

TEXAS MOSQUITO CONTROL ASSOCIATION NEWSLETTER

Volume 40	August	2020
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Psorophora cyanescens hitching a ride on a truck dashboard. Photo: Joseph Carr

Editor – William Sames

Contributors – David Brown, Mark Clifton, Jeff Flosi, Salvador Rico, Becky Riley, Sonja Swiger

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Oct 2019-Oct 2020 Texas Mosquito Control Association Board of Directors

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To contact a Board member, please send an email to info@texasmosquito.org and list the person you are trying to contact, present your question or concern, and provide your name and contact information.

Oct 2019-Oct 2020 Texas Mosquito Control Association Standing Committees

Legislative	Mike Nichols, Chair	R. Duhrkopf
Membership	Greg Marciniak, Chair	M. Nichols, M. Johnsen, M. Wise-de Valdez
Program	Nina Dacko, Chair	Board of Directors
Publicity/Newsletter/Media	Nina Dacko, Chair	W. Sames (Chair, Newsletter Subcommittee), M. McNairn (Chair, Website Subcommittee), S. Rico (Chair, Social Media Subcommittee)
Scholarship & Awards	Jeff Flosi, Chair	R. Duhrkopf

Oct 2019-Oct 2020 Texas Mosquito Control Association Special Committees

Auditing	Mike Nichols, Chair	M. Johnsen, P. Beebe, C. Fredregill, W. Sames
Constitution, By-laws & Resolutions	William Sames, Chair	W. Becker, M. Nichols, S. Sawlis
Financial Support	Patrick Beebe, Chair	J. Flosi, M. Nichols
Local Arrangements	Patrick Prather, Chair	S. Swiger, S. Rico
Nominating	Mike Nichols, Chair	R. Duhrkopf, J. Flosi, S. Sawlis
Young Professionals	Aubrey Paolino, Chair	E. Chu, K. Dye-Braumuller, K. Haydett, E. Kirkscey, E. Plaisance, S. Peper
Systematics	Jeff Flosi, Chair	R. Duhrkopf, W. Sames
Workshop CEU's	Sonja Swiger, Chair	P. Prather, J. Flosi, M. Nichols



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for Vector-Borne Diseases

2020 Master Vector-Borne Disease Management Certification Course

Dallas - September 22-24

Oklahoma City - October 13-15

San Antonio - October 20-22

Houston - November 10-12

3 - Day Workshop Includes:

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Manuals and all preparation for testing provided
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Attendees must work for a political subdivision of the state of Texas or
federal agency operating in Texas

Register at livestockvetento.tamu.edu

For questions call 979-845-3849

Class Locations and Dates

Austin - August 25 & 26, 2020

Corpus Christi - September 8 & 9, 2020

Baytown - September 29 & 30, 2020

*Free TDA Testing
WILL NOT be offered the
remainder of 2020*

Face to Face meetings will
be limited to the first 25 people to
register in Austin and first 50 in
Corpus Christi and Baytown

Online Meetings will be offered
for each location and an
email will be sent with the link for
you to attend prior to the meeting

Day 1 - General pesticide use information, laws and
regulations, and equipment usage

Day 2 - All things mosquito, flies, and rodents

Funded by:





Salvador Rico

Message from El Presidente Salvador Rico

TMCA: The BIG Picture:

It's Not About Me,

It's About The Public We Serve

Greetings to all members of our Texas Mosquito Control Association and to our family, friends, acquaintances, sponsors & vendors! I am glad to be able to communicate with you again and share another message that I feel is important for us.

I would like to thank our committee members for the incredible job you are doing for the TMCA. You guys are the backbone of

our organization and congratulations for the work you do back at your place of employment! AND, Thanks to the support of our sponsors & membership! We are all working to provide public health in the form of mosquito & vector control. And thanks to those working the front lines assisting to combat the COVID-19 (Coronavirus) & to those working the skeleton crew trying to maintain your original task... THANK-YOU! Again, Thank God that the Corona virus cannot be transmitted via the mosquito! I pray that you and your family are well & that you take all the precautions necessary to prevent this virus from taking hold.

Though our annual joint meeting with the Louisiana Mosquito Control Association has been cancelled, TMCA is looking to have a winter video meeting on December 8, 2020 to allow membership participation in our annual business meeting. Please stay tuned and check our TMCA Website for future information <https://www.texasmosquito.org/>. Also, TMCA is working on restarting our Spring Workshop in the spring of 2021. Yes, back to networking face-to-face! We will be following the State of Texas & local social distancing guidelines and use every precaution necessary. Details will be coming soon.

Well, the pandemic is still with us. Some folks are surviving, others are not so fortunate. Nevertheless, we cannot let fear set into our lives as we constantly struggle to survive every single day. New norms are being evaluated & established every day... and if it takes a pandemic to REALLY wash your hands...well, society in general will have the cleanest hands yet!

No doubt, these trying times of lockdowns and stay at home suggestions are wearisome on individuals that as time goes on, many are hurting in ways that are new to us. Whether it be mentally or physical pain, it is taking a toll on many of us in some form or fashion. However, rest assured; we will get through this... together.

How is your work section, your crew, and your teammates responding to the workload these days? Especially if they are being asked to work harder than ever before? Are they working longer hours because of staff being pulled to do other tasks? As a person in management, are you a leader or are you leading? Many in management & the workforce at times lose sight of the Big Picture. So, as a leader sometimes we just find ourselves giving talking points with no meaning...no purpose. The focus is never about us... never has been. The purpose is about the people we serve and protect.

Many times, when your team members are serving the public, at times, they get so involved that they rush and do so much that they lose focus on the task at hand because they want to please the boss & show that they are worthy of being kept employed. They may forget to check out equipment properly for functionality or forget to set a trap in an alternate location or consider an alternate location to check for mosquitoes if the previous site was not yielding an accurate representation of the mosquito population in the area. In other words... not paying attention, not really knowing the consequence of their actions or the importance of their profession and what effect they may have on the quality of life for the community.

