The IR-4 Project
Pest Management Solutions for Specialty Crops and Minor Uses

Newsletter

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IR-4/IPM Centers First Summit on Collaboration

On October 11, 2012, IR-4 representatives participated in a "Summit" with Regional IPM Center Directors and staff. The purpose of the Summit was to discuss ways in which the two programs can work together to identify common goals toward collaboration.

The Summit was facilitated by Rob Hedberg, USDA-NIFA, who commended IR-4's Executive Director, Jerry Baron and NE Regional IPM Center Director, Carrie Koplinka-Loehr for their initiative in organizing the Summit. Rob opened the meeting by encouraging both groups to move away from policy and focus the Summit on processes and procedures to build collaboration. He encouraged the participants to focus on solving pest management needs for growers, the public, and for food safety.

Rob identified the goals of the Summit as:

- building trust through communication and understanding how each program conducts business
- demonstrating where the programs are collaborating
- recognizing the areas where the programs can complement one another
- providing the opportunity for information and resource sharing
- understanding stakeholder fatigue and finding solutions to prioritize stakeholder needs across programs

The first part of the Summit allowed each program to give a brief explanation of their mission infrastructure, and processes. Jerry Baron presented an overview of how USDA-NIFA funding (currently $11.9 million) is used to support core IR-4 activities, and the distinct duties and functions of the local, regional and national field centers, analytical laboratories and coordinating offices. He also identified the IR-4 stakeholders and how IR-4 works with them to address their pest management needs. Jerry went on to explain the IR-4 Ornamental Horticulture Program, Biological and Organic Support Program and IR-4's more recent work with pesticides to manage mosquitoes, ticks and other public health pests.

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USDA-NIFA IR-4 Program Leader, Monte Johnson (left) along with Facilitator, Rob Hedberg, IR-4 Executive Director, Jerry Baron and USDA-NIFA IPM Program Leader Herb Bolton discuss the collaboration ideas gathered from participants at the Summit.

Inside this issue...

New Herbicide Labels fHelp Growers Improve Production Efficiency

— by Bernard Zandstra, Michigan State University, Field Research Director

Article excerpted from Vegetable Grower News October 2012

During the past 10 years there have been few new herbicides developed for vegetable crop production. Virtually all herbicides that have been introduced recently have long residual lives and are designed for use in perennial crops and in non-crop areas. Fortunately for producers of annual crops, the IR-4 Project continues to support national research to expand labels of currently-available herbicides to include new uses for vegetable crops.

MSU weed researchers are actively involved in testing herbicides to discover potential new uses and to obtain residue samples to support registration. The process to add a crop to an existing label takes at least 3-5 years. The following herbicide uses have been added to labels in 2011 and 2012.

Prowl H2O 3.8 CS (pendimethalin) is now labeled for use on the fruiting vegetable crop group, including eggplant, all types of pepper, and field grown tomato. Prowl H2O controls most annual grasses and several broadleaf weeds. It is weak against all composite and mustard weeds, and has no activity against yellow nutsedge.

Additionally, Prowl H2O is now labeled for green onions and related crops, including chives, leek, spring onions, bunching onions, and green shallots. Prowl H2O does not kill emerged weeds, so other weed control methods are needed to suppress weeds before the onion 2-3 leaf stage, when Prowl H2O may be applied.

Upbeet 50DG (triflusulfuron) is now labeled for use in table (red) beets. It has been registered for postemergence control of broadleaf weeds in sugar beet for several years. It is most effective if applied with other postemergence herbicides, such as Nortron, Spinaid, Stinger, Poast, and/or Select Max. Since most red beets mature in about 60 days, Upbeet needs to be applied early in the crop cycle. Upbeet controls ragweed, galinsoga, mustards, nightshade, and velvetleaf. Weeds should be less than 2 inches tall for most effective use of Upbeet.

Stinger 3L (clopyralid) is now registered for Crop Group 5, which includes broccoli, Brussels sprouts, cabbage, cauliflower, Chinese cabbage (napa), Chinese kale (gai lon), and Chinese mustard cabbage (gai choi). The label also includes mustard greens, which is a representative crop for the leafy brassica greens subgroup.

Another brand of clopyralid, Spur (manufactured by Albaugh Inc.) is registered for use on asparagus. It is labeled for many other crops also.

