

# Buzz Words



The Newsletter of the Florida Mosquito Control Association  
Nov-Dec 2001

Volume I, Issue No.6

## Upcoming Events

### ***FMCA Aerial Short Course: "Fly-In"***

January 14 – 17, 2002. Registration form inside this issue of *Buzz Words*

### ***FMCA Dodd Short Courses***

January 28 – February 1, 2002. Gainesville, FL. See [www.floridamosquito.org](http://www.floridamosquito.org) for schedule of courses.

### ***Southeast Regional Public Health Pest & Vector Management Conference***

February 5-7, 2002. Panama City Beach, FL. See <http://pherec.org> for details. Contact: Dr. Jack Petersen, [drjack3@hotmail.com](mailto:drjack3@hotmail.com) or 850-872-4184 ext. 36

### ***American Mosquito Control Association Annual Meeting***

Denver, CO. February 17 – 21, 2002. The deadline for submitting a paper presentation was October 15, 2001. Papers received after that date will be assigned as poster presentations. Papers, posters and equipment requests should be submitted to [fknapp@ca.uky.edu](mailto:fknapp@ca.uky.edu) in Word Perfect or MS Word. Abstracts should be separate from the paper.

### ***FMEL Advanced Mosquito Identification Course***

March 4 – 15, 2002. Florida Medical Entomology Lab; Vero Beach, FL.

### ***Florida Mosquito Control Response to West Nile Virus. FMEL Workshop.***

April 3 – 4, 2002. Registration form inside this issue of *Buzz Words*.

Inside this issue: FMCA Web Page News•FMCA News•News from PHEREC•FBI Message•Aventis Support•Chemically Speaking•From the Editor•FLY-IN Registration•FMEL Workshop Registration•Sentinel Chicken Surveillance•Equine EEE in Florida•Sentinel Chicken Surveillance and West Nile Virus in Florida

## FMCA Web Page News

Iowa State University has added some images of ticks to the following site:

<http://www.ent.iastate.edu/imagegallery/>. Another interesting site for images is the North Carolina State University Photo Gallery of Insects and Mites on Ornamental Plants at [http://ipmwww.ncsu.edu/current\\_ipm/otimages.html#title4](http://ipmwww.ncsu.edu/current_ipm/otimages.html#title4).

Mitsui & Co. Ltd. purchased Thermo Trilogy Corporation, now known as Certis USA, which markets Teknar HP-D Larvicides. Check out their new web page at <http://www.certisusa.com/>

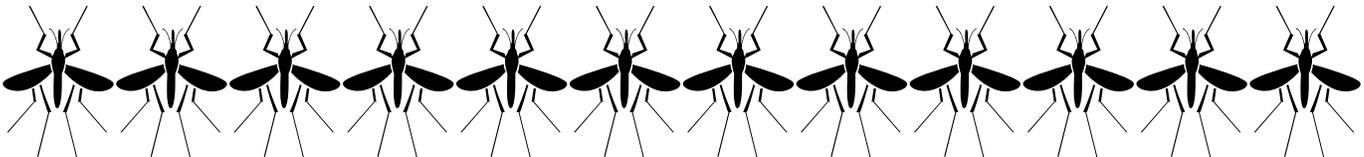
The EPA Office of Pesticide Programs (OPP) has two new web sites that might be of interest to you as stakeholders. The first site, <http://www.epa.gov/oppbppd1/partnerships/>, Partnerships for Reducing Pesticide Risk, highlights the achievements of some of our partnership programs, such as the Pesticide Environmental Stewardship Program (PESP), and contains links to partner Web sites and other valuable sources of information. The second site, <http://www.epa.gov/oppbppd1/ipm/>, Integrated Pest Management, explains EPA's approach to IPM for both those who are experienced with IPM and those who are not familiar with IPM but want to learn more about pest control. It contains links to other sources of information, such as how to practice IPM for specific agricultural uses, in schools, or around the home.