A leader who is LEADING makes a huge difference in the performance & atmosphere of the work environment. Many folks want to know, "What is their purpose in this journey they are embarking on". Because you see, your team members will be there for you and work their butts off... during trying times, at times, we need reminders or a reassurance of what we do has an impact. Sometimes all it takes is a simple... Thank-You. A Thank-you with conviction...from within...from the, Heart. And, while you are leading always remain focused, determined & positive... even through those trying times, when it's hot, caught in the rain, dealing with irate residents or you just stepped on some poo. It is not about you... it never was...it is about the public you serve and protect.

No matter how insignificant you believe that job you just did, you felt that it did not make a difference. It made a HUGE difference in that community! Why? Who is to say that that habitat you just eliminated did not have mosquito larvae that could become positive with virus? Or that mosquito trap that you made sure everything was working correctly and you are placing because... that trap is part of surveillance. The knowledge and information of that trap will determine where disease is, that entails when and where your organization/program will conduct treatments via Ultra Low Volume (ULV) or inspections. Our actions are based on knowledge with our emotions helping it to drive through. So, let us lead our team to greater heights to assist our public, to make our community better, to improve the quality of life. We don't need a long drawn out speech...just a reminder of our purpose and a humble acknowledgement of our efforts goes a long way. Always communicate...always. As the leader goes, so goes the team.

TMCA is always improving and is moving in a positive direction. Our new Board of Directors & committee members are striving to improve our organization. Administrators encourage your team members to become part of a team that supports people in the mosquito control and surveillance occupation; become part of our team, the Texas Mosquito Control Association! Whether it be on committee or just being involved by networking with others in the field of mosquito & vector control. There is always something new in technique or technology that can be learned from and which might be incorporated into a daily routine at the job or field site. We invite you to be a part of something special...the TMCA.

If you're interested in joining a committee please contact us at:
<https://www.texasmosquito.org/membership-and-committees>)

Yes, it is our turn! Check us out Texas Mosquito Control Association
<https://www.texasmosquito.org/> become a member of the best organization in the State of Texas.

Salvador Rico

TMCA President & Treasurer

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*****Call for TMCA Board Nominations – Last Chance for 2020!*****

Deadline – October 1, 2020

Mike Nichols (Past President) is the Chair of this year's Nominating Committee and he is accepting membership input for the nomination and election of the TMCA Board of Directors offices for 2020-2021. Send nominations to info@texasmosquito.org ATTN Mike Nichols.

Per the TMCA By-Laws all positions are open for reelection except for President, President-elect, and Past President. For stability, only the Treasurer and Secretary positions can be held for multiple years.

For the past 10-20 years or more, the Nominating Committee has normally recommended everyone move up to the next higher position, which means after 6 years on the Board, they would be President, then Past President, then off of the Board. The Nominating Committee would bring in a new person each year.

In 2017, the procedure was changed, so that a person could serve in a 2-year Director Track or a 6-year Board Officer Track. This meant that the Nominating Committee would bring in 2 new persons each year and 2 persons (the Past President and a Director) would rotate off the Board.

TMCA Annual Business Meeting via Tele/Video Conference

With the annual meeting being canceled, there is still a need to hold the TMCA Annual Business meeting, which will include voting on TMCA Officer Positions and installation of those elected. This meeting will be held Tuesday, December 8th at 1:00 p.m. In November, the information on how to connect will be in the Newsletter, the TMCA Website, and Social Media pages. This meeting should last about one hour.

TMCA Administrative Notes

Publishing in the TMCA Newsletter. The TMCA newsletter is a medium for getting information to TMCA members. Newsletter content is based upon contributions from TMCA officers and members, and the newsletter subcommittee. If you have information of benefit to TMCA members, please submit that information to the TMCA Editor. There are 4 issues per year with each issue coming out shortly after the quarterly Board of Directors meeting. Newsletters are published in January, May, August, and November. Photos and mosquito related humor are also welcomed. Consider submitting artwork for a cover.

Advertise in the TMCA Newsletter. Advertising rates are \$50 for an 8.5 x 11 inches page ad. Half page ads are \$30 (8.5 x 5.5) Submit copy ready artwork in MS Word or PDF to the TMCA Editor.

American Mosquito Control Association Annual Meeting. 2020 Annual Meeting Canceled. 2021 information to be posted in November newsletter.

Joint TMCA/LMCA Annual Meeting. CANCELED. All TMCA/LMCA 2020 Annual Meetings are canceled due to COVID-19 concerns. **TMCA Business meeting via Video/Tele Conference will be held Tuesday, December 8th at 1:00 p.m.**

TMCA Committees. Interested in serving on a TMCA Committee? If yes, you may contact the Committee Chair **OR** go to the TMCA website and sign up online at <https://www.texasmosquito.org/membership-and-committees>. To join a committee, send a request to info@texasmosquito.org.

Joe Conlon Retires, David Brown Assumes the Role of AMCA Technical Advisor

Joe Conlon, who was the 2019 ADAPCO Keynote Speaker at the TMCA Annual Meeting in Waco, retired July 1, 2020 after 20 years of service with the American Mosquito Control Association (“AMCA”). As the very first Technical Advisor (“TA”) of the AMCA, Joe set the bar as to just what was expected of the TA, ranging from answering questions from the general public and media outlets to responding to legislative and regulatory matters from members of congress and regulatory agencies.

David Brown, former Director of the Sacramento-Yolo Mosquito and Vector Control District in Elk Grove, California, former Past AMCA President and former Chair of the AMCA Legislative and Regulatory Committee has stepped in to serve as the AMCA Technical Advisor. We wish Joe well in his future endeavors and look forward to working with Dave to maintain the outreach AMCA has enjoyed under Joe's stewardship.

For more information about Joe Conlon, please check out the Summer of WingBeats! Dr. Stan Cope wrote a comprehensive paper that captures Joe’s history as well as his many accomplishments.

