

# FLORIDA PESTICIDE REVIEW COUNCIL

## FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES



2010 – 2011 ANNUAL REPORT

REPORT TO THE 2012 FLORIDA LEGISLATURE



NOVEMBER 1, 2011



**FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES  
PESTICIDE REVIEW COUNCIL REPORT TO THE 2012 FLORIDA LEGISLATURE**

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Information at: <http://consensus.fsu.edu/>



This Report was approved for transmittal to the 2012 Florida Legislature by Brian Katz, PRC chair, on September 26, 2011.

# FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

## PESTICIDE REVIEW COUNCIL 2010–2011 ANNUAL REPORT

(FOR THE PERIOD OCTOBER 1, 2010 TO SEPTEMBER 30, 2011)

### I. EXECUTIVE SUMMARY AND LEGISLATIVE RECOMMENDATIONS

The Pesticide Review Council (PRC) convened three meetings during the operating year October 1, 2010 through September 30, 2011 (January 18, May 23, and August 30, 2011). The PRC continued to coordinate pesticide-related efforts among state agencies including the Florida Departments of Agriculture and Consumer Services (FDACS), Florida Department of Environmental Protection (FDEP), Florida Department of Health (FDOH), Florida Fish and Wildlife Conservation Commission (FFWCC), the Institute of Food and Agricultural Sciences of the University of Florida (IFAS/UF), and the South Florida Water Management District (SFWMD). Key issues discussed included the following: legislative and budgetary impacts on FDACS and IFAS programs; FDACS collaboration with the Florida Department of Environmental Protection (FDEP) and the Florida Fish and Wildlife Conservation Commission (FFWCC) to streamline regulation of pesticide applications to water via the National Pollution Discharge Elimination System (NPDES) through a Florida “Generic Permit”; review and discussion of citrus pest management emerging issues in Florida; development of school spray drift strategy recommendations; implementation of USEPA label requirements to mitigate potential exposure of workers and bystanders to soil fumigants; discussion of biological and alternate pest control strategies; evaluation of worker safety compliance issues; and, the Commissioner’s pesticide stewardship award.

Initiated in 2010, and finalized in 2011 with the adoption of a comprehensive package of revised “*Organizational and Procedural Policies and Guidelines*”, the Council conducted a planning initiative that included visioning, expectations and desires for the Council in the future, and the development of a Council Workplan with associated key tasks and milestones. In addition, the Council enhanced and clarified their organizational and procedural policies and guidelines ensuring the Council’s operational procedures are clear, consistent, inclusive, fair and transparent.

During the reporting period, the Council again conveys the request that the statutory limitation on PRC officer terms be increased from one year to two years. This change should be proposed to the Legislature when Chapter 487 is next open for revision. The Council considers this a standing request until legislative action is taken on the request.

## II. INTRODUCTION

The Pesticide Review Council (PRC) advises the Commissioner of Agriculture regarding the sale, use and registration of pesticides and advises government agencies, including the State University System, regarding their responsibilities pertaining to pesticides. The Pesticide Review Council seeks consensus decisions on particular issues and recommendations to be submitted to the Commissioner through the FDACS Division of Agricultural Environmental Services. The Council serves as a statewide forum for the coordination of pesticide-related activities to eliminate duplication of effort and maximize protection of human health and the environment. The Pesticide Review Council consists of eleven (11) scientific members and operates under the authority of Chapter 487, Florida Statutes.

The Council's adopted Mission Statement, consistent with its statutory charge, is as follows:

The mission of the Pesticide Review Council is to advise the Commissioner of Agriculture regarding the sale, use, and registration of pesticides and to advise government agencies, including the State University System, with respect to those activities related to their responsibilities regarding pesticides. Duties include recommending appropriate scientific studies on any registered pesticide and for actions to be taken with respect to the sale or use of a pesticide reviewed by the Council relative to protecting the environment and/or human health from unreasonably adverse effects, and reviewing biological and alternate controls to replace or reduce the use of pesticides. The council shall serve as a statewide forum for the coordination of pesticide-related activities to eliminate duplication of effort and maximize protection of the environment of the state and the health of the public.

This Annual Report summarizes the activities of the PRC from October 1, 2010 through September 30, 2011 as reported in the summary reports/minutes of the three PRC meetings held on:

- January 18, 2011 in Gainesville, Florida;
- May 23, 2011 in Gainesville, Florida; and,
- August 30, 2011 in Tallahassee, Florida.

Copies of agendas, summary reports/minutes and presentations for each meeting may be obtained by contacting the FDACS Bureau of Pesticides as indicated below:

Mail: 3125 Conner Boulevard, Building #6, Tallahassee, Florida 32399-1650

Phone: (850) 487.0532

In addition, information on the Council, including agenda packets, meeting reports, and related background documents may be found in downloadable formats at the project webpages linked below:

<http://consensus.fsu.edu/PRC/index.html>

<http://www.flaes.org/pesticide/pesticidereviewcouncil.html>

### III. ADMINISTRATIVE ACTIVITIES

For 2010 – 2011, the officers were Dr. Brian Katz, Chair, Mr. Joe Gaudino, Vice-Chair, and Dr. Dennis Howard, Secretary. Each year in accordance with adopted Council policy, members nominate and elect a new secretary, and the Vice-Chair ascends to the Chair position and the Secretary ascends to the vice-chair position. Prior to the reporting period, Dr. Brian Katz was approved as chair, Mr. Joe Gaudino was approved as vice-chair, and Dr. Dennis Howard was approved as secretary.

The Council adopted the following meeting schedule for the 2010 – 2011 reporting period:

January 18, 2011 in Gainesville;  
 May 23, 2011 in Gainesville; and,  
 August 30, 2011 in Tallahassee.

The Council adopted the following meeting schedule for the 2011 – 2012 reporting period:

February 21, 2012 in Tallahassee;  
 May 15, 2012 in Alachua; and,  
 September 18, 2012 in Alachua.

