The IR-4 Project
Providing Safe and Effective Pest Management Solutions for Specialty Crop Growers

Newsletter
Vol. 40 No. 3 July 2009

IR-4 Ornamental Horticulture Program Contributes $1.2 Billion to US GDP!

— by Steven Miller, MSU Center for Economic Analysis Researcher, & Cristi Palmer, IR-4 Ornamental Horticulture Manager

No, that is not a typo. In 2008, Michigan State's Center for Economic Analysis (CEA) studied the impact of the IR-4 Ornamental Horticulture Program on the US economy. Economists commonly gauge the economic impact of projects, like the IR-4 Ornamental Horticulture Program, by their contribution to the overall level of gross domestic product (GDP). To determine that impact, the CEA looked at two economic pathways: the level of economic activity that results in research expenditures and how such research impacts productivity.

The Economic Model Used

Researchers at the CEA used a standard economic impact model that traces the value of transactions across industries, households and other institutions which make up the US economy. Initial transactions, termed direct effects, bring about ripple effects throughout the economy as other industries respond to changes in the demand for goods and services. These secondary transactions, termed indirect effects, arise from increased demand for goods and services used in the production or generation of the goods and services purchased in the initial transactions. The beneficiaries of these purchases will prompt a secondary set of purchases for inputs in a similar manner. The value of consumer purchases of 100 potted chrysanthemums from a local greenhouse is an example of a direct effect. The greenhouse will use some of the funds from the sale to purchase various inputs, such as potting soil, flowerpots, and stems, and to pay wages. In turn, the manufacturer of the flowerpots will use some of the funds from the sale of pots to purchase plastic, pay wages, etc. The sum value of these secondary transactions comprises the indirect effects. The total impact to the economy is the sum of the direct and indirect effects. As long as transactions continue to circulate within the economy, a series of subsequent transactions will take place, and the overall value of transactions will be larger than the initial infusion.

The CEA used several variables in the mathematical model. The direct and indirect expenditures for the program were $1.4 M direct and $1.1 M indirect. Additionally, program expenditures give rise to industry use of registered materials that increases

continued on page 3

Inside this issue...

2007 Census of Agriculture: A Snapshot of Specialty Crop Production

— by Cristi Palmer, IR-4 Ornamental Horticulture Manager

In mid-February, the USDA-NASS published the 2007 Census of Agriculture. Covering all aspects of agriculture from animal food and feed to grains to citrus and carrots, the Census of Agriculture captures everything Americans grow for food, fiber, and fun including all the specialty crops IR-4 serves. The published information includes volume and wholesale value along with where these crops are grown. The total wholesale value for all agriculture is $297 billion. The food and non-food crops represent $144 billion, and of this, the value of the Specialty Crops including fruits, vegetables, and ornamentals is $50 billion.

