

# CSREES Plant Sciences



## Plant Sciences UPDATE

### The Plant Sciences Update Has a NEW LOOK!

Keeping up with the times; the Plant Sciences Update received a facelift, much like the new CSREES website ([www.csrees.usda.gov](http://www.csrees.usda.gov)). It has also gained a new creator, Amy Rhodes whom you can read about in this edition's Recent Staff Appointments section.

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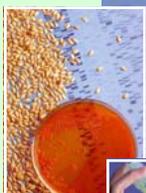
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#### Plant Sciences Staff Directory:

Sending Mail to CSREES, CSREES Plant Science Web Sites

Express Mail: Plant and Animal  
Systems CSREES, USDA  
Room 3359 800 9th St., SW.  
Washington, DC 20024

Tele: 202-401-5877  
Fax: 202-401-4888  
[www.csrees.usda.gov](http://www.csrees.usda.gov)



## Lead Story:

### Funding for Small Businesses Focusing on Plant Production and Protection

The Small Business Innovation Research (SBIR) program at the U.S. Department of Agriculture (USDA) has grants which will be competitively awarded to qualified small businesses for the approaches dealing with plant production and protection.

Topic areas will cover :

*Biological approaches* to improve the efficiency of crop production using innovative methods of biotechnology, tissue culture and genomics to produce crops with improved quality and yield, reduce the harmful impact of plant pathogens and insect pests, and develop new crop plants and new uses for existing crop plants.

*Engineering approaches* to develop improved crop protection and protection methods by utilizing precision farming technology, improved sensors, remote sensing, and innovative farm equipment. Engineering approaches also develop improved farm and greenhouse structures and methodologies for growing plants under controlled conditions, and improved strategies for efficient use of energy.

Each organization submitting a proposal must qualify as a small business concern for research or research and development purposes. The estimated total program funding is \$18,300,000.00 with efforts to make awards ranging from \$70,000.00 - \$300,000.00. The due date (closing) will be August 31, 2004.

For more information contact: William Goldner (202)-401-1719, Email: [wgoldner@csrees.usda.gov](mailto:wgoldner@csrees.usda.gov)

## Funding Impacts:

### Sudden Oak Death (SOD) - Found Lurking in Other Plants

Oak trees are one of California's signature trees beautifying the state's landscape. Since its appearance in 1995 in Marin County, a mysterious disease has rapidly killed tens of thousands of coast live oaks, black oaks, Shreve oaks and tanoaks between California's central coast and southern Oregon. The public safety, environmental, and economic consequences of this disease are growing. Dead trees have come crashing down on campsites, spurring the closure of China Camp State Park and removal of hazardous trees to prevent injury to people. In addition to being an eyesore, the proliferation of dead trees also presents a fire hazard. The loss of oak trees means loss of habitat for wildlife. The disease continues to kill trees throughout its range.

University of California scientists have identified the fungus-like pathogen that is killing the oaks as a new species of Phytophthora. It has been named *Phytophthora ramorum*. They also have identified a number of other plants that play host to the deadly pathogen. These plants include rhododendron, buckeye, madrone, manzanita, bigleaf maple, bay laurel, viburnum, evergreen huckleberry, California coffeeberry, toyon and honeysuckle.

The university has mounted an effort to educate gardeners, arborists and horticulturists how to recognize infected plants and to educate the public how to avoid spreading the pathogen. Preventing the movement of infected leaves, wood and soil will be critical to slowing the spread of the fungus to other oak woodlands, such as the Sierra Nevada and eastern North America. Identifying *Phytophthora ramorum* as the pathogen was a major breakthrough. With this information, scientists can begin testing approaches to halt the spread of infection and to kill the pathogen. This research was funded through the Hatch Act and other CSREES, state and local agencies as well as the Gordon and Betty Moore Foundation.

The California Oak Mortality Task Force a nonprofit organization, was formed in August 2000. It brings together UC scientists, public agencies, other nonprofit organizations and private interests to address the issues accompanying SOD syndrome. The task force is implementing a comprehensive and unified approach for research, management,



education and public policy. The USDA Animal and Plant Health Inspection Service (APHIS) is currently drafting federal quarantine regulations.

For more information contact:

David Rizzo, University of California, Davis (530) 754-9255, Email: [dmrizzo@ucdavis.edu](mailto:dmrizzo@ucdavis.edu) or Matteo Garbelotto, University of California, Berkeley (510) 643-4282, Email: [matteo@nature.berkeley.edu](mailto:matteo@nature.berkeley.edu)

### Utilizing Fertilizer More Efficiently

Despite gains in agricultural production, providing enough food for people in developing countries remains a challenge. Farmers in these nations often cannot afford the same amount of fertilizers that their counterparts in more developed countries use. Crops that produce greater yields would contribute to the fight against world hunger.

With funds provided by the CSREES through the Hatch Act, McIntire-Stennis Cooperative Forestry, and the Smith-Lever 3(b) & (c); the researchers at the University of Florida's (UF) Institute of Food and Agricultural Sciences have taken another big step forward in efficient and abundant agricultural production to feed a hungry world. They have discovered that tiny alga plants, which form green scum on ponds, are the source of a unique gene that can be transferred to crop plants, boosting yields by as much as 30 percent. The gene, isolated from common pond alga by Robert Schmidt, plant molecular biologist in the Department of Microbiology and Cell Science, utilizes nitrogen nutrients far more efficiently than regular crop plants. And, when its nutrient source for nitrogen is switched from a nitrate to ammonium, the alga grows 40 percent faster.

