1999-growing season. The required number of trials for caneberrries and cranberries is 5 trials each. IR-4 would like to reduce the number of trials to 2 trials for caneberrries in the Pacific Northwest where approximately 75% of all caneberrries are grown. IR-4 would like to reduce the number of trials to 3 for cranberries (one in the east, one in Wisconsin and one on the west-coast). Some field trials were maintained to allow the data to be used for both U.S. and Canadian registrations. These data should allow the berries crop group to receive a tolerance as well as any berries outside of the crop group if the use-pattern is the same.

#### Asparagus

The use-pattern for asparagus is such that no fungicide is applied to the growing spears that will be harvested. The need for disease control is on the growing ferns that are allowed to develop after all harvesting is completed for that year. The ferns provide nourishment to the roots for the next production cycle. The normal use-pattern results in a PHI of greater than 150 days for nearly all of the U.S. In California there is an additional use-pattern that has only a 30 day PHI. In these areas the ferns are allowed to grow in spring, instead of harvesting at that time. The ferns grow through mid- to late-July and then they are mowed down, the field irrigated

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# Fungicide News

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and fertilized, and the spears begin to appear in 30 days. Once again, the ferns are sprayed, not the growing spears for market. IR-4 would like to obtain the tolerance by conducting only 2 trials in California utilizing the 30 day PHI use-pattern. This should represent the worst case and should indicate that no residues are present, even after this short PHI.

## Enzone (sodium tetrathiocarbonate)

IR-4 recently requested and received a reduction in the residue program for Enzone. Enzone is a potential partial replacement for methyl bromide in some situations. Enzone (sodium tetrathiocarbonate) rapidly converts to carbon disulfide once it is applied. Carbon disulfide, the pesticidal agent, rapidly dissipates such that there are no residues present above natural background level at 14-days after application. This fact was used to obtain an agreement with EPA that only data from representative crops was necessary to show that there are no residues above background levels at 14 days after application. The representative crops are radish, lettuce (leaf) or spinach, summer squash, snap beans or peas, mustard greens, strawberries, green onions, and tomatoes. EPA requested that we include wheat to cover grain crops. EPA accepted the proposal regarding all non-root crops; however, they expressed some concern about bound residues on root crops. Root crops will be evaluated

on a step by step basis to determine if there is some point in time after which residues have returned to background levels.

## Fungicide Management Program Evaluation and Needs

Selected fungicide working groups will meet at the upcoming joint meeting between the American Phytopathological Society and the Canadian Phytopathological Society in Montreal, Canada on August 7-11, 1999. The fungicide management programs of selected EPA Crop Groups will be discussed at initial meetings of some of the fungicide working groups that have been organized by IR-4. The crop groups to be covered include: Crop Group 3 - Bulb Vegetables, Crop Group 4 - Leafy Vegetables, Crop Group 5 - Brassica Leafy Vegetables, Crop Group 2 - Leaves of Roots & Tubers, Crop Group 9 - Cucurbit Vegetables, Crop Group 13 - Berries, Crop Group 11 - Pome Fruit, Crop Group 12 - Stone Fruit, and Crop Group 14 - Tree Nuts. This meeting will discuss the present situation and help to identify present and future needs for research and registration. The IR-4 Food-Use Workshop will occur shortly after this meeting and the input from these discussions will help to determine the projects for 2000. I hope that some of you will be there. For further information contact David Thompson at [dthompson@aesop.rutgers.edu](mailto:dthompson@aesop.rutgers.edu) or (732) 932-9575 ext. 613.

Fungicide News Article by Dave Thompson

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# Meet Our New Study Directors

## Marija Arsenovic

Marija Arsenovic joined IR-4 Headquarters in January 1999 as an Associate Coordinator in Weed Science. She spent the past 6 years as a Research Associate in Weed Science, involved in field and greenhouse research program for Weed Management in Vegetable Crops, and in IR-4 residue trials in the Department of Fruit and Vegetable Science, Cornell University, Ithaca, NY. Also at that time, she taught a "Weed Science" course in the Department of Soil, Crop and Atmospheric Science, at Cornell University. Previous to that, Dr. Arsenovic was Associate Professor in Weed Science at the University of Novi Sad, Yugoslavia, and served as a reviewer on Yugoslavian Pesticide Registration/Regulation Board. She has experience in weed science for twenty years and fifty scientific and extension publications. Please join us in welcoming Marija to IR-4 by contacting her at (732) 932-9575 ext. 609; [arsenovic@aesop.rutgers.edu](mailto:arsenovic@aesop.rutgers.edu).