The Louisiana Mosquito Control Association has a new URL: <http://homepages.xspedius.net/cpmc/>.

The AMCA Business Manager, Robby Kiley, resigned her position and Marty Chomsky, Monmouth County MEC will be the temporary Business Manager. The new address is: J. B. Smith Hall at Rutgers University, PO Box number 234, Eatontown, NJ 07724. Email sent to [amca@mosquito.org](mailto:amca@mosquito.org) will get to Marty.

**HAVE A SAFE AND JOYFUL HOLIDAY SEASON!**

**---Tom Floore  
FMCA Webmaster**



## FMCA News

### ***From the "Wing Beats" Editors***

*Wing Beats* is looking for interesting field-related or technical articles about mosquitoes, mosquito control and/or related topics. The articles do not have to be scientific in nature. Articles usually are one to four pages (including graphics or figures) in length. A considerable amount of applied research, equipment modifications, application technique changes or alterations are being conducted at mosquito control programs, universities and military installations throughout the world that would be of interest to the *Wing Beats* audience. We encourage you to consider publishing in *Wing Beats*. Contact Dennis Moore, Editor-in-Chief, [moore@iline.com](mailto:moore@iline.com) or Tom Floore, [Tomfloo@knology.net](mailto:Tomfloo@knology.net) or 850.872.4184 ext 30.

### ***Dodd Short Course Committee News***

The course schedule for 2002 can now be viewed at [www.floridamosquito.org](http://www.floridamosquito.org) If there are any mosquito control districts that can loan an 8x8 video projection screen to the FMCA/Dodd Short Course Committee during the week of the Dodd Short Courses each year, please contact Kim Feagley, 727-376-4568.

Original artwork is wanted for the 2003 Dodd Short Courses!! \$100.00 will be paid to the artist whose logo is selected by the Dodd Short Course Committee. Submit your original artwork to any Dodd Short Course Committee Member by January 31, 2002.

## News from PHEREC

The 6th Annual Meeting of the Southeast Regional Public Health Pest and Vector Management Conference is scheduled for February 5-7, 2002. The program has been finalized and is available at the PHEREC Web site <http://pherec.org>. Program brochures including registration forms were mailed out the first week of November. An online registration is also available. Continuing education credits will be available in Florida Public Health Pesticide Applicator, Florida Environmental Health, and recertification from Georgia, Alabama, Louisiana and Mississippi. For more information contact Dr. Jack Petersen at (850) 872-4184 extension 36 or email [drjack3@hotmail.com](mailto:drjack3@hotmail.com)

Dr. Jim Cilek represented PHEREC at the 25th Annual Entomology Field Day and Workshop hosted by Florida A&M University. The event was held at the Tallahassee-Leon County Civic Center on November 7-9, 2001. Jim presented information on "West Nile Virus: the Florida Adventure."

----Dr. Jack Petersen  
Extension Medical Entomologist  
Florida A & M University

## An Important Message from the FBI

The FBI is asking all mosquito control personnel and programs to take an immediate inventory of their ULV equipment and other pesticide application equipment. If you have any equipment that is missing or stolen, please contact your nearest FBI office. Efforts should also be made to ensure storage areas are properly secured. Please forward this information to all supervisors of mosquito control programs in your area.

## Aventis Supports Relief Efforts

In order to meet the quickly escalating need to support disaster relief efforts Aventis CropScience USA responded immediately on September 14 with a pledge to contribute \$100,000 to the American Red Cross. On September 19, the parent company raised the total global Aventis contribution to \$1 million. The funds were designated for the American Red Cross to assist in the ongoing recovery and relief efforts in New York City and Washington, D.C. In addition, pharmaceutical products and vaccines were contributed immediately to support local medical services.

