

# CPHST NEWS



People



Places



Projects & Programs



Publications



Policy & Plans



Presentations



Philosophy

## Inside this issue:

GMO Workshop	2
Risk Assessment Seminar	2
Sharwil Avocado Science Panel	3
Lucid3 Grasshopper Key	3
Agricultural & Internet Monitoring System	4
Rangeland Grasshopper Management	4
Citrus Mapping Project	5
CPHST Adopts ISO	5
Parasitoids from Research to Industry	6
Western USA Bio-Control Meeting	6
Soil Inhabiting Pests Section, Gulfport, MS	7
Environmental Safety & Health	8
NPAG gets new Chair	8
New/Retired Employees	9
Philosophy	10



## Geographic Information Systems

November 2004

A cadre of CPHST scientists are helping to solve plant protection problems through the application of spatial technologies. This loose network known as the "GIS Virtual Team" numbers about a dozen scientists from CPHST labs across the country- Raleigh, Phoenix, Fort Collins, Gulfport, and Otis, MA. These individuals bring to PPQ a wide variety of capabilities. In addition to Geographic Information Systems, they develop and use remote sensing, predictive modeling, internet mapping, PDA applications, decision support, and the integration of databases in time and space. The Virtual Team contributes to a variety of pest programs ranging from Asian long horned beetle to grasshopper to imported fire ant.

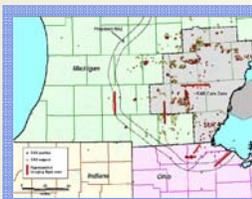
In his role as National Science Program Leader for Survey Detection and Identification, **Daniel Fieselmann** helps lead the Virtual Team. The Team shares information about their respective projects through teleconferences and occasional meetings. Dan intends to convene the group again in early 2005, and invite interested operational program staff to learn about GIS projects, program needs, and potential collaboration.

CPHST scientists **Tom Kalaris** and **Lisa Kennaway** are strategically located in Fort Collins, Colorado to help make spatial technology part of the fabric of PPQ. They work closely with the PPQ Western Region and GIS experts from the Veterinary Services, Center for Epidemiology and Animal Health, led by **Dr. Jerry Freier**. Tom and Lisa recently hosted a meeting with **John Gallagher** to initiate planning for quality assurance measures for GIS in PPQ.

Discussions are forthcoming in APHIS and PPQ to more clearly outline respective roles and responsibilities for spatial technologies. Nevertheless, the work continues to progress, providing increasingly more powerful tools to support plant protection programs and to drive decision making in PPQ.

### A Sampling of CPHST Projects within The Spatial Technologies Initiative:

◆ **Emerald Ash Borer Hyperspectral Remote Sensing (Dave Williams, Alan Sawyer, Dave Bartels)** In 2004, ground based hyperspectral data was collected with an ASD Spectrometer over stress ash tree



plots and over a variety of northern hardwood tree species. This data will help identify unique spectra signatures that can be used to differentiate tree species and various types of stress in ash trees.

### ◆ PDA Data Collection System for Decision Support for Imported Fire Ant (Ron Weeks)

CPHST is currently rearing and distributing phorid flies (Biocontrol) for releases in numerous imported fire ant (IFA) infested states. GIS components include a phorid fly tracking program and a predictive decision and management support program. The tracking program uses GIS technology to display and organize information on phorid fly releases within states. Spatial data are collected using PDA handheld devices and data is stored on an interactive CPHST website database. This technology is being transferred to an emerging cactus moth problem.



### ◆ Prickly Pear Cactus Remote Sensing for Cactus Moth Program (Dave Bartels)



Work is just beginning on this project to test the effectiveness of mapping prickly pear populations along the coastline and barrier islands in the Gulf of Mexico, using remote sensing technology. A new short-wave infrared camera is being purchased to work

with a multi-spectral systems developed by the USDA-ARS-KSARC Remote Sensing Research Unit. Testing of the systems is expected to begin in January of 2005.

### ◆ Historical Grasshopper Data Program

**(Tom Kalaris, Lisa Kennaway)** In Fort Collins, CPHST is currently developing a spatial data set of historical grasshopper survey data. Prior to this initiative, the data largely existed on paper maps and in the possession of PPQ program managers. To prevent the data from being lost, it is being digitized into a GIS format which can be easily utilized and maintained. Once the data is complete, CPHST staff will investigate historical density patterns using a variety of spatial analysis techniques.



Submitted by Dan Fieselmann & Laura Duffie



## Strategic Planning for Field Deployment of Genetically Modified Arthropods

September 22-23, 2004

CPHST sponsored a discussion of issues pertaining to agricultural applications of genetically modified arthropods on September 22, 2004 at George Washington University. This meeting was the initial step towards development of a five-year strategic plan for research and development leading to the field deployment of genetically modified arthropods to control agricultural pests. Two agricultural pests, the Pink Boll-

worm (PBW) and the Mediterranean fruit fly, are of primary interest to CPHST for completion of ongoing projects utilizing molecular techniques to improve strains for sterile insect technique.

Central to preparation of this strategic plan is identification of requirements for field deployment that 1) meet action program needs, 2) assure proper fitness and stability evaluation of transgenic strains, 3) address risk analysis and mitigation concerns, and 4) are consistent with the current regulatory process.