## Michael Braverman

Michael Braverman recently joined the IR-4 Headquarters staff as an Associate Coordinator in Weed Science. Dr. Braverman was previously the Director of Field Research at EPL BioAnalytical Services in Florida where he conducted GLP research on vegetables and citrus. Prior to working at EPL, he was an Assistant Professor at Louisiana State University where he conducted weed control research in rice and developed an extensive research program in glufosinate resistant rice. From 1989 to 1991, he worked as an Extension Vegetable Specialist with Texas A&M. While at Texas A&M he conducted weed control research in

vegetable crops in the Rio Grande Valley. He also conducted several IR-4 trials in Texas. He earned his Ph.D. in Vegetable Crops at the University of Florida under the direction of Joan Dusky and Sal Locascio. His international experience includes numerous consultations with growers in Latin America and Mexico, and as a Fulbright Scholar to Thailand. Please join us in welcoming Michael to the program by calling him at (732) 932-9575 ext. 610; [braverman@aesop.rutgers.edu](mailto:braverman@aesop.rutgers.edu).

## Fred Salzman

Fred Salzman has joined the IR-4 Project Headquarters effective March 15, 1999 as Herbicide Coordinator. Prior to joining IR-4, Fred was at American Cyanamid for over seven years where his most recent position was in Environmental Sciences as Study Director for field residue studies. In addition to RAC studies, Fred had experience with soil rate of dissipation (ROD) studies, and developed the protocol and field method for a non-standard, washoff study. Before he was in Environmental Sciences, Fred was in Herbicide Discovery where he conducted and coordinated greenhouse studies and field trials. Fred earned his Ph.D. in Crop and Soil Sciences at Michigan State University under the direction of Dr. Karen Renner. He also has extensive, first-hand weed control experience gained by growing up on a cash grain farm in Illinois. Fred can be reached at IR-4 by calling (732) 932-9575 ext. 625; [salzman@aesop.rutgers.edu](mailto:salzman@aesop.rutgers.edu)

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## IR-4 Headquarters - Presentations/Participations

- D. Thompson at the North American Strawberry Growers Association Meeting, 2/5-10/99 in Orlando, FL. "Minor Use Registrations - The IR-4 Program" and "What's Coming in Fungicides".
- D. Thompson at the Northeast/Potomac Divisions of APS Joint Meeting 3/10-12/99 in Annapolis, MD.
- T. White at the Southern IR-4 Technical Training Meeting 1-12-99 in Gainesville, FL. "EPA Inspection Results".
- T. White at the Northcentral IR-4 Technical Training Meeting in Madison, WI. "EPA Inspection Results".
- J. Baron at the Northeast Weed Science Society of America Annual Meeting, 1-6-99. Moderate FQPA Symposium.
- J. Baron at Canada Horticulture Society Meeting, 1-29-99. "IR-4 Projects: Concept, Operation and Interactions with Stakeholders".
- J. Baron at Ohio Vegetable Growers Association, 2-3-99. "Minor Crop Pest Management in the Next Millennium".
- D. Kunkel at the Southern IR-4 Technical Training Meeting 1-13-99 in Gainesville, FL. "Field Databooks".
- K. Samoil at the Southern IR-4 Technical Training Meeting 1-12-99 in Gainesville, FL. "Calibrations".
- K. Samoil at the Western IR-4 Technical Training Meeting 2-2-99 in Davis, CA. "Calibrations/Field Databooks".
- K. Samoil at the Northcentral IR-4 Technical Training Meeting 3-2-99 in Madison, WI. "Calibrations/Field Databooks".
- J. Norton at the NPIRS 1999 Conference 2/24-26/99 in Hilton Head, NC. "IR-4's FQPA Initiatives", "Methyl Bromide Program", "Data Searches through NPIRS".
- R. Frank - Refer to the IR-4 Ornamentals Program section of this Newsletter.
- R. Holm - IR-4 Changing Role in FQPA Implementation to the Northeast Weed Science Society Meeting on 1-5-99 and to the Washington State Commission on Pesticide Registration on 1-20-99.
- R. Holm - "IR-4 Update and Role in Minor Crop Agriculture" to Minor Crop Farmer Alliance Technical Committee on 1-6-99, CSREES Plant and Animal Department Staff on 2-2-99, Office of Pest Management Policy on 2-3-99, ARS National Program Staff on 2-3-99, Agricultural Research Institute and AESOP on 2-4-99, Meister Publishing Editorial Staff on 2-10-99, BASF R&D Team on 3-2-99, North Carolina State University Horticulture Department on 3-2-99, Novartis R&D Team on 3-3-99, Rhone-Poulenc Agricultural Company R&D Team on 3-4-99, EPA Biopesticide and Pollution Prevention Division on 3-19-99, FMC Commercial Team on 3-26-99, and the University of Florida Food Science and Technology Seminar series on 3-30-99.

