FLORIDA
PESTICIDE REVIEW COUNCIL

2006 – 2007 ANNUAL REPORT

SEPTEMBER 30, 2007

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(For the period October 1, 2006 to September 30, 2007)

Pesticide Review Council
October 31, 2007

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I. Executive Summary

During the three regular meetings of the Pesticide Review Council (PRC) occurring between October 1, 2006 and September 30, 2007, a variety of pesticide issues were discussed. Recurring issues included potential environmental impacts of organic arsenical pesticides, efforts to monitor surface water in the Caloosahatchee River for pesticides, compliance activities related to farm worker protection, and legislative issues affecting pesticide use and regulatory programs. In addition, the Council reviewed issues during a number of special presentations which included: emerging air quality issues; pesticide monitoring in the Chipola River and Floridian Aquifer System; honeybee colony collapse disorder, and: emerging contaminants of concern. The PRC continued to coordinate pesticide-related efforts among state agencies including the Florida Department of Agriculture and Consumer Services (FDACS), Environmental Protection (FDEP), Health (FDoH), Institute of Food and Agricultural Sciences at the University of Florida (IFAS/UF), and the South Florida Water Management District (SFWMD). The PRC also provided a first-time forum for each PRC members to give an itemized report of emerging pesticide-related issues and provided the opportunity for concerned citizens to comment on issues regarding the use and regulation of pesticides in the state.

During the reporting period, the Council unanimously voted to amend the PRC Organizational and Procedural Guidelines by reducing the term for officers from two years to one year.

II. Introduction

This document summarizes the activities of the PRC from October 1, 2006 through September 30, 2007 as reported in the minutes of three PRC meetings held on November 1, 2006, May 25, 2007 and September 25, 2007. Copies of agendas and minutes for each meeting may be obtained by contacting the FDACS Bureau of Pesticides (3125 Conner Boulevard, Building #6, Tallahassee, Florida 32399-1650; 850-617-7917; http://www.flaes.org/Pesticide/BoP_PRC.htm).

III. Administrative Activities:

Officers for 2005-2007 were:
Dr. Dennis Howard, Chair
Dr. Mark R. McLellan, Vice-Chair
Dr. Christopher Saranko, Secretary

Officers for 2007-2008 will be:
Dr. Mark R. McLellan, Chair
Dr. Mel Kyle, Vice-Chair
Dr. Brian Hughes, Secretary

IV. PRC Members and Status

Member	Affiliation	Term Expiration*
Jerry Brooks (Replaced mid-year by Richard Hicks)	Department of Environmental Protection	Indefinite
Ed Irby	Environmental Groups	09/30/06
Dave Eggeman	Fish & Wildlife Conservation Commission	Indefinite
Wendy Graham	Hydrologist	09/30/07
Christopher Saranko	Toxicologist	09/30/07
Brian Hughes	Department of Health	Indefinite
Mark McLellan	Institute of Food and Agricultural Science	Indefinite
Richard Pfeuffer	South Florida Water Management District	06/30/06
Mel Kyle	Agricultural Chemical Industry	09/30/08
Dennis Howard	Department of Agriculture & Consumer Services	Indefinite
Bobby W. Newsome	Grower/Producer Representative	12/31/06

* 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. Guest Speakers

To provide the PRC with information on current pesticide-related subjects, the following invited presentations were given during the year:

- **"Triazine reregistration update and water quality monitoring in Florida"**
  Dr. Dennis Tierney, Syngenta Corporation, November 2006
  Dr. Tierney provided the Council an update on atrazine monitoring programs and the status of the triazine registration. In 1993, through the Safe Drinking Water Act, the Environmental Protection Agency's Office of Water (EPA-OW) set the Maximum Contaminant Level at 3 ppb for atrazine and 4 ppb for simazine. These standards must be met by community water systems. The cumulative risk

assessment for atrazine, simazine and the three chloro-triazine metabolites indicated that there is no need for an intensive monitoring program for atrazine or simazine in Florida. However, EPA has asked that the registrants conduct a confirmatory program at four community-based water supplies here. Monitoring and mitigation plans for atrazine and simazine reflect a coordinated effort between the EPA Office of Pesticide Programs (OPP) and OW. If needed, mitigation would be developed in a process coordinated among states and EPA. Although drinking water concentrations of simazine predicted by modeling in the EPA Reregistration Eligibility Decision did not exceed the drinking water level of comparison, the EPA is discussing with registrants their concern whether total chloro-triazine (TCT) concentrations in rural wells may exceed levels of concern. The EPA is also taking into consideration comments and data that FDACS provided regarding simazine's fate in groundwater under Florida conditions.