### IV. PRC MEMBERS AND STATUS

The current Council members, and their respective affiliations and terms are as follows:

MEMBER	AFFILIATION	TERM EXPIRATION*
Bill Caton	Fish & Wildlife Conservation Commission	Indefinite
Tim Fitzpatrick	Department of Environmental Protection	Indefinite
Joe Gaudino (vice-chair)	Environmental Groups	09/30/2010
John Hayes, Ph.D.	Institute of Food and Agricultural Science	06/30/2010
Dennis Howard, Ph.D. (secretary)	Department of Agriculture & Consumer Services	Indefinite
Brian Katz, Ph.D. (chair)	Hydrologist	09/30/2011
Kendra Goff, Ph.D.	Department of Health	Interim
Mel Kyle, Ph.D.	Agricultural Chemical Industry	09/30/2012
Richard Pfeuffer	South Florida Water Management District	06/30/2011
J. Keith Tolson, Ph.D.	Toxicologist	09/30/2011
Vacant	Grower/Producer Representative	--

\*Members whose terms have expired may continue to serve pending consideration of their re-appointment or appointment of a replacement member by the Governor.

## V. INVITED PRESENTATIONS

During the 2010 – 2011 period the Council did not receive any invited presentations, giving priority to a number of Federal and State agency issues that required Council review, and relying on presentations from the agency experts with representation on the Council.

## VI. AGENCY BRIEFINGS

Agency briefings are the principal method of information gathering used by the Council. Since the PRC lacks staff support, agency action is the mechanism for implementing recommendations by the Council. During the reporting period, staff from FDACS, FDEP, FDOH and IFAS/UF provided pesticide-related briefings to the PRC on the following issues:

- NPDES Pesticides Generic Permit (FDACS and FDEP);
- Soil Fumigants (FDACS);
- School Spray Drift (FDACS and FDOH);
- Worker Safety Compliance (FDACS);
- Citrus Pest Management (IFAS/UF); and,
- Biological and Alternate Pest Control Strategies (IFAS/UF).

The complete presentations and summaries of the updates are available at the project webpage as follows: <http://consensus.fsu.edu/PRC/reports.html>

### A. FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES (FDACS)



**Budgetary Issues.** Mr. Steve Dwinell, FDACS, and Mr. Andy Rackley, FDACS, provided Council members with updates at the January and May 2011 meetings respectively regarding FDACS administrative and policy issues. Regarding the budget, the Agency was asked to propose a 15% funding cut effective July 1, 2011. FDACS had a relatively good year considering the fiscal retraction impacting state government. Although FDACS received budget reductions, the Division fared reasonably well, even though they are operating with a reduced staff. The Division has implemented streamlined processes and procedures to achieve its mission with reduced funding and staffing. The Governor created a new “Office of Fiscal Accountability and Regulatory Reform” to evaluate and approve all rules going forward. The

Executive Order will not impact FDACS' rulemaking since FDACS is not a Governor's agency. However, FDACS will develop an internal procedure for evaluating the impact of Agency rules. FDACS' supplemental fee rule will be amended to reflect an updated list of active ingredients of pesticides used in Florida during 2011. By law, the list of active ingredients has to be updated biennially. Another major issue for the Agency is the Legislatures moving of the school lunch program to FDACS. Finally, the name of the Division of Forestry changed to the Florida Forest Service. The Forestry program will still be within FDACS, but the change will provide for some autonomy in responding to fires.

**NPDES Pesticides Generic Permit Implementation.** Dr. Davis Daiker, FDACS, and Mr. Steve Dwinell, FDACS, reported that the Clean Water Act regulates the discharge of "pollutants" into the nation's waters by, among other things, requiring entities that emit "pollutants" to obtain a National Pollutant Discharge Elimination System ("NPDES") permit. The National Pollutant Discharge Elimination System (NPDES) is a federal permitting program under the authority of the Clean Water Act (CWA) that establishes controls on point source discharges of pollutants to waters of the United States. Point sources are defined as discrete conveyances including but not limited to any pipe, ditch, channel, or conduit from which pollutants are or may be discharged. As a result of the U.S. Court of Appeals, Sixth Circuit ruling, the exemption for pesticides applied in accordance with Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) will expire on April 9, 2011, and NPDES permits will be required. This deadline was recently extended and DEP posted the following to their website:

On March 28, 2011, the Sixth Circuit Court of Appeals granted the U.S. Environmental Protection Agency a continuation of a stay of their 2009 ruling in Nat'l Cotton Council v. Env'tl. Prot. Agency, 553 F.3d 927 (6th Cir. 2009), delaying the need to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of pesticides to waters of the U.S., until October 31, 2011. The Department's rule establishing a NPDES pesticide generic permit (NPDES PGP) to cover the discharge of pesticides to waters of the state is effective on April 14, 2011. However, due to the Sixth Circuit Court of Appeals' continuation of the stay of their ruling, discharges of pesticides to surface waters of Florida are not required to have NPDES permits until October 31, 2011. While the Department's generic permit is effective, as stated in section 403.088(1)(a), Florida Statutes, the Department's generic permit is only necessary if NPDES permit coverage is required under the Clean Water Act. Since a NPDES permit will not be required until October 31, 2011, coverage under the NPDES PGP is not required and the terms of the NPDES PGP do not need to be implemented until October 31, 2011. Consequently, those entities that are required to submit a Notice of Intent (NOI) for coverage under the NPDES PGP, do not need to submit the NOI until October 30, 2011. Further, conditions of the permit such as adverse incident reporting and record keeping do not need to be implemented until October 31, 2011.

The Pesticide Review Council will have an important coordinating role regarding implementation of the NPDES generic permit and will serve as the forum/mechanism for the reporting requirements of state activities and coordinating responses to any adverse impacts related to the application of pesticides to qualifying waters in Florida. In addition, although EPA is silent on the issue, Florida is covering certain agricultural operations under the generic permit provisions.