The expectation is that this 5-year strategic plan will be used to develop funding sources and cooperative projects in order to meet the identified technological needs and as a communication device to garner stakeholder support for implementation of the technology.

Participants from academia, ARS, PPQ BRS, CSREES, EPA, the Pew Initiative, the Inter-

national Atomic Energy Agency, and CPHST representatives **Gordon Gordh, Alan Dowdy, Phil Berger, Sue McCombs, Bob Staten and Greg Simmons** attended the workshop. A summary document is available from Sue McCombs (Sue.D.McCombs@aphis.usda.gov) or Phil Berger (Philip.H.Berger@aphis.usda.gov).



Submitted by Phil Berger



PBW showing mortality at the prepupal stage when reared on chlortetracycline free diets. Left, dead prepupae under excitation light to show DsRed marker indicating transformation, Right, same insects under normal light.

**UPDATE on PBW: A new area-wide pest control strategy using a PBW genetically transformed with a conditionally lethal gene is under development. Mortality of transgenic PBW reared on artificial diet without chlortetracycline ranged from 43 to 100% and occurred mostly in the prepupae stage.**



## CPHST Hosts Risk Assessment Seminar

October 18-22, 2004

The Central African Economic Monetary Union (CEMAC) Sanitary Phytosanitary (SPS) Risk Assessment Seminar was hosted in CPHST's Training Room in Raleigh, NC. Present were representatives of the CEMAC Secretariat, including members from Central African Republic, Cameroon, Chad, Republic of Congo, Gabon and Sao Tome and Principe. The seminar was conducted in English with French simultaneous interpretation.



**Charles Yoe**, who led the risk assessment training, is a current professor of economics at the College of Notre Dame in Maryland. He has written numerous publications on risk assessment in the U.S. and internationally. He has studied food safety risk assess-

ment and served the FAO. Yoe has done risk training for the past 10 years in 80 different countries.

At the close of the seminar, Seraphine Minko, Chief of Section for Inspection and Protection of Vegetables in Gabon, said that the lessons were useful in bringing technical assistance from the U.S. to the central African countries. She also felt encouraged that the connections had been strengthened between the U.S. and CEMAC. The CEMAC representatives hope to implement practical aspects from this training for use in their native countries. Of these central African economies, agriculture comprises up to 55% of their total economic output. The need for sound training in risk assessment for these African countries is great.

Also present at the workshop was **Patricia Sheikh**, Deputy Administrator for International Trade Policy. She has strong interests in African issues and the WTO Agricultural Agreement. Dr. Sheikh ended the seminar by saying she believed the training had clarified aspects of pest risk assessment. She added that the U.S. International Trade Policy strongly endorses the idea that in

helping our trade economy grow, we must also help other trade economies such as CEMAC's.

Each CEMAC representative was awarded a certificate for their completion of the risk assessment seminar. In return, the African representatives recognized and thanked those who organized the seminar with paintings, shirts and coffee beans from central Africa.



Submitted by Katie Flanigan



From left to right: Steven Njinyam, Patricia Sheikh, Christina Devorshak, Bruce White, Kelly Shaw, Roxana Henderson, Charles Yoe



## Host Status, Fruit Flies and Sharwil Avocados: A Science Panel

September 20-24 2004

CPHST recently convened a science panel, September 20-24, 2004 in Honolulu, Hawaii, in response to Congressional requests to re-evaluate the status of Sharwil avocados as a host for fruit fly pests.

Science Panels serve as an important mechanism through which PPQ can engage the scientific community-at-large to acquire an unbiased evaluation of the science and technology surrounding PPQ's programs and policies, and evaluate the path of development taken by PPQ in program planning. The regulatory environment has changed dramatically during the past five years with the creation of the Department of Homeland Security (DHS). Additionally, the US is experiencing unprecedented increase in agricultural trade and suffers an increased frequency of incursions of devastating invasive species of agricultural and environmental concern. All of these factors have tended to raise the significance, alter the tempo and increase the complexity of response to threats to agriculture, trade and natural resources. APHIS PPQ develops and deploys science-based federal regulatory programs to safeguard these systems. Science Panels are meant to summarize and present a comprehensive science-based analysis of a given situation. Science Panels may evaluate different phytosanitary management alternatives. Providing objective, science-based informa-

tion and analysis is within the scope of Science Panels; however, they do not provide policy recommendations or other policy-level input.



Participants of Sharwil Avocado Science Panel

The Sharwil Avocado Science Panel was organized by the Center for Plant Health Science and Technology (**Robert Griffin, Ron Sequeira, Nicanor Liquido, and Alison Neeley**) and attended by researchers and experts from USDA-APHIS, USDA-ARS, University of Hawaii, University of California, University of Florida, California Dept. of Food and Agriculture (CDFA) and Florida Dept. of Plant Industry (FL DPI).

The meeting focused on the goal identified by Congress, but in order to address the topic comprehensively, the group also dis-

cussed supporting topics including the general concept of host status, area wide suppression of fruit flies, fruit fly eradication and the application of phytosanitary metrics as indicators of phytosanitary risk.