## From Chemically Speaking, October 2001

The Florida Department of Agriculture and Consumer Services has adopted an Emergency Rule (5EER01-2) which became effective upon being filed with the Department of State. The Rule calls for aerial applicators to file an information form as well as a form for each application. Contact the Pesticide Information Office for more information regarding the rule, or call Steve Rutz, (850) 488-3731. (FDACS letter of 10/1/01).



From the Editor of Buzz Words

**Deadline for submissions to be included in the next issue of Buzz Words is January 7, 2002. Please send changes of address and news items for Buzz Words to Dr. Roxanne Rutledge, FMEL, 200 9<sup>th</sup> Street S.E., Vero Beach, FL 32962; or email [crr@mail.ifas.ufl.edu](mailto:crr@mail.ifas.ufl.edu)**

**Aerial Short Course Class**  
Sponsored by the Florida Mosquito Control Association  
Aerial Short Course Committee  
**Registration Form**

**Information:** The Florida Mosquito Control Association (FMCA) will once again sponsor an aerial short course at the old Buckingham Army Air Field, which is home to the Lee County Mosquito Control District, 15191 Homestead Road, Lehigh Acres, FL 33971 [telephone number 941-694-2174]. A map is available on the web at [WWW.LCMCD.ORG](http://WWW.LCMCD.ORG).

**[Note for Pilots: Radio Frequency 122.9 & Coordinates N26-38.6 & W081-42.6]** The class is scheduled for January 15, 16, 17, 2002. There will be a fuel safety class on Monday, January 14, 2002. This class is sponsored by the **Phillips 66 Company**. There is no fee for this class, but registration is required for planning purposes. Attendees will be assisted with transportation to and from each hotel to the District, if prior arrangements are made with the Chairman.

This registration form will cover both classes, as well as a third class on Thursday afternoon for students desiring to learn the computer program for the AgDrift model. The registration fee for all mosquito control classes is **\$100**. Note: any participant wishing to register for the computer class must obtain the approval of the **Chairman**, Mr. Mark Latham [941-722-3720]. You must bring your computer to class.

**PLEASE COMPLETE THIS FORM FOR EACH PARTICIPANT AND FAX IT TO 941-693-5011:**

**Name:** \_\_\_\_\_

**Organization:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **City:** \_\_\_\_\_  
**State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Phone Number:** (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ **Fax #:** (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

**Email:** \_\_\_\_\_

**PLEASE CIRCLE EACH CLASS OR CLASSES YOU DESIRE ATTENDING: See [www.floridamosquito.org](http://www.floridamosquito.org) for details on classes and instructors.**

- CLASS A**                    **January 14, 2002 --- Aviation Fuel Safety**  
**Monday (10:00 AM – 4:00 PM)**
- CLASS B**                    **January 15, 16, 17, 2002 --- Aerial Larviciding**  
**Tuesday, Wednesday, Thursday (morning only)**
- CLASS C**                    **January 17, 2002 --- Computer Modeling**  
**Thursday (afternoon only)**

**Do not send any funds with the registration.** Please bring a check with you on the first day of class. The check should be made out to the **FLORIDA MOSQUITO CONTROL ASSOCIATION**. The registration fee is \$100 for the Short Course (or any portion thereof). Since the purpose of the short course is to share information among operational professionals, all participants are requested to pay the registration fee, unless the **CHAIRMAN** has agreed to waive it. Any party sending 10 or more students will pay a \$1,000.

Hotels are available at the intersection of I-75 and Daniel's Parkway or **Exit 21**. The list is as follows: Comfort Inn (941-768-0005), Hawthron Suites (941-454-6363), Wynstar (941-791-5000), and Holiday Inn Select (941-482-2900). The Holiday Inn Select and the Hawthron Suites are recommended. Holiday Inn is the location of a Wednesday night event. The Holiday Inn Select has an airport shuttle. Rates: Holiday Inn (\$72 & \$82 S/D) and Hawthron Suites (\$79 & \$89 S/D).



