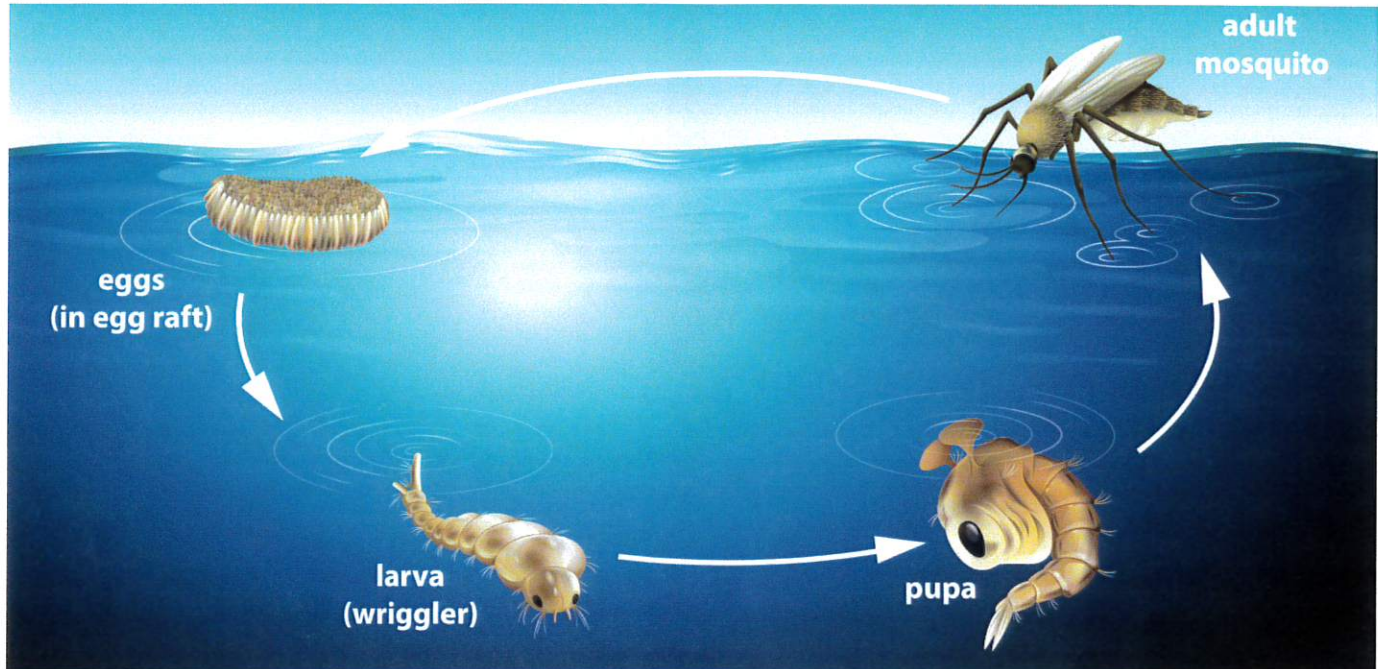


# MOSQUITO CONTROL FACT SHEET

## Questions and Answers

### WHAT IS THE LIFE CYCLE OF A MOSQUITO?

All mosquito species go through four stages of development - egg, larva, pupa, and adult. Female mosquitoes lay their eggs in water where they develop into larva and then pupa before emerging as an active flying adult insect. The development from egg to adult takes between 7 to 10 days to complete. Only female mosquitoes bite because they require the nutrients from a blood meal of either humans or other animals for their egg development. The average life span for adult mosquitoes is 2 – 3 weeks.



### HOW MANY KINDS OF MOSQUITOES ARE THERE?

Of the 63 known mosquitoes species in New Jersey, 34 have been found in Camden County. More information on each species can be found on our website at:

[www.camdencounty.com/service/mosquito-commission/mosquito-species-in-camden-county/](http://www.camdencounty.com/service/mosquito-commission/mosquito-species-in-camden-county/)

### WHY DO MOSQUITOES BITE?

Female mosquitoes bite because they require the protein in blood to produce eggs. Male mosquitoes do not bite because they do not need the protein in blood to make eggs. In fact, both male and female mosquitoes feed on the nectar of plants, making them pollinators.