**Soil Fumigants.** Dr. Dennis Howard, FDACS, provided the Council with a presentation titled "PRC Soil Fumigant Update", Bruce Nicely, FDACS, provided the Council with a presentation titled "Soil Fumigation and Compliance Issues", and Kelly Friend, FDACS, provided the Council with a presentation titled "Fumigation Update". The US EPA is requiring important new safety measures for soil fumigant

pesticides to increase protections for agricultural workers and bystanders – people who live, work, or otherwise spend time near fields that are fumigated. As new soil fumigant product labels appear in the market place in 2010 and 2011, soil fumigant users will need to comply with these new requirements. Inspectors will be conducting marketplace and producer establishment inspections for product label compliance. All soil fumigants are now Restricted Use Products (RUPs) and dealers must maintain sales records for a minimum of two years. FDACS hosted a national Pesticide Inspector Residential Training (PIRT) in April of 2010 providing Inspectors training on soil fumigation label changes, and hosted another PIRT in April 2011 that emphasized the 2011 label changes. Enforcement of labels will be done with a compliance assistance approach rather than a strict enforcement approach. Compliance assistance will likely be conducted through 2012, with compliance monitoring to follow thereafter. DACS is working with IFAS to develop training modules to guide applicators for complying with the new label requirements. In response to emerging issues the Council voted unanimously for FDACS staff to draft a letter supporting FDACS' position that EPA should develop a "how to comply manual" for the new soil fumigant requirements before the new labels become effective.

**School Drift Case Update and Findings (FDACS and FDOH).** At the August 30, 2011 PRC meeting, Dr. Dennis Howard, FDACS, provided Council members with a presentation titled "School-Farm Pesticide Issue", and Prakash Mulay, Florida Department of Health (FDOH), provided Council members with a presentation titled "Aerial Pesticide Application and Drift Impacting Gove Elementary School—Palm Beach, Florida" regarding findings and recommendations for school drift issues. Following is a summary of the Gove Elementary School drift incident (DOH Summary Report—August 16, 2011):

On March 31, 2011 as students were arriving for classes at Gove Elementary School, an agricultural pesticide applicator airplane was spraying a nearby corn field with chemicals\*. Students and school staff began to notice an odor and complained of eye and skin irritation. The school principal took immediate action to lock down the school and keep the students, teachers, and staff inside the building to limit possible exposures.

Multiple agencies responded quickly. The Florida Department of Health (FDOH and the Florida Department of Agriculture and Consumer Services (FDACS) worked jointly to provide technical support to the Palm Beach County Health Department (PBCHD) and the local school district to minimize additional exposure and facilitate clean up and the reopening of the school. FDOH and the Florida Poison Information Centers (FPIC) developed answers for parents with concerns about pesticide removal and health risks of the pesticides. The FDOH and the PBCHD also conducted an epidemiological investigation.

The FDOH found there were a total of 813 students and 85 staff members present in the Gove elementary school at the time of the drift incident. A completed (or partially completed) survey was received by 66 symptomatic individuals. Survey results indicate 22 students and 44 staff members had health effects following the pesticide drift incident. Symptoms reported immediately after the drift event included: itching skin, burning eyes and vomiting.

The FDOH investigation findings indicate that the health effects following the drift incident at Gove elementary school on March 31<sup>st</sup> 2011 are consistent with the pesticide used (MSDS – Toxicological Information). Of all staff at the school (N=85), half experienced health effects (N=44) regardless of whether they were outdoors or indoors during the event. Individuals with pre-existing conditions were

more likely to experience moderate rather than low severity of illness. Similarly, individuals with moderate versus low severity of illness were more likely to receive medical care.

FDACS conducted a compliance investigation, interviewing all parties involved in the incident and all aerial applicators that were operating in the general area. Although students and staff showed symptoms of exposure, based on samples collected from the site, pesticide drift could not be documented with physical evidence. In addition no violations were found after reviewing the applicator's records and weather data from the day of the incident. Past studies have indicated that aerial applications of pesticide are the most common method of application where drift events occur. It is important to take extra precaution and interventions to reduce drifting due to aerial spray especially near schools. FDACS observed that schools and neighboring grower/applicators can benefit from routine communication and the implementation of good neighbor practices to help avoid and promptly respond to incidents. Further efforts to provide outreach on good neighbor practices are encouraged.

*\* 1) Mustang Max Insecticide containing active ingredient Zeta-cypermethrin (a pyrethroid insecticide), 2) Penncozeb<sup>®</sup> 75DF (a bis-dithiocarbamate fungicide) - with active ingredient mancozeb, naphthalene as a carrier agent, and 3) Nortrace Blackjack with Ammonium Zinc Blend (a fertilizer).*

**Worker Safety Compliance Issues.** Bruce Nicely, FDACS, provided Council members with a presentation titled “Worker Protection Standards”, and Sonia Cotto-Febo, FDACS, provided Council members with a presentation titled “Florida Agricultural Workers Safety Program: What Do We Do?” regarding worker safety compliance issues. Following is a summary of the briefings:

The Federal “Worker Protection Standard for Agricultural Pesticides” (WPS) was implemented by EPA in 1992 as 40 C.F.R 170.1. The requirements provides a standard “designed to reduce the risks of illness or injury resulting from workers' and handlers' occupational exposures to pesticides used in the production of agricultural plants on farms or in nurseries, greenhouses, and forests and also from the accidental exposure of workers and other persons to such pesticides”. It requires workplace practices designed to reduce or eliminate exposure to pesticides and establishes procedures for responding to exposure-related emergencies. The Florida Department of Agriculture and Consumer Services (FDACS) is the state lead agency that implements and enforces this federal regulation in Florida, and the Division of Agricultural Environmental Services, Bureau of Compliance Monitoring (BCM) is responsible for outreach, compliance assistance, interpretive guidance, enforcement and limited training.

In Florida, the Florida Agricultural Worker Safety Act (FAWSA) became effective in July 1, 2004. (F.S. 487.2041). Its intent is to ensure that agricultural workers employed in Florida receive protection from agricultural pesticides and are given information concerning agricultural pesticides. The WPS requires employers to take several precautionary steps to help prevent their employees from being exposed to pesticides. These steps include, but are not limited to: providing pesticide safety training to agricultural workers and pesticide handlers they employ (assure workers & handlers are trained every five years); providing personal protective equipment and decontamination supplies to employees in order to minimize the risk of pesticide exposure; and, providing information to employees so they know when, where and what pesticides have been applied.

