



The Skeeter

Newsletter of The Virginia Mosquito Control Association

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July 2006

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President's Message

The summer is in full swing and so, it seems, are most of the mosquito control districts in Virginia. Many of us had a very slow start to the season because of the relatively dry conditions, but are now extremely busy because of the recent large amount of rainfall. The mosquito-borne viruses that we are concerned about in Virginia, Eastern Equine Encephalitis virus (EEE), West Nile virus (WNV), and La-Crosse Encephalitis virus (LAC) have had a slow start this year, but are beginning to show up. The first and only WNV positive was from a mosquito pool in Fairfax at the end of June and the first sentinel chicken was found positive for EEE antibodies in the City of Chesapeake the first week of July. There have been no LAC positives.



Jason Williams, VMCA

The VMCA requested our Governor, Tim Kaine, recognize the last week of June as Mosquito Awareness Week and he obliged along with an official Certificate of Recognition. The certificate acknowledges the contributions of the VMCA, the American Mosquito Control Association, and the Virginia Department of Health in enhancing the lives and protecting the health of the citizens of Virginia. It's nice for our profession to be appreciated on such a level and we should all be proud of the job our membership is doing every day.

June 15th was an historic day for the VMCA: We had our first regular board meeting outside of the Hampton Roads area. The meeting was held in Henrico County and is a good central location for our Board to meet. The VMCA annual meeting will be held February 7-9, 2007 and will be back at the Crowne Plaza, Williamsburg. It's the same old location, I know, but this will be our 60th annual meeting, so we are planning something special. Our Program Committee will start to look for presenters soon, so if you would like to present or have someone you would like to see present at the meeting, contact any of our Board Members.

Our Past-President, Louis Demarco, has been attending Virginia Department of Agriculture and Consumer Services meetings concerning some new pesticide regulations that can affect how we do mosquito control in Virginia. There is an upcoming meeting July 20th and if you would like to attend and help support our cause, contact Lou for more information.

Have a great summer!

Jason W. Williams

T Shirts are on sale.
Contact Jo Ann Beasley for sizes and prices. 382-3453

Virginia has lost a gifted mosquito control professional.

On July 17, 2006 William "Billy" Cantillo passed away after a long battle with cancer. In his short life Billy was able to positively impact the mosquito control programs in Portsmouth and James City County. Billy's eagerness to learn and willingness to try new things gave him a broad background in field biology. He graduated from Christopher Newport University with a BS degree in Biology. While at CNU Billy worked on several projects including red fox study in Newport News and greenhouse gas emissions from ferns and bogs in Alberta, Canada. Billy started working for the City of Portsmouth in 1999 as one of the first biologist assistants. While working for Portsmouth Billy helped to start the arboviral surveillance program. Billy left Portsmouth in July 2000 for a full time job with James City County Mosquito Control. As Environmental Assistant he was second in charge of the mosquito control program and also worked as a Single Family Erosion and Sedimentation Inspector in the winter months. Over the following years, Billy was being groomed to take over the mosquito control program entirely. Progress was being made as Billy assumed greater responsibilities in all aspects of the program. Billy fought his cancer for several years having major surgery and other treatments. In May 2005 Billy became too sick to work, he left James City County in September 2005. Billy was a hard working professional, avid fisherman, good friend, and loving father. Billy made friends easily and is sadly missed by many.



William "Billy" Cantillo
December 29, 1972 - July 17, 2006

Mosquito Identification Class

The VMCA held an 2 day adult mosquito identification course in May. Dr. David Gaines was the primary instructor. Students spent the bulk of the time identifying and learning proper surveillance techniques for key problem mosquito species found in Virginia

Special thanks to Dr. David Gaines assistant instructors (Jennifer Halpau, Jason Williams, and Lane Carr) and all those that helped make this a success.



In The News

Let us know about mosquitoes bugs or program information in the news. If you have an interesting article in your city or town paper you would like to share. Send us a summary and the link or citation for a news story. We will credit you with sending in the story.

Please note: No summaries can be published with out proper citations. (author(s), title, original source, and date of publication)

Thank you to all those that submitted articles for this issue.

Mosquito Fish

There have been several articles about mosquito fish in the news. Mosquito fish donated by Operation Blessing are being stocked in abandoned swimming pools in New Orleans.