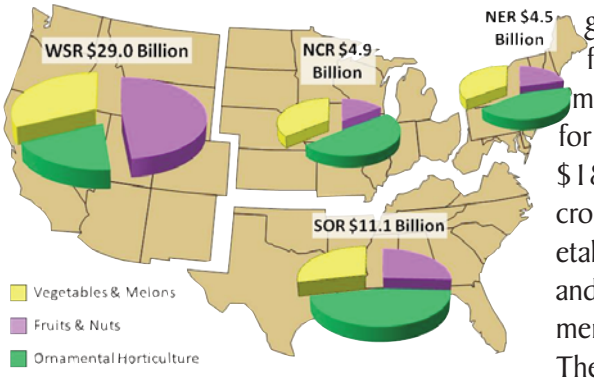

Figure 1. US Specialty Crop Production, based on 2007 Census of Agriculture

There are a few quirks with the categories USDA-NASS uses to pigeonhole the various crops American growers produce. The 'Nursery, greenhouse, floriculture, and sod' category is a collection of ornamental horticulture crops, food transplants, fruits and vegetables grown in greenhouses and mushroom production. Also, there is a category for 'Cut Christmas trees and short rotation woody crops' which houses production data for Christmas trees. Once the wholesale value for these two categories are grouped appropriately for fruit, vegetable, and ornamental production, the totals for each crop category are: $18.6 billion for fruit and nut crops, $15.9 billion in vegetable and melon production, and $15.1 billion for ornamental horticulture crops. The Census of Agriculture possesses a wealth of information. In addition to capturing the big picture, it holds details for some crops down to the county level. When we examine the amount and type of specialty crop production in our regions and the states they represent, we discover more than half of US Specialty Crop Production occurs in the Western Region (Figure 1). This is not surprising with the mild climate and favorable soils found on the west coast. The Southern region produces approximately 20%, with the remaining production split relatively equally among the North Central and Northeast Regions. This is to be expected, given the shorter growing season and cooler climate available to growers in these two regions. The snapshot can be focused even further by examining the production within each state using three crop categories: Vegetables & Melons, Fruits & Nuts, and Ornamental Horticulture. For 17 states, Vegetables & Melons possessed the largest value (Figure 2). The Fruits & Nuts category was the most prevalent in 5 states including California and Florida. In the remaining 28 states, Ornamental Horticulture

continued on next page

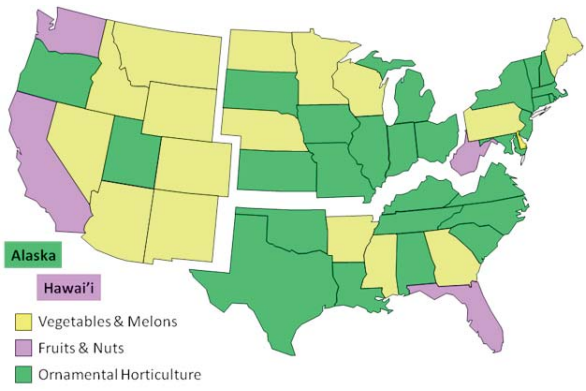

Figure 2. The Most Valuable Crop Category in Each State, based on 2007 Census of Agriculture

Economic Impact

continued from page 1

industry-wide productivity estimated to be $4 for every dollar growers spent on pest management tools.

The Impact

Using this economic model and the listed variables, the CEA concluded that IR-4's Ornamental Horticulture Program contributes $1.2 Billion to the US GDP. They also concluded that this program's efforts support close to 17 thousand full and part-time jobs with those employees making an annual income of over $700 million.

Census

continued from previous page

predominated with 25 of those states having a higher wholesale value for ornamental horticulture than the food crops combined.

This brief summary does not reflect the full details and complexities found in the 2007 Census of Agriculture. Trends in crop production and the interplay among crops over time can be discovered by reading the full census and additional reports at www.agcensus.usda.gov/Publications/2007/Full_Report/index.asp.

Biopesticide Database

— by Brian Switek, IR-4 Biopesticide & Organic Support Program Research Assistant

Are aphids attacking your apples? Are bagworms bothering your blueberries? Are fungi festering in your flower beds? If you want some greener options, there is something you should know.

Over the past several years Michael Braverman (IR-4 Biopesticide and Organic Support Program Manager) has been cultivating a unique database to allow growers and homeowners select safe and effective products to protect their crops and gardens. This unique web resource, called the Biopesticide and Organic Database for Integrated Pest Management (ir4.rutgers.edu/Biopesticides/LabelDatabase/index.cfm), allows users to quickly find biopesticides and organic products that will fit their needs. Whether you use conventional methods of pest control or rely on organic controls, the biopesticide database can help you find the solution you need.

Using the database couldn't be easier. The first step is to log on to the main page at the following internet address: ir4.rutgers.edu/Biopesticides/LabelDatabase/index.cfm

You will see an introductory section about biopesticides and their advantages, but if that is old news to you, just

continued on page 5

The IR-4 Newsletter Vol 40 No.3 July 2009

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. 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-27200-09-03, supported by state, US Hatch Act, and other US Department of Agriculture funds.