UNIVERSITY OF FLORIDA

**Florida Mosquito Control Response to West Nile Virus  
A Workshop Sponsored by:  
University of Florida, IFAS, Florida Medical Entomology Laboratory  
April 3-4, 2002**

The objective of the workshop is to provide an update on West Nile virus in North America, expectations for Florida, and to provide an outline of mosquito control strategies to reduce the impact of West Nile virus in Florida. The workshop will provide an interactive discussion that will result in a document outlining Florida mosquito control plans to reduce the impact of West Nile virus.

We will selectively accept registrations to ensure a diverse organizational and geographical representation. **Non-registrants will not be admitted due to limited space.** There is no registration fee.

Lunch will be provided on April 3, 2002.

Name \_\_\_\_\_  
Organization \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
Email Address \_\_\_\_\_  
Phone Number \_\_\_\_\_ Fax \_\_\_\_\_

Your group assignment and workshop materials will be mailed to you prior to the workshop. Rank your preference below (1-5) for the session you wish to attend. (1 = session you would most like to attend). We will try to put each person into the requested session, but we will make sure that each group has an equal number of people.

- \_\_\_\_\_ Surveillance Issues
- \_\_\_\_\_ Control Issues: Identify target species
- \_\_\_\_\_ Control Strategies: Larval Control
- \_\_\_\_\_ Control Strategies: Adult Control
- \_\_\_\_\_ Control Strategies: Media Issues/Personal Protection

**Deadline for registering is February 15, 2002.**

**Fax this form to: Dr. Roxanne Rutledge 561-778-7204  
or mail to: Dr. Roxanne Rutledge, FMEL, WN Workshop  
200 9<sup>th</sup> Street S. E.  
Vero Beach, FL 32962**

## Historical HAI results:

### September 2001

Year	Number of counties	# of birds	# of sera	# + EEE	# + SLE	# +WN
1988	24	790	1196	9	1	
1989	18	0	1136	10	9	
1990	16	711	1394	0	258	
1991	22	866	2540	7	15	
1992	21	928	2018	13	0	
1993	20	860	2430	0	76	
1994	21	876	2012	4	16	
1995	29	1089	2723	5	3	
1996	28	1031	2639	12	0	
1997	22	991	2663	2	167	
1998	25	1089	2976	1	60	
1999	25	1029	2987	9	63	
2000	27	1007	2277	1	34	
2001	31	1158	3025	4	2	72
Average (1988-2001)				5.5	55.4	
Median (1988-2001)				5.0	25.0	

### September 2001

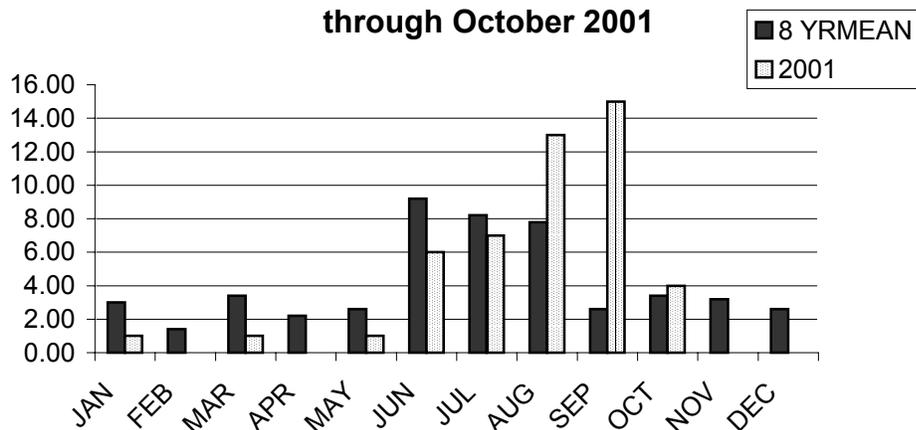
The numbers of sera submitted and counties participating in surveillance activities during September were similar to the level of activity for August.