After more than 10 years of research, the first transgenic plants were produced in collaboration with the Monsanto Co., St. Louis, Mo., which is studying the UF gene in wheat plants. Schmidt and Monsanto scientist Philip Miller, inserted the algal gene into wheat plants to see how this crop plant would perform. In trials, the transgenic wheat plants were more robust and grew larger and produced significantly more grain than conventional wheat plants on the same amount of nitrogen fertilizer. One of Schmidt's alga genes is already patented by the UF, and there's a patent pending on another. Schmidt and other UF/IFAS researchers are already studying how this algal gene and others might enhance the ability of crop plants to tolerate drought, heat and salinity.

Schmidt said it may be possible to cut nitrogen fertilizer levels for these transgenic plants by about one-third and still obtain the same grain yields. This, he added, would be especially valuable in developing countries where nitrogen fertilizer is a costly nutrient and a major constraint to higher crop yields. The thrifter plants also would reduce leaching of nutrients into waterways and groundwater. "This discovery is predicted to have a major positive impact on the economy of world agriculture, particularly if the productivity of other crop plants can be increased by inserting this GDH gene," Schmidt said. "Moreover, this green alga may serve as a source of other novel genes that can be used in plant biotechnology, giving crops more desirable traits to increase or maintain productivity over a wide range of nutritional and environmental conditions." For more information contact Robert Schmidt at the Department of Microbiology and Cell Science at the University of Florida, Gainesville. Telephone: (352) 392-0237, E-mail: [rschmidt@micro.ifas.ufl.edu](mailto:rschmidt@micro.ifas.ufl.edu)

## CSREES Program Highlights:

### Jones to Speak on Biotech Trends and Funding Opportunities

Daniel Jones, CSREES NPL for Biotechnology, will speak on biotechnology trends and funding opportunities at the Louisiana State University AgCenter's Biotechnology Summit in Woodworth, LA, July 28, 2004. He will cover funding opportunities at USDA and several interagency working groups on plant genome, microbial genome, and metabolic engineering.

### Exotic/Invasive Pests and Disease Research Program (EPDRP)

In 2001, the University of California, Center for Invasive Species Research, in collaboration with the University of California Statewide IPM Program, established a competitive research program on exotic/invasive pests and diseases funded by CSREES. The purpose of the program is to improve knowledge and management of exotic/invasive pests that are already in California or that pose a likely threat to the State. Funding is available to scientists affiliated with public research institutions, both within and outside of California. Since 2001, the EPDRP has funded 42 projects totaling \$3.6 million. The program has also co-sponsored a number of conferences on invasive species. For more information on the program and summaries of the funded projects go to <http://www.ipm.ucdavis.edu/EXOTIC/>.

### IPMnet NEWS for Everyone

CSREES supports IPMnet NEWS, which is an electronic newsletter for international IPM. Currently in its 10<sup>th</sup> year, IPMnet NEWS provides access to pest management resources and it summarizes many aspects of plant protection worldwide. Designed in the 90s to aid developing countries that had very limited or even no access to well-stocked libraries, this news source continues to grow and expand in its international coverage. IPMnet NEWS delivers information on the cutting edge of IPM by providing a robust and rapidly transmitted information resource that can be read from the most basic computer with the slowest modem connection. Content from the USDA Regional IPM Centers provides some of the most extensive international outreach for any current USDA program. This is the premier IPM news vehicle for the world, accessed by more than 130 countries.

The newsletter is copyrighted by the Consortium for International Crop Protection and maintained in cooperation with the Integrated Plant Protection Center at Oregon State University. <http://www.ipmnet.org/news.html>

### Map Links All U.S. State IPM Sites

A recently evolved information tool available to parties interested in IPM developments in any one of the 50 U.S. states is an interactive listing of state IPM homepages. A mouse click on the map at <http://www.ipmcenters.org/producers/homepages/state.html> promptly brings up that state's current site for IPM information. Many states have a dedicated IPM homepage or site, these pages are quite expansive and graphically appealing. Some websites are less detailed and visually enhanced while others have opted for variants and alternative approaches to addressing IPM. A few states have yet to designate or record an official IPM site, even though the state may well be engaged in extensive IPM activity.

Staff at the NSF Center for Integrated Pest Management, based at North Carolina State University, engineered the U.S. national IPM site and its expanding array of linkages, utilizing sponsorship of the CSREES. Email: [cipm@ncsu.edu](mailto:cipm@ncsu.edu)

### CABI Compendium Is Available to Land Grant University Faculty/Staff

An agreement between CSREES and CABI publishing provides access to CABI publishing's compendia series. Land grant faculty and staff are able to access the three compendia in the series through 2000 access points. The three compendia cover animal health, crop protection, and forestry. The compendia are interactive encyclopedic knowledge bases of peer-reviewed information that has been developed by an international consortium including five agencies of the USDA which are Animal and Plant Health Inspection Service (APHIS), ARS, CSREES, Foreign Agricultural Service (FAS), and the Forest Service (FS). The Regional Integrated Pest Management Centers are leading the distribution efforts in cooperation with the National Animal Health Laboratory Network and the National Plant Diagnostic Network. For access: [www.ipmcenters.org/cabi](http://www.ipmcenters.org/cabi)  
For more information contact Bill Hoffman at [whoffman@csrees.usda.gov](mailto:whoffman@csrees.usda.gov).