A 24c label for Sandea (halosulfuron) reduced the PHI to 21 days from 30 days on cucumbers. This was needed because of the short growing period for machine harvested pickling cucumbers. Sandea has preemergence and post-emergence activity against many broadleaf weeds and yellow nutsedge. It does not control eastern black nightshade and is weak postemergence against common lambsquarters. Sandea does not have grass activity. If grasses have escaped pre-emergence herbicides, apply Poast or Select Max with Sandea.

Researchers at Michigan State University continue to conduct herbicide trials on many vegetable crops to obtain data to support new registrations. Researchers at MSU appreciate the support of Michigan grower commodity groups, the Michigan Vegetable Council, the chemical industry, and IR-4 that allows us to conduct this research.
Be sure to obtain current

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No Beans About It: Edamame is Next Big Minor Crop

— by Kathryn Homa, IR-4 Headquarters Study Director

Steamed, stir-fried, baked, or boiled, edamame (pronounced eh-dah-MAH-may) has become a household name in the United States. Today, this nutritious food crop can be purchased from a large chain grocery store, but several years ago, this crop was unheard of in the United States. So what is edamame and how did this crop have its beginnings? Edamame (translated as "beans on branches") is a green vegetable soybean that was first introduced to the U.S. from Japan. Although edamame is the same species as the common field soybean (*Glycine max*), edamame cultivars have been developed as a more palatable crop for human consumption. Cultivar improvements include larger seeds, a sweeter flavor, a smoother texture, and improved digestibility.

Edamame was grown and consumed in Japan as early as 1275 AD.

In the U.S., the first use of "green soybean" was in 1856. During World War I when there was a shortage of food, the USDA funded an expedition to China to study soybean as a human food source. USDA soybean collection missions took place from 1929 to 1931. In China, William Morse and P.H. Dorsett of the USDA discovered many varieties of soybeans used as a green vegetable. Many of these varieties were brought back to the U.S. and planted on the USDA Arlington, VA farm. The best varieties were then sent to state agricultural experiment stations for further testing. Today, there are a number of U.S.-adapted vegetable-type soybean lines. The use of edamame in the United States increased further in the 1980s when the popularity of Asian cuisine increased. Soon after in the early to mid 1990s, large chain supermarkets began selling edamame. Today, the popularity of edamame is continuing to increase with discoveries of its health benefits. A nutritious food, edamame contains no cholesterol or saturated fat and provides a high source of protein, carbohydrates, omega-3 fatty acids, Vitamin A, Vitamin B, iron, calcium, potassium, phytoestrogens, and fiber.

Photo from Washington State University website. hclark.wsu.edu/volunteer/mg/gm_tips/Edamame.html

Edamame is consumed following the removal of the large beans from the pod. The nutty, sweet beans can be eaten fresh or cooked. In the United States, beans are treated similar to peas or limas in recipes and can be served in salads, soups, stews, or in side dishes. The pod can also be consumed at an early stage when the pod and seeds are very small.

The culture and production of edamame is very similar to growing dry soybeans. However, the harvest period only consists of a few days. Fully filled pods are harvested when green, at approximately 80% maturity (R6 stage of soybean development). Although edamame can be harvested mechanically using a green bean picker, it is best to harvest the crop by hand during the cool, early morning hours.

As with other bean crops, edamame is susceptible to a number of pest problems.

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New Labels

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information about usage regulations and examine a current product label before applying any chemical. To obtain labels for pesticides sold in the USA, go to CDMS.net on the internet. For Syngenta 24c SLN indemnified labels, go to farmassist.com, click on products; indemnified labels.

IR/4-IPM

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Carrie Koplinka-Loehr gave an overview of the Regional IPM centers and how their regional missions vary to meet the needs of stakeholders in each region. For example: the Northeastern IPM center (NEIPMC) has a large focus on urban and school pest management. The North Central IPM Center (NCIPMC) has a row crop focus, where this supports research, extension and education for major crop issues. The Southern and Western IPM centers have strong programs focusing on the major commodities in their regions.

The four regional IPM centers each receive approximately $1 million for their operations and programs; these funds are subject to indirect costs. The IPM centers also assist USDA, NIFA with each of the four Regional IPM (RIPM) Competitive Grants Program. Each competitive RIPM Program devotes $600,000 to $800,000 to research, extension, and education projects in the region.