There was consensus that Sharwil avocados are very poor fruit fly hosts, but can be hosts under certain circumstances. It was suggested that (1) additional research is needed to better understand the physiological and epidemiological basis for Sharwil's poor-host status, and (2) a regulatory strategy based on poor host status needs to provide an alternative plan which would be a "fallback" in the event the program failed. The panel strongly supported the idea of contingency plans for all unproven and new systems approaches, noting that monitoring and control points need to be identified so that programs can be quickly adjusted when anomalies appear or assumptions are violated.

The panel identified appropriate measures for Sharwil, including many possibilities for new treatments and a range of possible components for systems approaches. Although a specific systems approach was not formulated, it was agreed that measures similar to those designed for Hass avocado from Mexico would be adequate.



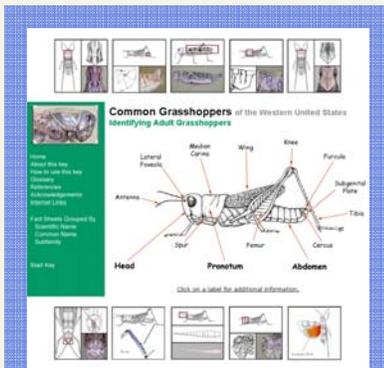
Submitted by Ron Sequeira & Alison Neeley



## Lucid3 Grasshopper Key Now Available Online

October 2004

This past June the Center for Biological Information Technology (CBIT) at the University of Queensland, Australia released Lucid3. This release is an entirely new implementation of Lucid providing improved



handling of many common functions and several new features requested by key users and developers.

Lucid3 is a cross-platform implementation, and will run on any Java-enabled operating system such as Windows, Macintosh, Unix and Linux to name a few.

The Decision Support and Pest Management Systems Lab (DSPMSL), Phoenix, AZ has used Lucid3 to create another release of the key to identifying Common Grasshoppers of the Western United States.

The Grasshopper key enables users to identify 58 of the most common adult grasshoppers of the Western United States which pose



the greatest environmental and economic threat.

The Grasshopper key is available in both Lucid 2 and Lucid 3 and can be accessed with the following link.

<http://www.lucidcentral.com/keys/viewKeyDetails.aspx?id=253>

CPHST is the first non-CBIT organization to publish a Lucid3 key on [www.lucidcentral.com](http://www.lucidcentral.com).

Additional Lucid3 keys developed by CPHST will be available soon.



Submitted by Robert Quartarone



## Agricultural and Internet Monitoring System (AIMS): A Regulatory and Risk Assessment Tool

October 2004

APHIS regulated organisms and commodities are being sold on the internet. The PPQ Safeguarding review recommends that we give high priority to adopting web-based information technologies. CPHST has responded to the expectation to infuse relevant technologies into the workplace by creating AIMS.

CPHST, working closely with NCSU's Center for Integrated Pest Management and with end-users, has developed AIMS software which semi-automates the process of



AIMS Team left to right: David Hodorowicz, Jim Smith, Larry Fowler & Ian Winborne; Not pictured: Ron Stinner

- 1) Web crawling
- 2) Risk evaluation of sites
- 3) Sending information letters to alleged violators, and
- 4) Archiving and retrieving information to measure effectiveness and create reports

As a regulatory tool, AIMS is monitoring US-based internet sites for insects, mollusks, and weeds-about 600 organisms. The software will soon be ready to monitor Q56 and animal products.

Recently, our AIMS project team has successfully coordinated with the principals at EBay resulting in changes to the EBay Company Policy Statement to better reflect our regulations. Additionally, we have provided a list of organisms to be filtered from auction and have developed a protocol to remove from auction those organisms that may evade our search criteria. Such a case

recently occurred resulting in the removal of *Achatina* sp., Africa Snail.

In addition to being used as a regulatory tool, AIMS is being used as a risk assessment tool. Port interception records are inadequate to establish pathways for non-regulated articles. Risk assessors need interception data for non-regulated pests that have demonstrated a pathway to the United States as evidenced by interceptions at ports-of-entry. The AIMS project team is currently establishing internet pathways for APHIS non-regulated organisms. Another module is planned to track the prioritized WSSA list of global weeds; other society pest lists will soon follow. The assumption is that if any of this material is being offered for sale, there is a high probability that some of the material will enter the U.S. through our mail system, our weakest link in the safeguarding continuum. Knowing this, we can better determine if pathways exist for risk assessment purposes.



Submitted by Larry Fowler & Jim Smith



## Rangeland Grasshopper Management: An Old or New Program?

October 2004

Problems associated with grasshoppers have occurred since the beginning of recorded history. In the U.S., New England crop damage was recorded as early as 1797. Greater and more widespread problems occurred in the western states from 1874-1887 with such devastation that Congress created the United States Entomological Commission to study the problem. In part, some of our Agency's responsibilities can be traced back to that beginning. Grasshopper problems are cyclic, occur mostly in the western 17 states associated with rangeland and can be local or regional in scope. It is important to note that a grasshopper is not just a grasshopper. There are hundreds of different species, each looking and behaving differently.

During my career and association with rangeland grasshoppers, I have seen or been aware of local outbreaks almost every year and have witnessed some of the more recent area wide outbreaks of 1972-1973, 1979-1980, and 1985-1986. Because the scope of problems are not consistent from year to year, the level of both state and federal government support for dealing with grasshoppers is also cyclic. However, from my knowledge base, federal involvement has generally been continuous and substantial

in most years up through the Grasshopper Integrated Pest Management Program of 1987-1995. At the end of that program, wide spread outbreaks did not exist and federal funding for managing grasshoppers was limited to reserve funds which were exhausted in 1999. Congressional funding for the program ended in 1993.