### New and Improved CSREES Pest Managers E-Mail Distribution List

This list is now up and running. It shares information about CSREES' pest management programs, including requests for applications and newsletters. The list has been expanded to include a broader cross-section of those involved



with IPM research and extension programs. The pest manager's list now includes those involved with the Pesticide Safety and Education Program (PSEP), IPM Centers, The Extension IPM, Implementation Program and the Minor Crop Pest Management Program (IR-4). In addition, applicants and others associated with CSREES' plant and animal systems competitive grants programs and other interested parties have been added. If there are others who are interested in being added to the distribution list or if changes need to be made, please contact Kathy Kimble-Day at [kday@csrees.usda.gov](mailto:kday@csrees.usda.gov) with names and e-mail addresses so that we may add them.

## Upcoming Meetings:

July 24-28 ▪ **American Society of Plant Biologists (ASPB)**, formerly the American Society of Plant Physiologists (ASPP), Orlando, FL ▪ <http://www.aspb.org/meetings/pb-2004/>

July 31 – August 4 ▪ **American Phytopathological Society Annual Meeting**, Anaheim, CA  
<http://www.apsnet.org/meetings/2004/>

August 1-6 ▪ **Ecological Society of America Annual Meeting**, Portland, OR ▪ <http://www.esa.org/portland/>

August 7-11 ▪ **Annual Meeting, Society of Nematologists**, Estes Park, CO  
<http://www.nematologists.org/annualmeeting/>

August 7-12 ▪ **12th International Symposium on Insect Plant Relationships (SIP)**, Berlin, Germany  
<http://www.biologie.fu-berlin.de/SIP12-Berlin/>

August 15-21 ▪ **22nd International Congress of Entomology**, Brisbane, Australia  
<http://www.ccm.com.au/icoe/home/default.htm>

August 16-19 ▪ **NDIA, 9th Annual Joint Services Environmental Management Conference**, San Antonio, TX  
<http://www.jsemconference.com/>

August 29 – September 2 ▪ **16th International Sunflower Conference**, Fargo, ND  
[http://www.fargo.ars.usda.gov/sun/sun\\_home.htm](http://www.fargo.ars.usda.gov/sun/sun_home.htm)  
<https://www.sunflowernsa.com/events/details.asp?eventID=44>

August 31-September 2 ▪ **12th International Conference on Weed Biology**, Dijon, France  
<http://www.dijon.inra.fr/malherbo/AccueilF1.htm>

September 12-15 ▪ **Agricultural Biotechnology International Conference 2004**, Cologne, Germany  
<http://www.abic2004.org>

September 21-23 ▪ **12th North American Weed Management Association Annual Conference and Trade Show**, Rapid City, ND ▪ <http://www.nawma.org/documents/2004%20Conference/nawma%20conf%20agenda04.pdf>

September 26 – October 4 ▪ **4th International Crop Science Congress**, Brisbane, Australia  
<http://www.cropscience2004.com>

October 1-2 ▪ **2004 Association of Natural Biocontrol Producers Conference**, Colorado Springs, CO  
<http://www.ANBP.org>

October 3-5 ▪ California Plant Health Association Annual Meeting, Kaanapali Beach, HI, USA. <http://www.cpha.net>

October 27-29 ▪ International Conference on Pesticide Application for Drift Management, Waikoloa Hilton, Kona, HI  
<http://pep.wsu.edu/drift04/>

October 31 – November 4 ▪ American Society of Agronomy/Crop Science Society Annual Meeting, Seattle, WA ▪  
<http://www.asa-cssa-sssa.org/anmeet/>

November 1-5 ▪ Forest Genetics and Tree Breeding in the Age of Genomics: Progress and Future, Charles, SC,  
[http://www.ces.ncsu.edu/nreos/forest/feop/ufro\\_genetics2004/](http://www.ces.ncsu.edu/nreos/forest/feop/ufro_genetics2004/)

November 4-5 ▪ Insect Borers: An Emerging Issue in the Southern Region, Orlando, FL ▪ Contact: Dr. Russ Mizell  
[rmizell@mail.ifas.ufl.edu](mailto:rmizell@mail.ifas.ufl.edu) ▪ Dr. Norm Nesheim [onn@ifas.ufl.edu](mailto:onn@ifas.ufl.edu) ▪ Ms. Shani File [ipmsouth@ifas.ufl.edu](mailto:ipmsouth@ifas.ufl.edu)

November 14-17 ▪ Entomological Society of America Annual Meeting, Salt Lake City, UT  
[www.entsoc.org/annual\\_meeting/2004/ameeting.htm](http://www.entsoc.org/annual_meeting/2004/ameeting.htm)

