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# Buzz Words



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Deadlines for submissions to be  
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Jan/Feb	Jan 15
Mar/Apr	Mar 15
May/Jun	May 15
Jul/Aug	Jul 15
Sep/Oct	Sep 15
Nov/Dec	Nov 15

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*The mission of the FMCA is to promote effective and environmentally sound control of disease-transmitting and pestiferous mosquitoes and other arthropods of public health importance, develop and enhance public interest, awareness, and support for the control of mosquitoes, and provide for the scientific advancement of members through our meetings, training and education.*

## Upcoming Events

### FMCA Fall Meeting

Nov 9-13, 2014

Bonaventure Resort and Spa  
Weston, FL (room rate \$125)

<http://floridamosquito.org/Events/Meeting.aspx>

### FMCA Dodd Short Courses

Jan 26-30, 2015

Hilton, Altamonte Springs, FL

<http://dodd.floridamosquito.org/Dodd/>

### Southeast Regional Mosquito Control Workshop

March 9-10, 2015

Florida State University, Panama City

### 12th Annual Arbovirus Surveillance and Mosquito Control Workshop

March 24-26, 2015

Anastasia Mosquito Control District  
St. Augustine, FL

[www.amcdsjc.org](http://www.amcdsjc.org)

### AMCA Annual Meeting

March 29-April 2, 2015

Hilton New Orleans Riverside  
New Orleans, LA

<http://www.mosquito.org/annual-meeting>

# Chikungunya in Florida: The tip of the iceberg?

by Walter J. Tabachnick

As of July 30, 2014 there have been 107 reported Florida chikungunya cases representing about 37% of all the cases reported so far in the U. S. for 2014. All but four of Florida's are imported cases. These are people who recently traveled to areas like the Caribbean Basin, where there is an ongoing epidemic of chikungunya and the likely place where they were infected. Only 4 cases in the entire U. S., all in Florida, have been attributed to being infected in the U. S. All 4 presented with chikungunya in people with no recent travel outside Florida. These 4 were infected in Florida by Florida mosquitoes, likely *Aedes aegypti*.

The first Florida autochthonous case was a 41 year old Miami-Dade County woman with onset of symptoms on June 10, 2014. The second case was a 50 year old Palm Beach County man with onset of symptoms on July 1, 2014. On July 30, a chikungunya case in St. Lucie County, a 56 year old woman, with no recent travel history and a second case in a 48 year old male, symptom onset on July 17, also with no history of travel in Florida, were announced. St. Lucie County Mosquito Control initiated house-to-house inspections with control spraying for adult mosquitoes and dumping water containers on local properties in the area of their case for source reduction. The local newspaper announced this case with no mention that the public needed to take precautions, most particularly by discarding all water holding containers on their properties. Palm Beach Mosquito Control has been conducting similar responses since their first case and will continue for their 2<sup>nd</sup> reported case.

With roughly 500,000 chikungunya cases in the Caribbean Basin region as of July 31, more than 100 imported cases in Florida, and documentation of at least 4 Florida transmission events, Florida has been extremely fortunate to not have already seen more cases. Have we just been lucky so far? Will Florida's luck hold?

The causes(s) for the lack of more transmission of chikungunya virus (CHIKV) in Florida may never be known with assurance. One cause might be that the imported cases so far are in areas where the vector populations are absent or too low to support transmission. I conducted an informal poll of the mosquito control districts in all Florida's counties that have reported an imported chikungunya case. The response was excellent and I received information from about ¾ of the mosquito control directors from these counties. The bad news was almost unanimous agreement that the locations of the imported cases, their places of residence, were almost all in areas of their district where there were *Aedes aegypti*. Some reported *Aedes albopictus*, but for the south Florida counties clearly *Ae. aegypti* were present and in noticeable numbers. My informal poll did not support the contention that Florida has escaped a chikungunya epidemic because imported cases were in areas with few *Ae. aegypti* or *Ae. albopictus*.

Chikungunya is not yet a notifiable disease in the U. S. though this may change. Since physicians are not required to report chikungunya cases there likely have been other Florida cases, some also due to infectious Florida mosquitoes. I am personally aware of 3 such cases. Coincidentally an acquaintance advised me of his two relatives in Palm Beach County who were told by their physician that they each had chikungunya based on his diagnosis of their symptoms. Neither was tested for CHIKV and neither case reported to the Health Department. On Wednesday, July 23, 2014, I received a call from a man residing in West Palm Beach. His wife had become quite sick on Saturday, July 20, 2014, with high fever, headache and severe pain largely in her wrist, back and ankles. Her physician told her she had chikungunya and advised she go home, rest, take Tylenol and that the symptoms should subside in a few days. His wife had not traveled anywhere outside of West Palm Beach in the past several weeks. I do not know if this woman is the 2<sup>nd</sup> Palm Beach County case described above but since the onset dates are different I suspect so are the cases.