Editor: Sherrilynn Novack
IR-4 Public Relations and Communications Manager, 732.932.9575 x 4632, novack@aesop.rutgers.edu
Newsletter Committee:
Northeast Regional Field Coordinator, **Edith Lurvey**, 315.787.2308.
North Central Regional Director, **Bob Hollingworth,** 517.432.7718.
Western Regional Assistant Field Coordinator, **Stephen Flanagan,** 541.688.3155.
Southern Regional Field Coordinator, **Michelle Samuel-Foo,** 352-392-1978 ext 406
Southern Region Program Assistant/Quality Assurance Support **Robin Adkins** 352.392.1978.
USDA/ARS Field Representative, **Emy Pfeil** 301-504-8903 ext 234.
Commodity Liaison Committee member, **Dave Trinka** of MBG Marketing, 269.434.6791.
Alabama State Liaison Representative, **Charles Gilliam,** 334-844-3045
IR-4 HQ, 732.932.9575.
Assistant Director, **Van Starner** x 4621
Technical Coordinator /Entomology, **Ken Samoil** x 4614
Assistant Coordinator, Interdisciplinary Working Group **Kathryn Homa** x4604

Marrone Bio Innovations Offers the First CEU Course on Biopesticides

— by Julie Versman, Marrone Bio Innovations VP Marketing

Pest control advisers, private applicators, certified crop advisers and other license holders can now earn continuing education units (CEU) by studying a new course on biopesticides — the first ever on this subject. The course is accessible on the Marrone Bio Innovations web site (marronebioinnovations.com), at the CAPCA web site (capca.com/onlinececourses) and at the web site of the Association of Applied Insect Ecologists (www.aaie.net). Licensees can study the material and take the test online to earn credit without leaving their homes or offices.

The free course is accredited by the California Department of Food and Agriculture for all Department of Pesticide Regulation licensees and county pesticide permit holders. Those who study the course and pass the test online will earn two hours of credit, including ½-hour in the category "Laws and Regulations." Credits are also available to licensed consultants, applicators, qualified applicators and aerial applicators in Arizona, California, Delaware, Florida and Pennsylvania. Other states are pending. A current list of state accreditations is available at the web site. The course is also accredited by the American Society of Agronomy for two Integrated Pest Management (IPM) hours for the certified crop adviser (CCA) program.

"We are pleased to offer this course as an innovative new way to educate our customers and promote the value of biopesticides in IPM," said Pam Marrone, company founder and CEO. "We want to do more than just promote the products coming from our cutting-edge R&D. We want to contribute to a better understanding of biopesticides in general, and how to incorporate them successfully into all farming operations."

The course, "Biopesticides — Effective Use in Pest Management", covers a wide range of information about the development and use of naturally derived materials used in pest management programs. A brief history of biopesticides, which began with *Bacillus thuringiensis (Bt)* products first introduced 50 years ago, is followed by a discussion of biopesticide products that are currently registered by EPA. The vast majority are in use as components of conventional IPM programs and are effective tools for both disease and resistance management.

Biopesticides are naturally occurring substances, such as Bt bacteria, plant extracts, fatty acids or pheromones. Their use is growing rapidly worldwide, and they are in demand for their value in IPM programs to enhance yields and quality along with their low impact on the environment.

Biopesticides offer additional benefits, such as complex and novel modes of action for resistance management to extend the product life of conventional pesticides. They also add flexibility in a traditional farming operation with reduced preharvest intervals to manage residues for exported produce, and shorter field re-entry times for workers, which reduces labor costs.

The course provides an excellent description of the science behind biopesticides, their rigorous registration pathway and field development process, and how they fit best in a pest management program. Those who do not wish to take the test for credit can download a pdf file of the course for their own reference and use.

Database

continued from page 3

click the link that says "Skip Down to Database." There you will see a menu of options that will help you select the registered biopesticides or organic products for your needs.

The first section allows you to select the crop and site you are working with, be it in a commercial or a residential setting. Food crops from acerola to yams are included in the listing. There are options for turf and ornamental growers, too. If you are a commercial grower, click the "select" link next to the commercial crop or turf and ornamental option and make your selection from the list. If you are a homeowner, then simply click the button to the left of the selection next to residential food or residential turf and ornamental.