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## Washington, DC Report

This report will describe the "Fee for Service" issue, an update on the many partnerships that are being developed and enhanced, and some budget commentary.

### Fee for Service

This issue has been discussed at various meetings throughout the Washington, DC area. Each particular group has its own viewpoint. Presented is an IR-4 view using information synthesized from several sources. The Fee for Service will be charged by EPA to registrants to cover the costs incurred by the Agency of registering a new "conventional chemical". Payment of the fees will obligate EPA to completion of review by specified dates. IR-4 will be exempted from fees; however, there will be no base budgetary protection for IR-4 submissions. Thus if the fees are looked upon as enhancements to the EPA budget, then resources would be available to handle IR-4 petitions. If the fees are considered budgetary offsets, then resources to act on IR-4 petitions may be in short supply. EPA personnel indicate that every effort will be made

to continue processing of IR-4 petitions in an expeditious manner, unless policy makers decide otherwise. We must be alert to this issue. Hopefully implementation of the Fee for Service will include a provision within the Agency that assures the continued efforts to review IR-4 submissions in a timely fashion.

### Updates

There continues to be excellent progress in forging partnerships between IR-4 and USDA partners and with USEPA. Good relations initiated in late 1998 have been enhanced with American Crop Protection Association (ACPA) and new partnerships are being developed with Agricultural Research Institute (ARI), Aesop Enterprises and the National Food Processors Association.

### USEPA

EPA has many public meetings which include Tolerance Reassessment Advisory Committee (TRAC) and Pesticide

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# Washington, DC Report

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Program Dialogue Committee (PPDC). The Biological and Economic Analysis Division (BEAD) also conducts a seminar series where experts present discussions of pest management in specific crops. Over the past three months, seminars on carrot production, processing and disease management and on pistachio production have been held. These are excellent updates on current production issues.

Pat Cimino is holding regular meetings of the Minor Use Team (MUT). This group is composed of one or more representatives from each of the Divisions within the Office of Pesticide Programs (OPP), USDA's Office of Pest Management Policy (OPMP), and IR-4. Efforts are being made to develop a set of objectives and goals for this group, as well as defining some specific issues that need to be addressed.

Hoyt Jamerson has been instrumental in arranging for meetings between IR-4 and Jim Jones, Registration Division and Margaret Stasikowski, Health Effects Division (HED). Recent meetings with these two individuals and their support staffs were extremely productive and fruitful. Considerable progress was made on issues such as Reduced Risk justification for minor crops, and plans for petition submissions by IR-4 over the coming years. These plans have sufficient detail to allow both EPA and IR-4 to enhance efficiencies through the effective utilization of resources. Approaches to be used include submitting as many petitions for a single active ingredient as possible and submitting advance information on the number of field trials, etc. so that HED can plan for the efficient use of resources. Tremendous progress has been made in working with the Agency.

One other component of working with the Agency is through quarterly meetings of IR-4 and EPA Scientific Staffs. These are proving to be highly productive sessions. The January meeting held at Headquarters made tremendous progress on having spinosad registered for use on all crops where needs have been identified, and on many other issues.

## USDA

Bob Holm has made several presentations this past quarter. In early February, he made presentations to the OPMP, the Cooperative State Research, Education and Extension Service (CSREES) National Program Leaders and invited individuals including EPA and Office of Budget and Program Analysis (OBPA) personnel, and the Agricultural Research Service (ARS) National Program Staff at Beltsville, MD.

## Private Sector

Bob Holm and Willis Wheeler had lunch with John McCarthy, ACPA for mutual updates. It was a productive discussion about several of the initiatives previously described.