Is it likely that there have been other unreported chikungunya cases due to transmission right here in Florida? Have we seen only the tip of the iceberg? We know the danger of not seeing the whole iceberg (Figure 1). Fighting chikungunya is dependent on quickly identifying where there are substantial populations of *Ae. aegypti* and *Ae. albopictus*, reducing those populations, quickly identifying where there are cases of chikungunya and destroying the vector mosquitoes in those areas before they can infect other people. How is Florida doing so far?

Consider the first two Florida autochthonous cases. One had onset of symptoms on June 10, the other on July 1. Notifications of the cases were provided to the local mosquito control in late July. Since chikungunya symptoms generally occur 3-7 days after being bitten by an infected mosquito, the actual transmission events were around June 3-June 7, and June 24-June 28. The incubation period for CHIKV in the mosquito is as short as 1-3 days to 12 days. Assuming the shorter incubation, there were infected vectors in the two areas starting around June 1 and June 21, respectively, if not earlier. Mosquito control did not initiate any control measures until late-July, several weeks after the likely appearance of infected mosquitoes. Is it likely that mosquito control can be effective



Fig. 1. What is below the surface is important.

in stopping further transmission by killing any adult infected vectors still in the vicinity? Surely more timely response is essential. If source reduction efforts were 100% effective in the above two cases the effect would likely only be noticed at best in a decrease in subsequent newly emerging *Ae. aegypti* or *Ae. albopictus* in the respective local areas with perhaps some reduction in transmission over the following several weeks. However such efforts would not have any immediate impact on transmission and new cases would continue to come forward. And this is with cases that have been noted. What of the unreported cases or the 3-28% of chikungunya cases that are asymptomatic and never observed though these infected people are capable of infecting mosquitoes? The challenges for effective control are daunting.

What about the potential impact of a typical mosquito control response and department of health response to an initial case or two, such as those already reported and discussed above. For example, the first Palm Beach County case was likely infected on June 3 -7 with mosquito control and the health department reacting in late-July. Let's assume the source reduction efforts were 100% effective with all water storage containers destroyed (the best outcome) or at least emptied of their water contents in the entire surrounding area as of, say, July 20. There are likely still some infected adult *Ae. aegypti* in the area and likely some infected people. With no follow-up and the rain conditions currently in south Florida, many of the properties in the area will quickly have water storage containers for the adult *Ae. aegypti* females in the area or migrating to the area from elsewhere to lay new batches of eggs. Even if there are no adult mosquitoes, emptying water from storage containers does not destroy the eggs on the walls of these containers. So unless the container was destroyed or subjected to chemicals to kill the eggs, simply dumping containers will leave containers that will produce larvae with the first rain even in the absence of adult mosquitoes. If containers are present on July 21, then 10 days later, July 31 or August 1, new *Ae. aegypti* begin to emerge in the area, the females start blood feeding, laying more eggs, and encountering remaining infected people and by August 4 or soon thereafter are capable of infecting more people. These new cases will begin appearing between August 7-11. Without follow-up and sustaining source reduction one might not even observe any reduction in cases due to an initial 100% effective clean up.

Many *BuzzWords* columns, conclusions of a recent workshop (<http://mosquito.ifas.ufl.edu/Workshop/>) and numerous discussions among Florida's mosquito control and public health professionals have pleaded for the urgency for public to take chikungunya and dengue seriously. It is essential for all citizens to participate in source reduction for the vector species by eliminating all water containers on their properties. To date there is little indication of the primacy of this message in any reporting or public service announcements. Where are the headlines, or the lead messages in news

articles about citizen source reduction to reduce the risk of chikungunya or dengue? At best this message is provided almost as an afterthought at the end of articles, no different from articles about West Nile. One might question the impact of reducing water storage containers on populations of many West Nile vector mosquito species. However, for *Ae. aegypti*, and in many areas for *Ae. albopictus*, human water storage containers are the primary larval sites and eliminating these will reduce mosquitoes around the property and local neighborhood. Where is the public outcry? Where are the headlines? For example:

## **PROTECT YOUR FAMILY FROM CHIKUNGUNYA: ELIMINATE ALL WATER STORAGE CONTAINERS IN YOUR NEIGHBORHOOD!**

Florida has been very lucky so far, but Florida is only at the beginning of its transmission season. The numbers of Florida cases due to transmission by Florida mosquitoes is most certainly higher than the 4 reported cases as of July 31, 2014. Recall the Ravenna Province, Italy 2007 chikungunya epidemic (Tabachnick, WJ. 2006. Florida and chikungunya: Lessons from chikungunya Italian style. *BuzzWords*, Newsletter of the Florida Mosquito Control Assoc. 7(6): 8-9. The first reported case in June, second case July 4, with over 300 cases by October in a population of about 3800 in the two affected villages, Castiglione de Cervia and Castiglione di Ravenna. That translates to about 1200 cases in Key West, and 111,000 cases in West Palm Beach County! Florida may be on the verge, on the edge of the cliff, at the tip of that iceberg already. Remember “it ain’t over ‘til it’s over.” (Yogi Berra). We have a long way to go this year.

Florida’s responses to reported chikungunya cases are still woefully slow and unlikely to prevent an outbreak with many more cases. If we cannot improve mosquito control response time, improve case detection and reporting to mosquito control, and elicit the public in sustained source reduction for properties in their neighborhoods, then the best mosquito control in the world can only hope to shorten an epidemic once substantial numbers of cases start showing up in hospitals and doctor’s offices.

