

Collaboration between University of Wyoming
Extension entomologists, state, city, industry leads to

EFFECTIVE WEST NILE VIRUS VECTOR MOSQUITO CONTROL FOR FOURTH YEAR

Situation

Many mosquito abatement districts in Wyoming tasked with combatting the vector of the West Nile virus (WNV) have limited budgets for training. Extension entomology specialist Alex Latchinsky, Keith Wardlaw, city of Laramie Mosquito Control supervisor, and entomology assistant specialist Scott Schell submitted a request for education program funding to the Wyoming Department of Agriculture–Emergency Insect Management Grant committee. With additional funding from Adapco, Inc., we proposed a training course in Laramie in May to match the initial employment period of people hired for seasonal mosquito control work around the state.

Grant funds enabled the University of Wyoming to bring in Dr. Tom Janousek of Pest Consulting Services, a mosquito control specialist and consultant, as lead trainer. Nate Hill, from Adapco Inc., a company that specializes in mosquito control products, gave presentations on the proper use of various control products and funded part of the course. The entomology teaching laboratory at the University of Wyoming, the city of Laramie’s mosquito control shop, and mosquito habitat locations near Laramie were as training venues. The Wyoming Department of Agriculture’s Emergency Insect Management Grant (EIMG) program, in the amount of \$5,200, paid speaker fees, travel expenses, meeting incidentals, and lodging for people sent by

various mosquito abatement districts to attend the training program.

The 12-hour program was May 20-21, 2014. Twenty people from 14 different Wyoming mosquito abatement districts attended for classroom presentations, equipment, and product demonstrations. Hands-on training in the field along with reference handouts were provided. Mosquito samples for perfecting identification skills and reference specimens were available for attendees to take back to their districts.

HAVING WELL-TRAINED :
MOSQUITO ABATEMENT :
PERSONNEL QUICKLY :
RESPOND WILL HELP :
ENSURE THE HEALTH :
AND WELL-BEING :
OF THE NATION :



<http://bit.ly/uwentomology>

University of Wyoming entomology

- Mosquitoes
- Insects on the farm
- Insect identification
- Grasshoppers



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Impacts

Participants gained knowledge and confidence they are providing the best, within their budgetary constraints, mosquito and WNV vector management possible to the public. The first step in integrated pest management is identification of the pest, and participants increased skills in identifying larval and adult mosquitoes through hands-on practice. They learned how to recognize, sample, and monitor mosquito habitats. Attendees also learned about all aspects of mosquito control such as Environmental Protection Agency and state regulations, pesticide safety, personal protective equipment, application equipment calibration, vector surveillance, and virus detection.

WNV resurgence in the U.S. in 2012 showed the importance of having well-trained mosquito abatement personnel available every year to combat outbreaks of arthropod-transmitted viruses. The number of serious U.S. cases of WNV infection in 2012 exceeded that of any other year – there were 2,873 neuroinvasive cases and 286 deaths.

WNV was present in Wyoming, but only seven non-fatal human cases of the neuroinvasive form of the disease were reported in 2012. In 2013, Wyoming, Montana, Colorado, and South Dakota and five other states had the highest incidence of the serious form of WNV, per capita, of all the states. As of Oct. 7, 2014, Wyoming, unlike its surrounding states, had reported no human neuroinvasive WNV cases.

The estimated economic impact of an uncomplicated case of WNV fever is \$1,000. The cost of a single case of the neuroinvasive form of the disease ranges from \$27,500 to \$210,000, depending on severity, per patient with lifelong disability possible. The training was a wise use of public money if only one serious case of WNV was prevented.

Participants learned where they can get more detailed information on mosquito pests and advanced mosquito management techniques that will aid them



Mosquito control personnel from towns and weed and pest control districts learn to identify the West Nile virus carrier *Culex tarsalis* mosquito.

and the public they serve. Attendees learned how to satisfy the final reporting requirement of the Wyoming Department of Agriculture's Emergency Insect Management Grant program to maintain funding for mosquito abatement.

If new arthropod-vectored diseases are eventually introduced into the United States, having well-trained mosquito abatement personnel quickly respond will help ensure the health and well-being of the nation.