- **"Organic arsenical herbicides"**
  Dr. Michal Eldan MAA Task Force and Dr. Robert Demott, Environ, November 2006
  Dr. Michal Eldan addressed the Council on the Monomethyl Arsonic Acid Task Force's (MAATF) activities relating to organic arsenical herbicides and affirmed that the MAATF stood behind its commitment to conduct a Florida ground water quality study. She also stated that the Task Force opposed EPA's initial reregistration eligibility decision that organic arsenicals are not qualified for reregistration, and believes that their products will hold up to review and be around for some time. She asked Dr. Robert DeMott of Environ, a consultant to the MAATF, to describe their plans to respond to EPA.

  Dr. DeMott explained that EPA's proposed decision was based on the results of EPA's modeling of the exposure potential for inorganic arsenic in water. EPA's key rationale for projecting potentially elevated risks was based on EPA's modeled predictions of transport to surface water, using the basic pesticide root zone model (PRZM) approach. The initial criterion specified by EPA for comparison to modeling results was the current MCL of 10 ppb and the arsenic levels that resulted from calculations using the basic PRZM model approach exceeded this criterion. The Task Force demonstrated to EPA that when using the latest updates of the PRZM model, the 10 ppb level was not exceeded. EPA then reduced the comparison concentration to 3 ppb and ultimately to 0.02 ppb, which is 500 times lower than the drinking water standard and 2500 times lower than the Florida surface water standard. Dr. Demott discussed several other flaws in the modeling assumptions and summarized his presentation by stating that EPA's proposed decision was based on inconsistent, outdated toxicity values for inorganic arsenic motivated by a switch to treating pesticides as inorganic forms. EPA will need to harmonize application of health protective goals and varying model requirements. The MAATF will continue to work with EPA in an active and engaging way towards conformity with agency guidance, and consideration of the importance of MSMA as a product.

- **Honeybee Colony Collapse Disorder**
  Dr. Jamie Ellis, University of Florida IFAS, May 2007
  Dr. Ellis made a presentation to the Council on Honeybee Colony Collapse Disorder (CCD). He provided background information on honeybee biology and management and discussed the importance of honeybees to agriculture and the environment. Dr. Ellis explained that the cause of CCD is not known, but a number of stressors could be involved, such as bee pests (e.g., varroa mites) and diseases, artificial feeding, modern apiary practices, bee genetics, genetically modified crops, and pesticides. Much of the research focus has turned towards evaluating the potential impact of pesticides, particularly neonicotinoids, applied outside of the hives. He provided the following web links for further information on CCD:
  http://solutionsforyourlife.ufl.edu/hot_topics/agriculture/colony_collaps_disorder.html
  http://www.ento.psu.edu/MAAREC/ColonyCollapseDisorder.html
  http://www.beealert.info

- **Emerging Contaminants of Concern**:
  Mr. David Whiting, FDEP, May 2007
  Mr. David Whiting gave a presentation to the Council on the potential environmental and human health impacts of a broad spectrum of chemical subcategories including global organic contaminates, pharmaceuticals and personal care products, endocrine modulating chemicals, nanoparticles, industrial chemicals, biological metabolites and toxins. He provided the Council the environmental fate data for many of these chemicals and discussed in detail their potential effects on the environment and the public health.

VI. Agency Briefings

Staff from FDACS, University of Florida IFAS (UF/IFAS), FDOH, FDEP and the South Florida Water Management District (WMD) provided briefings to the PRC related to their regulatory activities. Because the PRC lacks staff support, agency briefings are the principal method of information gathering used by the PRC, and agency action is the method of carrying out the PRC's recommendations.

(A) FDACS

(1) Legislative and rulemaking updates

- Mr. Anderson Rackley, Director of the Division of Agricultural Environmental Services, updated the Council on the upcoming legislative session. All state agencies must undergo a "sunset review," meaning that each agency must prove its validity and benefit to the citizens of Florida or face abolishment. The FDACS is the first agency to go through this process. At the same time, the Department is facing a legislatively-mandated program review to evaluate the self-sufficiency of regulatory

programs, such as the pesticides programs. Some changes coming out of the regulatory review, such as adjustments in fees, are anticipated.