The next step is selecting the pest problem you want to tackle. The database not only lists a wide array of insects, but diseases, weeds, nematodes, and animals are also covered. There is even a section for plant growth regulators where you can choose the desired effect on a given crop. As with the crops, simply click the "select" button to the right of each category to make your selection. If you know the specific kind of pest you have, select it from the list, but what do you do if you are unsure what to pick? If you are having problems with aphids, for example, but don't specifically know what species it is, there is an option in the "Insects" list for "Aphids" in general. This will return somewhat broader results. One of the main advantages of biopesticides is that they often cover a wider range of pests so you will be more likely to find a solution.

After that, it's easy! All you have to do is select the state you are in (or select the "All" option if you want to see information for all states). If you only want to see listings for organic products click the checkbox beneath the state selection box, and click "Search."

On the results page you will see what your search turned up. The biopesticides will be listed alphabetically by trade name and to the right will be information about the company contact, any re-entry or post-harvest intervals, and other basic information about the product. There will also be a link to a pdf of the label so you can see more information for yourself. If your search did not turn up any replies, then go back and revise the categories you searched for.

If you have any problems please contact Michael Braverman at braverman@aesop.rutgers.edu.

If there are problems with a link in the database itself, please contact Brian Switek at switek@aesop.rutgers.edu.

Before you close the window containing your search results, please take a moment to fill out the survey at the bottom. It helps us better understand who is using the database and how we might be able to improve it for people interested in using biopesticides and organic products. We are constantly updating and revising our information, and any feedback on how we can better serve growers is always welcome.

The database is intended to be a guide to biopesticide products and does not constitute a recommendation. Visitors of the web site are urged to use the contact information provided with a particular product to find out where a product is available and the appropriateness of a particular use. The pesticide label on the product container is the official source for proper use.

Funding for the database was made possible through a grant from EPA Region 2. Technical assistance was provided by EPA headquarters and many of the manufacturers.

Welcome to the C

— by Kathryn Homa, IR-4 Interdisciplina

The idea of "going green" is everywhere today. People are recycling more, buying energy-efficient products, and even purchasing solar panels to power homes. However, did anyone ever think a field of flowers could make a large difference in improving the

quality of the earth and our lives? Well then, you haven't met *Calendula officinalis*. More commonly known as English Marigold, *Calendula officinalis* or calendula, is an annual flower that originated in southern Europe and the Eastern Mediterranean area. Currently, calendula is widely grown in the United States. This plant, with its large yellow to orange composite flowers, is also widely appreciated as an ornamental. *Calendula officinalis* can also be used for medicinal, cosmetic, and food purposes including garnishes, flavorings and colorings.

Aside from these uses, *Calendula officinalis* has recently gained popularity as an oilseed crop for industrial use. In fact, "considerable scientific activity has taken place in many European countries, funded by National Governments and the European Union, to support and develop new oil crop species"[1] including calendula. This research has been going on for the past ten years. Containing a wide range of oils for use in industry, calendula "offered the most immediate prospect of commercialization"[2]. Oil from calendula can be used in a number of valuable non-food use products including paints, coatings and some industrial nylon products. It can also be used as a replacement for tung oil.

Calendula oil, which makes up 40 to 46% of the seed, contains 50-55% highly conjugated calendic acid and 28-30% non-conjugated linoenic acid. It has been discovered that the calendic fatty acid in this plant is the "most rapidly oxidized fatty acid known in nature and…has an extensive number of applications in the plastics, paints and coatings industries"[1]. Tung oil, which contains high levels of polyunsaturated fatty acids, currently serves as the reactive component in fast drying paints. Used widely in Europe in paints and inks, "5,000 tons of tung oil is imported annually into the UK from China and South America at prices between $1,200 and $2,300"[1]. It has been found that calendula oil may be able to replace the "erratic" supply of tung oil in the future. Calendula is also important in the oil-based paint industry, as it is a "diluent of white spirit, the volatile drying component that may soon be limited by legislation as it releases volatile organic compounds into the atmosphere"[1]. Replacing these harmful compounds in paints and inks with calendula oil-based paints can result in less ground-level ozone levels and smog.