IPM centers offer their own competitive grants and the Centers assist NIFA with creating RFAs and holding review panels for the RIPM Competitive Grants. Those who apply for these grants include scientists from 1862, 1890 and 1994 Land Grant Universities, and NGO's. The IPM Centers also provide rapid response to emerging needs. For example, the Centers funded recent working groups, many times across regions, to focus on particular pests such as the Brown Marmorated Stink Bug (BMSB) and the Spotted Wing Drosophila. Often these working groups have significantly leveraged this initial "seed" funding by obtaining additional grants for research and extension on these important invasive and emerging pests. For example see the website Stop BMSB (www.stopbmsb.org)

The IPM Centers also develop Pest Management Strategic Plans (PMSPs), which are a snapshot in time of critical pest issues on a specific crop and possible solutions. www.ipmcenters.org/pmsp.

IR-4's Western Regional Field Coordinator, Rebecca Sisco and her associates with the Western IPM Center, Kassim Al-Khatib, Principal Investigator/ Co-Director and Carla Thomas, Associate Director, gave a joint presentation about the collaborative success stories in the Western region, where there is strong collaboration between the IR-4 program and the Regional IPM Center. Because the offices for both are housed in the same campus, this propinquity allows for communication and coordination. Rebecca gave examples of how she utilizes the expertise of the Western IPM Center when working with various crops in the West and having to complete field trials on some that she may have never heard of, seen, and much less researched. This cooperation allows for open dialogue and direction.

Following this overview of programs, Rob instructed the participants to look at areas where collaboration between the two programs could be impacted by: obstacles, opportunities, duplication, and common goals. He asked each participant to jot brief comments on index cards for the four areas. Responses from the index cards were then used to open discussions for regional break-out groups, held after the morning break.

The Real Collaboration Begins

The break-out groups found areas of common ground where the programs can collaborate. Coordinating the expertise from both programs, the participants agreed that one immediate area for collaboration is the updating of PMSPs. A good deal of work on crop profiles has been collected from IR-4 and the IPM Center Directors agreed to use

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Break-out groups provided opportunities for collaboration. The Western Region break-out group included (l-R) IR-4 Public Health Pesticides Manager, Karl Malamud-Roam, Western IPM Center Associate Director, Carla Thomas, Co-Director WIPMC, Peter Ellsworth and IR-4 Western Region Field Coordinator, Rebecca Sisco.

Crop Grouping Update

— by Bill Barney IR-4 Crop Grouping Manager

Crop grouping is a well accepted and cost effective approach that facilitates the efficient establishment of tolerances for both major and minor crops. The crop grouping regulations (40 CFR § 180.41) allow for the establishment of tolerances for a group or subgroup of crops based on residue data from representative crops of the group or subgroup. When crops which have similar morphology, cultural practices, edible portion, growing season, geography and pest problems are contained in the same crop group or subgroup, they can be expected to have similar residues. Representative crops are the most economically important crops in the group and some are most likely to have the highest residue. Subgroups contain similar crops that are contained in the crop group. A full set of required field trials are conducted on the representative commodity for a crop group or subgroup and when a pesticide tolerance is established for a crop group or subgroup it applies to all of the commodities in the respective group or subgroup. The concept of crop grouping is particularly important for growers of minor acreage crops that may not justify the research cost to meet regulatory requirements.

Rule amendments in 1995 established the current crop grouping scheme and created subgroups for 8 of the 19 crop groups (508 commodities). New commodities were added to the existing groups at that time and some representative commodities were revised. The regulations published in 1995 however included a number of orphan crops such as mushrooms, hops and asparagus that were not included as a member of any crop group. In 2002, the IR-4/USDA International Crop Grouping Symposium was held to propose the expansion of crop groups to include many orphan minor crops and to propose new subgroups and crop groups. Subsequently in 2005, the International Crop Grouping Consulting Committee (ICGCC) was established consisting of over 170 crop, agrichemical and regulatory experts representing more than 30 countries. The ICGCC reviews proposals for revised or new crop groups and provides feedback for crop petitions for submission to the EPA.