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2020 Mosquito-Borne Disease Update



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Texas Department of State
Health Services

2020 DSHS Arbovirus Activity Report
Week #32 (ending Aug 8, 2020)
Report Date: Aug 11, 2020

Table 1. 2020 Arbovirus Activity Summary, Texas, Week 32

Arbovirus	Positive Mosquito Pools	Avian	Equine	Sentinel Chicken	Human						TOTAL
					Febrile Illness	Neurologic Illness	Severe Dengue	TOTAL (HUMAN)	Deaths	PVD ²	
California Serogroup ¹								0			0
Chikungunya					2			2			2
Dengue					7			7			7
Eastern Equine Encephalitis								0			0
St. Louis Encephalitis	2							0			2
West Nile	549			1		3		3		13	553
Zika								0			0
TOTAL REPORTS	551	0	0	1	9	3	0	12	0	13	564

¹California Serogroup includes California encephalitis, Jamestown Canyon, Keystone, La Crosse, snowshoe hare, and trivittatus viruses.
²PVD - Presumptive viremic blood donors are people who had no symptoms at the time of donating blood through a blood collection agency, but whose blood tested positive when screened for the presence of West Nile virus or Zika virus. Unless they meet the case reporting criteria, they are not counted as a case for official reporting purposes and are not included in the "Total" column.

Note: Human mortality from arboviral conditions is aggregated and reported monthly once documentation has been received and verified.
For more detailed information about West Nile virus, including past weekly and annual reports, please visit <http://www.dshs.texas.gov/idcu/disease/arboviral/westNile/>
For more detailed information about Zika, please visit <http://www.texaszika.org/>

Table 2. 2020 Aedes-Associated Arbovirus Activity by County†, Week 32

County	CHIKV*		DENV*		ZIKV*			COUNTY TOTAL
	M	H	M	H	M	H	PVD‡	
Bastrop				1				1
Collin				1				1
Ector				1				1
Fort Bend				1				1
Harris				2				2
Hays				1				1
Total Number of Reports	0	2	0	7	0	0	0	9

M - mosquito H- human
CHIKV - Chikungunya Virus
DENV - Dengue Virus
ZIKV - Zika Virus

* All reported cases are imported.

†County level data is not reported for conditions with <5 cases reported in a year.

‡PVDs are not included in the "County Total" column.

For by-county distribution of cases and more information go to:

<https://dshs.texas.gov/idcu/disease/arboviral/westNile/reports/weekly.aspx?terms=arbovirus%20weekly%20summary>

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Proposed Revisions to TMCA Constitution and By-Laws

Action Item: Read and Comment

Send comments or recommendations to these posted changes to Info@texasmosquito.org. These changes will be approved by member vote at the TMCA Annual Business Meeting (virtual meeting) on December 8, 2020.

Only paragraphs with changes are shown. Changes are in red text.

CONSTITUTION - PROPOSED REVISIONS

ARTICLE III, OFFICERS, A. Officers: The officers of the Association shall be those of President, President-Elect, First Vice-President, Second Vice-President, Secretary, and Treasurer. **All officers may vote on Board decisions.**

ARTICLE V, BOARD OF DIRECTORS

A. Membership: The Board of Directors shall consist of:

2. The Immediate Past-President: **The Immediate Past President provides advice and leadership to the Board of Directors regarding past practices and other matters to assist the Board in governing the Association. The Immediate Past President supports the President and the President-Elect on an as-needed basis. The Immediate Past President performs the duties of the President in the absence or disability of the President. The Immediate Past President may vote on Board decisions.**

3. Two members at large elected as Directors for a period of two years. **These Directors participate in the planning, decision making, and implementation of projects as determined by the Board of Directors. Each Director may vote on Board decisions.**

4. The Regional Director to the American Mosquito Control Association from the Southwest Central Region, who shall serve as an ex-officio member of the Board. **The ex-officio does not vote on Board decisions.** The ex-officio clause does not apply if this person is simultaneously serving as an Officer of the Association, immediate Past-President, or as a Director elected at large.

BY-LAWS – PROPOSED REVISIONS

B. Special Committees:

1. The Nominating Committee shall consist of five active members who shall recommend to the Association candidates for election as Officers and Directors. **The Immediate Past President will serve as the Chair of this committee.**

8. **The TMCA Young Professionals Committee shall consist of at least 3 active members who shall create an environment in which young professionals in the mosquito control industry can feel welcome and create contacts with their peers and with seasoned**

professionals. A Young Professional is any member who is in their early years of the mosquito control industry.

ARTICLE III, RULES OF ORDER

B. Officers and all Committees shall prepare a Standard Operating Procedure for their respective position or committee, which shall be passed to successors for continuance in the organization. This SOP shall include procedures on how the committee operates and details on historical elements of the organization. For example, the President's SOP should have details on recurring and special decisions, and a list of all prior Presidents and the years they served; the Awards and Scholarship Committee should have details about the procedures of announcing, receiving, and processing applications, and a list of all prior Award and Scholarship recipients and the date and the amount of the award or scholarship.

Don't forget to send in comments or suggested changes!

New Director: Harris County Mosquito and Vector Control Division



On July 9, 2020, Chris Fredregill was approved as the Director of the Harris County Mosquito and Vector Control Division (MVC). He had been the Interim Director since July 2019. Chris comes to the position with over 18 years of medical entomology and public health experience which he uses to ensure that MVC constantly strives for innovation and creative approaches to control mosquitoes, while leveraging collaborations and grants into sustainable capacity.

Prior to this role, Chris held several positions throughout MVC including: Field Operations Manager, Research Entomologist and Larviciding Operations Entomologist. During these appointments, Chris oversaw collaborations with the Army Corps of Engineers and

the Port of Houston, incorporated novel larviciding technologies and directed the field activities of the division. He has additionally led MVC in collaborations with various institutions both academic and commercial including Texas A&M, University of Texas Medical Branch, Baylor College of Medicine, Texas Department of State Health Services and Centers for Disease Control & Prevention.

Chris received his Bachelor of Science degree from Texas A&M University in Biomedical Sciences and Entomology. He has also earned his Lean Six Sigma Blackbelt certification and is an active member of the Texas Mosquito Control Association and American Mosquito Control Association.