Florida’s mosquito control and public health professionals are responsible for protecting the public from this disease. Providing information and warning to Florida’s citizens is part of that responsibility. I hope that Florida’s mosquito control professionals have fulfilled their responsibility.

In view of the substantial discussions about chikungunya and Florida over the years it would be surprising that anyone in Florida mosquito control is not already well informed about chikungunya. The following *BuzzWords* columns on the danger of chikungunya to Florida can be viewed at <http://fmel.ifas.ufl.edu/buzz/archive.shtml>.

- [1. A Workshop on Florida Mosquito Control and Reducing Florida's Risk from Dengue and Chikungunya](#), May/June 2014.
- [2. A Bibliography for Florida Dengue, Chikungunya and Florida's Vectors](#), Mar/Apr 2014.
- [3. Prepare in Advance for Dengue or Chikungunya in Your District](#), Jan/Feb 2014.
- [4. Chikungunya Virus in Florida: Lessons from Italy 2007](#), May/June 2008.
- [5. Florida and Chikungunya: Lessons from Chikungunya Italian Style](#), Nov/Dec 2007.
- [6. Chikungunya and Dengue: Challenges for Florida Mosquito Control](#), Jan/Feb 2007.
- [7. And Just When You Thought It Was Safe Out There, Along Comes Chikungunya](#), May/June 2006.

The number of Florida’s autochthonous chikungunya cases will very likely continue to rise over the summer. Epidemics of chikungunya can spread rapidly. I hope that Florida’s luck holds and it escapes substantial chikungunya cases by the time readers receive this Buzzwords, and throughout the remaining transmission season.

Walter J. Tabachnick  
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Vero Beach, FL



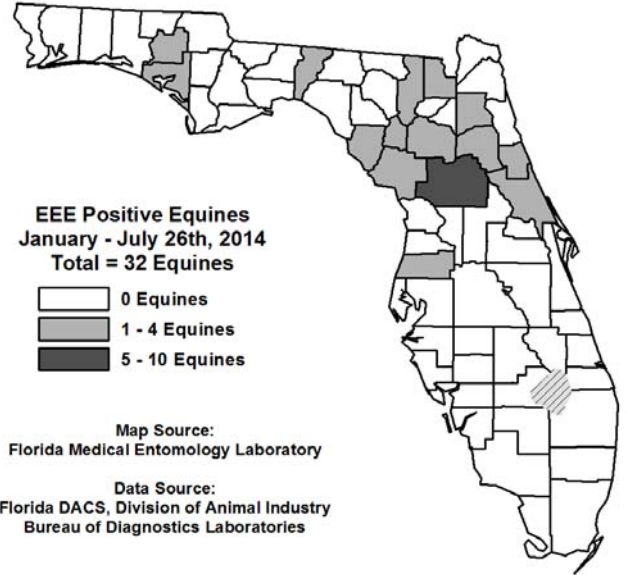
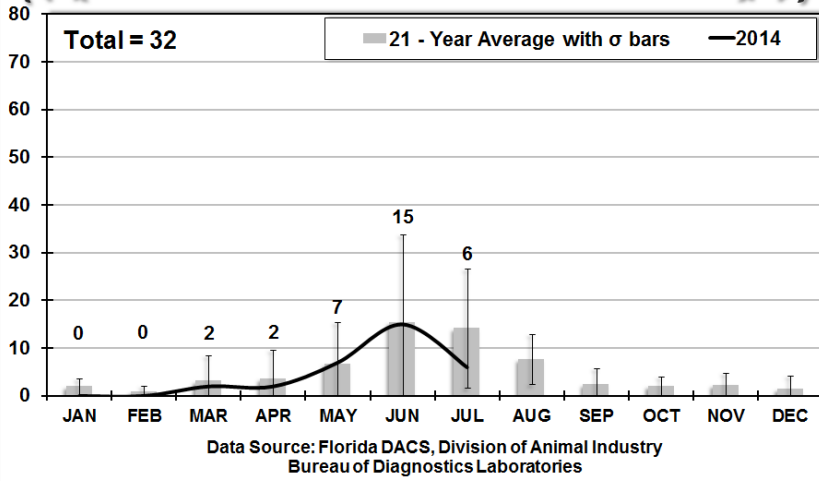


