

Celebrating



IR-4 Year End Summary 2012

Dear Friends,

Fifty years ago, the Directors of the State Agricultural Experiment Stations created a program to assist growers of fruits, vegetables, herbs and other specialty crops with their pest management needs. It started out with a two-person operation at Rutgers University and has grown to a multi-million dollar research organization with over 120 employees nationwide.

Today, many of the IR-4 supported registrations are core to sustainable and environmentally friendly pest management programs for specialty crops. As a result, the general public reaps enormous benefits from IR-4's activities by having a year round, broad supply of healthy fruits and vegetables that can be purchased at reasonable prices.

IR-4 also focuses its research efforts on ornamental horticulture, which provides plants that enrich our communities and the environment. And more recently, IR-4 initiated a Public Health Pesticide program that focuses on providing pest management solutions for arthropods that vector human diseases.

On behalf of IR-4 Project Management Committee and the 120 women and men who participate in IR-4 data development/data management process throughout the U.S., I am honored and delighted to provide you this report that documents our significant accomplishments and deliverables from 2012. These are highlighted in further detail on the pages that follow and in our annual report, posted on our website at www.ir4.rutgers.edu.

Jerry J. Baron
IR-4 Executive Director



Celebrating 50 Years!



How IR-4 Helps Growers...

By facilitating registration of sustainable pest management technology for specialty crops and minor uses.

- IR-4 data has contributed to over 25,000 new uses

How IR-4 Helps the Public...

- IR-4 research contributes to a safe, high quality food supply
- IR-4 provides more than \$7.2 Billion toward U.S. GDP*
- IR-4 supports over 104,650 U.S. Jobs*

*Michigan State University Center for Economic Analysis

Food Program

- EPA approved 266 new pesticide tolerances supporting 1085 potential new use registrations. Of these clearances, 633 (60%) uses are available on product labels for growers to use. Many of the remaining uses are expected to appear on labels in time for the 2013 use season.

- EPA also codified updates to the stone fruit and tree nut crop groups.

- IR-4 submitted new residue tolerance petitions on 31 active ingredients to EPA that will address 142 IR-4 requests from stakeholders and will likely provide hundreds of new crop registrations for growers in 2013/2014. Another 17 requests were addressed by IR-4 data that was submitted directly to the primary registrant for label amendment or to maintain existing uses.

- During this period, IR-4 completed a global residue study (data from nine countries (26 trials) for flupyradifurone (a new insecticide) on blueberries which was included in the initial global submission for this chemical.

- IR-4 started research on 80 new EPA Guideline "Magnitude of the Residue" studies to answer priority grower pest management needs. These studies are made up of 523 field trials. IR-4 also conducted over 85 efficacy and/or crop safety trials on food crops to answer the product performance data requirements for 29 projects.

- Also submitted to EPA was one new proposal to expand and enhance the root and tuber crop groups.

- In an effort to eliminate pesticide residues as a barrier to export markets, IR-4 prepared 73 data packages on six active ingredients and submitted them to the Joint Meeting of Pesticide Residues/Codex Committee of Pesticide Residues or foreign regulatory authorities to support U.S. export of specialty crops.

- IR-4 co-sponsored the Second Global Minor Use Summit during this period, which was held in Rome Italy (FAO Headquarters) and attended by more than 230 participants from 60 countries and issued a final five-year work plan.



Our Value To Specialty Crop Growers

"IR-4 is a great program serving specialty crop growers! The data generated by IR-4, has provided many pest management tools for Oklahoma and Texas specialty crop growers, protecting their crops and supporting their livelihoods."

— William Russell, Director of IPM
& Sustainable Ag, Allens Inc

"I would score the IR-4 program as an invaluable, irreplaceable part of our production program. Without it, growers would not have products labeled for specialty crops, and the public would miss out on locally grown fruits, vegetables and ornamental crops."

— Steve Little, Mgr, Farm Operations,
The Pictsweet Company

"The entire U.S. Mint Industry is totally dependent upon the IR-4 Program for fulfilling its pest control needs."

— Rocky Lundy, Executive Director, Mint Industry
Research Council, Great Falls, MT

"New pests are showing up every year and we need new products to control them. Like the tremendous challenge of stink bugs in the orchard. Finding solutions to address these challenges is where IR-4 comes in. They work to help us fight these pests and produce healthy crops."

—Garry Shanholtz, Shanholtz Orchards Romney,
West Virginia



Ornamental Horticulture Program

- IR-4 data supported seven registrations and label amendments approved during 2012. This expanded the use of pesticides and biopesticides for 644 ornamental horticulture crop uses.
- During this period, IR-4 initiated 742 field and greenhouse trials on ornamental horticulture crops to collect efficacy and/or crop safety data within 481 studies. Twenty-one data summaries were written and submitted to registrants to expand future uses.
- IR-4 collaborated with national and international scientists on the development of efficacy data for several invasive species (gladiolus rust, chrysanthemum white rust, boxwood blight, shipping of arthropods).



The IR-4 Mission

The mission of the IR-4 Project is to facilitate registration of sustainable pest management technology for specialty crops and minor uses.

"IR-4 is an invaluable resource for greenhouse and nursery growers – not just in helping make sure they have access to the chemical and biocontrol tools they need to control pests and diseases, but also to support research that helps them use those tools wisely. Specialty crop growers are definitely getting double and triple benefits from the IR-4 program, because the program listens to the industry... you hear our voices!"