Editor's Note: Chris was not only active in the TMCA, he served on the TMCA Board of Directors for at least 8 years and was the TMCA President from October 2016 to October 2017.

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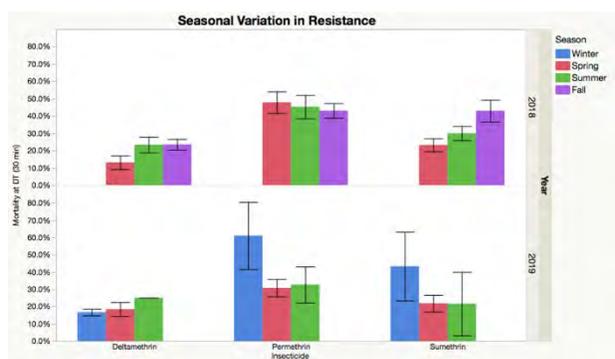
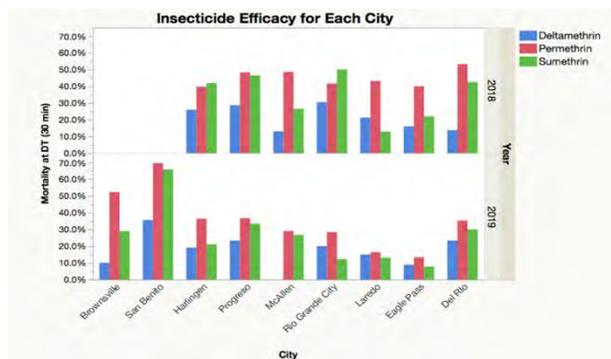
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Highlights from Mosquito Research Universities in Texas

University of Texas Rio Grande Valley (Dr. Chris Vitek) Over the past two years, my lab has been conducting a two-year, intensive insecticide resistance monitoring effort in conjunction with the TX Department of State Health Services. Our efforts have focused on collecting *Aedes aegypti* and *Aedes albopictus* eggs from seven different cities along the border – from Brownsville to Del Rio. Eggs are collected, then hatched in laboratory conditions, and exposed to one of three insecticides (permethrin, deltamethrin, and sumethrin) using the CDC Bottle Bioassay method. The goal of this project is to examine long-term and short-term changes in insecticide resistance, as well as determine if there is variability between the different cities. Most cities (if they engage in adult control) use permethrin, so we expected to see resistance to permethrin more than any other.

Our results suggest there is little variability between the different cities. In the first graph, you can see in general, resistance patterns were similar for each city. One difference was in the two eastern most cities that were added in 2019 (San Benito and Brownsville) – they showed much greater resistance to permethrin than other cities. Notably, resistance to sumethrin was also high, suggesting some possible cross-resistance, or resistance due to other means of exposure (such as private exterminators or agricultural insecticides). Interestingly, the resistance did seem to change over time. In the second graph, we have highlighted how resistance changed from season to season. This change was not the same in both years (2018 and 2019), suggesting that factors such as genetic drift may be at play. Altogether, our data suggest that there are significant geographic and temporal changes in resistance that need to be monitored, highlighting the need to assess insecticide resistance regularly, monitor what new insecticides may be most effective, and rotate insecticides regularly to avoid resistance concerns. With the onset of the pandemic in 2020, we were forced to halt our efforts, but we hope to resume them soon to better understand long term changes. This research was generously funded through a contract with the TX Department of State Health Services.



Registration Open - Upcoming Vector Control Courses in Houston/Harris County

I hope this email finds you well. As you know, the 23rd Annual Texas Gulf Coast Vector Education Workshop was postponed this year due to COVID-19. While the decision to postpone was necessary for the health and safety of both our instructors and attendees, our commitment to provide vector control training and networking opportunities remains a priority. While this year has been anything but typical; working with our partner, Texas A&M AgriLife Extension, the workshop has been rescheduled for the end of 2020. In addition to the workshop, 2 additional trainings are available in Houston/Harris County this year. Details and registration information is listed below. Please share this with others that would benefit from the training provided.

*Notes: (1) TDA has extended the deadline for current license holders to complete 2020 CEUs through December 31, 2020. (2) This information is current as of the date of this email. (5/7/2020).

- December 10, 2020
Texas Gulf Coast Vector Education Workshop – *Register through HCPH*
At this workshop an informational program and CEUs for TDA Pesticide Applicators and Animal Control Officers will be provided. The workshop is **free**, registration is required. Lunch is provided. For further details and to register [click here](#). Registration closes Friday, December 4, 2020. For questions please contact me, Rebecca Riley, (832) 927-1918, rebecca.riley@phs.hctx.net.
- September 29-October 1, 2020
Preparation for TDA Pesticide Applicator License Training – *Register through AgriLife*
Preparation for the TDA Non-Commercial Political Pesticide Applicator License General Standards & Category 12 (Public Health). This training is 3 days with 2 days instruction and 1-day testing. For further details and to register [click here](#). For questions please contact Dr. Sonja Swiger, SLSWIGER@AG.TAMU.EDU or Heidi Nivens, Heidi.Nivens@ag.tamu.edu.
- November 10-12, 2020
3-Day Western Gulf Center of Excellence (WGCVBD) Master Vector Certification Course – *Register through AgriLife*
This training is 3 days with no registration fee. For further details and to register [click here](#). For questions please contact Dr. Sonja Swiger, SLSWIGER@AG.TAMU.EDU or Heidi Nivens, Heidi.Nivens@ag.tamu.edu.