Bob Holm made an IR-4 presentation to the Agricultural Research Institute (Dick Herrett) and to Aesop Enterprises (Terry Nipp and associates) at their offices. An excellent discussion of issues followed the presentation.

Bob Holm and Willis Wheeler met with senior personnel of the National Food Processors Association. Discussions included a number of topics of mutual interest.

## Budget

A Summary of the President's Budget Proposal for USDA-CSREES as Presented to the Congress of the United States

In early February 1999, the President of the United States presented the budget for FY 2000 to Congress. The Cooperative State Research, Education, and Extension Service's budget is \$948,012,000 which is an increase of 2.6% over last year for discretionary budget items, and \$152,500,000 for mandatory funds. The complete text of "A Summary of the President's Budget Proposal for USDA-CSREES as Presented to the Congress of the United States" is located at <http://www.reeusda.gov/budget/proposal.htm>.

For IR-4, there is a budget request of \$10.711 million, which is an increase of \$1.721 million. The IR-4 budget increase is presented as a line item in CSREES's budget as Special Research Grants. The IR-4 program has had a commitment from the USDA for a number of years, being a part of the Departmental effort of pest management and linked with Integrated Pest Management and Biological Control program, the Pesticide Impact Assessment Program, Pest Management Alternatives, Expert IPM Decision Support System, and Critical Issues program.

In the past, the Department has had requested increases for IR-4, but in many years Congress has not appropriated that increase. The IR-4 program has strategically positioned itself to effectively use this proposed budget increase, and it is hopeful that Congress will approve this increase.

Article by Willis Wheeler and James Parochetti

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## Crop Profiles (Article 1)

The Food Quality Protection Act (FQPA) emphasizes the importance of collecting crop production and pest management information for major and minor crops grown in the United States. The USDA, through the Office of Pest Management Policy (OPMP) and the land-grant institutions introduced Crop Profiles as a means of gathering this vital information.

Crop profiles are designed to tell the story behind producing a crop in a given state or region. The profile includes production facts (geographical regions and production numbers), the cultural practices used to produce the crop, information on the individual pests (insects, weeds, diseases, nematodes, mammals, and birds), and describes the management tools used to control those pests (chemical, cultural, biological, post-harvest) when they occur in that crop. Particular attention is given to IPM and Resistance Management Programs and how the various tools play a role in these management tactics. Crop profiles also identify key contact persons for each commodity.

The crop profile initiative began in the spring of 1998. Now over 500 crop profiles on more than 100 crops are being produced at the land-grant institutions by the State Liaison Representatives (SLRs) in the USDA Pesticide Impact Assessment Program (PIAP). Each SLR identified crops important to their state or crops with important pesticide uses that are currently under review by the EPA, particularly those pesti-

cides classified as organophosphates (OPs), carbamates, or possible carcinogens. The SLRs are drawing from recent information within their states and are working with state agricultural specialists, farmers, commodity groups, crop consultants and other knowledgeable sources to provide the most accurate, current crop profile possible.

To make certain that the information in the profile is current and accurate, the SLRs have their peers, crop and pest specialists at the land-grant institutions, commodity groups, growers, extension agents, etc. review and edit the information. Only after all interested parties are satisfied with the crop profile will the SLR pass it on to be placed on the OPMP/PIAP website. As production numbers or cropping practices change over time, a process to update crop profiles on the website has been established and changes will be reviewed in the same manner as the original profile.

All Crop Profiles will be available on the Web. As of March 1999 there were 58 crop profiles on the OPMP/PIAP website. Approximately 150 more are scheduled for completion by September. Hundreds of crops have been identified (see the status list on the website) and the land-grant institutions will be developing these profiles over the next several years.

To view the OPMP/PIAP Homepage and Crop Profile Website use the following address and follow the online instructions: <<http://ipmwww.ncsu.edu/opmppiap/>>

**NOTE: Article 2 will appear in the next issue**

Article by Wilfred Burr  
USDA/OPMP

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## Tolerance Reassessment Advisory Committee (TRAC) “Update” Meeting, Washington, DC, February 25, 1999

The TRAC “Update” was substituted for the previously planned “full” TRAC meeting scheduled for Washington, DC on February 25 and 26. This update was one of two that have now taken place. In addition to this “update East”, there was an “update West”, held in Phoenix on March 2, with agricultural tours.