Due to the success of calendula in Europe, contract production of this oil seed crop is beginning in the United States and Canada. Currently, Technology Crops Ltd, a company that contracts the growing of many specialty oil crops including high oleic sunflowers and high erucic acid rapeseed, is looking to contract the production of calendula in the state of Minnesota. Over time, this contract will be approximately 10,000 hectares (~25,000 acres) per year. Commercial production of this crop will provide yet another revenue stream for producers and help extend crop rotation.

Calendula is a member of the *Asteraceae* family, which includes other oilseed crops

Group, Calendula!

ry Working Group Assistant Coordinator

such as sunflower, safflower, stokes aster, niger seed, and vernonia. These crops, especially sunflowers, share many similarities with calendula. Both calendula and sunflowers share similar growth stages, are grown for their oil, seed and meal, are exposed to pesticides on the same areas of the plant, and encounter many of the same pest problems in the field. Annual grasses and broadleaf weeds lead to seed contamination at harvest. Diseases including powdery mildew, *Botrytis*, *Sclerotinia*, and aster yellows, and insects including moth larvae (*Heliothis*) and the soybean cyst nematode are found to affect crop health. Similar processing issues, including variations in seed maturity, are also a common concern among all oilseed crops.

Given the similarities between calendula and other oilseed crops (cultural practices, geographical production areas, pest problems, oil uses), given the expanding interest in calendula in the nutritional, medicinal, cosmetic and industrial fields, and given its potential as a biofuel, Dr. Bernie Schneider, EPA Senior Plant Physiologist, Health Effects Division, proposed to EPA's Chemistry Science Advisory Committee (ChemSAC) that *Calendula officinalis* be added as a commodity member of the Oilseed Crop Group 20, in the crop subgroup represented by sunflower. ChemSAC agreed with the proposal, and the addition of calendula to the oilseed group will be codified along with the entire Crop Group 20 in a Federal Register Final Rule, which is currently pending[3]. calendula (fresh and dried leaves) is also a proposed addition to the Herb and Spice Crop Group 19, which is currently being reviewed.

Although calendula is currently grown in Minnesota, expansion to other states with oil processing facilities is likely. Calendula is also being grown in several provinces in Canada, but the crop has not yet been added to Canadian crop groups. However, directives for Canadian Crop Groups 8 and 11 are currently being amended, and their Oilseed Crop Group 20 may be modified at the same time.

The timing to add calendula as a member of the Oilseed Crop Group 20 could not be better. EPA's joint efforts with IR-4 to add calendula to Crop Group 20 will ensure that this oilseed crop is not omitted from the new oilseed crop group. Including calendula in the sunflower subgroup guarantees that tolerances established on sunflower would also cover calendula. This ensures that fewer pesticide residue studies will be needed to support calendula uses, and more research dollars will be available for other commodities. Therefore, adding calendula to the oilseed crop group will aid in the processes of both going "green" and saving "green."

1. Calendula / Pot Marigold." Ienica. 20 September 2002. Ienica. 10 Apr 2009 <www.ienica.net/crops/calendula.htm>.
2. Vegetable Oils with Specific Fatty Acids (VOSFA) Agricultural and Industrial Develpment of Novel Oilseed Crops - MAFF Final Summary Report." Biomatnet. 7 March 2007. Biomatnet. 10 Apr 2009 <http://www.biomatnet.org/secure/Air/F932.htm>.
3. Bernard A. Schneider, Ph.D, Senior Plant Physiologist, Chemistry and Exposure Branch, Health Effects Division
4. May 2009 ChemSAC minutes

Calendula officinalis pictures provided by Neal Boughton, Director of Agronomy Technology Crops Ltd.