January 15-19, 2005 ▪ Plant and Animal Genome XIII Conference, San Diego, CA <http://www.intl-pag.org/>

March 15-16 Northeastern IPM Conference - Manchester, NH [http://northeastipm.org/conference2005\\_index.cfm](http://northeastipm.org/conference2005_index.cfm)

April 4-6, 2006 ▪ Fifth National IPM Symposium "Delivering on a Promise", St. Louis, MO  
<http://www.ipmcenters.org/IPMSymposiumV/>

## Inside the Beltway:

### CSREES Launches New Web Site - Improved Communication Tool

April 15 is unforgettable for many reasons. In 2004, however, CSREES brought a new dimension to the date by kicking off the Agency's 10th anniversary by launching a new public Web site to better serve our partners and the public. The new Web site comes to you at [www.csrees.usda.gov](http://www.csrees.usda.gov) and culminates a lengthy process that engaged most of CSREES during the past 18 months. The Agency's vast information resources have been reviewed, synthesized, analyzed, and recast into a more usable site designed following a communications strategic planning process that involved individuals from USDA, CSREES, and our partners. The Web site organizes the Agency's 59 programs into 11 national emphasis areas. Each program description features an overview, an **In focus** section highlighting select program successes, funding opportunities, partnership efforts, events, results and impacts, resources, and Agency contacts.

An extensive **Doing Business with CSREES** section features policies and procedures, frequently asked questions, discussion of award reviews and post-award management, planning and reporting impact, and training opportunities. The **Funding Opportunities** part of the Web site organizes all funding programs and details the grants process, providing access to e-Grants and all application forms. An exciting addition to the new site is a **Newsroom** featuring news from our partner institutions related to CSREES programs. CSREES staff will continually "mine" partner sites for news stories that can be featured weekly on the new site. Links back to the supplying institutions will be provided. Impact statements, news releases and media advisories, speeches and Congressional testimony, and a listing of relevant partnership events are featured.

Under the leadership of the CSREES Communications Staff and with the cooperation and participation of CSREES program leaders and support staff, the Agency engaged in a thorough review of all information on the current



CSREES site, developed standards for information on the new site, and created new information or migrated current information to the new site.

So, in 2004 CSREES has a new "face" for its 10th anniversary. As the major communications tool for the Agency, we are proud to launch this Web site and bring the best work of CSREES to our partners and the public. Terry Meisenbach, Communications Director.

### CARAT Advisory Group Presents Recommendations

An advisory work group, led by the Meridian Institute, finalized a series of recommendations on safer and more efficient pest management techniques, including calls for better coordination of such efforts within the Environmental Protection Agency (EPA) and the Department of Agriculture on October 1, 2003. The group drafted the recommendations for the Committee to Advise on Reassessment and Transition (CARAT), a panel that advises EPA and USDA on pest management planning and tolerance reassessments for pesticides. John Ehmann, senior partner with the Meridian Institute and the group's facilitator, said the final version would be presented to the CARAT panel at the conclusion of the two-day meeting on Oct. 2.

CARAT was established in 2000 to help the agencies, the agricultural industry, and others through a transition toward tougher pesticide safety requirements under the Food Quality Protection Act of 1996. Under the act, EPA was required to reassess the risk of all registered pesticides under far more stringent standards.

The CARAT work group recommended a larger role for Pest Management Strategic Plans--which identify alternative approaches to currently used pesticides for specific crops--and better coordination with groups such as USDA's Natural Resources Conservation Service and the CSREES-funded Regional Integrated Pest Management Centers. Those centers received particularly high marks from the work group for developing high quality research and in reaching out to local and state agricultural, environmental, and academic groups.

The work group also called on the USDA to thoroughly review whether its various programs, which range from research and education to the funding of locally run cooperative extension programs, are working in tandem to promote more efficient and safer pest management practices. The group also urged EPA to better coordinate its own pesticide programs with other agency programs addressing water quality, air quality, and worker safety.

Many of the work group members voiced concern over whether there will continue to be adequate funding for many of the programs they are lauding through the recommendations since many states are battling budget deficits. While the USDA helps fund the local cooperative extension services, for example, some counties and universities are considering layoffs and even closing some offices due to budget deficits.

"Some of these counties have already moved to de-fund those extension agents," a move that would eliminate some of the very people who could be pushing safer and more economical pest management techniques directly to growers, according to Dan Botts, a representative from the Florida Fruit & Vegetable Association. For example, the University of California's Division of Agriculture and Natural Resources in August said it was eliminating jobs to make up for a 25 percent cut to the university's Cooperative Extension program in addition to a 10% cut to its agricultural experiment station.

However, some CARAT work group members expressed optimism over a number of new grants that became available under the 2002 Farm Bill, such as Conservation Innovation Grants. That program provides up to 50 percent in matching funds toward university and other programs that develop and implement conservation efforts, including those that incorporate innovative pest management techniques.

### House Takes Action on President's FY 2005 Budget Proposal

On Wednesday, June 23, the House Appropriations Committee marked up the FY 2005 agricultural appropriation bill. Information received from the Department indicates that the House mark for CSREES is \$1,155,654,000. This is an increase of \$135,632,000 over the FY 2005 President's Budget and \$31,742,000 above the FY 04 appropriation with rescission. (The totals for the FY 2005 President's budget, the FY 2004 appropriation and the FY 2005 House mark include an estimate of interest earned on the Native American Endowment Fund). The complete CSREES budget is listed on pages 11-12.