In order to comply with the WPS and FAWSA and protect Florida's farmworkers FDACS is making an extensive effort to provide education and training regarding worker safety requirements.

Specific efforts include the following projects/initiatives:

- Portable Central Location Project
- Development of Occupational Pesticide Safety Materials
- Meeting with Community Based and Grower Organizations
- Provide educational support to Worker Protection Standard trainers and Training Organizers
- Farm worker field translation assistance
- Use different strategies to bring Pesticide Safety Awareness to farm worker and their family
- Florida Farm Worker Focus Group
- Redlands Christian Migrant Association (RCMA) Mini grant on Farm Worker Decontamination Practices.

The Agency continues to operate a hotline for farmworkers, and provides a staffed contact phone number for direct contact regarding worker pesticide safety issues.

## **B. FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)**



Allen Hubbard, Florida Department of Environmental Protection (FDEP), provided the Council with a presentation titled “Florida’s Draft Pesticide Generic Permit”. Following is a summary of the presentation:

### *Overview:*

The November 2006 USEPA Pesticides Rule provided an exemption from NPDES permitting for pesticide applications to surface waters performed in accordance with FIFRA. In January of 2009 a Federal Court of Appeals invalidated EPA’s rule, and mandated NPDES permits be required by April 2011. In June of 2010 EPA completed a Draft Pesticide General Permit (PGP) and planned a final PGP for February or 2011. The Ruling stipulated that by April 9, 2011 NPDES authorized states must have a state PGP in place covering pesticide application to surface water. Florida convened an Interagency Workgroup of affected agencies that worked together extensively to develop a viable Florida PGP (FDEP, FDACS, and FFWCC).

### *Florida’s Implementation Strategy:*

Florida is following EPA’s draft PGP template, but tailoring it to meet Florida’s specific needs. The PGP is structured by four pesticide use patterns:

- Mosquito and Other Flying Insect Pest Control
- Aquatic Weed and Algae Control
- Aquatic Nuisance Animal Control
- Forest Canopy or Other Area Wide Pest Control

Federal regulations provide that in certain instances, a general permit can cover discharges without submission of an NOI, pursuant to 40 CFR 122.28(b)(2)(v), automatic permit coverage.

Florida will authorize automatic coverage except for those required to file NOIs as follows:

<i>Pesticide Use Pattern</i>	<i>Operators Required to Submit NOI</i>
Mosquitoes and Other Flying Insect Pests	Mosquito Control programs and FDACS
Aquatic Weed and Algae Control	FWC, WMD, USACE, US Forestry Service, National Park Service, USFWS
Aquatic Nuisance Animal Control	FWC, WMD, USACE, US Forest Service, National Park Service, USFWS
Forest Canopy or Other Area Wide Pest Control	FDACS, USDA, USACE, US Forest Service, National Park Service, USFWS

*Update on Implementation of NPDES PGP:*

On March 28, 2011, the U.S. Sixth Circuit Court of Appeals granted the U.S. Environmental Protection Agency a continuation of a stay of their 2009 ruling in Nat'l Cotton Council v. Env'tl. Prot. Agency, 553 F.3d 927 (6th Cir. 2009). The stay delays the need to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of pesticides to waters of the U.S. until October 31, 2011.

This ruling also affects NPDES PGP coverage by the States, and impacts Florida as follows:

The Department's (FDEP) rule establishing a NPDES pesticide generic permit (NPDES PGP) to cover the discharge of pesticides to waters of the state became effective on April 14, 2011. However, due to the federal court's continuation of the stay of their ruling, discharges of pesticides to surface waters of Florida are not required to have NPDES permits until October 31, 2011. Consequently, those entities that are required to submit a Notice of Intent (NOI) for coverage under the NPDES PGP, do not need to submit the NOI until October 30, 2011. The result is that all operators are automatically covered until at least October 31, 2011.

*Remaining Issues:*

National Marine Fisheries Service (NMFS) reviewed the PGP and provided a "Biological Opinion" document concluding that EPA's draft PGP would "jeopardize" threatened and endangered species (called "TE species"). The NMFS developed "Reasonable and Prudent Alternatives" (RPAs) they believe need to be added to the PGP as follows:

- No discharges that they believe would adversely effect TE species,
- NOI must be filed for all discharges within the range of TE species,
- EPA must develop requirements under the PGP for water quality sampling and analysis, and submit annual reports to NMFS.

EPA has not yet responded to NMFS and cannot finalize the NPDES PGP until these issues are resolved. This impacts the States' ability to finalize their NPDES PGPs depending on whether EPA makes any additional changes in response to the NMFS' comments.

In addition, the United States Senate and the House of Representatives have considered bills to strike down the court's ruling and eliminate the PGP. The House of Representatives bill has been passed, but the Senate bill has not yet passed. It is currently uncertain whether there will be any congressional action before the October 31, 2011 deadline.

## C. INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES OF THE UNIVERSITY OF FLORIDA (IFAS/UF)



**Budgetary Issues.** Dr. Mark McLellan, University of Florida Institute of Food and Agricultural Sciences (IFAS), provided Council members with updates at the January and May PRC meetings and Dr. John Hayes (IFAS) provided updates at the August meeting regarding IFAS administrative and policy issues. Base operation funding is down by about 25%, and this is forcing faculty to supplement expenses with external grants. The University of Florida did not fair as well as IFAS regarding the budget, and with the dual system, IFAS will feel some of the fiscal reductions from UF, requiring faculty to focus more effort on finding funding. Over the past 5 years, \$26-28 million has been lost from recurring funds. Currently Federal agencies are providing the majority (approximately 75%) of the funding, and less than 5% is state funded. Faculty is entrepreneurial in response, but IFAS is losing flexibility in responding to industry needs in the process (especially for state and local issues) due to the focus on Federal issues.