# Arbovirus surveillance, Florida: Jan. – Aug., 2014

## EEE



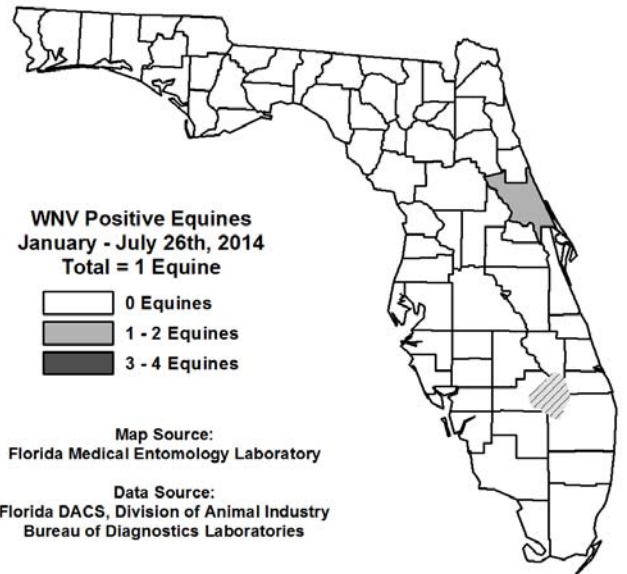
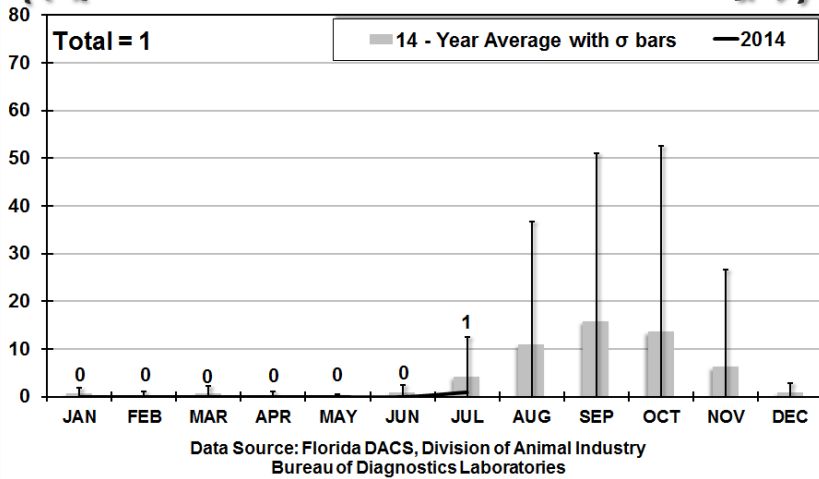
**EEE Positive Equines in Florida  
January 1 through July 26, 2014**



## West Nile



**West Nile Positive Equines in Florida  
January 1 through July 26, 2014**



## A Summer Research Project in Southwest Florida

On a warm Thursday in July a group of research professors and students from Florida Gulf Coast University (FGCU) and scientists and field technicians from the Lee County Mosquito Control District (LCMCD) spent a long evening running a field experiment to determine the fate of naled (Dibrom) and its effects on non-target species in a coastal environment dominated by mangroves and open marsh. The test was supported by a grant from the Florida Legislature for mosquito control research program to the Florida Department of Agriculture and Consumer Services.

The plan was to monitor the biodiversity and abundance of insects (including mosquitoes) before and after an aerial application of Dibrom, test the effects on honey bees and white peacock butterflies in the spray zone, and track the degradation of naled for 24 hours. A week before the spray event we set up 8 malaise traps to sample flying insects and collect baseline data. We also set up wooden platforms to hold sampling equipment and had active bee hives delivered to the test and control sites to acclimate them to the area. For three days before the spray event we had students set up CDC CO<sub>2</sub>-baited light traps in the early evening, then collect the traps the next morning. There were drop traps employed to monitor insects that fell from the canopy or sky as a result of the spraying. They also collected insects from the malaise traps. The test site was relatively easy to access. It was located on county property, and after a short walk across a salt pan, we were in an open salt water marsh. Three sampling stations were set up and about 250 yards further we had a mangrove canopied area where there were three additional sample sites. The control site was about 5 miles away and could only be accessed by four wheel drive vehicle. Towards the end we had to forgo the vehicle and slog through knee deep water to reach the site. Because we wanted to sample above the mangrove canopy we had to bring in 14-foot ladders so we could access Petri dishes containing acetonitrile that were set up to accurately measure the concentration of Dibrom that was deposited.

Our sampling utilized 16 CDC light traps, 8 malaise traps, 16 drop traps, 4 bee hives, 8 butterfly cages, 8 automobile battery operated air flow devices, and scores of deposition samplers. The Sheriff's office was notified in case residents in nearby high rise buildings became concerned about any movement, noise, or lights they might observe in the marsh. And a photographer and staff writer from the local newspaper was there to document the project for a story.

There were at least 25 people on the site the night of the test. At about 10:45 P.M. the King Air could be heard in the distance spraying within a defined polygon that included the test area. The salt marsh mosquitoes were *especially fierce* that evening and because we didn't want commercial repellents to have any effect on the other insect species we were monitoring we wore none that evening or during any of the times we were in the marsh collecting samples or setting traps. It has been a long time since I have been bitten by salt marsh mosquitoes for 7 hours continuously. I was thrilled when the spray finally appeared but, at least initially, the mosquitoes seemed even more aggressive after the spraying than prior.

Finally, two hours after the mission ended the teams meticulously did their assigned jobs and collected samples and dismantled the equipment. I got home about 1:00 A.M. but Talal, our chemist from FGCU, later told me he finished preparing the samples he collected in his lab and didn't leave for home the next day until 6:00 A.M. The procedure called for continued monitoring for adult mosquitoes and other insects for a month post-spray.