## Agency Personnel Spotlight:

### Bolton, Menzel, Nowierski & Purcell-Miramontes Participated in Federal Interagency Committee

Four CSREES National Program Leaders participated in organizational efforts for the Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens (ITAP). Herb Bolton, Bruce Menzel, Bob Nowierski, and Mary Purcell-Miramontes, attended the ITAP planning retreat at Shepherdstown, WV, June 22-24, 2004 with 65 representatives from 18 Federal departments and agencies. ITAP will provide Federal coordination and technical information, under the umbrella of the National Invasive Species Council, for invasive species not covered by the Federal Interagency Committee on the Management of Noxious and Exotic Weeds (FICMNEW) and the Aquatic Nuisance Species Task Force (ANSTF). In recent years efforts to organize Federal organizations around invasive weed and aquatic nuisance species have made strong advances. Efforts to coordinate research, monitoring and management of invasive terrestrial invertebrates, vertebrates, and plant and animal pathogens have lagged behind these other areas. Within the next 2 months, the ITAP co-chairs from the U.S.D.A. and U.S. Department of Interior will formally invite Federal departments and agencies to join ITAP through a Memorandum of Understanding.

### Edward K. Kaleikau Awarded the Secretary's Honor Award

Kaleikau was nominated by the CSREES with USDA's highest honor, the Secretary's Honor Award. He was the Rod A. Wing, Leader for the U.S. rice genome consortia. He led the United States partnership in the multinational achievement to decode the rice genome to advance knowledge, improve nutrition, and alleviate world hunger.

Agriculture Secretary Ann M. Veneman stated "The Honor Awards highlight the dedication and talents of USDA employees who contribute in so many ways to improving the world around us." Each of these honorees is to be commended for their accomplishments in public service."

CSREES Administrator Colien Hefferan announced the names of the winners. "CSREES is incredibly proud of the distinguished individuals and groups receiving this award," said Hefferan. "We are delighted to have winners in each of the five categories; their contributions have directly impacted the community that they serve."

### Parochetti & Nowierski Presented - Environmental Planning Excellence Award

The Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) was the recipient of this years American Planning Association's (APA) award in the Federal Planning Division (FPD) for Environmental Planning Excellence. This award recognizes the importance of cross-agency partnerships and the value of strategic planning in Federal agencies.

National Program Leaders James Parochetti and Robert Nowierski (both from the Plant and Animals Systems Unit) are CSREES' representatives to FICMNEW.

FICMNEW was one of 42 entries in competition from across the nation. Its entry entitled, "A National Early Detection and Rapid Response System for Invasive Plants in the United States-Conceptual Design" was developed by the interagency committee over a 5-year period.



FICMNEW was established through a Memorandum of Understanding in 1994. It is a formal partnership among 16 federal agencies with invasive plant management and regulatory responsibilities. For a list of all member agencies, go to <http://ficmnew.fws.gov>. FICMNEW accomplishes its goals by sharing scientific and technical information, fostering collaborative efforts among federal agencies, and sponsoring technical/educational conferences and workshops concerning invasive plants.

### CSREES Developing a "CSREES Hall of Fame"

As a part of the CSREES celebration of our tenth anniversary, the Agency is establishing a CSREES Hall of Fame. Inductees into the CSREES Hall of Fame must have worked, coordinated, or supported activities exemplifying CSREES' unique approach of combining research, education, and extension on a local, regional, national, or international level with a positive impact on the lives of citizens. Up to ten members will be inducted in October 2004, and in future years subsequent recipients will be considered. For more information visit: [www.csrees.usda.gov/business/other\\_links/hall\\_of\\_fame.pdf](http://www.csrees.usda.gov/business/other_links/hall_of_fame.pdf)

### Recent Plant Sciences Staff Appointment - Amy Rhodes, New Program Specialist

The Plant Section of CSREES' Plant and Animal Systems unit welcomes Amy Rhodes as a new program specialist. Amy comes to us from North Carolina State University where she received her MS in horticulture. Her efforts will be directed to increase the visibility of the section's programmatic efforts by increasing outreach efforts. She can be reached by email [arhodes@csrees.usda.gov](mailto:arhodes@csrees.usda.gov) and by phone 202-401-6195.

## Resources:

### Methyl Bromide Technologies

The latest issue (vol.9(2), Fall 2003) of METHYL BROMIDE ALTERNATIVES focuses on reports from the U.S./Canada working group on methyl bromide alternatives and includes several novel approaches including a lightning fast scrubbing technology. A web version resides at: [www.ars.usda.gov/is/np/mba/mebrhp.htm](http://www.ars.usda.gov/is/np/mba/mebrhp.htm). Contact: S. Dunham, USDA, ARS, Information Staff, 5601 Sunnyside Ave., Beltsville, MD 20705-5129, USA. Fax: 1-301-504-1641.