The next TRAC Meeting is scheduled for April 27-28, 1999 and will be held in Washington, DC.

The session was primarily an update presented by EPA staff. There was very little discussion by TRAC members.

The EPA personnel present and involved were: Susan Wayland (Acting Assistant Administrator), Jim Aidala (Associate Assistant Administrator), Marcia Mulkey (Director, OPP), Bill Jordan, Anne Lindsay, Lois Rossi, Kathy Davis, and Margie Fehrenback. USDA personnel included Keith Pitts (Special Assistant to the Deputy Secretary) and Allen Jennings (Director, OPMP).

Article by Willis Wheeler

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## EPA Pesticide Program Update

In this update:

- 1) FY 1999 Pesticides Registration Workplan
- 2) Preliminary Organophosphate Use Data

- 1) FY 1999 Pesticides Registration Workplan

In an effort to increase the transparency of its pesticide registration process, EPA has published the Office of pesticide Programs (OPP) FY 1999 pesticides registration workplan. During the fiscal year, OPP anticipates making registration decisions for 13 new chemicals, 75 new uses, and 23 inert ingredients. The workplan covers registration of almost all pesticides except high priority antimicrobial pesticides and biopesticides which are managed through other processes within OPP. A copy of the workplan is available on EPA's website at <<http://www.epa.gov/opprd001/workplan>>

- 2) Preliminary Organophosphate Use Data

EPA has released detailed information on organophosphate pesticide use patterns for ten food crops: apples, Brussels sprouts, oats, rye, peaches, pears, rice, sorghum, soybeans, sugarcane and tomatoes. The Agency has posted the

information on the Internet in draft table format or "matrices" for review and comment by growers and other interested parties. EPA will use the data in its reassessment of existing tolerances (residue limits) for pesticides on foods under the new safety standard required by the 1996 Food Quality Protection Act (FQPA). Website is <<http://www.epa.gov/oppread1/matrice>>

EPA distributes its Pesticide Program Updates to external stakeholders and citizens who have expressed an ongoing interest in OPP activities and decisions. This update service is part of EPA's continuing efforts to improve public access to critical information.

For information about ongoing activities in the Office of Pesticide Programs, visit EPA's homepage at: <<http://www.epa.gov>> or call or write directly at:

Communication Services Branch  
Office of Pesticide Programs (7506C)  
US Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
703-305-5017

Article by Bernie Schneider and  
Hoyt Jamerson

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## Weed Science Society of America - 1999 Annual Meeting Highlights

The Herbicides for Minor Uses Committee meeting discussion centered around IR-4 and our activities with herbicides. Fred Salzman was introduced as the new IR-4 Weed Science Coordinator. A resolution was drafted that called for CSREES funding of \$10.7 million for FY 2000 and an increase of resources for USDA-ARS minor use program. The Chair of the Committee, Dave Monks, suggested that the Committee get more active in minor use issues. Discussion progressed to FQPA, pest management voids and the availability of preliminary performance data to support IR-4 residue trials. The group agreed that FQPA will increase the number of weed control voids in minor crops. Currently, there is little funding and effort to do wide spread screening of the new herbicides. Carl Bell told the committee about California's successful endeavor to get a USDA-Pest Management Alternative Program grant to screen herbicides on minor crops. The discussion focused on how WSSA's Herbicides for Minor Use Committee could assist in coordination of screening. Various options were presented. The Committee felt the best option was to reestablish/reform the old commodity committees and commodity champions. With the advent of electronic communication, these committees could operate

effectively without too much effort. Finally, Dan Kunkel provided a detailed update of IR-4 research and registration activities. Dr. Rob Hedberg was introduced as the national and regional weed science societies Director of Science Policy (DSP). One of his goals involves FQPA. There is real concern that use data are not getting to EPA in a format the EPA can or will use in refining their risk assessments. Overall, the quality of these talks, both in technical content and presentations was extremely high. See one of the meeting attendees for details if you have questions.

Finally, the WSSA held a FQPA Symposium. This was coordinated by Dan Kunkel and Mike Blumhurst of EPL Bio Analytical. This symposium was well attended and provided the membership with some of the most up-to-date information on FQPA. Speakers included M. Merrandia (EPA), A. Jennings (USDA), D. Kunkel, R. Hedberg, K. Cook (Environment Working Group), R. McAllister (ACPA), and D. Barrolo (Jelinick, Schwartz and Connolly). During the course of the symposium, there was extensive discussion on minor uses. Dan Kunkel provided an excellent update on the minor use title of FQPA and the IR-4 Strategic Plan.

