

VECTORVision

VOLUME 14 | NO. 1 | Spring 2006 | A PUBLICATION FOR VECTOR CONTROL PROFESSIONALS FROM VALENT BIOSCIENCES CORPORATION

Mosquito Abatement Industry Helps Colleagues Affected by Hurricanes

When hurricanes ripped through the Gulf Coast in 2005, homes and businesses were destroyed and many were left to pick up the pieces and rebuild what little Hurricanes Katrina and Rita spared.

Fortunately, members of the mosquito abatement industry in Louisiana were able to turn to their colleagues for help. The East Baton Rouge Mosquito Abatement District (MAD) remained unharmed, and director Matt Yates and staff were able to assist the more affected mosquito control districts and their employees.

"Communication in the affected areas was poor to nonexistent and many MADs were damaged severely," said Candace Royals, Valent BioSciences sales representative. "East Baton Rouge MAD opened its doors, phone lines and e-mail so that other districts such as New Orleans, St. Tammany Parish, St. Bernard Parish, Cameron Parish and Calcasieu Parish could communicate with each other, their employees, state health department personnel and the state office of emergency preparedness." (continued on page 2)



Standing water after Hurricanes Katrina and Rita



Welcome to our first 2006 edition of Vector Vision. All of us here at Valent BioSciences Corporation would like to offer our sympathy and support to our friends and colleagues affected by

Hurricanes Katrina and Rita. These hurricanes and the other natural disasters that have occurred in recent times have made a tremendous impact on all of us around the globe – our hearts go out to those affected.

We would also like to extend our deepest condolences to the families of Marty Chomsky, Bill Lechel and Jim Robinson. They made great contributions to this industry and will be missed.

This Vector Vision contains a new section, "Who Do You Know?" which will highlight the work of different mosquito associations throughout the United States and Canada. For our inaugural section, we focus on the Michigan Mosquito Control Association, our host for this year's Annual American Mosquito Control Association Meeting. You will also find our new section, "Best Practices." In this issue, we discuss the growing effect of malaria on African countries and how organizations such as Valent BioSciences and interested stakeholders are working to reverse the negative effects of this mosquito-borne disease.

Valent BioSciences is excited to be a part of the 72nd Annual AMCA Meeting and we look forward to seeing old friends and associates in Detroit, Mich.

We hope that these stories provide resources and information to you and look forward to any feedback you may have. Please visit us at www.valentbiosciences.com/publichealth or speak with any of our sales and technical professionals.

Best Regards,

Ernest Dankwa
Senior Global Business Manager
Public Health and Forestry Business Unit

Mosquito Abatement Industry... (continued from page 1)

Yates was happy that his district could help in this time of need.

"We were fortunate in East Baton Rouge Parish that our infrastructure was intact and we could serve as a clearing house for information and assist displaced mosquito control workers," Yates said. "Louisiana mosquito control workers were scattered from New York to California, so for a period of time after the storms we offered our facilities to them so they could begin to reorganize even before they were allowed back into their parishes."

Yates also helped distribute the 3,000 pounds of VectoLex® that Valent BioSciences Corporation donated to St. Tammany Parish. In October of 2005, Royals and representatives from Valent BioSciences surveyed the damage in Louisiana and helped Palmisano and his MAD by applying the VectoLex in St. Tammany Parish.

Today a number of mosquito control workers are still living in hotels, cruise ships or travel trailers as they try to rebuild their programs and their homes.

VectoLex is a registered trademark of Valent BioSciences Corporation.

Who Do You Know?

*Welcome to **Who Do You Know?** This recurring section will highlight MADs around the country, taking you inside their operations and finding out how they run their mosquito control programs. Our first "Who Do You Know?" highlights the Michigan Mosquito Control Association, our host for the 72nd Annual AMCA Meeting in Detroit.*

The Michigan Mosquito Control Association (MMCA) has been promoting mosquito control in Michigan for over 20 years. The association was created after the St. Louis Encephalitis epidemic in the 70s as a way to bring Michigan mosquito control professionals, university researchers, public health and government officials and interested citizens together to share information and ideas about mosquito control.