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PermaSease[®] 30-30

- 30% permethrin and 30% PBO formulation
- Apply undiluted or dilute with oil

PermaSease[®] 31-67

- 31.15% permethrin and 66.85% PBO formulation
- Apply undiluted or dilute with oil
- High synergist content decreases ability of mosquito to detoxify permethrin

PermaSease[®] 3-15

- 3% permethrin and 15% PBO formulation
- Ready-to-Use formulation that can be applied undiluted
- High synergist content decreases ability of mosquito to detoxify permethrin

PermaSease[®] 4-4

- 4.6% permethrin and 4.6% PBO formulation
- Ready-to-Use formulation that can be applied undiluted or diluted with oil

Universal Concentrate (UC) Formulations

- Formulations that offer unparalleled flexibility in dilution and application
- Can be diluted with water, oil, or applied undiluted

PermaSease[®] UC

- 30% permethrin and 30% PBO formulation

PermaSease[®] UC 20-20

- 20% permethrin and 20% PBO formulation

• Ground, aerial, and barrier application

• Ground application rates as high as 0.007 lb/ acre

• Cases, drums, or totes packaging sizes available

ADAPCO's patented Concentrated Insecticide Injection System (CIIS) takes the guesswork out of mixing for simple, easy, and accurate proportioning of concentrated insecticide with water or oil.



Innovation through formulation



TMCA Members Serving in National Level Leadership Positions

Featuring: Dr. Sonja Swiger, Co-Primary Investigator, Western Gulf Center of Excellence for Vector-Borne Diseases



Earning her Ph.D. at the University of Florida in 2007, Dr. Sonja Swiger became the Texas A&M AgriLife Extension Medical and Veterinary Entomologist in 2008 and works out of Texas A&M AgriLife Research & Extension Center-Stephenville. She has been a TMCA member since 2013 and is currently serving as Chair of the TMCA Workshop CEUs Committee.

Sonja also serves as a co-Primary Investigator with Dr. Craig Coates on the Western Gulf Center of Excellence for Vector-Borne Diseases for Subgroup 4: Education and Outreach. This Subgroup invested in education and training designed for multi-level delivery (presentation to businesses, education, children, etc.). Preparing the next generation of public health entomologists through academic programs, and

current practitioners and municipalities for responding to threats of vectors and VBD is of great importance. Sonja developed the Center-based education for in-service training of employees in the public and private sectors tasked with mosquito surveillance and abatement. The goal is to provide both long- and short-term training horizons composed of several topic relevant areas. A focus of the education goal is the **Master Vector-Borne Disease Management Certification** program, along with providing continuing education units (CEUs) for pesticide applicators and animal control technicians.

The **Western Gulf Center of Excellence for Vector-Borne Diseases** serves to enhance the capacity to anticipate, prevent, and control vector-borne diseases (VBD). The team is comprised of recognized experts in vector-borne diseases, vector biology and control, epidemiology, and ecology, and is boosted by strong partnerships with state and local public health organizations. The WGCEVBD team works to accurately anticipate, prepare for, and respond to emerging VBD. The intent is to help organizations improve their understanding of the factors related to VBD. These factors include the emergence, importation, and establishment of VBD, the need for consistent and precise methods for VBD surveillance, the need to invest in public health scientists who can increase surveillance capacities, and the ability face challenges of insecticide resistance and overcome difficulties related to the ecology and behavior of critical species.

The goals of the Western Gulf Center of Excellence for Vector-Borne Diseases is to 1) Conduct applied research to develop and validate innovative and effective VBD prediction, prevention and control needed to respond to current and future disease threats; 2) Train the next generation of public health entomologists capable of rapidly detecting and responding to VBD outbreaks on the Gulf Coast and other regions of the US; and 3) Strengthen effective collaborations among academic scientists and public health organizations at the federal, state, and local levels to optimize VBD surveillance, prevention, and response.



BEYOND THE BEST PRODUCT IS THE RIGHT APPROACH

Pioneered and developed through international partnerships between Valent BioSciences and public health professionals, WALS is a revolutionary biorational application approach for controlling container mosquitoes in cryptic habitats. WALS has undergone intensive operational development and large-scale, multi-year field trials for over 20 years.

Incorporating WALS as part of your IVM program means you can be confident that you'll have the right tools in place to keep people safe from the threat of infectious disease.



For more information, contact:

Candace Royals
Senior Technical Specialist, Valent BioSciences
(813) 505-8852 candace.royals@valentbiosciences.com

To get the facts: www.valentbiosciences.com/publichealth

TMCA SCHOLARSHIPS AND AWARDS ANNOUNCEMENT

Despite COVID-19 and no annual meeting this fall, the TMCA Board of Directors decided to offer scholarships for students conducting mosquito research and awards to recognize those who do innovative mosquito surveillance and control work.

If you would like to apply for one of the scholarships or the award listed below, please contact the Chair of the Scholarship and Awards Committee:

Dr. Jeff Flosi, Chair
TMCA Scholarship and Awards Committee
insectdoc.jf@gmail.com

UNDERGRADUATE SCHOLARSHIP

The **James D. Long Undergraduate Scholarship**, in the amount of \$1,000, is awarded each year to one qualified undergraduate student attending college or university in the state of Texas. The participating student agrees to spend at least one long semester (or the summer) during the academic year conducting research in an insect biology laboratory. A participating faculty member agrees to mentor and train the student in the laboratory and field. Individual research experiences should be designed in a close collaboration between the undergraduate student and the faculty sponsor before the application is submitted.

From the undergraduate student applicant:

- Completed application with personal information, (including mailing address, email address, and telephone number). *Application must be made on the form provided by the Scholarship and Awards Committee.*
- Two letters of recommendation from professors or instructors (other than the faculty sponsor) familiar with the student's work.
- Research proposal briefly describing the scientific goals of the proposed collaboration (no longer than one page and written with the help of the faculty sponsor).

From the faculty sponsor:

- Letter of recommendation for the student, including a statement of support for the proposed project, and an agreement to host and train the student in your laboratory.

GRADUATE SCHOLARSHIPS

Students may apply for only one of the graduate scholarships, so please select the one that best suits your research endeavors.

The **Jimmy K. Olson Memorial Scholarship**, in the amount of \$1,000, is awarded to one qualified graduate student who is conducting research in conjunction with an organized mosquito control organization. The award is named after Dr. Jimmy Olson who was a long-time member of the Association and an ardent supporter of its goals. The recipient must be enrolled in a college or university in Texas at the time the scholarship is awarded.