I was most impressed with the collaborative support individuals and organizations provided each other. It took tens of thousands of dollars of equipment and supplies to conduct the research and when any of us wasn't sure where we needed to go to get something someone else stepped in to provide it. We needed eight ten-to-fourteen-foot ladders for the test and ended up borrowing them from all over the county. The LCMCD crew of scientists, technicians, and interns under the supervision of Jonathan Hornby that supported all aspects of the project – including hauling heavy equipment in difficult terrain - were awesome to work with. David Ceilley from Johnson Engineering and Win Everham and Talal El-Hefnawy from FGCU and their students who provided the lion's share of the setting up and collecting of traps during the five week project worked methodically, ensuring their samples were collected consistently. All participants were engaged and appeared genuinely happy to be involved. We were doing science and everyone's contribution was needed.

The test is finished and the mosquito bites have healed. But the analysis of all the field samples continues; currently LCMCD employees and FGCU students are working together to identify the huge collection of insects in the samples. After that the final report will be written. It was a terrific multi-agency collaborative project. We hope the findings will be useful to the industry. The results of this study will be shared at the FMCA Annual Meeting in Weston in November. We'll see you there.



Neil Wilkinson, FMCA President  
Florida Gulf Coast University  
Fort Myers, FL

### **Northeast Region Report by Jim McNelly, Volusia County Mosquito Control**

Mosquito populations increased in several areas of Central Florida due to above-average rainfall; in Volusia County the majority of the county was at least 1.5” above normal for July. Service requests in both Anastasia and Volusia Counties increased markedly as a result. Putnam County reports similar above-average conditions from rainfall, however, mosquito counts have been strangely “light”. Bob Hatton attributes this to the flushing effect of nearly daily rainfall to key production habitats. Alachua County Health Department utilizes a predictive model to compare and contrast trap results with historical data; Paul Myers shared much of this information which indicates populations are lower than normal for this time of year. This includes potential vectors of dengue/chikungunya; while in Putnam County, *Aedes albopictus* are present at higher levels than in recent years.

Volusia County Mosquito Control (VCMC) is also experiencing high populations of both *Ae. albopictus* and *Aedes aegypti*. VCMC had an imported dengue case which included an infective period of several days during the last week of June; the case was less than a hundred yards from a BG Sentinel Trap that had collected 171 specimens inclusive of both species the day prior to FLDOH notification. The response by VCMC took place over roughly a five week period – door to door inspections, tip and toss, hand larviciding, hand adulticiding, backpack barrier applications, a ULV aerial application and multiple truck ULV applications. The effort was aggressive and cost in the neighborhood of \$23,000.

Anastasia Mosquito Control (AMCD) has 18 EEEV and several WNV positive sentinel chickens through late July and early August. EEEV and WNV activity has also been identified across other counties in the NE Region, including but not limited to Columbia, Duval and Flagler Counties. Putnam County has had to replace more than a dozen chickens due to the number of positives and Volusia County experienced the first WNV horse case in the state in July.

AMCD Commissioners Cathy Brandhorst and Jeanne Moeller are running for re-election, and both have opponents this year. Dr. Xue visited the National Institute of Infectious Diseases, Japan. While there he provided a seminar on AMCD’s IMM program and response and control of mosquito-borne diseases in Florida at the Kiwanis International Convention in Tokyo, Japan in mid-July. On August 15<sup>th</sup>, AMCD interns and students will present details regarding several cooperative research projects.

A Dodd Regional Workshop was held in Volusia County on June 26<sup>th</sup>. Dr. Janet McAllister CDC/Ft Collins provided, with Dr. Roxanne Connelly facilitating, a bottle bioassay workshop. The event took place beachside in Volusia County at Beach Headquarters and was attended by 31 people representing 14 agencies, across nine counties. Hands-on training took place and the day culminated with evidence of resistance to permethrin in a western *Culex quinquefasciatus* population.

The County Manager in Volusia County has proposed a reduction in the millage supporting the district, and has the support of County Council. VCMC is working with multiple partners to initiate a “Helicopter Down” Exercise in the fall. This is directly attributable to a presentation provided by Jim Stark of Collier Mosquito Control at the last Fly-In. In Putnam County, Bob Hatton has “un-retired” – agreed to delay retirement – remarking “I like mosquito control work more than playing golf or fishing anyway”. A round of applause for Bob, please!

### **Northwest Region Report by Ben Brewer, South Walton County Mosquito Control**

A Northwest Florida Regional Director’s meeting in Walton County on August 13<sup>th</sup>, 2014. Representatives from 11 districts were present at the meeting.

Bay County MC, the Beach Mosquito Control District, Jefferson County MC, and Franklin County MC report fairly dry conditions with low mosquito populations. Fred Wakefield, Director of Bay County MC has hired Jaun Caulk as a MC technician to replace a long time employee. He states that the budget is looking better than in years past.

South Walton County Mosquito Control reports that the adult numbers are down. Roadside ditches throughout the county are being treated with herbicide to allow better access for liquid larvacide application. EEE and West Nile Virus continue to be present within the sentinel chicken flocks.