Edible Fungi, Bulb Vegetable and Berry & Small Fruit Crop Group Details

— by Van Starner, IR-4 Assistant Director

The EPA Final Rule (12/7/07), which established the new Edible Fungi Crop Group 21 and revised the Bulb Vegetable Group 3-07 and Berry and Small Fruit Group 13-07, was discussed in the April '08 IR-4 newsletter. A complete listing of all current and new crop groups and subgroups, representative and individual commodities, and crop definitions can be found via the "Index of Crops/Crop Groups/Subgroups, and Crop Group Definitions" link on the IR-4 website (http://ir4.rutgers.edu/Other/CropGroup.htm), where IR-4 is incorporating all revisions as Final Rules issue in the Federal Register. From this website listing, below are shown details of these new/revised groups. A pending Final Rule will soon establish a new Oilseeds crop group 20, and revise Pome Fruit, Fruiting Vegetable and Citrus Fruit crop groups. Future newsletters will highlight these and subsequent crop group expansion successes.

New Crop Group	Representative Commodities	Commodities
21. EDIBLE FUNGI	White button mushroom and any one oyster mushroom or any Shiitake mushroom	Blewitt, bunashimeji, Chinese mushroom, enoki, hime-matsutake, hirmeola, maitake, morel, nameko, net bearing Dictyophora, oyster mushroom, pom pom, reishi mushroom, Rodman's agaricus, Shiitake mushroom , shimeji, stropharia, truffle, white button mushroom, white jelly fungi

Revised Crop Group and Subgroups	Representative Commodities	Commodities
3-07. BULB VEGETABLES	onion, bulb; onion, green	Chive, fresh leaves; chive, Chinese, fresh leaves; daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady's leek; leek; leek, wild; lily, bulb; onion, Beltsville bunching; onion, bulb; onion, Chinese, bulb; onion, fresh; onion, green; onion, macrostem; onion, pearl; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves; cultivars, varieties, and/or hybrids of these
3-07A. Onion, bulb, subgroup	onion, bulb	Daylily, bulb; fritillaria, bulb; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; lily, bulb; onion, bulb; onion, Chinese, bulb; onion, pearl; onion, potato, bulb; shallot, bulb; cultivars, varieties, and/or hybrids of these
3-07 B. Onion, green, subgroup	onion, green	chive, fresh leaves; chive, Chinese, fresh leaves; elegans hosta; fritillaria, leaves; kurrat; lady's leek; leek; leek, wild; onion, Beltsville bunching; onion, fresh; onion, green; onion, macrostem; onion, tree, tops; onion, Welsh, tops; shallot, fresh leaves; cultivars, varieties, and/or hybrids of these

Revised Crop Group and Subgroups	Representative Commodities	Commodities
13-07. BERRY AND SMALL FRUIT	Any one blackberry or any one raspberry, highbush blueberry, elderberry or mulberry, grape, fuzzy kiwifruit and strawberry	Amur river grape; aronia berry; bayberry; bearberry; bilberry; blackberry (including Andean blackberry, arctic blackberry, bingleberry, black satin berry, boysenberry, brombeere, California blackberry, Chesterberry, Cherokee blackberry, Cheyenne blackberry, common blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, evergreen blackberry, Himalayaberry, hullberry, lavacaberry, loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, mora, mures deronce, nectarberry, Northern dewberry, olallieberry, Orgeon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, Southern dewberry, tayberry, youngberry, zarzamora, and cultivars, varieties and/or hybrids of these); blueberry, highbush; blueberry, lowbush; buffalo currant; buffaloberry; che; Chilean guava; chokecherry; cloudberry; cranberry; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; grape; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); kiwifruit, fuzzy; kiwifruit, hardy; lingonberry; maypop; mountain pepper berries; mulberry; muntries; native currant; partridgeberry; phalsa; pincherry; raspberry, black and red; riberry; salal; schisandra berry; sea buckthorn; serviceberry; strawberry; wild raspberry; cultivars, varieties, and/or hybrids of these
13-07A. Caneberry subgroup	Any one blackberry or any one raspberry	Blackberry; loganberry; raspberry, black and red; wild raspberry; cultivars, varieties, and/or hybrids of these
13-07B. Bushberry subgroup	Blueberry, highbush	Aronia berry; blueberry, highbush; blueberry, lowbush; buffalo currant; Chilean guava; cranberry, highbush; currant, black; currant, red; elderberry; European barberry; gooseberry; honeysuckle, edible; huckleberry; jostaberry; Juneberry (Saskatoon berry); lingonberry; native currant; salal; sea buckthorn; cultivars, varieties, and/or hybrids of these
13-07C. Large shrub/tree berry subgroup	Elderberry or mulberry	Bayberry; buffaloberry; che; chokecherry; elderberry; Juneberry (Saskatoon berry); mountain pepper berries; mulberry; phalsa; pincherry; riberry; salal; serviceberry; cultivars, varieties, and/or hybrids of these
13-07D. Small fruit vine climbing subgroup	Grape and fuzzy kiwifruit	Amur river grape; gooseberry; grape; kiwifruit, fuzzy; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these
13-07E. Small fruit vine climbing subgroup, except grape	Fuzzy kiwifruit	Amur river grape; gooseberry; kiwifruit, fuzzy; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these
13-07F. Small fruit vine climbing subgroup, except fuzzy kiwifruit	Grape	Amur river grape; gooseberry; grape; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these
13-07G. Low growing berry subgroup	Strawberry	Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; strawberry; cultivars, varieties, and/or hybrids of these
13-07H. Low growing berry subgroup, except strawberry	Cranberry	Bearberry; bilberry; blueberry, lowbush; cloudberry; cranberry; lingonberry; muntries; partridgeberry; cultivars, varieties, and/or hybrids of these