Duncan, Jeff. "Bothersome bugs are breeding in abandoned pools throughout the city, but they must do battle with guppy like fish that has a big appetite for the enemy", Times –Picayune, April 26, 2006

Soukup, Elise. "Swimming Pool Or Cesspool?", Newsweek, May 1, 2006.

Contributors: Tom Gallagher and Jim Rindfleisch (York County)

Jim Rindfleisch

York Counties own Jim Rindfleisch answers questions about mosquito control and his 25 years of mosquito control expertise.

VanMullekon, Kathy, "Battling tiny bloodsuckers is in his blood", Daily Press, June 26, 2006.

Contributor: Tom Gallagher (York County)

Join the Bug Brainiacs this summer

May 18, 2006 Special to the Daily Press ran an article titled "Join the Bug Brainiacs this summer, The after-school entomology club at Thomas Hunter Middle School will continue to meet this season" The article described an after-school entomology club efforts. The program is mostly fifth-graders or older and is run by Master Gardener Jean Howard and Beverly Holmberg. Beverly is a VMCA member, 4-H leader, Chairwoman of the Mathews County Mosquito Control Advisory Committee.

Contributor: Mitch Burcham (Langley Air Force Base)

Pending *Ochlerotatus japonicus* record for Suffolk, Virginia

Charles Adabam and his staff captured an *Oc. japonicus* in a CDC light trap. Larval surveillance in the area discovered a tire with larval *Oc. japonicus*. *Toxorhynchites rutilus septentrionalis*, *Ae. albopictus*, *Oc. triseriatus* were also collected from the same tire. Samples have been sent off for confirmation. If this holds up this will be the first record of *Oc. japonicus* on the south side of tidewater Virginia.

One Day VMCA Fall Symposium

The board is attempting to locate a facility to hold a one day fall symposium for the exchange of information. More information will follow.

MIR or MLE, That is the Question

Recently there have been many presentations in conferences where the terms MIR and MLE are frequently used interchangeably, and at times their use leads to some confusion. What exactly are they? What do they mean? What is the difference between the two? And when should we use them?

What are they?

MIR stands for Minimum Infection Rate which is the **minimum** number of infected mosquitoes (per thousand) that are estimated to be in a given population.

MLE stands for Maximum Likelihood Estimation which is the estimated **maximum** number of infected mosquitoes (per thousand) that are estimated to be in a given population.

What do they mean?

MIR means that there are *at least* a certain number of positive mosquitoes in the population. It assumes that only one mosquito is infected in each positive pool, and when you calculate the number of positive mosquitoes per thousand, this is the *minimum* number of positive mosquitoes in the population. This calculation is done in the following manner:

$$\text{MIR} = \frac{\# \text{ Positive pools}}{\text{Total \# of mosquitoes tested}} \times 1,000$$

Unlike the MIR, the MLE takes into account the number of positive mosquitoes that may be found in any given positive pool, and when the number positive mosquitoes per thousand is calculated, this number represents an estimation of the *maximum* number of positive mosquitoes in the population. The calculation of this number requires a much more complex formula (Gu et al. 2003), and fortunately there are several computer programs to make these calculations. First is an Excel add-in called PooledInfRate that is provided at no charge by the Centers for Disease Control and Prevention. This add-in can be downloaded from the Web at <http://www.cdc.gov/ncidod/dvbid/westnile/software.htm> (Biggerstaff 2006). An alternative is the MLE-IR program which is executable on PCs and is freely available upon request to the authors (Gu et al., 2003).

What is the difference between the two?

The difference between the two is that the MIR assumes there is only one positive mosquito in each pool while the MLE allows for the possibility that there may be more than one positive mosquito per pool. If the infection rates are low in a population, say in the order of five positive mosquitoes per thousand, the MIR and MLE values will be similar. However, as the infection rate increases so will the disparity between the MIR and MLE, with the MLE always of a larger value than the MIR.

When should we use them?

The best measure to use is the MLE. It will give you a better idea of the actual infection rate in the mosquito population, and as mentioned before, if the infection rate is low, there will be little if any difference between the two.