### WHAT HUMAN DISEASES DO MOSQUITOES TRANSMIT?

Mosquitoes transmit a variety of diseases, some of which are found in Camden County including West Nile virus (WNV) and Eastern Equine encephalitis (EEE). WNV was first identified in the United States in New York City and surrounding areas in the fall of 1999 and can pose a significant threat to the very young and old, as well as individuals with compromised immune systems. The primary vector of WNV are mosquitoes commonly found around homes that will readily utilize tires or any container holding water to lay their eggs in. EEE, while rare in Camden County, is a more dangerous disease and is transmitted by mosquitoes that are produced in permanent swamps and saltwater marshes. For more information on these and other diseases please visit <https://www.nj.gov/health/cd/topics/vectorborne.shtml>



## **WHAT ANIMAL DISEASES DO MOSQUITOES TRANSMIT?**

Mosquitoes can transmit Dog Heartworm to your dog. This is preventable with dog heartworm monthly medications prescribed by a licensed veterinarian. Mosquitoes are also capable of transmitting Eastern Equine Encephalitis to horses. This is also preventable with an annual vaccine.

## **WHAT DOES THE COMMISSION DO?**

The Camden County Mosquito Commission employs various methods of control in our Integrated Mosquito Management (IMM) approach. This includes surveillance of mosquito population species and numbers, chemical control of larval mosquitoes living in water and adult mosquitoes flying in the air, biological control methods through the disbursement of mosquito eating fish, water management and habitat reduction as well as education and training by a small but highly specialized professional staff.

## **WHAT CAN HOMEOWNERS DO?**

- Homeowners can control mosquitoes by eliminating standing water on their property. Any container holding water is a potential mosquito-production source and is likely to cause problems around your home. Of concern are clogged gutters, scattered tires and unopened swimming pools. All tend to collect leaves and water and provide very attractive larval sources for mosquitoes. These containers dry out very slowly. Keep gutters clean and free flowing. Remove or overturn containers that may collect water.
- Remove water from swimming pool covers. If pools are not covered, make sure the water is clean, so it is not attractive to mosquitoes. Natural depressions in your yard can hold water. They will not be a problem, however, if the water disappears within 4 to 5 days. Artificial containers will remain wet for a much longer period. If you wish to collect rainwater, tightly screen the tops of the containers to prevent mosquitoes from depositing their eggs on the water surface. Items such as pet water bowls and birdbaths should be emptied and refilled at least once a week.
- Small depressions in your yard can be filled to prevent the collection of water. If larger wet areas exist on your property, bring them to the attention of Commission personnel.
- Make sure windows and door screens are properly fitted and holes are patched to prevent mosquitoes from entering the house.
- A wide variety of repellents are available to provide relief from mosquitoes and other insects. Always read and follow the label before using any repellent.

## **WHAT CAN I DO IF THERE ARE ADULT MOSQUITOES AROUND MY HOME?**

If a mosquito issue is in your area, please contact the Commission's office at (856) 566-2945. Our trained staff will investigate the area to locate mosquito breeding sites and to verify the presence of adult mosquitoes. If an adult or larval mosquito problem is identified, water management efforts will be deployed as a primary method of control and insecticides may also be applied.

## **WHAT PESTICIDES ARE USED TO CONTROL MOSQUITOES?**

Most of the pesticides used are insecticides used to control immature mosquitoes in the water. These insecticides may be applied by hand, ground equipment or aircraft. If a major adult mosquito problem is identified, or if disease-carrying mosquitoes are detected, an adulticide may be applied throughout the area of infestation. For more information regarding the pesticides used by Commission personnel for mosquito control, please refer to the accompanying NJDEP approved pesticide fact sheets.

## **WHERE CAN I FIND MORE SPECIFIC INFORMATION ON SPRAYING FOR ADULT MOSQUITOES IN CAMDEN COUNTY?**

All spraying for adult mosquitoes will be posted on our website at:

[www.camdencounty.com/service/mosquito-commission/spraying-schedule/](http://www.camdencounty.com/service/mosquito-commission/spraying-schedule/) at least 24 hours prior to spraying operation. This will contain information such as intended application dates or range of application dates, location, contact name, and phone number.