IR-4 submitted petitions in 2005 to amend the Bulb Vegetables, Berries and Small Fruit, Edible Fungi and Fruiting Vegetable (except cucurbits) crop groups. These petitions were analyzed by EPA Health Effects Division (HED) Scientist, Bernard Schneider, and then reviewed by HED ChemSAC prior to proposed and final rule making in the Federal Register. Phase I was completed in 2007 with publication in the Federal Register of the revised Bulb Vegetable Crop Group 3-07, Berries and Small Fruit Crop Group 13-07 and the new crop group 21 for Edible Fungi. PMRA implemented the rule for Canada in 2009. Phase II was completed in 2010 with revisions to Fruiting Vegetable (except Cucurbits) Crop Group 8-10, Citrus Fruit Crop Group 10-10 and Pome Fruit Crop Group 11-10. Also a new Oilseed Crop Group 20 was established. Phase III was completed in 2012 with revisions to the Stone Fruit Crop Group 12-12 and Tree Nuts Crop Group 14-12. Revised crop group numbers are followed by the year of establishment. These rules are expected to reduce the cost of generating residue data and making lower-risk pesticides available for minor crops both domestically and in countries that export food to the US. Existing crop group tolerances will be converted to the new crop group tolerances through both the registration review process and when evaluating new pesticide uses. Under PRIA III, there is a new category (R175) to cover the conversion of an existing crop group to the revised crop group. Product labeling should include every specific crop in the relevant crop group or subgroup.

Additional crop grouping proposals have been submitted to the EPA including proposals for Herbs and Spices, Tropical Fruits (edible and inedible peel), Leafy Vegetables, Stalk, Stem and Leaf Petiole (new crop group 22),

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Ohio Family Gro

— by Matt Milkovich, Manag

The Buurma Family. Bruce Buurma is an active member of the IR-4 Commodity Liaison Committee.

Article reprinted with permission from Vegetable Growers News October 2012. Photos courtesy of Buurma Farms.

Three farms. Four thousand acres. Thirty-five commodities grown. Another 30 or so bought from other growers. Those numbers give a sense of the size and complexity of Buurma Farms, based in Willard, Ohio.

In the busy season, Buurma Farms, which also has growing operations in Michigan and Georgia, ships between 15,000 and 25,000 packages of produce a day. Destinations range from Boston to Miami, and as far west as the Mississippi River (occasional radish shipments go to California, too), said Loren Buurma, company treasurer and one of the 12 partners – all family – who run the business.

The fourth and fifth generations are currently in charge. Founder Frank Buurma, a Dutch immigrant, saw the potential of north-central Ohio's muck soils and started farming in the Willard region in 1896, said Bruce Buurma, Loren's brother and another partner.

The farm's crop mix has shifted over the years, reflecting America's changing diet. The popularity of bagged salads has eaten into the Buurmas' lettuce and radish sales – radishes are down by half from their heyday. Crops like cilantro and green onions, however, are selling more, thanks to the increasing popularity of salsa products, Bruce said.

"Cilantro is our most profitable crop right now," he said.

Icing greens

Others include sweet corn, beets, dill, parsley, celery, cucumbers, zucchini, squash, carrots, peppers and onions, according to the farm's website.

If they don't need to sell at least 50 acres' worth of a crop, they don't bother growing it, Loren said.

"We don't need 50 acres of kohlrabi," he said. "We can just buy it from somebody."

Traceability

Joel Buurma, the company's food safety manager, said Buurma Farms can trace each box of produce from the field in which it originated to the customer. Its traceability system – which includes manual labeling, satellite mapping, scanners and computer software – records every step from start to finish.

The farm uses a coding system that identifies Buurma-grown produce, as well as produce the company purchases from other growers. The information includes seed lot, variety, time of planting, any sprays or fertilizer applied, field of origin and date of harvest. Every box of produce has a sticker with a code on it and pallet tags are also used.

ows with the Market

ging Editor, Vegetable Growers News

The system has evolved over time, driven by internal and customer needs, he said.

The farm's food safety program includes Good Agricultural Practices, Good Manufacturing Practices and Hazard Analysis & Critical Control Points. Buurma hired a food safety consultant to help it achieve PrimusGFS certification in 2010. That's also when Joel became the food safety manager, he said.
Food safety costs the company millions of dollars, but a single outbreak could toss 116 years of history out the window, Bruce said.