The Southern Region Adds a New Player to the World of GLP studies

— by Michelle Samuel-Foo, IR-4 Southern Region Field Coordinator

Fayetteville, Arkansas ranked among the top ten "Best Cities to Live, Work and Play" by Kiplingers magazine in 2008, can now add another shining star to its list of merits. Debuting in 2009 is a new IR-4 Field Research Center (FRC) to be housed at the University of Arkansas, in Fayetteville.

The opening of this station for residue studies in EPA Region IV is the result of decommissioning a long standing FRC at the University of Tennessee (EPA Region II/IV). Having spent a considerable part of her tenure as an assistant professor conducting IR-4 field trials, Dr Angela Thompson ceased performing GLP studies in 2008. In March 2009, all University of Tennessee field data notebooks were turned into the Southern Region office and the site is currently creating an inventory of all test chemicals as per IR-4 guidelines on decommissioning a FRC.

The Arkansas research station, under the leadership of Dr. Nilda Burgos, an associate professor in the department of Crop, Soil and Environmental Sciences, will conduct a total of eleven food use (residue) trials in 2009.

Located in the foothills of the Ozark Mountains, Arkansas is often regarded as "the Natural State." With its humid sub tropical climate, Arkansas's agricultural and forestry industries are thriving. Among Arkansas's top agricultural commodities are several specialty crops including grain sorghum, grapes, tomatoes, and watermelons.

Dr. Nilda Burgos (R) networking with Ms. Jau Yoh, IR-4 Southern Region Lab Director at the recently concluded IR-4 National Education Conference in San Antonio, TX.

Despite this being the research group's rookie season, this wouldn't be a true test of their IR-4 will and perseverance if we didn't throw some challenging crop/chemical combinations their way. To ensure that this is a memorable field season, in addition to the nine fungicide / insecticide residue trials (ranging from cyprodinil + fludioxonil on mustard greens to lambda-cyhalothrin on okra) that are slated for the center, two herbicide trials (quizalofop on grain sorghum and acetochlor on beans) will also be conducted this year.

Although new to IR-4 magnitude of residue field studies, Nilda, a weed physiologist by training, has been a southern region IR-4 cooperator for some time now. In fact, she has represented the state of Arkansas as an IR-4 State Liaison Representative (SLR) for the past five years, replacing Dr. Ron Talbert who previously held the position. According to Dr. Charlie Meister, recently retired IR-4 Southern Region Field Coordinator, Nilda was a logical choice when the idea of a new field research center in EPA region IV was proposed: "She is highly competent and known for being meticulous. She has also voluntarily assisted with collecting data for the IR-4 Southern Region in the past."

As an SLR for Arkansas, Nilda regularly participates in minor crop outreach efforts and promotes IR-4 and our organization's mission to faculty, other research scientists and grower groups across the various horticultural disciplines at the University of Arkansas.