"We now have over 190 members," said Tom Wilmot, director of Midland Mosquito Control and a former MMCA president. "The core of the association is made up of Michigan's four public mosquito abatement districts in the following counties: Midland, Saginaw Bay and Tuscola County, though the whole association still remains pretty diverse in its membership."

"Since the inception, promoting mosquito control and disseminating information about mosquitoes to the public has been one of the association's main objectives," said Thomas Putt, director of Bay County Mosquito Control and former MMCA president. "Some of our undertakings have included creating training manuals for the Michigan Department of Agriculture, maintaining the MMCA's comprehensive Web site and teaching mosquito education programs at local grade schools."

This year, the MMCA is charged with the additional task of organizing and hosting the Annual American Mosquito Control Association (AMCA) Meeting in Detroit, Michigan.



Bill Hatfield and Tom Wilmot of Midland County Mosquito Control discussing the next flight



Douglas Allen of Midland County Mosquito Control treating catch basins with VectoLex® granules

"Being able to host the Annual AMCA Meeting is a huge honor for MMCA," said Knepper. "Our members have worked really hard this past year to make this meeting a success. We hope to provide members of the industry informative presentations and seminars, the opportunity to network with their colleagues and a good time in Detroit."

VectoLex is a registered trademark of Valent BioSciences Corporation.

Best Practices

Global Partners Work Together to Fight Malaria in Africa

An estimated 1-2 million people in Africa die of malaria each year. Every 30 seconds a child in Africa dies of the disease and it is estimated that malaria costs this country more than \$12 billion a year in lost Gross Domestic Product.

Malaria is a serious problem for the world's second largest continent and is experiencing resurgence in the last part of the 20th century for several reasons.

"Poverty is rampant in many African countries, causing a lack of infrastructures and resources to treat those infected with malaria and to prevent the further spread of the disease," said Dr. Steve Krause, global business development manager for Valent BioSciences Corporation.

"Endemic countries are further harmed by poor drainage, and waste systems can harbor breeding sites for the female *Anopheles* mosquitoes, the breed that transmits the malaria parasite. Africans are also developing resistance to cheaper antimalarial drugs such as chloroquine, and mosquitoes transmitting the disease are showing resistance to insecticides."

Experts agree that it will take a multilateral, global effort to stop the effects of malaria and create financial stability for malaria-endemic countries in Africa. The World Health Organization's Roll Back Malaria Initiative is a recently established program created to meet this need.

About Roll Back Malaria

The Roll Back Malaria Initiative was founded in 1998 and enacted in April 2000 when the African Heads of State signed the Abuja Declaration. The goal of the program is to reduce the cases of malaria by 50 percent by 2010. (www.rollbackmalaria.org)

According to the report of the Commission on Macroeconomics and Health, up to \$2 billion will be needed each year to achieve the goal of halving the burden of malaria by 2010. Over 90 global partners are working with the Roll Back Malaria initiative to shoulder this staggering financial burden and develop preventative and control tools.

These partners include the Group of Eight, the United States of America,

the European Commission and the Bill and Melinda Gates Foundation, as well as malaria-endemic countries, non-governmental organizations, private corporations, members of the academic community and numerous foundations, said Krause.

Roll Back Malaria plans to achieve its 2010 goal by working with African countries at risk on a local level to establish Country Strategic Plans (CSPs). These CSPs are founded on four technical elements identified by Roll Back Malaria: access to effective treatment, promotion of insecticide-treated nets (ITNs) and improved vector control, prevention of malaria in pregnancy and prevention and response to malaria epidemics.

Insecticide-Treated Mosquito Nets

The distribution of insecticide-treated nets (ITNs) is one of the single most important devices Roll Back Malaria is using as a preventative measure for malaria. ITNs protect populations at risk including those most susceptible to malaria infection, young children and pregnant women, from the *Anopheles* mosquito, which typically bites at night. The insecticide creates a barrier beyond the net that repels mosquitoes from biting and can even shorten the lives of malaria-carrying mosquitoes.