### Concern Prompts Weed Website

When does a single herbaceous weed species rate its own website? When it is Parthenium hysterophorus, a highly noxious plant containing toxins capable of causing adverse physical effects in humans and animals, and rated as one of the "world's 10 worst weeds." In view of the plant's nasty character and rapid spread--it is now found in tropical and subtropical regions of several continents--a group of concerned scientists formed the International Parthenium Research News Group (IPRNG) and established a website <http://www.iprng.org> as an information site covering most elements related to P. hysterophorus.

The IPRNG web contains sections devoted to research, news, published articles, best management practices, and references, plus a directory of involved researchers. In addition to IPRNG, several other groups have formed such as the Parthenium Action Group and the Society for Parthenium Management. Contact: P. Oudhia, 28-A, Geeta Nagar, Raipur 492001, INDIA. Email: [Pankaj.Oudhia@usa.net](mailto:Pankaj.Oudhia@usa.net). Phone: 91-771-225-3243.

### Pesticide Resistance

The latest issue of the free, biannual RESISTANT PEST MANAGEMENT NEWSLETTER, vol. 13, no. 2 (Spring 2004), is now available both in an online version at <http://whalonlab.msu.edu/rpmnews/> or as a printable PDF version at [http://whalonlab.msu.edu/rpmnews/vol.13\\_no.2/printable/rpm\\_printable.htm](http://whalonlab.msu.edu/rpmnews/vol.13_no.2/printable/rpm_printable.htm). The RPM newsletter exists to "provide an accurate, informative, and useful resource" that informs a worldwide community of advances and shifts in the field of pest resistance management. Contact: A.C. Beebe, Newsletter Coordinator, Email: [rpmnews@msu.edu](mailto:rpmnews@msu.edu).

### Supplemental Pest Information

Specialists at the Ontario (CANADA) Ministry of Agriculture and Forestry issue a biannual province-wide FIELD CROP PROTECTION GUIDE as the definitive source for regional information and comment on insect and disease control products for major field crops. The GUIDE also includes best control options for integrated pest management for each insect and disease. The latest GUIDE was published in 2003, and so to cover changes in 2004 on items such as new or discontinued products, new registrations, and new pests, a supplement has been issued, but with an interesting twist. All data in the supplement appear in red, thus making it easier for users to identify new information (additions, changes, corrections, etc.). Copies of the 2003 edition (pub. #812) are available from an OMAF Resource Centre, or by calling 1-888-466-2372. The GUIDE also can be found on the OMAF/OMAFRA web at <http://www.gov.on.ca/OMAFRA/english/crops/pub812/p812order.htm>.

The 2004 supplement can be requested from the same sources or viewed at <http://www.gov.on.ca/OMAFRA/english/crops/facts/812si.htm>.

### Biocontrol Overview

Applied biocontrol is one of several key strategies in the IPM toolbox. A new (2003) monograph, PREDATORS AND PARASITOIDS, examines the role of natural enemies in crop protection as an IPM concept, with editors/scientists O. Koul and G.S. Dhaliwal noting that biocontrol, as both concept and applied practice, is too often shoved aside in managed agriculture. Based on nine chapters by specialists in biocontrol, this hardbound text considers all the expected topics such as augmentation, multiparasitism, synergism and more. The monograph's 199 pages offer a useful compilation of current biocontrol activities. Contact: CRC Press, 2000 Corporate Blvd. NW, Boca Raton, FL 33431-9868, USA. Email: [KLewis@crcpress.com](mailto:KLewis@crcpress.com), Phone: 1-877-272-7737, Web: <http://www.crcpress.com>.

### IPM: A World View

There are dozens of books that variously refer to IPM, fewer that include specific IPM sections, and fewer still that are singularly and fully focused on contemporary IPM. A 2003 title, INTEGRATED PEST MANAGEMENT IN THE GLOBAL ARENA, ranks high among the latter group in presenting both the issues and institutions on the forefront of IPM research and development worldwide. Editor K.M. Marelda and colleagues have drawn upon an international contingent of 127 knowledgeable authors to describe case studies and experiences with IPM from every continent, many regions, and numerous countries. The nearly 40 chapters of this 560-page monograph address topics ranging from emerging issues to a set of conclusions and recommendations to address constraints to IPM development and implementation, such as a lack of evaluation and documentation for IPM's "deliverables" and promotion of its potential benefits, sandwiched around a bushel of geographically oriented experiences. This landmark, hardbound volume blends theory, in-the-field-and-lab actualities, and future vision to generate a unique reference. Contact: CABI Publishing, Wallingford, Oxon OX10 8DE, UK. Email: [cabi@cabi.org](mailto:cabi@cabi.org). Phone: 44-0-1491-832111. Web: <http://www.cabi-publishing.org/bookshop/index.asp>.