# 2023 PUBLIC NOTICE FOR ADULT MOSQUITO CONTROL TREATMENT



In compliance with section 9.10 and 9.15 of the New Jersey Pesticide Control Code (N.J.A.C. Title 7, Chapter 30), the Camden County Mosquito Extermination Commission may be applying mosquito control products for the control of adult mosquito populations on an area-wide basis, as needed, throughout Camden County during the period of May 1st through November 30th.

The mosquito control products used will be those recommended by the New Jersey Agricultural Experiment Station (NJAES), Rutgers University for the control of adult mosquitoes which include: Malathion (Fyfanon ULV®) and Permethrin (PermaSease 20-20).

All applications will be according to product labeling. Products will be applied from the ground by truck or handheld equipment and/or by aircraft, all using low volume (LV) or ultra-low volume (ULV) techniques.

For routine pesticide-related health inquiries, please contact the National Pesticide Information Center, at 1-800-858-7378. For information on pesticide regulations, pesticide complaints and health referrals, contact the New Jersey Pesticide Control Program at **1-609-984-6507**. In the case of any pesticide emergency, please contact the New Jersey Poison Information and Education System at **1-800-222-1222**.

For the most updated information on the time and location of adult mosquito control applications, please visit our website at: **[www.camdencounty.com/service/mosquito-commission/](http://www.camdencounty.com/service/mosquito-commission/)** or call the office at **856-566-2945**. This website is for updated information on time and location of adult mosquito control applications.

Remember: Mosquito control is everyone's responsibility; please do your part by preventing mosquito production on your property. For more information on mosquitoes and mosquito control, contact the Superintendent (NJDEP CPA License #56748B), Camden County Mosquito Extermination Commission at **856-566-2945** and/or email at **[lauren.bonus@camdencounty.com](mailto:lauren.bonus@camdencounty.com)**.





# ADULT MOSQUITO CONTROL PRODUCT "FYFANON"

This fact sheet answers some basic questions about a mosquito control product used in your county. The Camden County Mosquito Extermination Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

## WHAT IS FYFANON AND HOW IS IT USED?

Fyfanon is an insecticide product that is recommended for mosquito control in New Jersey by Rutgers, The State University of New Jersey. It contains the pesticide malathion. The U.S. Environmental Protection Agency (EPA) "evaluates and registers (licenses) pesticides to ensure they can be used safely", and their current evaluation of products containing malathion shows them to be slightly toxic with minimal potential risk to people when used properly as part of a complete mosquito control program.

Malathion is used for the control of adult mosquitoes in an integrated pest management (IPM) approach to mosquito control. IPM strategy includes habitat management, source reduction, biological control and other measures to control immature mosquitoes, augmented by adult mosquito control when needed. The spraying of adult mosquitoes is called for when biting populations reach critical annoyance levels or when a disease organism is present in adult mosquitoes. A fine mist of malathion is applied during times of peak mosquito activity, since flying mosquitoes must directly contact the pesticide for it to be effective.

## HOW CAN I AVOID EXPOSURE TO FYFANON?

Risk to the public from the use of Fyfanon is minimal. Avoiding exposure is always the safest course of action, particularly for those that may be at higher risk such as pregnant women, children, the elderly, and those with chronic illnesses. Any possible exposure risk can be reduced by following some commonsense actions:

- Pay attention to notices about spraying found through newspapers, websites, automated telephone messages or distributed by municipal, county or state agencies.
- Plan your activities to limit time spent outside during times of potential pesticide treatments, usually at sunset and sunrise.
- Move children's toys out of application areas.
- Move animals and their food and water dishes out of application areas.
- Stay away from application equipment, whether in use or not.
- Whenever possible during spraying, remain indoors with windows closed, window air conditioners set on non-vent (closed to the outside air), and window fans turned off.
- Avoid direct contact with surfaces that are wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour).
- If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, flush and rinse with water.