Labor

During peak season, more than 350 people work at the home farm in Ohio. There's housing for 220 employees, while the rest rent locally. The majority of the workers are migrants. When they show up for the season, the economic impact is huge. Local businesses count on it, Bruce said.

Most of the farm's workers used to be local high school kids, but school and sports took them away, Bruce said.

In peak season, the Michigan and Georgia operations employ between 100 and 150 people each, Loren said.

Vicky Sanders handles payroll for all three Buurma operations. She dealt with almost 800 W-2 forms last year, she said.The company uses a computer program called DataTrack, originally invented for big farms in California, to pay its employees.

Sanders gave a brief description of how it works: Every employee has a badge with a computer chip. A crew boss uses a probe to read the badge information. The bosses bring their probes to Sanders every morning, and she downloads the information for payroll purposes. The program saves time, is accurate and gives detailed information about each individual. She can also separate data by crew to show what each crew did and how long it took.

"This probe system is as good as your crew bosses," Sanders said. "I think we have some of the greatest crew bosses out there. They picked it up very quickly."

For more information about Buurma Farms visit www.buurmafarms.com.

Bunch beets ready to be shed packed

Hand harvesting collard greens

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Edamame

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Common pathogens include leaf diseases such as bacterial pustule and blight, brown spot, Cercospora leaf blight, soybean rust, and downy mildew. Insects that attack edamame include bean leaf beetles, Japanese beetles, soybean aphids, and white flies. A number of annual broadleaf weeds and annual grass weeds also threaten this crop.

Along with these pest challenges, it is also important to note that other issues exist with this crop -particularly, the lack of effective pest management options for commercial-cale production. Although edamame is the same species as the common field soybean, pesticides that are registered for use on dry soybeans are not permitted for use on green vegetable soybeans. Also, since edamame is a minor acreage crop, chemical companies often do not spend the time and money to add this crop to their product labels.

IR-4 has recognized the increased demand of this new minor acreage specialty crop and is taking steps to solve the lack of effective pest management tools. A spreadsheet of product registration status for edamame is available on the IR-4 website (go to http://ir4.rutgers.edu/, click the "Food Crops" tab, scroll down to "Commodity and other resources" and click "Edamame-product status

Photo courtesy of University of Kentucky http://www.uky.edu/Ag/NewCrops/intro.html

spreadsheet"). This spreadsheet currently provides up-to-date information about the status of approved or potential herbicide products for use in edamame.

In addition, based on crop group tolerances, pesticides can be labeled for use on edamame, without collecting residue data specifically on edamame. In order to establish a tolerance and label a product for use on edamame (soybean, vegetable, succulent), a tolerance is needed for the Crop Subgroup 6-A edible-podded legume vegetables subgroup, or a tolerance for Crop Group 6 legume vegetables (succulent or dried) group. To obtain a Subgroup 6A tolerance requires residue data on any one succulent cultivar of edible-podded bean (Phaseolus spp.) and any one succulent cultivar of edible-podded pea (Pisum spp.). To obtain a Crop Group 6 tolerance requires residue data on bean (Phaseolus spp.; one succulent cultivar and one dried cultivar), pea (Pisum spp.; one succulent cultivar and one dried cultivar), and soybean. Although the U.S. is the world leader in grain soybean production, most of the vegetable soybean that is consumed in the United States is imported from Asian countries. However, due to an increased interest in the commodity by consumers and the desire to produce domestically grown products, edamame is beginning to be produced on the West Coast and Upper Midwest, and interest is increasing on the East Coast. With the tools provided by IR-4, acreage of domestically produced edamame for U.S. consumer markets is likely to continue increasing. Viva la edamame!!

Crop Grouping

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Brassica Head & Stem Vegetables and Root and Tuber Vegetables.

Efforts by the ICGCC also include the goal of harmonizing international crop groupings (NAFTA) as Canada (PMRA) has agreed to accept the EPA ruling for imports and exports. Efforts are also underway to link the USDA/IR-4 crop grouping initiative with revision of the Codex system of the Codex Classification of Foods and Animal Feeds. Standardization of commodity terminology will facilitate international guideline harmonization. The fruit types in the Codex Classification of Foods and Animal Feeds were accepted at the Codex Committee of Pesticide Residues (CCPR) meeting in 2012.