The more things change the more they appear to remain the same. Neither grasshoppers nor the problems associated with them have disappeared. Federal funding for rangeland grasshopper and Mormon cricket (actually a longhorn grasshopper) reappeared in 2002. The program is now new again? Or, has a chance to be new.

While the major program responsibilities of surveying, sponsoring cooperative control activities and providing technical advice remain much the same today, many aspects of the program have changed. Environmental concerns and documentation have increased



Grasshoppers on fence post escaping ground heat after removing most of the vegetation in Nebraska.

substantially, and since the end of the GHIPM project, almost all of the experienced people who for many years had conducted grasshopper treatments have retired. However, CPHST and cooperators have provided new tools for control such as diflubenzuron, new strategies such as Reduced Agent/Area Treatments which reduce insecticide use dramatically, new electronic keys for grasshopper identification, and geographic information systems for storage of data with geographic positioning systems for accurately recording locations. The new program unquestionably has new challenges but also new opportunities. It allows the agency to once again strut its' stuff in a domestic program which builds basic networks with many other organizations and groups that produce benefits beyond grasshopper management. In reality the grasshopper program is the training ground for future implementers of emergency and international programs.



Submitted by Nelson Foster



## Citrus Mapping Project

November 2004

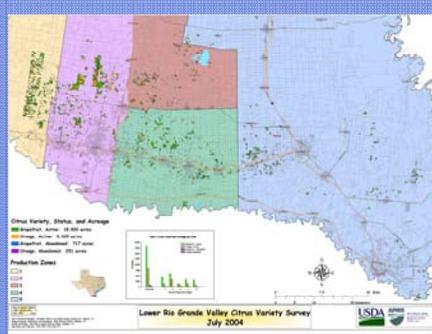
Citrus is an economically important agricultural commodity in the Lower Rio Grande Valley (LRGV) with approximately 26,835 acres in production. Citrus pests that exist in the LRGV include the Mexican Fruit Fly, Diaprepes Root Weevil, Citrus Blackfly and Citrus Tristeza Virus. Currently, pathogens such as Citrus Canker and Citrus Variegated Chlorosis are not present in the region, but represent huge potential threats to the citrus industry. These current and potential threats to the citrus industry necessitated the need to develop an accurate survey of the citrus acreage and varietal information in the LRGV.

**Image Processing** The first step in this citrus survey project was to produce georeferenced imagery from the color infrared photography that was taken by USDA-ARS-KSARC's Remote Sensing Research Unit in Weslaco, Texas. A total of 438 aerial images were taken on 9 inch film.

The developed film was scanned to get it into digital format for georeferencing. Georeferencing uses ground control points to establish the relationship between the imagery and real world coordinates. All images were georeferenced to the UTM Zone 14 North projection and WGS84 datum. The georeferenced images were then combined to produce one large mosaicked image

and remove overlap between images. Once completed, the image was subsetting into smaller tiles based on USGS Quarter Quad Maps. The tiles were then compressed into MrSID format to reduce the file size. The mosaicked image was reduced from a single file, 10.8 GB in size down to 143 tiles totaling 450 MB that will fit onto a single CD for distribution.

**GIS Data Layer Development** The mosaicked image was then used to update a data layer containing citrus field boundaries. The original data layer was produced from the 1994 survey conducted by USDA-ARS Weslaco, TX and provided



Citrus grove location and status in the Lower Rio Grande Valley, July 2004.

the basis for changing the status of current citrus groves. A new data layer was created where each polygon represents a single citrus grove with a unique identification number and attributes such as citrus variety and acreage.

**Ground Truthing** During 2003 and 2004, CPHST personnel visited all of the citrus groves in the LRGV and collected the varietal data as well as collecting coordinates with a GPS for new and subdivided fields. A quality control survey was also done using separate surveyors to determine our accuracy in correctly identifying citrus varieties and improve our identification techniques. Periodic surveys will be conducted to keep updating the citrus data layer as urban development continues to change the agricultural landscape in this rapidly developing region.

**Final Products** The citrus data layer is now current to July 2004 and is being stored in a geodatabase along with the aerial imagery. Both of these products are now available for distribution to our stakeholders.



Submitted by David Bartels & Russell Sheetz



## CPHST Adopts International Organization of Standards

October 2004

CPHST has committed to adhere to the requirements of the ISO 17025 quality management system outlined by the International Organization of Standards because of its excellent attributes, including continuous improvement, independent auditing, and

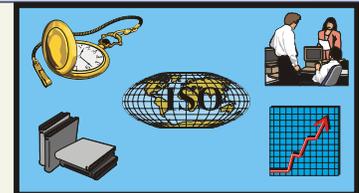


From left to right: Kathy Burch (CPHST Quality Manager), Terry DiLeone (PERAL Quality Manager) & Jan Edmunds (ISO Consultant)

national and international recognition. In addition, the International Organization of Standards' quality management system, when used properly, promotes excellence throughout all functions within the organization and will provide foreign governments, APHIS employees, plant boards, industry, farmers, universities, and the American public with confidence in the scientific solutions developed by CPHST.