Brenda Hunt with Walton County Mosquito Control reports that the bid process has been completed and construction of their new building should begin soon.

## Southwest Region Report by Jim Burgess, Lee County Mosquito Control

Starting in the south part of our region with Adrian Salinas of Collier County who gives us “.... GOT TIRES?” The Collier Mosquito Control District (CMCD) in Naples, Florida, conducted a community tire drive in recognition of National Mosquito Control Awareness Week (2014). CMCD employees used this opportunity to educate district residents on how mosquitoes capable of transmitting disease can develop in man-made habitats. The event was planned in cooperation with the Collier County Solid Waste (CCSW) department and noticed by press release and a radio interview on *La Ley* Spanish radio in Immokalee. The community of Immokalee was divided into three sections where six CMCD employees went door to door collecting tires, speaking with residents and distributing flyers describing disease prevention. This was CMCD’s first organized tire drive, and a significant amount of planning went into this event as CMCD considered outreach, logistics and the cost of recycling tires. CCSW was a great partner and residents were made aware that they could recycle up to four tires per month free of charge through their service. CMCD staff visited roughly 170 residents and collected 35 tires, and plan to use what was learned to improve these efforts and make this an annual event.

Lee County Mosquito Control District (LCMCD) was visited by 3 EPA employees. They spent a week learning what it means to wear full PPE’s in the heat of summer, ride along and see how a night aerial mission is done, and see the true proximity and challenges of larviciding near residences, pastures, crop land, mangroves/marshes, State and Federal lands. Farugue Khan, Kristin Rury and Jan Urbanski were taken to citizen complaint calls to see mosquito larval productions in habitats such as bird baths, bromeliads, and rainwater buckets, and where they also learned how to take landing rate tests. In response to the appearance of chikungunya virus in Florida, Lee County Mosquito Control District (LCMCD) has been focusing on surveillance and control strategies for *Ae. aegypti* and *Ae. albopictus*. LCMCD is evaluating high density ovi-trapping and indexing these collections with BG-Sentinel traps. *Aedes aegypti* breeding can be very focal, therefore so are the viruses they transmit. High density trapping can identify these small foci of high risk areas for disease development and transmission. In the area treatment for *Ae. aegypti*, we are evaluating the efficacy and population rebound response to ground and aerial adulticiding. We are also evaluating urban aerial larviciding to control these *Aedes* spp. LCMCD is evaluating a disease vector monitoring program developed by EcoVec of Brazil. This is being marketed in the USA by Vector Disease Control International (VDCI). It is a system that uses a unique ovi-trap that monitors *Ae. aegypti* and associates the vector prevalence with risk of virus transmission. While this is the first usage in the US, it is currently in use in 21 Brazilian cities where dengue fever is endemic.

Now moving up the coast, Charlotte County Pest Management reports that Beth Carey Kovach is busy submitting an article to *Wing Beats* for the fall issue, entitled “Breeding-Site Model Interests Citizens of All Ages”. From the advance PR that Johnny Hunter gives, it should bring model builders and education people together for great mosquito control ideas. Heading further north, Chris Lesser in Manatee County says that they are continuing to experiment with aerial applications of larvicides and adulticides in Manatee County for control of *Ae. aegypti*. As a bit of good news, their preliminary trials have found greater than 90% population reduction with Fyfanon (malathion) applied at night (11pm) and well after the normal activity period of these species. Aerial larviciding is also successful. Oh by the way Mark Latham is retiring in October.

Joel Jacobson at Citrus County Mosquito Control tells us that once again this high season is unusual, atypical and puzzling. Over the past two years they have stepped up our use of pretreatment larvicides and have gone from running four to six fog trucks per night down to one or two. Requests for service have dropped dramatically as well. If these results last another year, then they may have found their magic bullet. Since the last issue of *BuzzWords*, they have gone operational with a homemade electronic gate controller for the helicopter’s dry system. Rob Chouinard, resident electronics wizard, has created an electronic gate actuator which enables field calibration of the dry system within seconds, allowing the system to switch from pellets to a variety of granules in a few heartbeats. No more lag time and the cost is very affordable. Check out his presentation at the fall FMCA meeting. In addition to the gate controller, they are developing an “albo-trap”, similar to those available on today’s market but made out of a 5 gallon pail, costs less than \$30.00, and takes an hour to build. It is currently undergoing field trials for efficacy and determine *Ae. albopictus* baselines throughout the county. They have started using ovitraps in places far from human habitation (state forests) and are finding *Ae. albopictus* there as well. Enlightening and alarming. Public relations campaigns are being stepped up by adding new informational postcard blasts, door hangers and more presentations to civic groups, and discussions with homeowners taking personal responsibility in eliminating sources for container breeders around their homes. The new pesticide storage room and heliport should be operational by the end of August. No more down time driving to the airport to fetch or maintain our bird. The county welcomes new Field Technician, Tina O’Neill. She is following



in the long line of over-achievers Citrus County residents are lucky to have protecting their public health and enjoyment of our beautiful outdoors!