Impatiens Downy Mildew Rocks the Bedding Plant Industry

—by Margery Daughtrey , Cornell University Long Island Horticultural Research and Extension Center

Downy mildews are often overlooked—they are rarely the disease of concern. Historically downy mildew has been a feared disease in the greenhouse rose industry, certainly, and the relatively new downy mildew diseases of coleus, (*Peronospora* sp.) and basil (*Peronospora belbahrii*) have caused large dollar losses. But none of these diseases swept into prominence as quickly as the downy mildew of impatiens caused by *Plasmopara obducens*.

Ironically, this is in some respects not a new disease to North America. The pathogen has been noted on our native jewelweed, *Impatiens capensis*, and other wild impatiens relatives since the 1800s. But what is new is its recent appearance in the bedding plant industry—in production, retail and landscape settings. Never before has this disease caused crop losses for the green industry, but now it is having a huge impact, particularly on the East Coast.

The new problem with garden impatiens, *Impatiens walleriana*, was first noted in the UK in 2003. There were reports of greenhouse and landscape losses, and the disease was given quarantine status for a time because it was not native to the UK. This disease was seen in some greenhouses in the United States in 2004: scattered, fairly insignificant outbreaks were reported from California, Tennessee and New York. Reports of the disease were rare from 2004 until 2011, when the disease appeared in 10 states in summer or fall, and a buzz of concern arose. Oospores (potential overwintering structures) were noted in stems in a number of cases. Plant pathologists greeted this news with some trepidation, particularly because UK reports indicated that the disease had been seen in the landscape as early as June in some years.

Then impatiens downy mildew showed up in Florida in December, 2011. The disease in the south Florida landscape was shockingly devastating: rather than the yellow, veinbounded leaf patches that are seen on common balsam (*Impatiens balsamina*), *Impatiens walleriana* dropped its flowers and its leaves, and showed only naked stems for a while before even those collapsed onto the ground.

The south Florida problems were a foretaste of a very rocky impatiens growing season: some northern greenhouse crops were afflicted by the disease. Landscape outbreaks in the Northeast were seen as early as June 4th. Areas of the US with rainy weather saw diseased impatiens early in the growing season, while symptoms were delayed to mid-summer or fall in areas with droughty weather. Landscapers began researching what crops they could use instead of impatiens for 2013, and growers began calculating how to change the percentage of impatiens in their spring production. Impatiens have comprised something like 20-70% of a northern grower's bedding plant production in recent decades, so the new riskiness of the crop has led to much strategizing.

The greenhouse flower industry was provided with advice on

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IR-4 Successes July to October 2012

The trade names listed below are provided as a means to identify the chemical for which a tolerance has been established. A trade name listed here may not be the name of the product on which the new food use(s) will be registered. Only labeled products may be used on a food crop. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical.

Federal Register: July 2012

Methoxyfenozide
Trade Name: Intrepid
Crops: Citrus fruit group 10-10, Root vegetable except sugar beet group 1B, Sugar beet
PR#: 09367, 09884, 09895

Sulfentrazone
Trade Name: Spartan
Crops: Rhubarb, Turnip (roots and tops), Sunflower subgroup 20B, Wheat (Pacific Northwest only), Safflower, Succulent cowpea (Tennessee only)
PR#: 09408, 07915, 08722, 06910

Azoxystrobin
Trade Name: Abound, Graduate, Quilt, Quilt Excel
Crops: Bulb onion subgroup 3-07A, Green onion subgroup 3-07B, Caneberry subgroup 13-07A, Bushberry subgroup 13-07B, Small fruit vine climbing except fuzzy kiwifruit subgroup 13-07F, Low growing berry subgroup 13-07G, Tomato subgroup 8-10A, Pepper/Eggplant subgroup 8-10B, Citrus fruit group 10-10, Rapeseed subgroup 20A, Sunflower subgroup 20B, Cottonseed subgroup 20C, Wasabi, Dragonfruit, Tuberous and corm vegetable subgroup 1C
PR#: 10345, 10346, 10347, 10348, 10349, 10350, 10549, 10609, 09224, 09860

Difenoconazole
Trade Name: Inspire, Thesis, Quadris Top
Crops: Fruiting vegetable group 8-10, Citrus fruit group 10-10, Pome fruit group 11-10, Low growing berry subgroup 13-07G except cranberry, Tuberous and corm vegetable subgroup 1C
PR#: 09860, 10131