## WHAT ARE THE SYMPTOMS OF EXPOSURE TO FYFANON?

Symptoms of exposure can include headache, nausea, dizziness, excessive sweating, salivation, excessive tearing and a runny nose. The chance of experiencing these symptoms of exposure with proper use is extremely low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying. Bring this sheet with you if you visit a physician or other medical provider.

## **HOW LONG WILL FYFANON LAST IN THE ENVIRONMENT?**

The Fyfanon spray stays in the air for a short time until it settles out and lands on surfaces. Fyfanon has a low persistence and lasts no longer than 25 days in water and soil. Fyfanon breaks down quickly in sunlight.

## **WHERE CAN I GET MORE INFORMATION ON FYFANON?**

The following are resources for more information regarding Fyfanon and mosquito control in your area (unless otherwise noted, available during normal business hours):

For pesticide-specific information – 9:30am – 7:30pm EST:

**National Pesticide Information Center**

**800-858-7378**

**<http://npic.orst.edu/>**

For pesticide health information and possible exposures – 24 hours:

**New Jersey Poison Information and Education System**

**800-222-1222**

**<https://www.njpies.org/>**

For New Jersey pesticide regulations and misuse complaints – 24 hours:

**NJDEP Pesticide Control Program**

**609-927-6337**

**<http://www.nj.gov/dep/enforcement/pcp/bpo.htm>**

For Federal pesticide regulations:

**USEPA Region 2 Office of Pesticide Programs**

**877-251-4575**

**<http://www.epa.gov/pesticides>**

For state-wide mosquito control information:

**NJDEP Office of Mosquito Control Coordination**

**609-292-3649**

**<https://www.nj.gov/dep/mosquito/>**

For local health information:

**Camden County Health Department**

**856-374-6000**

**<https://www.camdencounty.com/service/health-human-services/>**

For local mosquito control information:

**The Camden County Mosquito Commission**

**856-566-2945**

**<https://www.camdencounty.com/service/mosquito-commission/>**

For mosquito control recommendations:

**Rutgers University, Department of Entomology**

**848-932-9774**

**<http://vectorbio.rutgers.edu/outreach/>**





# ADULT MOSQUITO CONTROL PRODUCT "PERMASEASE"

This fact sheet answers some basic questions about a mosquito control product used in your county. The Camden County Mosquito Extermination Commission, along with several other resources (listed at the end of this sheet), can provide more detailed information.

## WHAT IS PERMASEASE™ AND HOW IS IT USED?

PermaSease™ is a synergized Permethrin/piperonyl butoxide formulation. Permethrin is an insecticide in the pyrethroid family. Pyrethroids are synthetic chemicals that act like natural extracts from the chrysanthemum flower.

Pyrethroid/piperonyl butoxide mixtures have been recommended for Ultra-Low-Volume (ULV) mosquito control in New Jersey by Rutgers, The State University of New Jersey. The U.S. Environmental Protection Agency's (EPA) current evaluation considers pyrethroid-containing products to be slightly toxic with minimal potential risk to people when used properly as part of an integrated mosquito control program.

This pyrethroid-containing product is used for the control of adult mosquitoes. While habitat management and measures to control immature mosquitoes in water are preferred and most used, the spraying of adult mosquitoes is called for when biting populations reach critical levels or when a disease organism is present in adult mosquitoes. A very fine mist is sprayed into the air since flying mosquitoes must directly contact the pesticide in order for it to be effective.

## HOW CAN I AVOID/REDUCE EXPOSURE TO PERMASEASE™?

Risk to the public from the use of pyrethroid-containing product is minimal because of the small amounts of active ingredients released per acre. Avoiding exposure is always the safest course of action, particularly for populations whose members may be at higher risk such as pregnant women, children, the elderly, and those with chronic illnesses. Any possible exposure risk can be reduced by following some commonsense actions:

- Pay attention to notices, about spraying, in newspapers, websites, telephone messages, or through municipal, county, or state agencies.
- Plan your activities to limit time spent outside during times of possible pesticide treatments. If you must remain outdoors, avoid eye and skin contact with the spray. If you get spray in your eyes or on your skin, immediately flush and rinse with water.
- Avoid direct contact with treated bodies of water.
- Move children's toys out of application areas.
- Move animals and their food and water dishes out of application areas.
- Stay away from application equipment, whether or not it is in use.
- Whenever possible, remain indoors with windows closed and with window air conditioners on non-vent (closed to the outside air) and window fans turned off during spraying.
- Avoid direct contact with surfaces that are still wet from pesticide spraying. Do not allow children to play in areas that have been sprayed until they have completely dried (approximately one hour)