- This year, the FDACS proposed legislation for moving from an annual to a biennial pesticide registration cycle. In the 2007 session, SB-1372 passed. This new law establishes a biennial registration fee structure for pesticides effective January 1st, 2009. This bill does not increase registration fees on an annual basis; the registrant will pay five hundred dollars for two years of a product brand's registration, rather than $250 for one year. This bill also establishes a late fee of 25 dollars per month of delinquency, up to $250. A request for funding from the legislature for the laboratory equipment replacement costs was not approved this year and the budgeting department is not optimistic about funding next year.

(2) ***Bureau of Pesticides*** **–**

- **Organic arsenical herbicides:** Staff presented an update on the registration review of the organic arsenicals herbicides. As part of EPA's reregistration process, the Agency released a draft risk assessment in April 2006 on monosodium methane arsenate, disodium methane arsenate, DMA, and calcium acid methane arsenate.

  The reregistration assessment for occupational, dietary, ground water exposure and most post-application residential exposures found no unacceptable risk for any of the products considered. However, EPA estimated that unacceptable concentrations of arsenic could be expected in surface water sources of drinking water following use of arsenical herbicides. FDACS provided its comments to the EPA in response to their assessment. Other comments regarding the risk assessment can be found at: www.regulations.gov.

- **Emerging Air Quality Issues:** Staff updated the Council in September 2007 on three air quality reports for Southwoods Elementary School, Hastings, Florida. The reports were prepared by the Pesticide Action Network of North America (PANNA), Mactec (a consulting firm for the St. Johns School Board), and the FDACS. FDACS report compared the study design, analytical results, and data interpretation of the PANNA and Mactec studies and evaluated the risks by comparing the detections to the accepted comparison values and margins of exposure. FDACS concluded that the pesticide levels in the air do not pose an imminent health threat.

- **Soil Fumigants:** Staff briefed the Council on the EPA's review of the soil fumigants, methyl bromide, metam sodium/potassium, dazomet, iodomethane and 1-3dichloroporpene. On May 2, 2007, EPA released a report announcing the revised the human risk assessment, provided economic assistance for major crops, responded to earlier public comments, and introduced significant risk mitigation options to address bystander and occupational exposures. The risk management goals are to

reduce risk, maintain key agricultural benefits, and reduce acute inhalation risks for bystanders near the sites, fumigant handlers, and workers during reentry.

- **Endangered Species "Bulletins Live!" website:** At the May 23rd and September 25th PRC meetings, staff reported on EPA's new web-based system that enables pesticide user's access to endangered species protection bulletins. This website is now active, although bulletins are not yet available. Staff demonstrated the website, which can be accessed at http://www.epa.gov/espp/bulletins.htm

(3) ***Bureau of Compliance Monitoring:***

- **Worker Protection Activities:** Staff provided a handout of worker protection activities describing inspections conducted from March 2006 through April 2007. Of the 902 inspections conducted, 241 had one or more violations (representing a total of 437 separate incidents). Approximately $26,000 in fines was collected from first-time violators. Florida continues to far out-distance other states in EPA Region IV with inspections.

(4) ***Bureau of Entomology and Pest Control*:**

Borate wood protection issue: Borate wood treatments are becoming increasingly popular for termite protection. However, these products do have some problems. In past presentations to the council, staff focused on application problems and efforts to enforce the proper use of the product. These issues were due largely to differences in how the industry interpreted a section of the label requiring that at least 60% of a structure's base plates be made of cellulosic material to qualify for borate termite protection treatment. In addition, there is a need for a more rigorous stewardship program by the registrant. Compliance inspection technology is currently limited to quantitative tests. A specific gravity test is being developed that will allow us to find the concentration level of a mixed product tank in the future.

(B) <u>FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)</u>:

- **Chipola River Water Quality Monitoring Program**: FDEP explained the Chipola River/Floridan Aquifer monitoring project, which is being carried out by the United States Geological Survey (USGS) with funding by FDEP. The basin includes predominantly agricultural lands that can impact groundwater quality and numerous private wells. The USGS will first gather all the current modeling data, land use information, climate & geological data from the region and then will evaluate 30 sites in the Chipola/Jackson Spring system where high levels of nutrients occur or where land use indicates they may find these compounds. This will help guide the selection of 10 monitoring sites that will provide a profile of the water quality of the river system. A flow model will then be applied to

backtrack the potential sources of contaminants present in the ground water and river. The FDACS Bureau of Pesticides may provide supplementary analytical services.