The infection rate calculations should be used on a weekly basis, and are best presented graphically as a line. A cumulative infection rate for the entire season should never be calculated, neither as a MIR or MLE, as such a calculation over a long period of time is not truly representative of viral activity in the mosquito population, which fluctuates throughout the season.

References

- Biggerstaff B. 2006. <http://www.cdc.gov/ncidod/dvbid/westnile/software.htm> May 1, 2006
 Gu W, Lampman R & Novak RJ. 2003. Problems in estimating mosquito infection rates using minimum infection rate. *Journal of Medical Entomology* 40(5):595-596.

Jorge R. Arias, Ph.D.
 Diseases Carrying Insects Program
 Fairfax County, Virginia

Organizational Membership

The board voted to set a fee of \$15 for an organizational membership in 2007. The organizational membership includes one regular membership.

State Pesticide Bid

The Virginia state pesticide bid is in its last renewal. Prices on the current bid are good through April 2007. The board has appointed an ad hoc committee to identify the pesticides to be included in the state bid. If you have product(s) you would like to see included in the state bid for 2008 please contact Lou DeMarco at 382-3459.

Portsmouth initiates aerial Larvaciding program

Aerial spraying, primarily fixed wing adultciding, has been conducted in Portsmouth for the last 15 years. Prior to 1996 the city contracted with a crop duster to adulticide neighborhoods engulfed in saltmarsh mosquitoes. In 1996 Craney Island, Navy Fuel Depot, Coast Guard Integrated Support Command and some portions of civilian Portsmouth were sprayed as part of the regional aerial spray program. In 2003 a contractor sprayed most of the city after hurricane Isabel. In 2005 a rotary wing aircraft was used to herbicide *Phragmites australis*.

This past spring the city awarded a contract for rotary wing larvaciding. The primary targets are 100 acres of *Cx. salinarius* and other hard to reach breeding habitats. The use of contract aerial assets allows us to treat the key areas in hours vs. weeks with conventional ground equipment. A secondary benefit is having a contract in place if there is a need to treat large tracts of mosquito breeding habitats as part of a post hurricane response plan.

Two applications of *Bacillus sphaericus* (Vectolex CG) have been made this year. The first application exposed some mapping deficiencies and limitations of differential global positioning system. The second application resulted in a more efficient distribution of product to the intended breeding habitats. The most recent application rate is 15 lbs/acre and should provide the desired residual control. The third planned application will take place later this season when larval surveillance indicates the need.

George Wojcik
Mosquito Control Administrator
City of Portsmouth, Virginia



Bell 206 helicopter lands for reloading of pesticide.



Bell 47 helicopter applies Vectolex CG at 15 pounds per acre.

Virginia Mosquito Control Association 2006 Sustaining Members

Adapco, Inc.
Tim McGonegal
108 Etheridge Road
Manteo, NC 27954
(252) 489-9384; Fax (866) 330-9888
tmcgonegal@myadapco.com

AMVAC Chemical
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180 South Woodward Ave
Deland, FL 32720
(386) 740-1755

Argo of Tidewater
Don Hewett
2425 Sandpiper Road
Virginia Beach, VA 23456
(757) 426-7500
dhdh69@msn.com

B & G Chemicals
David Sykes
710 N.E. County Road 150
Madison, FL 32340
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dsykes@bgchem.com

Bayer Environmental Science
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2 T.W. Alexander Drive
RTP, NC 27709
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Cell (919) 622-0710
peter.connelly@bayercropscience.com

Clarke Mosquito Control Products
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Dynamic Aviation Group, Inc.
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Summit Chemical
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Wellmark International
Charlie Pate
88 Whitney Street
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charles.pate@wellmarkint.com

Virginia Mosquito Control Association Officers 2006

President: Jason Williams (757) 673-3932 jwilliams@mail.city.chesapeake.va.us
President Elect: Agnes Flemming (757) 683-2824 agnes.flemming@vdh.virginia.gov
Vice President: Randy Buchanan (804) 501-7332 buc06@co.henrico.va.us
1st Vice President: Jennifer Johnson (703) 246-8404 Jennifer.Johnson3@fairfaxcounty.gov
Secretary / Treasurer: JoAnn Beasley (757) 382-3453 jbeasley@mail.city.chesapeake.va.us
Past President: Louis DeMarco (757) 382-3459 ldemarco@mail.city.chesapeake.va.us
*MAMCA Representative: George Wojcik (757) 393-8666 gwojcik@portsmouthva.gov

* Denotes a non voting member of the board.