As the quality management system is currently envisioned, there will be one quality manual and one set of quality procedures developed for CPHST. This approach requires extensive involvement of CPHST management in the ISO 17025 quality management system.

Each CPHST laboratory will be responsible for the development and implementation



of its technical procedures. To assist in the implementation and paper work associated with quality management systems, CPHST is purchasing a laboratory information management system.

Centralized training is being arranged to facilitate the understanding of the ISO quality management system and the development of the necessary skills. The training will be held in Atlanta, Georgia in February.



Submitted by John Gallagher



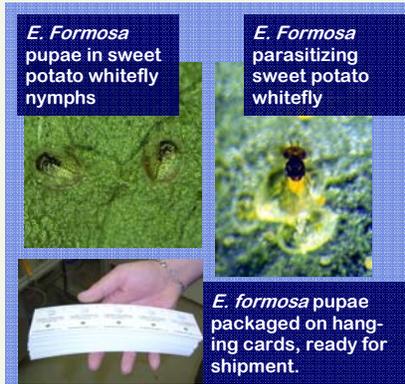
## Parasitoids from Research and Development to Industry: A Success Story

November 2004

In 1993 two strains of *Encarsia formosa* Gahan that readily attacked sweet potato whitefly (biotype B) were discovered during foreign exploration. Collaborative research between the Pest Detection Diagnostics and Management Laboratory and Connecticut, New Hampshire, and Cornell Universities demonstrated the efficacy of the parasitoids against the pest in greenhouses. Trials in greenhouse grown tomato and poinsettia indicated that multiple repeated (biweekly) releases of the parasitoid significantly reduced whitefly populations.

The B biotype of sweet potato whitefly is a significant pest of greenhouse grown vegetables and ornamentals grown in the US and Europe. *Encarsia formosa* has been mass reared by commercial insectaries in Europe for decades, however, they are reared on greenhouse whitefly and as a result show limited efficacy against sweet potato whitefly. Considerable interest in the new strains by greenhouse growers in the US prompted further investigation and a partnership between private industry and PDDML. A co-

operative research and development agreement (CRADA) with Hydrogardens Inc established a framework for technology transfer of mass rearing methods and further research to optimize production, cold storage, and release methods. This research was funded through both Phase I and Phase II Small Business Initiative Research (SBIR) grants.



Release methods became the final hurdle in commercializing the new strains of *Encarsia formosa*. Consumer surveys indicated that greenhouse growers preferred card based release methods over all other methods. A large part of the Phase II SBIR grant funded the development and testing of automated machinery to package the loose pupae on hanging cards. The end product was a white card containing approximately 100 *E. formosa* pupae that growers could quickly separate and hang on plant stems or petioles of whitefly infested crops.

Hydrogardens ([www.hydro-gardens.com](http://www.hydro-gardens.com)) now produces over 100,000 *Encarsia formosa* pupae per week. They are supplied both as retail sales to US greenhouse growers and wholesaled to Canadian distributors. Negotiations with European insectaries are underway to supply retailers with this new product.



Submitted by Matthew Ciomperlik



## Biological Control in the Western USA

October 5-7, 2004

The Biological Control in the Western USA - W1185 group is a multi-state research cooperation group with particular emphasis in biological control in western states. On October 5-7, 2004 the W1185 group held their annual meeting at Alta Lodge in Alta, Utah. PPQ headquarters staff and CPHST scientists contributed to the meeting. Participants included **Bob Flanders** and **Bud Petit de Mange** from PPQ PHP and **Greg Simmons**, **Leeda Wood**, **Daniel Fieselmann** and **Jeff Drake** from CPHST. ARS-National Program for Weed Science, ARS-European Biological Control Laboratory, CSREES and CDFA participated in addition to APHIS.

Daniel Fieselmann, CPHST National Science Program Leader for Survey Detection and Identification (SDI) and biological control, presented an overview of PPQ CPHST biocontrol projects. Greg Simmons organized a panel discussion entitled *Sending and Receiving Biological Control Organisms Across Borders in a New Secu-*



Alta Lodge in Alta, Utah

*Environment*. PPQ presentations during the panel discussion included *Increased Enforcement of Procedures and Regulations for Importing Living Plant Pests, Biological Control Organisms and Bees Into the United States* (Bob Flanders); *How Plant Inspections Stations Work: Operational Procedures for Importing Biological Control Organisms* (Bud Petit de Mange); and *New Procedures for Importation of Natural Enemies to Support Classical Biological Control Programs in the U.S.A, the View from a Quarantine Laboratory* (Leeda Wood). The resulting discussion was spirited and centered on the stricter post 9/11 procedures. Other panel discussions at the meeting focused on long term programs in biological control and integrated pest management, as well as microbes in biological control. For more information about this meeting, or to obtain presentations, please



Participants of Western USA Bio-Control Meeting

visit the following website: *Biological Control in Pest Management Systems of Plants Meeting Home Page*: <http://www.cnr.berkeley.edu/biocon/W1185%20Officers.htm>

For more information about the W1185 group, please visit their home page at the following URL: BIOLOGICAL CONTROL IN THE WESTERN USA - W1185 Home Page: <http://www.cnr.berkeley.edu/biocon/W-1185.%20Western%20Regional%20Biological%20Control.htm>