(After the May, 2011 meeting, Dr. McLellan was replaced by Dr. John Hayes as the IFAS representative for the PRC).

**Citrus Pest Management: Emerging Pesticide Issues.** Dr. Michael Rogers, IFAS/UF, provided the Council with a presentation on emerging pesticide issues titled “Asian Citrus Psyllid (ACP) Management in Florida: Past, Present and Future”. Following is a summary of the key points and recommendations:

Prior to the introduction of the citrus greening pathogen in Florida, IPM Programs in Florida (for the past 20 years) dealt primarily with scale insect pests that were under complete biological control. Control relied mostly on use of petroleum oils for pest and disease management. Processed oranges required 1-3 oil applications per season (eriophyid mites, fungal diseases) and there was little use of broad-spectrum insecticides. Asian citrus psyllid was first found in Florida in June of 1998, and *Citrus Greening Disease* was found in Florida in August of 2005 (Huanglongbing (HLB) – yellow shoot disease).

The Citrus Greening pathogen (*Candidatus Liberibacter Asiaticus*) is a phloem-limited bacterium, is transmitted by psyllids, and it is also graft transmissible. Citrus Greening effects citrus production with an overall tree decline and eventual tree death, with a bitter-tasting, lopsided fruit that is small in size, and may not color properly with portions remaining green. Citrus Greening Disease is the most significant disease of citrus worldwide.

Management of Citrus Greening Disease must include propagation of clean nursery stock, removal of infected trees in the field, and effective psyllid control. The disease is difficult to manage because the symptoms are difficult to diagnose, often resemble nutrient deficiencies or other problems, and there is a latency period in the plant of 1-2 + years from infection to first observation of symptoms.

Insecticides (e.g., fenpropathrin, imidacloprid, dimethoate, and phosmet) are used for Psyllid control but require frequent applications. In Florida the average is 6 to 10 applications per year. Failures of control include use of selective insecticides targeting immature psyllids, targeting psyllid populations on new flush, and lengthy periods of new citrus flush allowed psyllid populations to continue to increase when adults were not controlled. ACP field populations showed decreased susceptibility to certain insecticides, but

currently, product failures due to resistance issues have not been identified. Pesticides with new modes of action (MOA) are needed to help manage pesticide resistance development.

Recommendations for control include the creation of Citrus Health Management Areas (CHMA) to facilitate the coordination of psyllid control and other HLB management practices. It will be important to define CHMA areas throughout Florida, to coordinate timing of pesticide applications, and to coordinate MOAs of pesticide applications to manage pesticide resistance development.

Successful management of Citrus Greening Disease will require resistant (tolerant) citrus varieties, changes in cultural practices, the development of sustainable citrus IPM practices, and a better understanding of both pathogen/vector relationship and effective insecticide use.

**Biological and Alternate Pest Control Strategies.** Dr. James Cuda, IFAS/UF, provided the Council with a presentation on biological and alternate pest control strategies titled “Biological Control of Florida’s Arthropod Pests and Weeds”. Following is a summary of the key points and recommendations:

Integrated Pest Management (IPM) is a sustainable approach to managing pests by combining appropriate biological, cultural, physical, and chemical tools. Pest control methods are selected and applied in a manner that minimizes risks to human health, beneficial non-target organisms, and the environment. IPM reduces pest problems more effectively by saving money and protecting the environment, decreasing pesticide use, and increasing the successful establishment and impact of biological control agents.

Biological control (BioControl) is the use of living organisms, such as insects, nematodes, bacteria, or fungi to reduce pest populations. There are three approaches to biological pest control as follows:

- Augmentative (arthropods, pest-specific pathogens, grass carp),
- Fortuitous (adventive organisms), and
- Importation or Classical (arthropods, pathogens).

Augmentative BioControl is the release of large numbers of a biological control agent to achieve a rapid effect. There is no expectation the biological control agent will establish a permanent (reproducing) population. Fortuitous (Adventive) BioControl is the regulation of a pest population by a natural enemy that has arrived from elsewhere without deliberate introduction, and there is no active human involvement. Importation (Classical) BioControl is the introduction and release of host specific natural enemies from the pest’s native range to reduce its population density in the area it has invaded. The classical approach is the most widely used method for weeds and is highly regulated.

Biological control (BioControl) is an important component to an integrated approach to pest management required for protecting Florida’s agriculture, landscape, turf & natural resources. Following are examples of BioControl strategies and/or research initiatives to develop additional biological control strategies:

Mites and predatory bugs to control thrips, wasps to control mole crickets, predatory beetles to control cycad scale, crop/plant damaging mites controlled using predatory mites, wasps to control midges, parasitoids used to control biting flies, research on fungal pathogens to control ticks, parasitic decapitating flies to control fire ants, parasitic flies to control weevils, research to BioControl hydrilla, hygrophila, and wetland nightshade, research to BioControl Brazilian Pepper trees, and research planned to control cogongrass.

Florida's agriculture, landscape, turf & natural resources are benefitting from UF & USDA biological control programs and initiatives. There remain challenges to advancing the strategy including securing dedicated funding for overseas exploration, and complications on the collection and export of natural enemies from many signatory countries to the Rio Convention on Biodiversity. Finally, funding for research will continue to be a key factor in developing new biological control strategies.

## VII. PRC ACTIONS AND RECOMMENDATIONS

During the reporting period the Council took a variety of actions, they are summarized as follows:

At the July 10, 2009 meeting, the Council unanimously voted to request that the statutory limitation on PRC officer terms be increased from one year to two years. At the September 16, 2010 meeting the Council expressed their commitment and continued support for this recommendation. This change should be proposed to the Legislature when Chapter 487 is next open for revision. This strategy was reaffirmed at the August 30, 2011 meeting.

At the January 18, 2011 meeting, as a result of evaluating soil fumigant issues, the Council unanimously voted for FDACS staff to draft a letter supporting FDACS' position that EPA should develop a "how to comply manual" for the new soil fumigant requirements before the new labels become effective.