ITN trials show that the nets can reduce death among young children by an average of 20 percent. One of the targets of the Abuja Declaration is to have 60 percent of the African populations at risk sleeping under ITNs. This will require 32 million nets, said Krause.

"Unfortunately, there are several barriers to this ITN goal," Krause said. "These nets can be costly for families living in developing countries and a large portion of the population is unfamiliar with ITNs and not in the habit of using them for malaria protection."

Reducing ITN Costs

To address these challenges, Roll Back Malaria is working with African countries to reduce taxes and tariffs on the nets as a way to decrease the retail price. This initiative aims to not only use the nets as protection against malaria but to also stimulate the suffering economy in these endemic countries, said Krause.

"Global corporations are working with these countries through private sector investments to support local ITN industries," Krause said. "Through the development of local industries, pricing competition has occurred and ITN prices are coming down. Hopefully the promotion of free trade will result in future economic growth."

Roll Back Malaria also has promoted the "net culture" as part of its
(continued on page 4)

Global Partners Work Together...
(continued from page 3)

health education program to inform the public about these important prevention tools and to create the necessary demand for ITNs.

Improving Vector Control

Reducing the mosquito population is a tactic supported by Roll Back Malaria and its partners such as Valent BioSciences.

“Redirecting the vector burden through larval source management is an absolute necessary approach in this malaria initiative,” Krause said. “But often governments in endemic countries are unfamiliar with mosquito surveillance and treatment programs, so we are working with them to establish operational programs funded on determining the source of mosquitoes and controlling larvae either with site management or larvae application.”

Krause and other Valent BioSciences representatives are working in hand with the governments of these countries to establish Integrated Vector Management (IVM) programs that will address both the needs for preventative and curative actions. These programs involve the use of

insecticides, as well as larvicides, monitoring of breeding sites and educating the government and the people about what they can do to reduce the mosquito population.

Roll Back Malaria Successes

Since 2001, Roll Back Malaria has successfully helped 20 African countries reduce or eliminate taxes and tariffs on ITNs. This has helped the distribution of the nets and will likely impact the number of malaria cases among the populations in those countries.

The Roll Back Malaria initiative continues to receive significant financial support from its partners. In January 2006, the World Bank announced that it approved an International Development Association credit of \$35 million to help the Government of Niger to strengthen their national health system to fight malaria.

To reach its 2010 goal, Roll Back Malaria will need the continued support from the global community and its key partners. For more information on the Roll Back Malaria program, visit www.rollbackmalaria.org.

Parrot Jungle Island Replaces Adulticides with Larvicides

Park sees excellent control of problem pest

Jeff Shimonski, director of horticulture at Parrot Jungle Island knows how hard it can be to manage a mosquito population. Parrot Jungle Island is a lush park in Miami, Florida that is home to many species of plant life and animals. South Florida alone has identified 45 species of mosquitoes and Shimonski's job is to protect the captive animals on exhibit and the public from the bites and possible diseases that these dangerous pests can transmit. Shimonski has overseen the park's mosquito control program for 30 years and was responsible for its inception in the late 70s.

Early Pest Management Program

Previously Shimonski relied heavily on regular broadcasting of adulticides to control the park's mosquito population. When the park moved from its former site of 60 years, Parrot Jungle, strong winds from the ocean at the new park made controlling the direction of the spray difficult and increased the human, animal and plant exposure to spray drift.

“Fogging has always been a part of our mosquito control program here
(continued on page 5)



Vector Vision Hits the E-mail Superhighway

Vector Vision will now be offered through e-mail. If you are interested in receiving an electronic copy of the summer 2006 Vector Vision newsletter and future issues, let us know! Send us your name, company name, mailing address and e-mail address at vectorvision@valent.com. Indicate if you would like to receive only an electronic copy or if you would like to receive both an electronic copy and a copy in the mail.