— Lin Schmale
Society of American Florists

"Over the years, IR-4 has played an instrumental role facilitating the registration of over half of the crop protection tools available to nursery and greenhouse crop farmers. Having access to tools and technologies that would not otherwise be available for use in our industry helps our growers produce healthy crops while protecting both consumers and the environment from the threat of invasive plant pests and diseases."

— Craig Regelbrugge
American Nursery and Landscape Association



Biopesticide and Organic Support Program

- IR-4 provided 19 grants to develop efficacy data necessary to prove proof of concept or further development of effective biopesticides.
- IR-4 regulatory assistance and data submitted to EPA and supported 12 new biopesticide registrations.

"This is a big deal. The first aflatoxin control product for Pistachios. A new mode of action - class of pesticide for Pistachio (and all tree crops). A registration that covers over 95% of all Pistachios in the U.S. This would not have happened without IR-4. You folks have done more for us and agriculture than we could possibly have imagined."

— Peter J. Cotty, USDA/ARS, School of Plant Sciences



Agriculture Needs IR-4

The Brown Marmorated Stink Bug (BMSB) destroyed both crops and established IPM programs.



IR-4 helped fund research and work on developing pheromones for BMSB.

IR-4's effort supported transfer away from Lindane to newer technology to repel birds.



Cranes and farmers benefit from 9, 10 anthraquinone bird repellent.

Public Health Pesticides Program

- IR-4 published an extensive inventory of available and potential pesticides that can be used to manage arthropod pests that vector disease in humans. (ir4.rutgers.edu/PublicHealth).
- IR-4 collaborates closely with the military's Deployed Warfighter Protection Program in development and registration of vector control tools to protect our fighting men and women, as well as supporting civilian applications of new products.
- IR-4 has developed novel models to further support the Agency's assessment of IR-4's submission to allow wide use patterns for a new mosquitocide. The models predict residues after multiple applications, compare ground vs. aerial- applications, and estimate the percentage of U.S. crops potentially exposed to these public health pesticides.



"There is a significant need for safe and effective pesticides that can be used for prevention of important diseases like Lyme disease, which is on the increase in the United States today. The IR-4 program has been an extremely helpful resource to CDC in pursuing registration of novel natural product-based insecticides and acaricides."

— C. Ben Beard, Ph.D.
Chief, Bacterial Diseases Branch
Centers for Disease Control and Prevention



LT Michael Fisher, FDPMU-Kuwait Entomologist, thermal fogging black/gray non-potable water holding tanks in Kuwait at LSA/Ali Al Saleem, using a Golden Eagle with BP-300 (pyrethrins). MAR 2010. Photo by CDR David Hoel, MSC, USN.667



"Reducing mosquito population abundance is often the only intervention available to reduce the risk of disease due to West Nile, dengue and Chikungunya viruses. IR-4's efforts assure that we have a variety of effective public health pesticides registered and available to meet the growing needs of the U.S. and international health communities."

— Roger S. Nasci, Ph.D.
Chief, Arboviral Diseases Branch
Centers for Disease Control and Prevention



Many Thanks!

In this milestone year, we want to express our heartfelt appreciation to the IR-4 Commodity Liaison Committee, the Minor Crop Farmers Alliance and other stakeholders for their unending commitment and support of the IR-4 Project.

We also thank our partners in USDA and the State Agricultural Experiment Stations for providing valuable resources that has given IR-4 the tools to do its job. We thank EPA for their assistance in proving expert regulatory advice and counsel.

Recognition is due for the dedicated and hard - working IR-4 team members in the field, in the laboratories, and in the coordinating offices that develop quality data to support the registrations.

And finally, gratitude is expressed to the IR-4 Project Management Committee for their direction and leadership that has made the IR-4 Project a true success story.

"The IR-4 program has been instrumental in obtaining the crop protection materials we need to maintain an efficient and sustainable farm operation. The small fruit industry, being one of the smaller agriculture industries, often is not included when new chemistries are brought to market. We need the IR-4 program to continue fighting for us and we fully support their work."

— Will Unger, Farm Manager/Frozen Sales, Oregon Berry Packing, Inc.



Contacts

IR-4 Headquarters

Dr. Jerry Baron - IR-4 Executive Director, 732.932.9575 x 4605 , jbaron@aesop.rutgers.edu

Dr. Dan Kunkel - IR-4 Associate Director, Food and International Programs, 732.932.9575 x 4616, kunkel@aesop.rutgers.edu

Dr. Michael Braverman - Biopesticide & Organic Support, 732.932.9575 x 4610, braverman@aesop.rutgers.edu

Dr. Cristi Palmer - Ornamental Horticulture, 732.932.9575 x 4629, palmer@aesop.rutgers.edu

Dr. Karl Malamud-Roam - Public Health Pesticides, 732.932.9575 x 4628, kmr@aesop.rutgers.edu

Regional Field Coordinators & ARS

Dr. Satoru Miyazaki - North Central , Michigan State University, 517-336-4611, ncrir4@msu.edu

Ms. Edith Lurvey - Northeast, Cornell University-NYSAES, 315-787-2308, ell10@cornell.edu

Dr. Michelle Samuel-Foo - Southern, University of Florida, 352.392.1978 x 406, mfoo@ufl.edu

Ms. Rebecca Sisco - Western, University of California, 530.752.7634, rsisco@ucdavis.edu

Dr. Paul Schwartz - USDA-ARS, 301.504.8256, Paul.Schwartz@ars.usda.gov



Major funding provided by Special Research Grants and Hatch Act Funds from USDA-NIFA, in cooperation with the State Agricultural Experiment Stations, and USDA-ARS. State Agricultural Experiment Stations provide in-kind support valued at over \$10 million annually.