### The Ecology of Weeds

A 2003 textbook focuses on the link between ecological principles and the invasion of unwanted plants (weeds), basically describing why and where weeds occur. WEED ECOLOGY IN NATURAL AND AGRICULTURAL SYSTEMS, note authors B.D. Booth, et al, makes no attempt to discuss weed management, but emphasizes how and why weeds neatly fit into their environment. The softbound, 311-page monograph dwells on concepts and presents a refreshing view that has appeal to a broad audience beyond the realm of weed science. "In the long term," the authors point out, understanding the fundamentals of weed distribution and abundance "may change our attitudes and perceptions towards weeds and alter the way we manage them." Contact: CABI Publishing, Wallingford, Oxon OX10 8DE, UK. Email: [cabi@cabi.org](mailto:cabi@cabi.org) Phone: 44-0-1491-832111. Web: <http://www.cabi-publishing.org/bookshop/index.asp>

Cooperative State Research, Education, and Extension Service (\$'000)				
Programs	FY 2004 President's Budget	FY 2004 Appropriations Act	FY 2005 President's Budget	FY 2005 House Committee
<b>Research and Education Activities</b>				
<b>Formula Programs:</b>				
Hatch Act	\$180,148	\$179,085	\$180,148	\$180,648
McIntire-Stennis Cooperative Forestry	21,884	21,755	21,884	22,384
Evans-Allen Program	36,000	35,788	36,000	37,000
Animal Health and Disease, Section 1433	5,098	4,532	5,098	5,098
<b>Subtotal</b>	<b>243,130</b>	<b>241,160</b>	<b>243,130</b>	<b>245,130</b>
<b>Special Research Grants:</b>				
<i>Expert IPM Decision Support System</i>	177	158	177	177
Global Change, UV-B Monitoring	2,500	2,000	2,500	2,000
<i>Integrated Pest Management &amp; Biological Control</i>	2,725	2,439	2,725	2,725
<i>Minor Crop Pest Management, IR-4</i>	10,485	9,549	10,485	11,235
Minor Use Animal Drugs	588	526	588	588
National Biological Impact Assessment Program	253	225	253	253
<i>Pest Management Alternatives</i>	1,619	1,448	1,619	1,619
Other	0	107,904	0	85,353
<b>Subtotal</b>	<b>18,347</b>	<b>124,249</b>	<b>18,347</b>	<b>103,950</b>
<i>National Research Initiative Competitive Grants . . .</i>	<b>200,000</b>	<b>164,027</b>	<b>180,000</b>	<b>180,000</b>
<b>Other Research:</b>				
Critical Agricultural Materials	0	1,111	0	1,111
Aquaculture Centers	3,996	4,000	3,996	4,000
<i>Sustainable Agriculture Research and Education Program</i>	9,230	12,222	9,230	12,722
Supplemental and Alternative Crops	0	1,063	0	1,196
1994 Research Grants	998	1,087	998	1,087
Joe Skeen Institute for Rangeland Restoration	0	895	0	1,000
Federal Administration (Direct Appropriation)	8,311	37,482	7,538	42,610
<b>Subtotal</b>	<b>22,535</b>	<b>57,860</b>	<b>21,762</b>	<b>63,726</b>
<b>Higher Education:</b>				
Graduate Fellowships Grants	4,500	2,883	4,500	4,500
Institution Challenge Grants	5,500	4,859	5,500	5,500
1890 Institution Capacity Building Grants	9,479	11,411	11,411	12,411
Multicultural Scholars	998	986	998	998
Hispanic Serving Institutions Education Grants Program	3,492	4,645	4,645	5,645
Tribal Colleges Education Equity Grants Program	2,250	1,679	2,250	2,250
Tribal Colleges Endowment Fund	9,000	8,947	12,000	12,000
Interest (Estimated) Earned on the Tribal Colleges Endowment Fund	2,508	1,930	2,508	2,508
Secondary/2-Year Post Secondary	1,000	890	1,000	1,000
Agrosecurity Education	0	0	5,000	0
Alaska Native-Serving and Native Hawaiian-Serving Institutions	2,997	3,131	2,997	2,997
Resident Instruction Grants for Insular Areas	0	0	0	500
<b>Subtotal</b>	<b>41,724</b>	<b>41,361</b>	<b>52,809</b>	<b>50,309</b>
<b>Total, Research and Education Activities</b>	<b>525,736</b>	<b>628,657</b>	<b>516,048</b>	<b>643,115</b>
<b>Outreach and Assistance for Disadvantaged Farmers Activities</b>				
<b>Section 2501:</b>				
Outreach and Technical Assistance for Socially Disadvantaged Farmers and Ranchers Program	4,003	5,935	5,935	5,935