Sandra Fisher is Hernando County's new mosquito control director. She has a master's degree in public health and a bachelor's degree in biology. She also has 10 years experience in the mosquito control profession with varied scientific, managerial and administrative skills in the field and laboratory. Most recently, Fisher served as the Miami-Dade mosquito control chief and managed surveillance, aerial, ground and maintenance programs within the division that covers all aspects of mosquito control. Her administrative responsibilities included performance measures and objectives, management of business plan, personnel, budget and state grant oversight. Fisher replaces former mosquito control director Peter Taylor.

### **Southeast Region Report** by Eric Cotsenmoyer, Lake County Mosquito and Aquatic Plant Management Programs

From Martin County Mosquito Control, Gene Lemire, Manager. I'm sure everyone is experiencing an increase in mosquitoes by this time. With the looming presence of dengue and chikungunya and the ever increasing news stories, we are receiving many domestic complaint calls. It is interesting that much of the public expects mosquito control to take care of the containers that are breeding mosquitoes in their yards. Though we have done countless public service announcements and left door hangers and brochures we still experience the need to investigate domestic mosquito breeding. One is tempted to say "once we have been to your residence and done an inspection it is now up to you to maintain your own property." It is also discerning that during the summer the expectation from many residents is that they should have zero mosquitoes. The explanation that this is Florida and it is buggy during the summer rarely soothes a hostile complainer. Mosquito control must as always walk the fine line of controlling mosquitoes with the environment always in mind. When a disease outbreak hits it is still up to us to keep in mind that not all mosquitoes transmit diseases and that the public has to assume some responsibility in preventing themselves from becoming a victim of a mosquito transmitted disease.

#### **Electronic *BuzzWords***

Attention *BuzzWords* readers!!! If you prefer an electronic version of the newsletter over the paper version, send your name and email address to *BuzzWords* Editor-in-chief Roxanne Connelly: [crr@ufl.edu](mailto:crr@ufl.edu)

## With Heartfelt *Sympathy*

Fred Boston, 73, passed away at his home in Tarpon Springs, FL the morning of Monday, August 18<sup>th</sup>. Fred was a pilot at the Pasco County Mosquito Control District for 15 years and previously at Hillsborough County Mosquito Control for 12 years. Prior to that Fred flew charters with Provincetown Boston Air in Naples, FL for 3 years and Tampa Air Center at TIA for 8 yrs. Fred accumulated at total of 13,203 hours fixed wing, 3,374 hours rotocraft, for an impressive 16,577 total hours of flight time. Of those, he was pilot in command for 16,009 hours. Fred is survived by his wife Janet, and their four sons, Ethan, Adam, Aaron and Nathan with a total of nine grandchildren and six great-grandchildren. Fred had a strong passion to fly and was well respected for his abilities. His quick wit and unending humor made him a pleasure to work with. The mosquito control family at PCMCD and elsewhere will miss him dearly. Services for Fred were held at Dobie's Funeral Home in Holiday, FL

## T. Wainwright Miller, Jr. - FMCA Scholarship Application

### The following criteria have been established to choose qualified applicants for the award:

*The student shall be an undergraduate or graduate. Undergraduates will have completed at least two years of academic study with a minimum of 30 credit hours.*

*The student shall be a United States citizen residing in the state of Florida.*

*Undergraduates shall have maintained an overall grade point average of 3.0 (out of 4.0) during the last 2 years of academic study. Graduate students must have completed at least one full semester of graduate course work and shall have a grade point average of 3.0 or higher (out of 4.0) for all graduate course work completed by October 1, 2014.*

*The student shall be enrolled in an accredited College or University in the state of Florida.*

*The student shall be majoring in a field of study having relevance to arthropod control and/or public health.*

*The student shall submit three letters of recommendation, two of which are from professors affiliated with an accredited College or University in which the student is enrolled.*

*Students who have worked previously (or currently) with a local mosquito control district or related organization or agency will receive extra consideration during the selection process. If not, awardees shall be encouraged to seek summer employment with a local mosquito control district for at least one summer during the award period.*

*The scholarship recipient will be provided a gratis membership in FMCA during the period of the award. The recipient is expected to attend an annual Florida Mosquito Control Association meeting. Graduate student recipients will be required to present a paper on their research during an FMCA meeting.*

**A completed application must contain the following:** 1. Name, address, telephone number of applicant, University or College where enrolled, major, overall grade point average, grade point average in major, and number of credit hours completed. 2. Statement from the student describing their interest in public health entomology, career goals, how this award will assist in financing their education and other factors pertinent to scholastic ability which illustrate qualifications for the scholarship (limited to two typewritten pages [single or double-spaced] on one side only). 3. Typewritten statements from three persons (two of which from professors from the person's academic institution) who are knowledgeable individuals attesting to entomological interests, character and aptitude. 4. An original copy of current official transcripts of college grades (this may be sent separately). Send only one set of original transcripts per application package. 5. Proof of current enrollment at a Florida College or University. 6. One photograph (black and white, passport size) per application package. **All applications that meet the established criteria will be considered, however only superior applications will move forward and from those a first place and second place recipient may be selected at the discretion of the Committee.**