FOR MORE INFORMATION PLEASE CONTACT YOUR VALENT BIOSCIENCES REPRESENTATIVE or Valent BioSciences Corporation, Public Health Products
870 Technology Way, Libertyville, IL 60048 • Customer Service: 800.323.9597 • Web site: www.valentbiosciences.com/publichealth

Parrot Jungle Island Replaces Adulticides... (continued from page 4)

at Parrot Jungle and Parrot Jungle Island,” Shimonski said. “At the original park, we used every agricultural chemical available and eventually used pyrethroids. I started to see phytotoxicity issues with some of our plants and worried that the chemicals would also harm the animals that inhabit the park. We also weren’t achieving good mosquito control with these methods and it seemed that the local mosquitoes were building up a mild resistance to the chemicals.”

Shimonski also noticed that Parrot Jungle’s other pest control programs were also requiring more frequent use of stronger chemicals to fight insect resistance. In 1988, Integrated Pest Management (IPM) became a viable option and Shimonski began to shift from a strictly chemical program to one that used a minimum of pesticides. Despite the evolution of Shimonski’s pest management program, he still had to use a significant amount of pesticides for adulticiding in the park.

Larviciding Program

This past year Shimonski turned his attention to introducing larvicides into his IPM program to control the numerous aquatic breeding sites on the island. As part of the Environmental Protection Agency’s Pesticide Environmental Stewardship Program, which requires that businesses and organizations reduce their pesticide load, Shimonski began a year-long study in May 2005 to test six different biochemicals and measure their efficacy on larvae. Among the larvicides he is testing are VectoLex® CG (*Bsph*) and VectoBac® CG (*Bti*) from Valent BioSciences Corporation, Arosurf MSF from Goldschmidt Chemical Corporation, Agnique MMF from Cognis Agrosolutions, Altosid SBG from Zoecon and garlic oil.

“I have seen varied results from the different biochemicals,” Shimonski said. “Some have burned the plants while some have not worked against the particular larvae I am trying to control. So far, I have seen the best results from the VectoLex and the VectoBac which I use together for the best effect.”

Shimonski began testing the different larvicides on a group of the many



Flamingo Lake at Parrot Jungle Island

bromeliads that inhabit the park. This particular plant holds bodies of water in its leaves, making it an ideal breeding ground for mosquitoes. After treating the bromeliads for several weeks, the park’s mosquito problem still remained, so Shimonski looked at other bodies of standing water in the area.

“Miami-Dade County requires that all water that falls on your property, including rainwater, must remain on your property,” Shimonski said. “When we built Parrot Jungle Island in its new location, we also built about 20 storm drains on the property. During the course of this study we began testing the storm drains on a weekly basis and saw a significant decline in our mosquito population.”

The storm drains in the park can hold up to 80 to 90 square surface feet of water. Once Shimonski tested these sites he found thousands of larvae inside, spurring him to identify and remove other potential breeding grounds in the park such as rooftops, rain gutters, animal water containers and the Flamingo nesting area.

Mosquito Outlook at Parrot Jungle Island

Since larviciding in the storm drains, Shimonski has not had to fog the park in over three months. This is unheard of since the park had to spray every day last year during the winter months.

VectoBac and VectoLex are registered trademarks of Valent BioSciences Corporation.

Valent BioSciences Heats Up for the 2006 AMCA Meeting


The Annual American Mosquito Control Association (AMCA) Meeting is always an industry highlight, and this year’s meeting in Detroit, Mich. is sure to be no exception. Valent BioSciences is happy to be a part of AMCA’s 72nd Annual Meeting and looks forward to seeing familiar friends

and faces. This year we are excited to offer an Internet café at our booth, so please stop by, relax by the fire and catch up on your e-mail while you visit with VBC representatives. Also, don’t forget our annual Ice Cream Social on Monday, February 27 at 3:00 pm. See you in Detroit!



EVERY OUNCE OF TEKNAR COMES WITH SOMETHING EXTRA: VALENT BIOSCIENCES.®

When you use Teknar biological larvicide, you can expect selective, environmentally sound mosquito and black fly larvae control in under 24 hours. Plus the quality control, technical expertise and excellent customer service of Valent BioSciences.



VALENT BIOSCIENCES CORPORATION *Creating Value Through Technology And People™*
www.valentbiosciences.com | 800-323-9597
Read and follow the label instructions before using.

Teknar®

Backed by more than a label.