Acetamiprid
Trade Name: Assail
Crops: Head and stem brassica subgroup 5A, Brassica leafy greens subgroup 5B, Turnip greens, Asparagus, Citrus fruit group 10-10, Pome fruit group 11-10, Fruiting vegetable group 8-10
PR#: 09271, 09905, 09939, 10774, 10775, 10776

Federal Register: August 2012

Pyrimethanil
Trade Name: Penbotec, Scala
Crops: Low growing berry subgroup 13-07G, Small fruit vine climbing except fuzzy kiwifruit subgroup 13-07F, Bulb onion subgroup 3-07A, Green onion subgroup 3-07B, Ginseng
PR#: 10356, 10355, 10353, 10354, 09707

Rimsulfuron
Trade Name: Basis
Crop: Chicory
PR#: 09417

Paraquat dichloride
Trade Name: Gramoxone
Crops: Pomegranate, Lychee, Mango, Starfruit, Sugar apple, Atemoya, Biriba, Canistel, Cherimoya, Custard apple, Fiejoa, Ilama, Jaboticaba, Longan, Pawpaw, Pulasan, Rambutan, Sapodilla, Black sapote, Mamey sapote, White sapote, Soursop, Spanish lime, Wax jambu
PR#: 10127, 10096, 10097, 10093, 10140

Fludioxonil
Trade Name: Scholar, Switch
Crops: Acerola, Atemoya, Biriba, Cherimoya, Custard apple, Fiejoa, Guava, Ilama, Jaboticaba, Passionfruit, Soursop, Starfruit, Sugar apple, Wax jambu, Avocado*, Black sapote*, Mamey sapote*, Mango*, Papaya*, Sapodilla*, Star apple*, Longan*, Lychee*, Pulasan*, Rambutan*, Spanish lime*, Tomato*, Ginseng, Bulb onion subgroup 3-07A, Green onion subgroup 3-07B, Caneberry subgroup 13-07A, Bushberry subgroup 13-07B, Small fruit vine climbing except fuzzy kiwifruit subgroup 13-07F, Low growing berry subgroup 13-07G except cranberry, Fruiting vegetable subgroup 8-10 except tomato, Citrus fruit group 10-10, Pome fruit group 11-10, Leafy green subgroup 4A, Potato, Pineapple, Dragonfruit
PR#: 10521, 10517, 10519, 10518, 10182, 10493, 09349, 10522, 10523, 10524, 10079, 10525, 10526, 10527, 09140, 09567, 11006, 11007, 11008, 10006, 09860, 10203, 11009
*amended tolerance

S-Metolachlor
Trade Name: Dual Magnum
Crops: Cilantro, Coriander, Garden beet leaves
PR#: 09595, 07486

Cyprodinil
Trade Name: Inspire Super, Vangard, Switch
Crops: Bulb onion subgroup 3-07A, Green onion subgroup 3-07B, Caneberry subgroup 13-07A, Bushberry subgroup 13-07B, Small fruit vine climbing except fuzzy kiwifruit subgroup 13-07F, Low growing berry subgroup 13-07G except cranberry, Fruiting vegetable subgroup 8-10 except tomato, Citrus oil*, Pome fruit group 11-10, Leafy green subgroup 4A, Dragonfruit
PR#: 10511, 10512, 10513, 10514, 10515, 10516, 09140, 09567, 10006
*amended tolerance

Thifensulfuron methyl
Trade Name: Basis
Crops: Chicory
PR#: 09417

Federal Register: September 2012

Dinotefuran
Trade Name: Dinotefuran
Crops: Low growing berry except strawberry subgroup 13-07H, Small fruit vine climbing except fuzzy kiwifruit subgroup 13-07G, Bulb onion sub-