**T. Wainwright Miller, Jr.**, a fourth generation Floridian, began his public service career at the age of 14, spending two years in Washington D.C. in the House of Representatives under the wing of Congressman Joe Hendricks. Born in Clearwater and raised in Kissimmee, he served in the U.S. Army during World War II before earning a bachelor's degree in Civil Engineering from Georgia Tech in Atlanta. In 1988, he was awarded an honorary doctorate of Business Administration by Carson-Newman College in Jefferson City, Tennessee. He is a Registered Professional Engineer in Florida, Louisiana, and Massachusetts. Mr. Miller moved to Ft. Myers in 1956, where he helped establish the Lee County Mosquito Control District and administered programs in Lee County for mosquito and aquatic weed control until his retirement in 1994. He served as President of the Florida Anti-Mosquito Association (Currently named the Florida Mosquito Control Association) and the Aquatic Plant Management Society and served as Secretary for both organizations for ten years. He also served as Secretary of the American Mosquito Control Association for seven years. He was named Engineer of the Year by the Calusa Chapter of the American Society of Civil engineers in 1989, and again by the Southwest Florida Chapter in 1993. Also in 1993 he was named to the Hall of Success at Georgia Tech and in 1997 was inducted into the Engineering Hall of Fame. Mr. Miller has served as Trustee, President and CEO of the John E. and Aliese Price Foundation since 1983.

The **T. Wainwright Miller, Jr. Florida Mosquito Control Association Scholarship** is managed and awarded by the Florida Mosquito Control Foundation. The purpose of the Scholarship is to encourage and assist students having a major in Biological, Ecological and/or Entomological studies who are seeking degrees relevant to arthropod control, with particular emphasis on Public Health fields. First place award is \$2000.

**PROCEDURE FOR SUBMITTING APPLICATION:** Four copies of application materials should be mailed to the FMC Foundation Scholarship Committee Chair, Dr. Roxanne Connelly, FMEL, 200 9<sup>th</sup> Street SE, Vero Beach, FL 32962 and **postmarked on or before October 1, 2014**

## Cyrus R. Lesser Memorial Scholarship



The Florida Mosquito Control Foundation is proud to announce the administration of the Cyrus R. Lesser Memorial Scholarship Fund. The purpose of the scholarship is to foster future learning in the field of mosquito control and vector biology. Awards will be made annually and governed by five (5) trustees of various mosquito control entities. The trustees shall make selections after review of all applications, without consideration towards sex, race, age, or religion. This scholarship shall be awarded to the recipients at the Florida Mosquito Control Association Fall Annual Meeting in November each year.

Cyrus R. Lesser worked in the field of mosquito control for 38 years until his unexpected passing in 2007. Cy started his career in the State of Maryland as the Biologist for the Mosquito Control Section, later as the Program Manager and finally as Chief of Operations. Cy was also past President of the American Mosquito Control Association, served on the Board of Directors for the AMCA for 6 years, and held numerous professional awards and recognitions. Cy was a forward-thinker, a leader and an invaluable industry resource and mentor. In memory of Cy, members of the profession, industry, and family established this scholarship to support graduate and/or undergraduate research in the field of operational mosquito control. The annual award is \$2,000.00. Applications must be postmarked on or before October 1, 2014.

The following criteria have been established to choose qualified applicants for the award: The award of this scholarship is based upon course of study, financial need, and dedication to the profession. An applicant's undergraduate academic record will be used by the FMCA's Awards Committee to predict future promise. The scholarship is open to any graduate or undergraduate student pursuing studies in the field of mosquito control, mosquito biology and/or vector management. The scholarship is restricted to United States residents. The student must be enrolled within an accredited US college or university. It is preferable that the scholarship dollars be used for tuition, fees and/or textbook costs although scholarship dollars can be used for the best interest of the student and as determined by the student.

A completed application must contain the following:

1. Name, address, telephone number of applicant, University or College where enrolled, overall grade point average, grade point average within major courses, and number of credit hours completed.
2. Statement from the student describing their interest in public health entomology, career goals, and other factors pertinent to scholastic ability which illustrate qualifications for the scholarship (limited to two typewritten pages [single or double-spaced] on one side only).
3. Typewritten statements from three persons (two of which are from professors from the person's academic institution) who are knowledgeable individuals attesting to entomological interests, character, and aptitude.
4. An original copy of current official transcripts of college grades (this may be sent separately). Send only one set of original transcripts per application package.

To submit your application, 4 copies of the application materials should be mailed and postmarked on or before Oct. 1, 2014 to:

FMC Foundation Scholarship  
Dr. Roxanne Connelly, Committee Chair  
FMEL  
200 9th Street SE  
Vero Beach, FL 32962

Please visit the Cy Lesser Scholarship Web Page  
[http://floridamosquito.org/Products/CR\\_Lesser\\_Scholarship.aspx](http://floridamosquito.org/Products/CR_Lesser_Scholarship.aspx)

Dr. Roxanne Connelly, Editor-in-Chief  
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