There were 4 seroconversions to Eastern Equine Encephalitis virus (EEE) and 74 seroconversions to a Flavivirus (St Louis Encephalitis virus (SLE) antigen in the HAI assay) during September; 72 of these were confirmed as due to West Nile (WNV) virus, 2 (Sarasota and Palm Beach) were due to SLE. EEE monthly activity is similar to the median historical levels for September. SLE activity is below the median. There is no historical data available for WN.

Since our report on West Nile Virus detection in tissues from a dead bird Florida in early July, the numbers of samples for HAI serology and for virus isolation have increased dramatically. During September, tissues from 1641 birds and 12 mammals were received for virus detection/isolation: EEE was detected tissues from 2 mammals and 0 birds, WNV was detected in 1 mammal and 192 birds. 129 mosquito pools were assayed: 1 WN+ pool of *Oc. atlanticus* and 1 unidentified virus were detected.

**Lillian M. Stark, Ph.D., M.P.H., M.S.**  
**Florida Department of Health, Bureau of Laboratories, Tampa Branch Laboratory**

### Equine Cases of EEE in Florida through October 2001



Data Source: FL DACS, Division of Animal Industry  
 Bureau of Diagnostic Laboratories

## ***Sentinel chicken surveillance and West Nile virus in Florida***

In 1999 and 2000, Florida watched other regions of the U. S. react to West Nile (WN) virus. We heard about the failure of sentinel chickens as transmission indicators when compared with dead wild birds. There was published speculation that white chickens were not attractive to the WN mosquito vectors. The use of sentinel chickens to effectively monitor WN transmission was questioned.

Elsewhere we have discussed the importance of obtaining accurate arboviral "surveillance" information and distinguishing this from "detection" (BuzzWords Oct./Nov. 2000 – West Nile in North America: A Florida perspective). The power of using wild birds to detect WN virus was confirmed in July 2001 when the first Florida WN virus infected dead bird was collected in Jefferson County. Subsequently, a dead bird was the first indication of the presence of the virus in most Florida counties. However, in a few counties an infected horse was detected first, in a few others it was a sentinel chicken, and then in Monroe County the first indication of virus transmission was an infected human.

What have we learned in 2001? Should our emphasis on viral "detection" continue? Once WN virus is "detected", what further "surveillance" information is required to predict human risk?

Here are some facts:

- ◆ An infected dead bird is likely to be the first indication of WN virus in a new location due to the large number of exposed birds, the relative ease of finding and collecting dead birds, and the widely dispersed bird populations found throughout Florida.
- ◆ Although Florida was forced to take action using dead bird detection in 2001, there was no predictive value in the number of infected birds and human or horse WN cases.
- ◆ Horses were excellent indicators of WN transmission in Florida during 2001. This is due to their numbers, mosquito exposure, susceptibility to infection, and tendency to show clinical signs.
- ◆ The number of infected horses in a region did not predict human cases.

In summary, once "detected," WN infected wild birds and horses are excellent "indicators" of the presence of WN virus in an area. However, this information provides little prediction of human risk to WN infection. When a reporter recently asked if dead birds or horses were a true "gauge" of human risk, we responded that we felt more comfortable with the term "indicator." Unfortunately, the bird or horse "gauge" has yet to be calibrated. It has been proposed that the gauge can be calibrated by tracking the number of dead birds per square mile, as was done for Staten Island, NY in 2000. Perhaps, but without an accurate measure of local virus transmission by mosquitoes, a dead bird count provides little concrete information about human risk, as was evidenced in the Florida Keys during the summer of 2001. In addition, it is possible that we will see an attenuated effect of WN on wild birds as the virus settles into Florida ecosystems. The introduction of this virus to the New World has been hard on certain avian species. However, many birds survive infection and pass this resistance trait on to their offspring. It is likely that in future years, we may see little or no WN-associated avian mortality, in much the same way that SLE and EEE viruses now interact with native wild bird populations. Finally, without an understanding of the relationships between mosquito transmission levels, numbers of infected birds in the overall avian population, and the proportions of infected mosquitoes and birds in an affected region, one is unable to accurately assess human risk. Even if we had a strong statistical correlation between a dead bird index and human WN cases, the assessment of human risk would remain difficult without a thorough understanding of all the factors that lead to mosquito infection and transmission levels in the field.