Cooperative State Research, Education, and Extension Service (\$000)				
Programs	FY 2004 President's Budget	FY 2004 Appropriations Act	FY 2005 President's Budget	FY 2005 House Committee
<b>Integrated Activities</b>				
<b>Section 406 Legislative Authority:</b>				
Water Quality	\$12,971	\$11,530	\$12,971	\$12,971
Food Safety	14,967	13,305	14,967	14,967
Regional Pest Management Centers	4,531	4,028	4,531	4,531
Crops at Risk from FQPA Implementation	1,497	1,330	1,497	1,497
FQPA Risk Mitigation Program for Major Food Crop Systems	4,889	4,345	4,889	4,889
Methyl Bromide Transition Program	2,498	3,131	2,498	2,498
Organic Transition Program	499	1,889	499	1,889
<b>Subtotal</b>	<b>41,852</b>	<b>39,558</b>	<b>41,852</b>	<b>43,242</b>
<b>Other Legislative Authorities:</b>				
International Science and Education Grants Program	1,000	895	1,000	1,000
Critical Issues	2,500	444	2,500	2,500
Regional Rural Development Centers	1,513	1,345	1,513	1,513
Food and Agriculture Defense Initiative (Homeland Security)	16,000	7,953	30,000	18,000
<b>Subtotal</b>	<b>21,013</b>	<b>10,637</b>	<b>35,013</b>	<b>23,013</b>
<b>Total, Integrated Activities</b>	<b>62,865</b>	<b>50,195</b>	<b>76,865</b>	<b>66,255</b>
<b>Extension Activities</b>				
<b>Formula Programs:</b>				
Smith-Lever Formula 3(b)(5)(c)	\$275,940	\$277,742	\$275,940	\$277,242
1890 Institutions	32,117	31,720	32,117	33,133
<b>Subtotal</b>	<b>308,057</b>	<b>309,462</b>	<b>308,057</b>	<b>310,375</b>
<b>Smith-Lever 3(d) Programs:</b>				
Expanded Food and Nutrition Education Program	60,909	52,057	57,909	58,909
Pest Management	10,759	9,563	10,759	10,759
Farm Safety	0	4,911	0	4,600
Children, Youth, and Families at Risk	8,481	7,538	8,481	8,481
Youth Farm Safety Education and Certification	499	444	499	499
Sustainable Agriculture	3,792	4,333	3,792	4,000
Extension Indian Reservations Program .	1,996	1,774	1,996	1,996
<b>Subtotal</b>	<b>86,436</b>	<b>80,620</b>	<b>83,436</b>	<b>89,244</b>
<b>Other Extension Programs:</b>				
Extension Services at the 1994 Institutions	3,273	2,929	3,273	3,273
Renewable Resources Extension Act	4,093	4,040	4,093	4,093
Rural Health and Safety	0	2,331	0	0
1890 Facilities (Sec.1447)	13,500	14,912	14,912	16,912
Grants for Youth Serving Institutions	0	2,667	0	0
Federal Administration:				
Other	6,159	21,542	6,653	15,702
Ag in the Classroom	750	622	750	750
<b>Subtotal</b>	<b>27,775</b>	<b>49,043</b>	<b>29,681</b>	<b>40,730</b>
<b>Total, Extension Activities</b>	<b>422,268</b>	<b>439,125</b>	<b>421,174</b>	<b>440,349</b>
<b>Total, Cooperative State Research, Education, and Extension Service</b>	<b>1,014,872</b>	<b>1,123,912</b>	<b>1,020,022</b>	<b>1,155,654</b>

## Plant Science Staff Directory

For more information about our programs, consult our Web site or the appropriate individual listed below:

Name	Discipline / Program / Issues	Telephone (202)	Email *
Bewick, Tom	Horticulture; organic agriculture, invasive species, urban agriculture	401-3356	tbewick
Bolton, Herb	Entomology; invasive species	401-4201	hbolton
Cardwell, Kitty	Plant pathology, National Plant Diagnostic Network	401-1790	kcardwell
Fitzner, Mike	Extension IPM; Regional IPM Centers; Plant breeding	401-4939	mfitzner
Goldner, William	Small Business; Plant Production and Protection; Forests and Related Resources	401-1719	wgoldner
Green, James	Horticulture, crop physiology	401-6134	jgreen
Hoffman, Bill	Program Specialist	401-1112	whoffman
Jerkins, Diana	Managed ecosystems	401-6996	djerkins
Jones, Dan	Biochemistry & molecular biology; biotech.	401-6854	ddjones
Jones, Preston	Agronomy; precision agriculture	401-1990	jpjones
Johnson, Monte	Entomology; toxicology; PSEP; PMAP	401-1108	mpjohnson
Kaleikau, Ed	Plant Genomics	401-1931	ekaleikau
Kimble-Day, Kathy	Program Specialist	401-4420	kday
Kopp, Dennis	Entomology, Methyl Bromide Alternatives	401-6437	dkopp
Lichens-Park, Ann	Biol. of plant microbe assn., microbial gene sequencing	401-6466	apark
Lin, Liang-Shiou	Plant genetic mechanisms, plant growth & development	401-5042	Llin
McLean, Gail	Plant responses to the environment, plant biochemistry, bioinformatics	401-6060	gmclean
Meyer, Rick	Entomology; CAR; critical issues	401-4891	hmeyer
Nowierski, Bob	Bio-based IPM; applied ecology; RAMP, invasive species	401-4900	rnowierski
Ortman, Eldon	Shared Faculty; IPM	401-5804	eortman
Poth, Mark	Director, National Research Initiative	401-5244	mpoth
Parochetti, Jim	Weed science; IR-4	401-4354	jparochetti
Purcell-Miramontes, Mary	Entomology, nematology, bio-based IPM	401-5114	mpurcell
Rhodes, Amy	Program Specialist	401-6195	arhodes
Sheely, Deb	Director, Competitive integrated programs	401-1624	dsheely
Thro, Ann Marie	Plant breeding; plant genetics; genomics	401-6702	athro

\*Email addresses are listed end "@csrees.usda.gov" (example: whoffman@csrees.usda.gov)

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