In addition, at the January 18, 2011 meeting the Council voted unanimously to adopt an updated package of proposed Council Organizational and Procedural Policies. The Council's adopted "*Organizational and Procedural Policies and Guidelines*." are available at the following URL:  
<http://consensus.fsu.edu/PRC/index.html> .

### WORKPLAN PRIORITIZATION EXERCISE

At the January 2011 meeting the Council decided to conduct a Workplan Prioritization Exercise with a focus on mission specific priorities. The Council identified and agreed to a short-list of top priorities that should be ranked separately from the remaining Workplan issues. The results (provided below) reflect two separate rankings: one for the top tier (top 10) *Workplan* topics and one for the remaining twenty-five (25) key *Workplan* topics. Council members were asked to rank each of the key *Workplan* topics on a five-point continuum-scale where a 5 equals the highest level of priority and a 1 equals the lowest level of priority. Members were asked to rank the priority of each topic independently and not in relation to the other topics. Each of the 25 second tier *Workplan* topic's rankings was tallied and arranged in order of highest priority (1) to lowest priority (25). The ranking results ranged from a high of 4.33 to a low of 2.50 out of 5. Subsequently, members were asked to rank the top tier topics and these ranking results ranged from a high of 4.67 to a low of 3.83 out of 5. The Council agreed the exercise should be conducted annually to monitor and respond to any changes in Workplan issue priorities.

During Workplan discussions member's identified the following as potential Workplan issues for the Council:

- Pesticide effects

- Applicator health
- Endangered Species Protection
- Drift

These issues will be monitored and the Workplan updated as needed to reflect current issues and priorities. Following are the results of the Council's 2011 Workplan Prioritization Exercise:

<b>WORKPLAN PRIORITIZATION EXERCISE TIER 1 (TOP TEN) ISSUES RESULTS 2011</b> (Conducted May 23, 2011)		
<b>WORKPLAN TOPICS (TASK/TOPIC #)</b>	<b>AVERAGE (5 TO 1)</b>	<b>OVERALL RANKING</b>
Pesticide effects: human/envIRON. (C. 3)	4.67	1
Applicator health/safety issues (D. 4)	4.50	2
Impacts on applicators (F. 2)	4.50	2
Endangered species—FIFRA (D. 7)	4.33	4
Applicator health effects (C. 2)	4.33	4
Spray drift (C. 4)	4.33	4
NPDES Permitting (D. 1)	4.00	7
Biological/alternate controls to reduce pesticide use (C. 11)	4.00	7
Soil fumigation procedures (F. 3)	4.00	7
Soil fumigation RED documents (D. 6)	3.83	10

<b>WORKPLAN PRIORITIZATION EXERCISE RESULTS 2011</b>		
<b>WORKPLAN TOPICS (TASK/TOPIC #)</b>	<b>AVERAGE (5 TO 1)</b>	<b>OVERALL RANKING</b>
Workplan development/prioritization (B. 3)	4.33	1
Research pesticide reduction (G. 1)	4.33	1
Pesticides & degradates monitoring (F. 1)	4.20	3
Coordination/Forum (E. 2)	4.00	4
Citrus Pest Management (D. 12)	4.00	4
Pesticides/degradates transport/fate (C. 1)	4.00	4
Emerging pests and diseases (C. 7)	3.83	7
Revised fumigant labels (D. 9)	3.83	7
Recommendations on reduction of pesticide use (G. 2)	3.83	7
Incentives for alternative controls (G. 3)	3.83	7
Arsenical herbicides restrictions (D. 10)	3.67	11
Public education (E. 1)	3.67	11
Pesticide resistance (C. 9)	3.50	13
Strategy to secure a funding source (C. 10)	3.50	13
Coordination with other councils (D. 2)	3.50	13
Pesticide residue/land use change (D. 11)	3.50	13
Restricted pesticides usage/surveys (C. 8)	3.33	17
Pesticide registration/compliance (D. 5)	3.33	17
Strategy for stakeholders (E. 4)	3.33	17
Formulations and adjuvants (C. 5)	3.17	20
Information system (D. 3)	3.00	21
Genetically modified organisms (D. 8)	3.00	21

Pesticide stewardship award (E. 3)	3.00	21
Antimicrobials (C. 6)	2.83	24
Promoting value of U.S. Agriculture (E. 5)	2.50	25

## VIII. CONCLUSIONS

In the year 2010 – 2011, the Pesticide Review Council continued to provide a public forum to identify and scientifically address pesticide issues in Florida. In particular, the Council provided an opportunity for detailed discussion and public commentary on challenging emerging federal requirements pertaining to NPDES permits and implementation of soil fumigant requirements, citrus pest management emerging issues, school spray drift issues, biological and alternate pest control strategies, and worker safety compliance issues. These important discussions will help to frame and inform further dialogue on these issues. The Pesticide Review Council will continue to have an important coordinating role regarding implementation of the NPDES generic permit and will serve as the forum/mechanism for the reporting requirements of state activities and coordinating responses to any adverse impacts related to the application of pesticides to qualifying waters in Florida. During 2011 the Council conducted a comprehensive self-assessment that included reviewing and revising organizational and procedural policies and guidelines and the development of a prioritized Council “Workplan”. The Council will continue to monitor emerging pesticide issues and develop relevant recommendations as appropriate. The Council also continued to serve as an effective mechanism to minimize duplication and promote efficiency among state agencies that address pesticide issues in Florida. The Council’s work continues to grow in value as budgets to address pesticide-related activities across the state decline, yet regulatory issues become more complex.