Mid-Atlantic Mosquito Control Association (MAMCA)

Mark your calendars, the 32nd Annual Educational Conference will be held in Charleston, South Carolina February 20-22, 2007. For more information check out the website at www.mamca.org

Virginia Department of Consumer Services (VDACS) News

New Manuals and Exams Released

New manuals for **Turf Pest Control, Right of Way, Aerial Application, Fumigation (Non-Ag), and Fumigation of Soil and Agricultural Products** have been released, with new exams for all these categories in place at DMV **January 9, 2006**. Contact OPS at *804-786-3798* for the latest information before you test.

Pending Pesticide Regulation Changes in Virginia

For all licensed pesticide businesses:

On October 20, 2005 the Virginia Pesticide Control Board approved as final several amendments to 2 VAC 20-40, the regulations affecting licensed pesticide businesses. These will be published in the Virginia Register and on the Virginia Regulatory Town Hall soon, and should go into effect in 2006. The most significant change **requires that *pesticide businesses* keep records of *all pesticide applications***. The records will require the same items currently required by regulation for restricted use pesticide applications. Look for more information to be sent to all licensed businesses in 2006.

For all certified commercial applicators and registered technicians:

Proposed amendments to the Certification Regulation, 2 VAC 20-51, were published in the Virginia Register September 5, and were open for public comment until November 30, 2005. (No comments were received.) Significant changes being proposed include:

- Clarifying that a *certified commercial applicator supervising an applicator training to become a registered technician* **must actually be watching the application of pesticides by the trainee**
- Require that *once a person is hired or transferred into a position involving commercial pesticide use, all required training and testing would have to be completed within 90 days of such hiring or transfer*
- **Deleting the option of commercial applicators being able to proctor the Registered Technician exam**
- Require that *when a certified registered technician wants to apply pesticides in a category or subcategory that differs from that in which he received his initial on-the-job training, he receive additional training from a Commercial Applicator in specific aspects of pesticide application as it relates to the proposed category or subcategory of work, and report training to OPS*
- **Require all applicators not for hire to keep records of all pesticides applied.**

For more information, visit the Virginia Regulatory Town Hall: www.townhall.state.va.us, Board: Pesticide Control Board, Or contact: Dr. Wayne Surles, Secretary to the VPCB

Office of Pesticide Services, VDACS, P. O. Box 1163, Richmond, VA 23218

WE HAVE MOVED: Our new street address is 102 Governor Street, First Floor, Richmond, VA 23219. Our mailing address and phone numbers remain the same.

Source VDACS web site www.vdacs.virginia.gov

York County Program Survey

Name: York County Mosquito Control
Primary Contact Person: Tom Gallagher
Phone number: 757-890-3791
Email: Gallagher@yorkcounty.gov
Address: 145 Goodwin Neck Rd, Yorktown, VA 23692
Web Site: www.yorkcounty.gov/eds/index.htm
Program Supervisor: Thomas J Gallagher
Annual Budget: \$800,000
Number of Full-time Employees: 17



Part-time or Seasonal Employees: 2 (spray operators)
Organizational Structure: Local Government/Department of Environmental & Development Services
Purpose: mosquito-borne disease control and nuisance mosquito control **Region:** Tidewater
Population: 70,000 **Area:** 108 (square miles) **Geography:** (permanent water habitats, flood plains, rural, urban, coastal swamps / marshes, woodlands, rivers & streams, salt marshes, subdivision, BMPs & Contracted military breeding assets.

What are the major problematic mosquito species in your area? *Aedes albopictus*, *Ochlerotatus sollicitans*
Ochlerotatus taeniorhynchus

Do you...

- treat/inspect private property? Yes
- you receive and act upon complaint calls? Yes
- have an outreach/education component? Yes
- monitor the effectiveness of control measures? Yes

Surveillance Activities

Adult Mosquitoes

Please describe routine and response surveillance including the types and numbers of traps used:
 Monitoring 43,000 acres of fresh and salt marsh breeding sites with the assistance of 13 Citizen Mosquito Monitor Volunteers – using 15 New Jersey ,4 CDC, & 4 ova position traps.