Submitted by Laura Duffie & Dan Fieselmann



## Inside the ANCPL, Soil Inhabiting Pests Section, Gulfport, MS

November 2004



The Soil Inhabiting Pests Section (SIPS), formerly known as the Imported Fire Ant (IFA) Lab, is a part of the Analytical and Natural Products Chemistry Lab (ANPCL) in Gulfport, MS. The mission of SIPS is to develop methods of controlling IFA with the ultimate objective of transferring population suppression and quarantine technology to the agricultural community. SIPS is the sole source for developing new quarantine technologies in support of the Federal Imported Fire Ant Quarantine, with a fluctuating scientific staff of 3-4 scientists and 2-4 technicians. Technology and scientific information developed by SIPS is utilized by PPQ, state plant regulatory officials (SPROs), plant inspectors, nursery and chemical industries, farmers, ranchers, homeowners and other stakeholders.

Historically, the Federal IFA Quarantine regulates soil and commodities associated with soil, primarily nursery stock. Treatments developed over the years range from the chlordane/mirex era of the 1960's and 1970's to the synthetic pyrethroids (bifenthrin) and other new chemistries of today (fipronil). In the late 1980's, the only contact insecticides approved for use in the federal quarantine were chlorpyrifos and diazinon. Chlorpyrifos is still a mainstay of the program and diazinon plays an important role in specialty use patterns. Since 1992, SIPS has developed data to support the addition of three additional contact insecticides for six different use patterns in the quarantine. In addition, three new toxic baits have been added to the list of approved chemicals.

Projects for Development of Quarantine and Survey Methods for Regulated Commodities: SIPS is primarily involved in development of IFA quarantine treatments, and recently our focus has broadened to non-traditional commodities that can be regulated within the scope of the federal quarantine. These non-traditional commodities include baled hay and straw, baled pine straw and apiary equipment associated with migratory bees. The federal quarantine does not have a standardized method of surveying for IFA. SIPS is currently involved in

testing and developing standardized survey and trapping methods for inclusion in the PPQ IFA Program Manual.

- ◆ Containerized nursery stock - evaluate chemical insecticides as pre-plant incorporation or drench treatments.
- ◆ Field grown and baled-and-burlapped (B&B) nursery stock - evaluate pre- and post-harvest chemical treatments such as; immersions, drenches and in-field treatments.
- ◆ Evaluate new attractants, repellent materials and toxic baits.
- ◆ Provide scientific and technical support for treatment of regulated commodities.
- ◆ Baled hay and pine straw - evaluate pre- or post-harvest treatment methods.
- ◆ Apiary equipment - develop treatments for commercial pollination beekeepers.
- ◆ Survey traps and attractants - develop a standardized IFA survey trap and attractant.

### Projects for Development and Implementation of Biological Control Techniques for IFA:

SIPS is also involved in investigating the use of biological control agents against IFA. APHIS, PPQ began funding a cooperative project in 2001 to rear and release a potential biological control agent for imported fire ants. Phorid flies from South America are promising biological control agents of IFA because they are relatively specific to IFA, are active throughout most of the year and through suppression of fire ant activity may allow native ants to compete with IFA for food and territory. This allows the use of fewer insecticides to manage IFA populations. Potentially, there may be as many as 15 species or types of the fly that will have an impact on IFA, and thus are candidates for rearing and release in the U.S.

### Phorid fly rearing and monitoring projects

- ◆ Fly rearing is being conducted by the Florida Dept. of Agriculture. Funding is provided by USDA, APHIS with oversight and technical expertise provided by SIPS and USDA-ARS scientists. States are responsible for fly releases and monitoring.
- ◆ Multiple species of flies are planned for release in each of the states/territories currently under federal quarantine.

- ◆ Since 2002, over 35 releases (5,000-10,000 flies/release) have been made in 12 states and Puerto Rico. Releases of a second species began in 2004 with 3 releases.
- ◆ Development of GIS/spatial analysis tools for monitoring and decision support in the phorid fly project was reported in the Sept 2004 issue of CPHST News.
- ◆ IFA Pathogens - release and monitor the microsporidium

### Development and Communication of Current and Emerging IFA Technologies:

Technology transfer is a critical component of the work developed by SIPS. New regulatory treatments must be communicated to those stakeholders who will be implementing the regulations for the agency.

- ◆ Develop technical manuals, reports and training materials for PPQ, state personnel/inspectors and stakeholders.
  - ◆ Present technical and scientific IFA information to regulatory, professional and scientific organizations.
- Due to the complex biology of the IFA, development of new treatment technologies for inclusion in the Federal Quarantine is a multi-year process, requiring approximately 7-10 years. The goal at SIPS is to develop and make available a variety of contemporary tools and options for agricultural producers impacted by the IFA quarantine. SIPS continues to evaluate new technologies and pesticides that provide economically and environmentally sound treatment strategies for inclusion in the IFA quarantine. Work with biological control techniques will continue; exploring new agents as they become available. SIPS utilizes established IPM principles to enhance IFA management and safeguard natural ecosystems. Technology development and transfer will continue to be important goals within the mission of SIPS.