The **James "Gus" Foyle Memorial Scholarship**, in the amount of \$1,000, is awarded to one qualified graduate student each year to promote and encourage research relating to mosquito control. The award is named after Mr. Gus Foyle who was a charter member of the Association and an ardent supporter of its goals. The recipient must be enrolled in a college or university in Texas at the time the scholarship is awarded. The recipient must be engaged in research with mosquitoes, insects, or related disease transmission.

From the graduate student applicants:

- Completed application with personal information (mailing address, email address, and telephone number). *Application must be made on the form provided by the Scholarship and Awards Committee.*
- Resume
- One copy of the student's academic transcript.
- Two letters of recommendation from professors or instructors (other than the faculty sponsor) familiar with the student's work.
- Research proposal providing an overview and briefly describing the scientific goals of the proposed collaboration (no longer than one page and written with the help of the faculty sponsor).

From the faculty sponsor:

- Letter of recommendation for the student, including a statement of support for the proposed project, and an agreement to host and train the student in your laboratory.

Requirements for All Scholarship Recipients

- Must attend the Annual Meeting to receive the scholarship.
- Must present a paper one year following receipt of the scholarship at the TMCA Annual Fall Meeting.
 - All reasonable travel, food, and lodging costs related to the receipt of the award and presentation of the paper to the TMCA will be paid by TMCA.
 - Reimbursement of these expenditures will be subject to approval by the Chair of the Scholarship and Awards Committee.
 - Receipts for these expenditures must be submitted along with claims for reimbursement.
 - Recipient should use the most economical means of travel.
 - All travel is confined to the state of Texas.
 - Deviations from these requirements are subject to approval by the TMCA Board of Directors.

AWARD FOR OPERATIONAL INNOVATION

FRANK WILLIAM (BULL) SCHMIDT AWARD

The Texas Mosquito Control Association will present an operational innovation award, **the F. W. "Bull" Schmidt Memorial Award**, to a qualified individual who has made contributions of an operational nature to mosquito control. The award will be given only in years when there is a qualified applicant. The TMCA Scholarship and Awards Committee will make the decision each year as to whether or not there is a qualified applicant. The selection process will be based on a written description detailing the applicant's contributions. The letter must be submitted on letterhead by the applicant's supervisor to the Chair of the TMCA Scholarships and Awards Committee.

Application deadlines and Recipient Announcements

The Scholarship and Awards Committee must receive applications and all support materials no later than **Thursday, 1 October 2020**. The TMCA is not responsible for late, lost, or misdirected applications.

Scholarships and Awards will be announced at the TMCA Business Meeting on **Tuesday, 8 December 2020**.

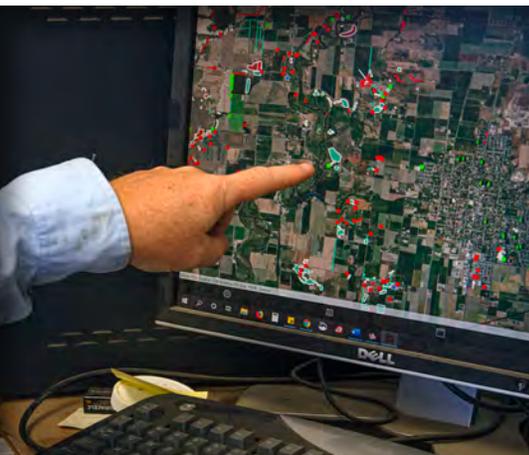
For additional information, application guidelines, and application materials on either of these scholarships or the award, please contact the Chair of the TMCA Scholarships and Awards Committee.

Dr. Jeff Flosi, Chair
insectdoc.jf@gmail.com

Geospatial Approach for Healthy Communities

GIS Solutions

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PUBLIC NOTIFICATION APP • UAS SALES & SERVICES • GIS PROFESSIONAL SERVICES



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Status of Endangered Species Act Review

The information below was provided by Mark Clifton who serves as a co-chair with Nina Dacko on the AMCA Chemicals Subcommittee.

- 1) Under Section 7 of the Endangered species act, Federal agencies are required to consult and cooperate with the USFWS and NMFS to ensure actions they take further the goals of protecting endangered species. In 2013 the National Academy of Sciences outlined an approach for pesticide registration consultations which was adopted by the EPA and USFWS. In 2018, this new consultation and evaluation process was utilized for the first time to evaluate Malathion, Chlorpyrifos and Diazinon. The results of the first consultation between the EPA and USFWS quickly demonstrated serious shortcomings in the newly adopted consultation process. In late 2018, a new working group was formed to incorporate comments from stakeholders and improve the ESA consultation process. So basically, the ESA/FIFRA consultation process is back on the drawing board.
- 2) Although pyrethroid materials are currently being reregistered with favorable results for human health etc., the ESA portion of the reregistration was NOT completed. The above consultation process may or may not produce reasonable results. Something to watch very closely.
- 3) The USFWS has been implementing “areas of high potential” around locations where Rusty Patched Bumblebee has been sighted in the past. These areas are NOT critical habitat but are used to determine where Section 9 incidental take *may* occur. This is a big problem because these areas can be drawn anywhere and can change at any time. Under the ESA, “any person” can file suit to protect an endangered species from incidental take. Having treatment areas and “areas of high potential” overlapping is a potential source of liability. I would watch for more of this kind of designation in the future with other pollinators i.e. the Monarch or other bumblebees.
- 3) The Monarch butterfly listing will be a serious challenge for adult control measures in many places due to the potential for section 9 incidental take or at least the perception of section 9 incidental take. Major potential liability similar to the rusty patched bumblebee.
- 4) The AMCA is working on an approach to public health materials which would require certain “Best management practices” to be implemented by users of mosquito control products per the FIFRA label. It is hoped that this approach will enable the services and EPA to evaluate mosquito control materials separately from other products with the same A.I. because their use patterns would be much more clearly defined. This is in its very early stages but may offer a path forward for our materials.

TMCA Annual Business Meeting via Tele/Video Conference

With the annual meeting being canceled, there is still a need to hold the TMCA Annual Business meeting, which will include voting on TMCA Officer Positions and installation of those elected. This meeting will be held Tuesday, December 8th at 1:00 p.m. In November, the information on how to connect will be in the Newsletter, the TMCA Website, and Social Media pages. This meeting should last about one hour.