IR-4 Successes Apr-May 2009

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: April 1, 2009

Quinoxyfen

Trade Names: Arius, Fortress, Quintec

Crops: Stone fruit group 12, Globe artichoke, Winter squash, Pumpkin, Edible gourd

PR#: 08462, 08463, 08817, 07653, 08639

Federal Register: April 8, 2009

Spiromesifen

Trade Name: Oberon

Crops: Low growing berry subgroup 13-07G, Sweet corn

PR#: 10086, 09924

Cyhalofop-butyl

Trade Name: Clincher

Crop: Wild rice

PR#: 08951

Federal Register: May 26, 2009

Acibenzolar

Trade Names: Actigard, Bion, Blockade

Crops: Bulb onion subgroup 3-07A

PR#: 09090

Federal Register: May 27, 2009

Etoxazole

Trade Names: Baroque, Secure, Tetrasan

Crops: Cucumber, Tomato, Peppermint, Spearmint, Stone fruit group 12

PR#: 09208, 09109, 08816, 09045, 09046

Last summer as an invited speaker at the Organic Fruit Crop Production Workshops in Arkansas, she introduced the IR-4 Biopesticide and Organic Support Program to participants.

Along with Dr. Burgos, IR-4 also welcomes a new field technician Dr. Leopoldo Estorninos to the Southern Region. Prior to his IR-4 involvement, which commenced in February this year, Jun as he prefers to be called, was a post doctoral research associate at the University of Arkansas, where he also completed his doctoral work in weed science. Jun brings many years of herbicide control and horticultural expertise to his new role, although he readily admits that this is the first bout he has had with the rigors of GLP documentation. To help both inductees prepare for this new slate of responsibilities, they both attended the IR-4 National Education Conference that was held February, in San Antonio, TX.

Apart from a weather related spray delay that pushed the first application date for diflubenzuron on peaches back by almost a month (delay in fruit maturity), things seem to be going well for this group.

Please join us in welcoming this new FRC to the IR-4 Southern Region where we expect the tradition of excellence to continue.

Dr Leopoldo (aka Jun) Estorninos, new Field Research Technician at the University of Arkansas IR-4 FRC.

Calendar of Events

August 10-11, 2009
NCR SLR Meeting
Kansas City, MO

August 25-26, 2009
SLR Meeting
Myrtle Beach, SC

September 15-16, 2009
2009 Food Use Workshop
Cleveland, OH

October 6-8, 2009
Ornamental Horticulture Workshop
Cleveland, OH

October 14-15, 2009
2009 ARS LR Meeting
Cleveland, OH

2009 Ornamental Horticulture Workshop

Come to Cleveland, OH October 6-8 for the 2009 Ornamental Horticulture Workshop. This year's meeting will be the second biennial workshop setting two-year priorities. We anticipate another successful round of discussions on high priority projects for entomology, pathology and weed science.

October 6th	12:00 PM Tour
October 7th	8:00 AM Weed Science
	Mid-afternoon Pathology
October 8th	8:00 AM Pathology
	Mid-morning Entomology

The workshop will be held at: Cleveland Marriott Downtown, at Key Center, 127 Public Square. Reservations should be made directly with the hotel by calling 800-228-9290 or 216-696-9200. To secure the special room rate of $139 single/double, mention Rutgers University IR-4 Project. **The cutoff date for hotel reservations is September 7, 2009.**

The workshop registration fee is $140 until August 28, 2009 and $190 from August 29, 2009 until arrival.

Don't forget to register for the 2009 Food Use Workshop

The Food Use Workshop registration fee is $150 until August 21, 2009, and $200 from August 22, 2009 until arrival.

Register online for either workshop at ir4.rutgers.edu

The IR-4 Project
Providing Safe and Effective Pest Management Solutions for Specialty Crop Growers

IR-4 Headquarters,
Rutgers, The State University of New Jersey
500 College Road East
Suite 201 W
Princeton, NJ 08540

Major funding for IR-4 is provided by Special Research Grants and Hatch Act Funds from USDA-CSREES, in cooperation with the State Agricultural Experiment Stations, and USDA-ARS.

Address Service Requested