Article by Jerry Baron

# IR-4 Regional News

## Northeastern Region

The big news in the Northeastern Region is that John Martini has fully retired as IR-4 Field Research Coordinator. This means that he can spend more time with his winery and the Viticulture group. He will be missed, although he promises to make periodic appearances at IR-4 social functions. We wish him well in his new endeavors.

Edith Lurvey joined the Cornell staff as IR-4 Field Research Coordinator in February, 1999. Edith was an Associate Coordinator, Weed Science at IR-4 Headquarters for over five years, serving as Study Director on a number of projects. Prior to joining IR-4, she taught Weed Science and Botany at E.A.R.T.H. College, Costa Rica and spent several years conducting weed management research in horticultural crops at the University of Minnesota. We look forward to a continued productive collaboration with the Northeastern region. Edith's address and telephone number are the same as John's were: Cornell Analytical Laboratories, Department of Food Science and Technology, Geneva, NY 14456-0462, Telephone - 315-787-2308. The e-mail address is ell10@cornell.edu (that is ELLten).

Article by Edith Lurvey

## Southern Region

The IR-4 Project, Southern Region hosted a GLP Field Technical Training Session in Gainesville, Florida, January 13-14, 1999. Over 30 scientists from IR-4 GLP Facilities in the southern region as well as many from other regions and officers from several IR-4 Quality Assurance Units participated in seminars and workshops demonstrating application techniques and equipment use. Highly spirited and constructive discussions developed during the various breakout sessions.

Breakfast, lunch and dinner were provided and many topics were discussed in depth. We were interested in reviewing the data and information that EPA looks at when conducting facility audits and in-life reviews. Dan Kunkel, IR-4 HQ, led a day long discussion on the contents of the IR-4 Field Data Notebook. We discussed the Notebook - one page at a time, to review current requirements and suggested many items needing clarification and improvement. As a result of this training session, several significant changes were installed in the 1999 IR-4 Field Data Notebook.

Article by Charles Meister

## Northcentral Region

The Northcentral region IR-4 Program conducted a GLP Technical Training Session for the field personnel at the Arlington Horticulture Farm, University of Wisconsin on March 2-3, 1999. Approximately 50 people participated in the meeting.

Wayne Currey, Weed Systems, Inc., demonstrated research pesticide application techniques. Ken Samoil, IR-4 Headquarters, went over the new IR-4 Field Data Notebook. The GLP aspects were covered by Jim McFarland, UC-Davis, who explained about SOP's, and Tammy White who shared experiences of EPA's audits.

We received positive feedback from the participants. They felt the amount of time was appropriate for the training and found the interaction with other IR-4 researchers a valuable experience. Many people enjoyed the presentation by Dr. Currey both for scientific content and for his personal experiences shared.

We would like to express our appreciation to the instructors and the participants.

Article by Satoru Miyazaki and Chris Vandervoort

## Western Region

The Western Region continues to hum along in preparation for its largest project season yet. We enjoyed having the opportunity to host a visit by Bob Holm in January. He toured the Pacific Northwest, with Chuck Mourer as his guide, meeting various IR-4 related personnel. In February, an IR-4 Technical Training Workshop was held in Davis for the regional Field Research Directors conducting GLP residue trials. The format allowed one-on-one discussions concerning the technical aspects of the research which provided for a valuable exchange of information and problem solving. In March, Jo Engebretson from the Leader Laboratory presented an IR-4 poster paper at the PittCon Meeting in Orlando, FL and the CA Department of Food & Agriculture Pesticide Residue Workshop.

Dr. Ronald E. Hampton has accepted the IR-4 Western Regional Field Coordinator position effective April 1, 1999. He received his Ph.D. in Agronomy at the University of Arkansas, his M.S. (Entomology) and a B.S. in Plant Science from Pennsylvania State University. He brings to us years of experience in agricultural production and pest management. He has worked closely with the State Cooperative Extension Service, and has been employed as a plant pathologist/nematologist, entomologist, crop scientist, plant biochemist and pesticide chemist. His research includes field, greenhouse and laboratory studies on various crops.

WELCOME ABOARD!

Article by Margaret Reiff