(C) <u>SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD)</u>

- **Caloosahatchee River Monitoring Update:** The Caloosahatchee River is a major river system which originates at Lake Okeechobee and flows to the Gulf at Ft. Myers, with many tributaries and canals contributing along the water way. FDEP initiated this monitoring project after determining that additional data was needed to determine whether water quality in the river was impaired by pesticides. The SFWMD provided to the PRC a historical summary of data they had gathered from three locations on the river over several years. These results were supplemented by FDEP's monitoring of additional tributaries, which concluded in December, 2006. The concentrations of pesticides detected were relatively low, consistent with past data, and no new chemicals were found.

VII. Inventory of Pesticide Issues:

At the September 25th, 2007 meeting, PRC members were invited to identify significant and emerging pesticide-related issues in Florida. The purpose of this exercise was to provide an inventory of issues which could be prioritized for further consideration by the Council. A non-prioritized summary of identified topics is provided below:

Pesticide Registration and Enforcement Programs

- FDACS pesticide program budget: efforts to improve self-sufficiency;
- Benefits and drawbacks of web-based distribution of directions for use for pesticides;
- Pesticide Registration Evaluation Committee review processes

Occupational Safety

- Farm worker protection: efforts to enhance compliance and outreach efforts;
- Pesticide surveillance, interagency work groups and environmental heath inspection programs to track and respond to human exposure incidents, including occupational exposures

Water Quality

- Groundwater protection: evaluation, monitoring and mitigation considerations for existing and new pesticides;
- Organic arsenical herbicides: impact of federal reregistration decision on use and water quality in Florida
- Delineation programs to prevent use of pesticide-contaminated wells for drinking water;
- Surface water protections: evaluations, monitoring and mitigation considerations for existing and new pesticides;
- Need for water quality standards for pesticides, including metal-based pesticides

Air Quality

- Potential air quality impacts from pesticides, particularly bystander exposures during soil fumigation and application of semi-volatile pesticides ;
- Alternatives to methyl bromide: research on efficacy and risks of existing and new soil fumigants

Analysis of Pesticides

- Assessment of pesticide analytical capabilities among chemical laboratories in Florida;
- Formulation quality of imported versus domestic pesticides

Pest Management

- Educational and research programs for pest management in farm and pest control operations;
- Research and pesticide practices to control citrus greening in Florida;
- Role of pesticides in control of invasive pest species in Florida;
- Regulations regarding use of pesticides in control of nuisance wildlife species;
- Use of antimicrobial pesticides to promote post-harvest safety of fresh vegetables

Agriculture-Community Relationships

- Efforts to mitigate off-site migration of pesticides near sensitive areas;
- Sustainable agriculture-community partnerships to reduce potential pesticide conflicts

Non-target impacts

- Development of federal and state efforts to protect endangered species from adverse effects of pesticides;
- Potential role of pesticides in honeybee colony collapse disorder;
- Potential environmental and human health impacts of mosquito control operations;
- Potential endocrine disruption effects of pesticides;
- Environmental considerations for perchlorates in farm chemicals

Pesticide usage

- Characterization of urban pesticide usage patterns;
- Utility of pesticide usage data in testing epidemiological hypotheses

Pesticide Wastes

- Cleanup target levels for pesticide-contaminated soil and water;
- Programs to collect and dispose of pesticide wastes (obsolete pesticides, containers)

Emerging technologies;

- Nano-pesticides: implications for environmental fate and effects;
- Bio-engineered foods: regulation and environmental considerations

VIII. Working Committees

Working committees can be formed at the discretion of the PRC to more fully explore individual issues. No working committees are currently operational.

IX. PRC Actions

No non-administrative actions were taken by the PRC. At the September 25, 2007 meeting, the Council unanimously voted to amend the PRC Organizational and Procedural Guidelines by reducing the term for officers from two years to one year.

X. Conclusions

In the year 2006-2007, the Pesticide Review Council continued to provide a public forum to identify and scientifically address pesticide issues in Florida. In particular, the PRC produced an inventory of emerging pesticide issues in Florida that can serve as an important resource for all parties interested in promoting the responsible management of pesticides. Moreover, the PRC again demonstrated it's capability to minimize duplication and promote efficiency among state agencies that address pesticide issues in Florida.