For more information, please visit:  
[www.cphst.org/sections/SIPS](http://www.cphst.org/sections/SIPS)  
[www.aphis.usda.gov/ppq/ispm/fireants/index.html](http://www.aphis.usda.gov/ppq/ispm/fireants/index.html)



Submitted by Anne-Marie Callcott



## CPHST Environmental Safety & Health

November 2004

### New Fitness Membership Offset Subsidies

CPHST employees who currently have a membership to a fitness club, or were thinking of joining a fitness club, will be able to offset some of those expenses with the new CPHST Fitness Membership Offset Policy. The new CPHST policy is designed as an incentive for employees to participate in health and fitness programs, and it is similar to policies already in place for other PPQ employees. Employees enrolled in the program will receive reimbursement for one-half of their monthly expenses



related to using a fitness facility, up to a maximum of \$25 per month (subject to funding availability). The open season began on November 8<sup>th</sup> and goes through December 3<sup>rd</sup>. The program will begin on January 1, 2005.

Both the CPHST Fitness Membership Offset Policy (CPHST-05-001), outlining the program and requirements to participate, and a request form to participate were emailed to all CPHST employees in November. Employees who would like to participate should complete the request form (Fitness Subsidy Request.doc) and forward a completed copy to **Jeff Pennington** by **Friday, December 3, 2004**. Once the request form is received, more information and a fitness facility monthly usage worksheet will be sent to

the participant.

Questions regarding this program should be directed to Jeff Pennington at 301-504-7100 ext. 230 or by email at [jeffery.h.pennington@aphis.usda.gov](mailto:jeffery.h.pennington@aphis.usda.gov).



Submitted by Jeff Pennington



## New Pest Advisory Group gets new Chair

October 2004

**Robert Griffin**, Director of the Plant Epidemiology and Risk Analysis Laboratory (PERAL-CPHST/PPQ) is pleased to announce that the NPAG is under new leadership. **Stacy Scott** has been appointed Chair of NPAG. She holds 15 years of experience with USDA; the last 3 ½ with PPQ. Stacy became a pest analyst for NPAG over 2 years ago and served as NPAG's Executive Secretary from January 2003 to April 2004. **Christina Devorshak** has been appointed Executive Secretary. She served as NPAG's Interim Executive Secretary since April 2004. Previous to joining PPQ, Christina worked for 5 years in the Secretariat of the International Plant Protection Convention, based in the Food and Agriculture Organization (FAO) in Rome, Italy. **Larry Brown** was the former NPAG Chair serving more than 5 years

from January 1999 to September 2004.

The mission of NPAG is to assess new and imminent pest introductions into the United States and make recommendations to PPQ management as to an appropriate agency response. These exotic plant pests, including arthropods, mollusks, pathogens and weeds, are evaluated by pest analysts. During the evaluation process, information may be solicited from Federal, State, and University personnel who have regulatory and scientific expertise for the particular pest. The recommendations are made by the NPAG using information gathered through literature evaluations, panel discussions and risk analysis. These recommendations are then presented to the Executive Team for decision making.

NPAG can be contacted at email: [NPAG@aphis.usda.gov](mailto:NPAG@aphis.usda.gov) and NPAG website is <http://www.cphst.org/npag/>.



Submitted by Christina Devorshak



NPAG team from left to right: Larry Brown, Brain Spears, Christie Hurt, Stacy Scott, Christina Devorshak, Larry Fowler, Nakieta McCullum; Not pictured: Andrea Sato, Bob Schall, Keith Colpetzer, Robin Olive



## CPHST Spotlight: Pete Witherell

October 2004

Dr. Peter C. Witherell retired on October 2, 2004 after a government career spanning 30 years. Pete is looking forward to spending more time with his wife Bea, his three children and his two grandchildren. In addition, he plans to devote more time to his hobbies including honeybees.

Pete's career started in 1965-68 with the U.S. Public Health Service (Commissioned Corps). He supervised the eradication of yellow fever mosquito in two counties of Florida. In 1977, Pete joined the USDA's Federal Grain Inspection Service (GIPSA), at the Port of Baltimore, MD. Seeking to broaden his experience he transferred to the U.S./Mexican Border to work in PPQ at Laredo, Texas serving from 1977-81. From 1981-85 Pete worked at the Miami Methods

Development Station (PPQ, APHIS, USDA). His focus was developing new treatment schedules for quarantine pests in conjunction with Agricultural Research Service scientists. When the opportunity for advancement arose, Pete accepted a transfer to Hoboken Methods Development Center to supervise several employees and oversee agency treatments and certifications such as hot water immersion facilities in Latin America and fumigation trials. In addition, he wrote treatment manual guidelines and compiled scientific literature supporting agency treatments. During 1995-2003, Pete relocated to the new Science and Technology Center located in Oxford, North Carolina. He continued his work on treatments, employee supervision and wrote technical guidance for

publication in the PPQ Treatment Manual.

In 2003, Pete reprogrammed his directional guidance system on his trusty automobile and drove to Raleigh, NC to serve as the first employee assigned to the new Treatment Quality Assurance Unit within CPHST. The Treatment Unit will truly miss Pete and wish him the best of health and a happy retirement.



Submitted by Scott Wood



## CPHST Spotlight: Kari Raines

November 2004

Kari Raines comes to APHIS from her concurrent position in the Department of Entomology at NC State. Kari does website design and maintenance for APHIS on a part-time basis. Recently she has been working with the CPHST team on updating personnel biographies and the Workbench, as well as developing a Quality Management Systems (ISO) link to the CPHST website.