**ATTACHMENT A**  
**COUNCIL'S ADOPTED WORKPLAN**

**WORKPLAN BY TASK (A-G)**

<b>A. ANNUAL TASKS</b>
487.0615(1)(c) In conducting its meetings, the council shall use accepted rules of procedure. A majority of the members of the council constitutes a quorum for all purposes.
(d) The members of the council shall meet and organize by electing a chair, a vice chair, and a secretary whose terms shall be for 1 year each.
(e) The council shall meet at the call of its chair, at the request of a majority of its members, at the request of the department, or at such time as a public health or environmental emergency arises.
1. Council shall meet three times per year starting with January of each year. Regularly scheduled meetings will held in February, May, and August of each year, and start at 10:00 AM.
2. Council reviews Workplan Prioritization Exercise results annually at the February meeting (Facilitator introduces at the August meeting).
3. Council reviews Effectiveness Assessment Survey results annually at the February meeting (Facilitator introduces at the August meeting).
4. Council rotates chair and vice-chair positions and elects new secretary during each September meeting. New officer positions become effective in October.
5. Council will review Summary of Issues and Recommendations to the Legislature annually at the August/September meeting.
6. Council will deliver annual report to the Legislature by November 1 of each year.

<b>B. COUNCIL FUNCTIONALITY—COMMUNICATION, PLANNING, PARTICIPATION, REPRESENTATION, PROCESS, DECISION-MAKING, AND IMPLEMENTATION</b>
1. Council adopted revised procedures, polices, and consensus-building and decision-making procedures at the January 2011 meeting.
2. Council will receive updates on budgetary, legislative (including proposed statutory changes) and rulemaking issues at each meeting.
3. Council will develop, prioritize and maintain a Workplan.

<b>C. SCIENTIFIC STUDIES AND FUNDING PRIORITIES AND STRATEGIES</b>
487.0615(2)(a) Recommend, based upon review of state pesticide program needs, appropriate scientific studies on any registered pesticide when substantive preliminary data indicate that the pesticide could pose an unreasonably adverse effect on the environment or human health. The recommendations may include using available services of state agencies or of the State University System to conduct such scientific studies or may recommend that these agencies seek funding for this purpose. When the council recommends a study, it must support legislative budget requests for funding needed to conduct the study. The council may also conduct scientific studies if specific funding is provided to the department or other governmental agency by the Legislature.
1. Transport and fate of pesticides and their degradates in the environment (e.g., groundwater, surface water, atmospheric, and biological).
2. Health effects to pesticide applicators and people living near where pesticides are applied.
3. Data to evaluate pesticide effects/impacts on human health and the environment.
4. Spray drift.
5. Formulations and adjuvants - including nanotoxicological concerns.
6. Antimicrobials.
7. Emerging pests and diseases.
8. Restricted pesticides: update on usage and usage surveys for Florida.
9. Pesticide resistance: current trends and how to manage.
10. Strategy to secure a funding source for needed scientific studies.
11. Research involving biological and alternate controls to reduce pesticide use.

<b>D. ADVISE AND RECOMMEND ON PESTICIDE USE RESPONSIBILITIES—COMMUNICATION AND COOPERATION BETWEEN AND AMONG RESPONSIBLE AGENCIES AND AFFECTED INTERESTS</b>
487.0615(2)(c) Provide advice or information to appropriate governmental agencies, including the State University System, with respect to those activities related to their responsibilities regarding pesticides.
1. Council will discuss the implementation of DEP NPDES Pesticides Generic Permit (PGP) at each meeting until significant implementation issues are resolved.
2. Coordinate and collaborate with the Florida Coordinating Council on Mosquito Control (FCCMC) and the Pest Control Enforcement Advisory Council (PCEAC).
3. Establish a system that is comprehensive and user friendly for governmental agencies to find or request pesticide related information.
4. Pesticide applicator health and safety issues.
5. Pesticide registration and compliance issues.
6. Implementation of Soil Fumigation Registration Eligibility Decision (RED) requirements.
7. Endangered Species Act implementation for FIFRA regulated products.
8. Genetically modified organisms (GMO).
9. Implementation of revised fumigant labels (training, compliance issues).
10. Implementation of new federal restrictions for arsenical herbicides.
11. Pesticide residue and land use change.
12. Citrus Pest Management.

<b>E. ENHANCING COMMUNICATION BETWEEN AND AMONG THE AGENCY, INDUSTRY AND PUBLIC</b>
1. Promoting public education regarding pesticide use, safety, benefits, and risks
2. Coordination role in environmental impact of pesticides: a forum for research/monitoring efforts statewide.
3. Council member review and recommendations regarding submissions for the annual Commissioner Award for Pesticide Stewardship.
4. Council should create a strategy and process to assist stakeholders to identify, prioritize and resolve pesticide issues of concern.
5. Promoting the value of U.S. agriculture.

<b>F. MITIGATION MEASURES TO MANAGE PESTICIDES—ISSUES AND RECOMMENDATIONS</b>
487.0615(2)(b) Make recommendations...to the Commissioner of Agriculture for actions to be taken with respect to the sale or use of a pesticide which the council has reviewed.
(2)(e) Consider, at the request of any member, the development of appropriate advice or recommendations on a pesticide when substantive preliminary data indicate that the pesticide could pose an unreasonably adverse effect on the environment or human health.
(2)(f) Assist the department in the review of registered pesticides which are selected for special review based upon potential environmental or human health effects. This process must include, but need not be limited to, selecting pesticides for special review, providing periodic updates to the council on preliminary findings as a special review progresses, and formulating final recommendations on any pesticide on which a special review has been conducted.
1. Monitoring for pesticides and their degradates in environmentally sensitive areas.
2. Evaluate potential human health impacts on pesticide applicators, farm workers and residents that consume groundwater near areas where pesticides are applied.
3. Soil fumigation procedures and recent federally required re-labeling.

<b>G. BIOLOGICAL AND ALTERNATE CONTROLS TO REPLACE OR REDUCE PESTICIDE USE</b>
487.0615(2)(d) Review biological and alternate controls to replace or reduce the use of pesticides.
1. Research updates regarding biological and alternate controls to reduce pesticide usage.
2. Recommendations for reductions in pesticide applications and usage with alternative methods.
3. Develop a suite of incentives for farmers to switch to alternative controls that are equally viable and also have other benefits (including BMPs and IPM).