Please describe the methods used for detecting arboviruses:
 Use panel antigen assay or send out samples for testing as needed.

Larval Mosquitoes

Please describe routine and response surveillance activities: Extensive use of ova position traps and base most decisions on larval surveillance. Most decisions are based on larval surveillance.

Chickens/Birds

Please describe routine and response surveillance activities as well as the methods used for detecting arboviruses: Retrieve dead birds if needed. Surveillance on military contracted assets continues year round. Suspect samples are tested as necessary.

Control Efforts

Adult Mosquitoes

acres adulticides applied each year: 30,000 acres **# truck mounted assets:** 2
aerial assets: Commercial or Air Force as justified **backpack or other assets:** ATV mounted ULV
barrier treatments: Hand held sprayer or ATV mounted ULV

York County Program Survey Continued

Larval

acres larvicide applied each year: Breeding site dependent **truck mounted assets:** None

aerial assets: None **backpack or other:** *Bti* or mosquito fish

Please describe source reduction activities: Over 140 miles of 800 off-road drainage ways are maintained on an annual basis & many tons of debris is removed from them and hauled by 3 four man field teams.

Please describe the biological control activities: As the environmental breeding conditions dictate all sites are either treated using *Bti* or mosquito fish. Also citizen backyard ornamental ponds are stocked with fish as requested.

OTHER FACTS ABOUT OUR PROGRAM

Is there anything special about your program that you wish to share?

Doing the right things the right environmental way coupled with customer service is the major emphasis along with keeping the citizens well informed via various media means. A continuing mosquito awareness Mosquito Beater-It's Elementary program for elementary schools has been favorably received. Other program initiatives commemorating Mosquito Awareness Week in June is a County Channel Interview, County Mosquito & Vector Awareness Week Proclamation, and mosquito awareness displays for the Libraries. Various program initiatives have been duly recognized by five National Association of Counties Achievement Awards. We also do pest control for parks and recreation buildings.

Do you want to share your mosquito control program profile?

We want all mosquito control program to participate in this program. The short survey only takes a few moments to complete. Sharing program information will lead to stronger state and local organizations.

To receive a copy of the survey call George Wojcik at 757-393-8666 or email at gwojcik@portsmouthva.gov

Newsletter Input

Have an idea of something that you would like to see in the newsletter?

Organizations and individual members are encouraged to submit news letter articles and or topics. Electronic submission should be sent to gwojcik@portsmouthva.gov in Microsoft Word or PDF format. Hard copy submission can be mailed to George Wojcik 2001 Frederick Blvd Portsmouth, Virginia 23704.

Deadlines for submission are (September 15th, and December 1st)

Newsletter Committee

Committee Chair: George Wojcik

Regional Coordinators: Solicit, contribute, and coordinate input from their respective regions. (North East - Jennifer Johnson, Central - Randy Buchanan, South East - Lou DeMarco, South West - TBD)

Regular Contributors: Recognized mosquito control professionals that regularly take the time to write articles for the newsletter. Drs. Bruce Harrison, David Gaines, Jorge Arias.

Editorial Group: Proof read every issue prior to distribution. In 2005 the board of directors requested at least one board member participate. Regional Coordinators, Gary Tetreault, the entire board of directors.

Webmaster: Posts the electronic final version of each issue on the web page. Kirby Foley

**NEWSLETTER OF THE
VIRGINIA MOSQUITO
CONTROL ASSOCIATION**

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Chesapeake, VA 23320

Phone: 757-382-3450
Fax: 757-382-3466



www.mosquito-va.org

VMCA Membership Application 2006

NAME: _____

PHONE: _____

ADDRESS: _____

ORGANIZATION: _____

EMAIL: _____

Membership Fees

Regular \$ 10.00

Associate \$ 5.00

Student \$ 2.00

Sustaining \$300.00

Total Submitted _____

Make checks payable to:
VMCA, attn. Jo Ann Beasley
900 Hollowell Lane
Chesapeake, VA 23320

**** Student memberships require proof of student status. ****