In addition, she continues her regular duties of website design, maintenance and hardware, software, and network support in the Department of Entomology. She has experience with website software including Mac-

romedia Dreamweaver, Fireworks and ColdFusion.

You can view some of her handiwork at <http://entomology.ncsu.edu/computing> or <http://home.nc.rr.com/karibud/>.

On a personal note, Kari and her husband have a pampered miniature dachshund (Smokie) and are expecting their first child in April. In her spare time, Kari enjoys trips to the NC mountains, scrapbooking and rubber stamping.



*Get to know the  
new CPHST  
team members!*



## CPHST Spotlight: Elaine Lowell

November 2004

Elaine Lowell joined CPHST's Director's office in June as Administrative Support Assistant. Elaine spends the majority of her time serving the travel needs of CPHST's staff, not an easy task!

Previously she worked for USDA, Agricultural Research Service's Market Quality & Handling Research Unit. She served in a secretarial & administrative assistant capacity with the unit that deals with flavor, shelf-life and quality of peanuts and peanut products and is housed in NC State's Dept. of Food Science.

A few of her other previous positions in-

clude program assistant in the Phytotron at NC State University, Parish secretary and Religious Education secretary at St. Michael's Catholic Church in Cary, NC.

Elaine moved to Raleigh 21 years ago from Bristol, Tennessee. She is originally from Utica, New York, but is happy to be living in the South now. She has been married for 34 years to her husband Lee, a former purchasing agent, retired from Alcatel. They have two children, Christopher and Lianne, who are both married and live in the Raleigh area. She also has three grandchildren and spends every moment she can with them.

Elaine and her husband moved into a new home three years ago and are s-l-o-w-l-y redecorating.

For 16 years, she was heavily involved in the music ministry at church with a contemporary music group.



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## CPHST Philosophy: An Open Forum

*CPHST Philosophy: An Open Forum is the section of the Newsletter dedicated to sharing employees thoughts, questions, concerns, and ideas about CPHST's mission, structure, methods, role, and management. Employees are invited to send comments to Gordon Gordh:*

[gordon.gordh@aphis.usda.gov](mailto:gordon.gordh@aphis.usda.gov).

*This month, Dr. Ron DeHaven, Administrator for USDA Animal and Plant Health Inspection Service, shares his thoughts about CPHST and our role in protecting American agriculture.*

On a recent trip to Raleigh, I had the honor of talking with several of you during a town hall meeting and a quick tour of the CPHST offices. I am impressed by the caliber of people, dedication to the task, and the quality of the resulting work produced by CPHST. The wide array of harmful weeds and the rainbow of invasive pests makes the work you do vital.

Through the last several stormy years with many high profile, controversial and expensive issues, APHIS' success and credibility is due to the fact that we use the best science available as the basis for our decision making. The scientific support you provide is key to ensuring that plant pests and diseases are identified and their effects mitigated quickly and in a cost effective manner.

Three main areas in which you contribute to our recent successes and our ability to be fiscally responsible include our ability to anticipate threats, improved diagnostics, and coordinated research. With analysis of the threats outside our borders, we can better act to prevent incursions of plant pests and diseases—which is much easier than eradication. Better diagnostics enable us to more precisely pinpoint issues and appropriately direct our resources. Coordinated research, both within the USDA community and involving other federal,

state and industry partners, enables us to base decisions on the best available science.

While the continued credibility of APHIS is dependent on being a science-based organization, we also must consider other important realities and weigh these factors when making public policy or regulatory decisions. These include financial implications and issues, the operational feasibility of certain approaches, and the abilities and interests of our partners. We must find ways to prevent or reduce the impact of pests and pathogens and protect the industries we regulate without strangling them with overly burdensome regulatory requirements. All of these issues affect the decisions we make about actions and regulations. I know that science sometimes seems to get muddled in the decision-making process, but let me reassure you that science is always our starting point and our foundation. I am a scientist, too, and share your instincts about what is important and how we should do things.

We also must often take action and make decisions when we have incomplete information—the paucity of information about potential hosts for sudden oak death, and the recent *Ralstonia* finding in Florida are two examples. In these situations we must act on what we know, make educated calculations about risk, and continue to gather data to determine if we need a change of course. Here, again, CPHST's mission and ongoing involvement is vital.

As our regulatory processes evolve to consider new approaches to risk management, including clean stock program, best management programs, certification, surveillance and surveys; as we phase out methyl bromide and thus need alternatives; and as we face higher levels of trade from an ever growing list of countries, we need your expertise now more than ever! I thank you for your efforts and outstanding work.



Submitted by Ron DeHaven



Dr. Ron DeHaven (right) with Dr. Phil Berger (left) during a visit to Raleigh, NC

### Upcoming CPHST Articles

- ◆ *Development of Pest Detection & Monitoring Tool-Based Semiochemicals* by **Vic Mastro**
- ◆ *The Cactus Moth: Friend Turned Foe* by **Ken Bloem**
- ◆ *New Perspective* by **Amy Roda**
- ◆ *Eastern Regional CAPS Meeting* by **Dan Fieselmann & Laura Duffie**
- ◆ *ESA International Affairs Committee* by **Gary Bernon**