continued on next page

Impatiens *continued from page 9*

disease management during the winter of 2011-2012, with information made available by Ball Horticulture and Syngenta, as well as Cornell University, Michigan State University, and the University of Florida, in particular. Trade journals, the Society of American Florists' Pest and Production Management Conference and regional extension meetings provided growers with opportunities to learn what was known about controlling the disease with cultural techniques and fungicides. Recent downy mildew research (funded by the American Floral Endowment, chemical companies and IR-4, plus trials by Colleen Warfield at Ball Horticultural Company) helped to steer growers towards the best options for downy mildew management in the greenhouse. Nonetheless, the disease has now been reported from 32 states, and has caused economic losses for many in the green industry. Fungicide trials on impatiens outplanted into the landscape in Florida and New York have shown benefits from fungicide treatments, especially certain systemic materials. Mefenoxam, for example, has shown dramatic benefit, but resistance to this chemistry has already been reported in impatiens downy mildew populations in Europe. Further investigations are needed to explore possibilities that will allow practical, long lasting treatments by greenhouse growers that will protect impatiens through the early part of their landscape performance. Ideally materials will be identified that will allow fungicides from several different mode of action groups to be employed in the fight against impatiens downy mildew, so that the industry can avoid a short-term solution that will quickly lead to resistance development. The green industry will want to move from

its current almost monocultural obsession with impatiens to a more diversified use of colorful bedding plants in the landscape, mixing in non-hosts of this new disease such as downy mildew resistant coleus and begonias in shady landscape settings. A whole host of other high-performing bedding plants can be used in sunny sites. The best thing that can be said about this new disease is that it has a narrow host range, and the multiplicity of wonderful bedding plants available is one of the best weapons against it. However, growers would love to return to the reliable profitability of the seed-grown impatiens.

Tolerances

continued from previous page

group 3-07A, Green onion subgroup 3-07B, Peach, Tea, Tuberous and corm vegetable subgroup 1C, Watercress
PR#: 09832, 10728, 08645, 09550, 08596, 09548, 10838, 10727, 09514

Bifenthrin
Trade Name: Brigade, Capture
Crops: Grass, Tea
PR#: 09476, 10317

Clopyralid
Trade Name: Stinger, Lontrel
Crops: Apple, Brassica leafy greens subgroup 5B, Rapeseed subgroup 20A except gold of pleasure, Teff
PR#: 03623, 10761, 10762, 10771

Cyazofamid
Trade Name: Ranman
Crops: Basil, Succulent bean, Succulent shelled bean, Leafy greens subgroup 4A, Fruiting vegetable group 8-10, Tuberous and corm vegetable subgroup 1C
PR#: 10118, 09094, 09532, 10037, 10170

Glufosinate ammonium
Trade Name: Liberty
Crops: Sweet corn, Citrus fruit group 10-10, Pome fruit group 11-10, Stone fruit group 12-12
PR#: 06515, 06953

Federal Register: October 2012
Chlorantraniliprole
Trade Name: Altacor, Coragen, Prevathon
Crops: Legume vegetable group 6, Foliage of legume vegetable group 7, Rapeseed subgroup 20B
PR#: 10003, 10046, 10208

Buprofezin
Trade Name: Applaud, Centaur, Courier, Vetica
Crops: Brassica leafy greens subgroup 5B, Turnip greens, Succulent bean, Persimmon, Tea, Pome fruit group 11-10 except pear and Asian pear, Pear, Asian pear, Fruiting vegetable group 8-10
PR#: 09005, 09006, 09007, 10541, 10646, 10737, 10735

IR-4/IPM

continued from page 4

IR-4 as a resource for these documents. These PMSPs and crop profiles have been used extensively by EPA to help improve pesticide registration decisions.

Conversely, IPM Center Directors with the assistance of their existing Comment Coordinators and networks, could be asked to review IR-4 Project Clearance Requests before the annual IR-4 Food Use Workshop. This could provide an IPM strategy for the projects that would be researchable, offering a level of IPM interest along the lines of a green, yellow and red-light indicator of acceptability from the IPM community.

Southern Region IPM Director, Jim VanKirk exchange collaboration ideas with the Center's Writer/Editor, Rosemary Hallberg and IR-4's Southern Region Field Research Coordinator, Michelle Samuel-Foo.

Another area where IR-4 will look to the Centers for their expertise is in review of Public Interest findings submitted to EPA. And conversely IR-4 may provide input used by the IPMC EPA Comment Coordinators. Comments from the participants input on the index cards indicated there were areas of collaboration and opportunity to move projects forward. While there are notable differences in process and culture for the mission and role of each program, this Summit helps set the stage for the necessary communication and collaboration between both programs.

The IR-4 Project

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USDA United States Department of Agriculture
National Institute of Food and Agriculture
ARS Agricultural Research Service

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