Continuation of Mosquito Surveillance and Control During Public Health Emergencies and Natural Disasters

C. Roxanne Connelly, PhD¹; Justin A. Gerding, DHA²; Susan M. Jennings, MS³; Andrew Ruiz, MSPH²; Roberto Barrera, PhD⁴; Sue Partridge, MPH¹; C. Ben Beard, PhD¹

Mosquitoborne disease outbreaks occur every year in the United States from one or more of the arboviral diseases dengue, West Nile, LaCrosse, Eastern equine encephalitis, and Zika (1). Public opinion communicated through traditional and social media and the Internet, competing public health and resource priorities, and local conditions can impede the ability of vector control organizations to prevent and respond to outbreaks of mosquitoborne disease. The Environmental Protection Agency (EPA) and CDC performed a coordinated review of the concerns and challenges associated with continuation of mosquito surveillance and control during public health emergencies and disasters. This report highlights the first joint recommendation from EPA and CDC. Mosquito surveillance and control should be maintained by state and local mosquito control organizations to the extent that local conditions and resources will allow during public health emergencies and natural disasters. Integrated pest management (IPM) is the best approach for mosquito control (2). IPM uses a combination of methods, including both physical and chemical means of control (3). For chemical means of control, CDC and EPA recommend the use of larvicides and adulticides following the EPA label. It is imperative that public health recommendations be followed to ensure the safety of the pesticide applicator and the public.

Background

Mosquito control and public health agency efforts in mosquito surveillance and abatement are critical for preventing mosquitoborne diseases and protecting public health including during public health emergencies and responses to natural disasters. Initiating or continuing the delivery of mosquito control and public health organization services are essential for protecting public health and mitigating mosquitoborne diseases. This includes the safe, timely, and judicious use of pesticides against adult mosquitoes (adulticides) and larval mosquitoes (larvicides), according to their EPA labels, as part of a comprehensive integrated control effort.

Methods

CDC and EPA performed a coordinated review of the concerns and challenges associated with continuation of mosquito surveillance and control during public health emergencies and disasters. CDC and EPA work closely together and with federal,

state, tribal, local, and territorial organizations to protect the public from mosquitoborne diseases. CDC, in close collaboration with public health and mosquito control partners, monitors the potential sources of outbreaks of mosquitoborne diseases, and provides technical assistance for prevention and control activities. CDC/Agency for Toxic Substances and Disease Registry monitors exposures to pesticides in the U.S. population, provides information on health effects of certain pesticides, and responds to community concerns. EPA conducts rigorous scientific analyses to ensure that mosquito control and public health organizations have access to effective pesticides and mosquito control products that will not pose unreasonable risk for adverse effects to human health or the environment when used according to the label.

Rationale and Evidence

Mosquitoborne diseases can pose threats to communities amid public health emergencies or following a natural disaster (e.g., flooding, fires, and hurricanes). To mitigate mosquitoborne disease threats, it is critical that mosquito control and public health organizations continue their surveillance and control programs to the extent that local conditions and resources will allow. A reduction of mosquito surveillance and control efforts can result in increased rates of mosquitoborne illness, and a lapse in services can reduce the efficacy of control strategies after they are reinstated. For example, properly planning and implementing control strategies to interrupt the mosquito lifecycle require ongoing surveillance, and monitoring can also inform appropriate timing of the application of adulticides and larvicides.

State, tribal, local, and territorial public health and mosquito control organizations play a critical role in protecting the public from mosquitoborne diseases. They serve on the front lines, providing information through their outreach programs to the human and environmental surveillance networks that first identify possible human illness outbreaks and emerging risk. They also manage the mosquito control programs that carry out prevention, public education, and mosquito surveillance and control. These organizations determine whether the use of pesticides for mosquito control is appropriate for their area.

CDC and EPA recommend IPM as the best approach for mosquito control (2). IPM uses a combination of methods and can include both physical and chemical means of control

(3). CDC and EPA recognize a need for use of adulticides and larvicides as a component of IPM. This is especially true during periods of mosquito-borne disease transmission.

Before a pesticide can be sold or distributed in the United States, it must be registered (licensed) by EPA to ensure that it meets federal safety standards to protect human health and the environment. By law, EPA registration means that the agency has determined a mosquito control pesticide product, when used according to label instructions, can perform its intended function without unreasonable risk to persons or the environment.

When evaluating pesticides, including those for mosquito control, EPA assesses a wide variety of data (e.g., potential long and short-term toxicity, carcinogenic, reproductive and developmental effects, exposure modeling, environmental fate, etc.) to estimate potential risk to persons and the environment from proposed use of the product. Many plant and wildlife species can be found in or near areas where mosquito control pesticides are used, including cities, agricultural fields, and recreational areas, so EPA considers risks in all these areas.

EPA's risk assessments evaluate the potential for harm to adults and children, considering special populations (such as a pregnant woman and her fetus, immunocompromised persons, the elderly, and others) as well as nontarget wildlife, fish, and plants (including endangered species). EPA also assesses the potential for contamination of surface water or ground water from leaching, runoff, and spray drift and how this might affect the long and short-term health of humans and wildlife in the area. When assessing risks from pesticides, the amount of a substance a person or nontarget organism is exposed to is as important as the toxicity of the pesticide. This concept is critical when analyzing the risks from mosquito control pesticides.

Many mosquito adulticides are applied as ultra-low volume (ULV) sprays in very small amounts. ULV sprayers dispense extremely small droplets using precision equipment that must be calibrated annually or more frequently depending on state requirements. A typical ULV adulticide, for example, is applied in droplets of 80 microns or less, which means hundreds of thousands of droplets could fit inside something as small as a pea. Common mosquito adulticides degrade quickly and do not have a residual effect (4,5). When released from an airplane, these tiny droplets are intended to stay airborne and drift through an area above the ground, killing the mosquitoes in the air on contact. As soon as the pesticide is released from the airplane's nozzle, it begins to degrade, minimizing potential risk for nontarget exposures, including those to humans or the environment.