**ATTACHMENT B**  
**COUNCIL'S STATUTORY CHARGE**

**ESTABLISHMENT, MEMBERSHIP, ORGANIZATION, AND RESPONSIBILITIES**

**PESTICIDE REGULATION AND SAFETY**

**487.0615 PESTICIDE REVIEW COUNCIL—(THE 2009 FLORIDA STATUTES)**

(1)(a) There is created within the department the Pesticide Review Council. The purpose of the council is to advise the Commissioner of Agriculture regarding the sale, use, and registration of pesticides and to advise government agencies, including the State University System, with respect to those activities related to their responsibilities regarding pesticides. The council shall serve as the statewide forum for the coordination of pesticide-related activities to eliminate duplication of effort and maximize protection of the environment of the state and the health of the public.

(b) The council shall consist of 11 scientific members as follows: a scientific representative from the Department of Agriculture and Consumer Services, a scientific representative from the Department of Environmental Protection, a scientific representative from the Department of Health, and a scientific representative from the Fish and Wildlife Conservation Commission, each to be appointed by the respective agency; the dean of research of the Institute of Food and Agricultural Sciences of the University of Florida; and six members to be appointed by the Governor. The six members to be appointed by the Governor must be a pesticide industry representative, a representative of an environmental group, a hydrologist, a toxicologist, a scientific representative from one of the five water management districts rotated among the five districts, and a grower representative from a list of three persons nominated by the statewide grower associations. Each member shall be appointed for a term of 4 years and shall serve until a successor is appointed. A vacancy shall be filled for the remainder of the unexpired term.

(c) In conducting its meetings, the council shall use accepted rules of procedure. A majority of the members of the council constitutes a quorum for all purposes, and an act by a majority of such quorum at any meeting constitutes an official act of the council. The secretary shall keep a complete record of each meeting which must show the names of members present and the actions taken. These records must be kept on file with the department, and these records and other documents about matters within the jurisdiction of the council are subject to inspection by members of the council.

(d) The members of the council shall meet and organize by electing a chair, a vice chair, and a secretary whose terms shall be for 1 year each. Council officers may not serve consecutive terms.

(e) The council shall meet at the call of its chair, at the request of a majority of its members, at the request of the department, or at such time as a public health or environmental emergency arises.

(2) The council shall have the power and duty to:

(a) Recommend, based upon review of state pesticide program needs, appropriate scientific studies on any registered pesticide when substantive preliminary data indicate that the pesticide could pose an unreasonably adverse effect on the environment or human health. The recommendations may include using available services of state agencies or of the State University System to conduct such scientific studies or may recommend that these agencies seek funding for this purpose. When the council

recommends a study, it must support legislative budget requests for funding needed to conduct the study. The council may also conduct scientific studies if specific funding is provided to the department or other governmental agency by the Legislature.

(b) Make recommendations, subject to a majority vote, directly to the Commissioner of Agriculture for actions to be taken with respect to the sale or use of a pesticide which the council has reviewed. When such review is performed in conjunction with the registration of a pesticide, the council shall comply with the time framework of the registration process pursuant to chapter 120 and as implemented by department rules.

(c) Provide advice or information to appropriate governmental agencies, including the State University System, with respect to those activities related to their responsibilities regarding pesticides. However, confidential data received from the United States Environmental Protection Agency or the registrant shall be confidential and exempt from the provisions of s. 119.07(1); and it is unlawful for any member of the council to use the data for his or her own advantage or to reveal the data to the general public.

(d) Review biological and alternate controls to replace or reduce the use of pesticides.

(e) Consider, at the request of any member, the development of appropriate advice or recommendations on a pesticide when substantive preliminary data indicate that the pesticide could pose an unreasonably adverse effect on the environment or human health.

(f) Assist the department in the review of registered pesticides which are selected for special review based upon potential environmental or human health effects. The department shall consult with the council in the special review process. This process must include, but need not be limited to, selecting pesticides for special review, providing periodic updates to the council on preliminary findings as a special review progresses, and formulating final recommendations on any pesticide on which a special review has been conducted.

(3) The council shall submit an annual report, no later than November 1 of each year, to the Commissioner of Agriculture, the Speaker of the House of Representatives, and the President of the Senate, containing a record of the council's activities, recommendations regarding any pesticide reviewed by the council, and recommendations related to any other duty of the council and its purpose.

(4) The council is defined as a "substantially interested person" and has standing under chapter 120 in any proceeding conducted by the department relating to the registration of a pesticide under this part. The standing of the council shall in no way prevent individual members of the council from exercising standing in these matters.

(5) Members of the council shall receive no compensation for their services, but are entitled to be reimbursed for per diem and travel expenses as provided in s. 112.061.

**ATTACHMENT C**  
**KEY TO COMMON ACRONYMS**

ACRONYM	DEFINITION
AES	Agricultural Environmental Services (Division of FDACS)
BMP	Best Management Practices
CWA	Clean Water Act
DACS or FDACS	Florida Department of Agriculture and Consumer Services
DEP or FDEP	Florida Department of Environmental Protection
DOE	U.S. Department of Energy
DOH or FDoH	Florida Department of Health
EPA	U.S. Environmental Protection Agency
FAW	Florida Administrative Weekly
FAWSA	Florida Agricultural Worker Safety Act
FCCMC	Florida Coordinating Council on Mosquito Control (FDACS)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FFWCC or FWC	Florida Fish and Wildlife Conservation Commission
GMO	Genetically Modified Organisms
GNP	Good Neighbors Practices
IFAS	University of Florida Institute of Food and Agricultural Sciences
IPM	Integrated Pest Management
NIH	National Institutes of Health
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSF	National Science Foundation
PCEAC	Pest Control Enforcement Advisory Council (FDACS)
PGP	Pesticide Generic Permit
PIRT	Pesticide Inspector Residential Training

PCO	Pest Control Operator
RED	Soil Fumigation Registration Eligibility Decision
PRC	Pesticide Review Council (FDACS)
RUP	Restricted Use Products (pesticides)
WPS	Worker Protection Standard for Agricultural Pesticides