Some Florida facts about sentinel chickens and WN virus:

- ◆ Thirty-eight Florida Mosquito Control or County Health Programs maintained sentinel chicken flocks during 2001 as part of their historical sentinel chicken surveillance effort for SLE and EEE viruses.
- ◆ Sentinel flocks proved less effective for the initial "detection" of WN virus, mainly because they were not maintained in counties, especially Jefferson and Madison, where the initial WN transmission focus was located.
- ◆ Soon after WN virus was detected in north Florida, a number of sentinels seroconverted to WN virus. This was because the virus expanded out of areas that had no sentinel chicken surveillance program into areas, including Leon and Duval Counties that did. Sentinel chickens and horses provide a direct measure of the number of WN virus transmitting mosquitoes in an area. If the mosquito transmission rate is 1:10,000, few sentinels will be bitten by an infected mosquito and seroconvert. Horses, on the other hand, will frequently seroconvert, because of their high level of mosquito contact. Humans, under this situation, will have a relatively small risk of infection. If the mosquito transmission rate is 1:1,000, sentinel chickens and horses will frequently be bitten by infected mosquitoes and will seroconvert. Humans will be at a much higher risk of WN infection when mosquito transmission rates approach 1:1,000.
- ◆ As of Nov. 1, 2001, 23% (147 sentinels of 639 infected birds) of the WN-positive birds in Florida have been sentinel chickens, effectively ending the belief that white chickens are not attractive to WN virus mosquito vectors.

Wild bird surveillance, in its current form, is not a gauge of human risk to WN infection. Numerous well-placed sentinel chicken flocks can be a gauge of human risk. Sentinel chicken seroconversion rates can be used to assess human risk.

Florida must expand its sentinel chicken surveillance program, and, in the process, reconfigure flock placement and the number of individual chickens exposed each week to meet the challenge of WN virus risk assessment. The three essential components of sentinel chicken surveillance are: **location, location, and location**. Seroconversion rates in a sentinel chicken flock provide a quantitative assessment of human risk in the area surrounding that flock. The total size of this area is still poorly understood. Horse seroconversion rates provide similar information, but will be costly and difficult to interpret, especially in light of the recent equine WN vaccination program and the extended lag period between the infection of the horse and the report of a confirmed WN case in that horse. Florida must support effective and efficient arboviral surveillance using the time-proven sentinel chicken surveillance methods that have been pioneered here in Florida.

Was the WN transmission observed in Florida during 2001 an EEE or an SLE type of event? It started out like EEE, focal in the Florida Panhandle, but later became more like a widely dispersed sporadic SLE transmission event. Was it a "big event" comparable to what Florida has seen in the past? We submit that Florida, with fewer than 15 human WN cases in 2001, escaped the big event. The 237 horse cases as of Nov. 1, 2001 are indeed troubling, but we have little by way of comparison because SLE does not cause clinical disease in horses and many Florida horses are protected by EEE vaccinations. The dead wild bird index does not appear to have been helpful in predicting where or when human cases would appear. Under the best of circumstances sporadic human cases caused by WN, EEE, or SLE virus are difficult to predict. We appear to have escaped a big WN transmission event during 2001. Will we be prepared to predict and rationally react to a big event, be it WN, SLE, or EEE, in 2002?

**Walter J. Tabachnick, Director  
Florida Medical Entomology Laboratory**

**Jonathan F. Day, Professor  
Florida Medical Entomology Laboratory**