In cases where the risk assessment reveals potential adverse impacts on humans or the environment, EPA works with the pesticide registrants and users to find ways to reduce the risk. For mosquito control products, the risk might be lowered

Summary

What is already known about this topic?

Mosquito surveillance and control programs, established throughout the continental United States, provide data to support timely and effective mosquito control actions to reduce mosquitoes and the risk of mosquito-borne disease.

What is added by this report?

This is the first published policy report by CDC and the Environmental Protection Agency (EPA) to recommend the continuation of mosquito control surveillance and control during nonmosquito-related public health emergencies and natural disasters and to support the use of larvicides and adulticides following the EPA label instructions.

What are the implications for public health practice?

The recommendations support continuation of mosquito control operations and use of resources to monitor and manage mosquitoes when there are competing priorities.

by such measures as reducing the application rate, increasing the release-height for aircraft, placing limits on usage under certain weather conditions (such as high wind speeds or temperature inversions), and tightly controlling the droplet size, among others.

EPA manages the risks of pesticides through its approval of a pesticide's label, requiring use directions and precautions to ensure that the pesticide is only used in a manner that does not cause unreasonable adverse effects. The label language is carefully crafted to ensure that the directions for use and safety measures are appropriate to any potential risk and can be enforced by law. Following label directions is required by law and is necessary to ensure that the use does not cause unreasonable adverse effects.

The decision to perform mosquito control, whether using adulticides or larvicides, should be 1) based on evidence (e.g., increasing virus infection rates in mosquitoes, sentinel animal infections, human cases, increasing mosquito abundance beyond acceptable levels as described by the Federal Emergency Management Agency (6) and defined by states); 2) made by professionals trained and certified in the safe handling, storage and application of pesticides; 3) applied using equipment that is properly calibrated; 4) timed to coincide with mosquito activity and minimize exposure to nontargets; and 5) applied strictly following the EPA-approved label. Before mosquito control applications, there should be an assessment of efficacy and resistance to the product. A postapplication evaluation of the efficacy of the application should also be performed. Public notification requirements vary; however, consideration might be given to notifying the public of scheduled pesticide applications and providing information about the pesticide product.

Policy

CDC and EPA strongly recommend the continuation of mosquito surveillance and IPM-based control in the United States during mosquito-borne disease outbreaks, nonmosquito-related public health emergencies, and natural disasters. CDC supports EPA's science-based review of mosquito control adulticides and larvicides for registration and use in the United States that ensures, when applied following the EPA label, that these pesticides will not cause unreasonable adverse effects and will benefit human health.

Discussion

This joint CDC-EPA statement supports mosquito control and public health organizations in planning, performing, and maintaining continuity of mosquito surveillance and control activities, and the use of EPA-registered adulticides and larvicides, under normal and emergency situations. The position should remain in effect during public health emergencies as well as during other unusual circumstances, natural disasters, and mosquito-borne disease outbreaks, and under the condition that other federal or jurisdictional guidance might be in place that should be incorporated into planning and operations.

Acknowledgments

Christopher Gregory, Janet McAllister, John-Paul Mutebi, Steve Waterman, Division of Vector-Borne Diseases, National Center for Emerging and Zoonotic Infectious Diseases, CDC; Yulia Carroll, Arthur Chang, John Sarisky, Division of Environmental Health Science and Practice, National Center for Environmental Health, CDC.

Corresponding author: C. Roxanne Connelly, csz5@cdc.gov, 970-266-3512.

¹Division of Vector-borne Diseases, National Center for Emerging and Zoonotic Infectious Diseases, CDC; ²Division of Environmental Health Science and Practice, National Center for Environmental Health, CDC; ³Office of Pesticide Programs, Office of the Director, Environmental Protection Agency, Washington, DC; ⁴Division of Vector-borne Diseases, National Center for Emerging and Zoonotic Diseases, CDC.

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Texas Mosquito Control Association

Membership Application

Purpose: To assist in promoting public health and comfort through the control of disease transmitting and pestiferous mosquitoes, to provide for the scientific advancement of Association members, and to stimulate public interest in mosquito control activities.

Publications: A Newsletter is published quarterly and emailed to active members. The Association web site is located at <http://www.texasmosquito.org>

TMCA Annual Fall Meeting: Held each year during October at an announced site within the state. Papers presented at this meeting are primarily technical reports dealing with new and improved methods of mosquito control, new insecticides and application techniques. Basic research related to mosquito life cycles, bionomics, diseases, and natural histories are also presented. Distributors are present to display and answer questions about their equipment and chemicals. A registration fee is required to attend.

TMCA Spring Workshop: Held each year during February or March at an announced site within the state. This is a basic training workshop on the operational aspects of mosquito control. Topics include general mosquito biology, mosquito borne diseases, sampling and surveillance techniques, methods of mosquito control, public relations, equipment maintenance, chemicals and chemical safety, record keeping, administrative problems, and advanced operational training in calibration, droplet size determination, mosquito identification, and surveillance devices and techniques. Distributors are present to display and demonstrate their products. Registration is free, and several meals are usually provided by the TMCA to help reduce costs to attendees.

CEU's: CEU's for the Texas Department of Health Vector Control Certified Applicator License are offered at the Spring Workshop. Fees are \$20 per hour of CEU requested for non-members, free to all TMCA members. A copy of the TDA regulations can be downloaded from the TMCA web site at <http://www.texasmosquito.org>

Annual Dues: Dues are payable on a calendar year basis. Active Memberships are \$30 per year, and Supporting Memberships are \$60 per year.

Name: _____ Date: _____

Affiliation: _____ Position: _____

Work Mailing Address: _____

City & State: _____ Zip: _____

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Membership type applied for: Active (\$30): _____ Sustaining (\$60): _____

Make check payable to: Texas Mosquito Control Association

Return application & remittance to: Greg Marciniak, Membership Chairman
Jefferson County Mosquito Control District
8905 First Street
Beaumont, Texas 77705

Phone: 409-719-5927 Fax: 409-727-4176 Email: membership@texasmosquito.org