## **WHAT ARE THE SYMPTOMS OF EXPOSURE TO PERMASEASE™?**

Symptoms of over-exposure can include irritation to skin and eyes, respiratory and nasal irritation, irritability to sound or touch, abnormal facial sensation, sensation of prickling, tingling or creeping of skin, sore throat, numbness, headache, dizziness, nausea, vomiting, diarrhea, excessive salivation, and fatigue. The chance of experiencing these symptoms of over-exposure with proper use is low. You should contact your physician, other medical providers, or the New Jersey Poison Information and Education System (NJPIES) at 1-800-222-1222 if you experience these symptoms following a pesticide spraying.

## **HOW LONG WILL PERMASEASE™ LAST IN THE ENVIRONMENT?**

Pyrethroids have a soil half-life of 12 days. They have an extremely low pesticide movement rating because they bind tightly to the soil. Pyrethroids are unstable in light and air. They rapidly degrade in sunlight at the soil surface and in water. Piperonyl butoxide has a soil half-life of approximately 4 days.

## **WHERE CAN I GET MORE INFORMATION ON ADULTICIDE?**

For pesticide-specific information – 9:30am – 7:30pm EST:

**National Pesticide Information Center**

**800-858-7378**

<http://npic.orst.edu/>

For pesticide health information and possible exposures – 24 hours:

**New Jersey Poison Information and Education System**

**800-222-1222**

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

For New Jersey pesticide regulations and misuse complaints – 24 hours:

**NJDEP Pesticide Control Program**

**609-927-6337**

[www.nj.gov/dep/enforcement/pcp/bpo.htm](http://www.nj.gov/dep/enforcement/pcp/bpo.htm)

For Federal pesticide regulations:

**USEPA Region 2 Office of Pesticide Programs**

**877-251-4575**

[www.epa.gov/pesticides](http://www.epa.gov/pesticides)

For state-wide mosquito control information:

**NJDEP Office of Mosquito Control Coordination**

**609-292-3649**

[www.nj.gov/dep/mosquito/](http://www.nj.gov/dep/mosquito/)

For local health information:

**Camden County Health Department**

**856-374-6000**

[www.camdencounty.com/service/health-human-services/](http://www.camdencounty.com/service/health-human-services/)

For local mosquito control information:

**The Camden County Mosquito Commission**

**856-566-2945**

[www.camdencounty.com/service/mosquito-commission/](http://www.camdencounty.com/service/mosquito-commission/)

For mosquito control recommendations:

**Rutgers University, Department of Entomology**

**848-932-9774**

[vectorbio.rutgers.edu/outreach/](http://vectorbio.rutgers.edu/outreach/)







PROTECT YOURSELF AGAINST MOSQUITOES:  
**TIPS FROM THE CAMDEN COUNTY MOSQUITO COMMISSION**  
PRESENTED BY THE CAMDEN COUNTY BOARD OF COMMISSIONERS

You are the first line of defense against mosquitoes in your yard this spring and summer.

Camden County's Mosquito Commission does spraying on public roads throughout the County during the breeding season to knock down adult mosquito populations. Several factors are taken into consideration in determining where to spray and when. In addition, inspectors are on the job every day to lessen the occurrence of mosquito breeding. But the frontline to mosquito control is you. Here are some tips from Commissioner Jeff Nash and the Mosquito Commission on how to fight the battle of the buzz and make sure your property doesn't become a breeding ground for mosquitoes.

Tips:

- Mosquitoes need stagnant water to breed. Check your property regularly for anything that holds water for more than a few days. These include among other items, trash cans/lids, flower pots, bird baths, buckets, tires, rain gutters, kids' toys, tire swings, kiddie pools, and even things as small as bottle caps.
- Dispose of any unnecessary containers that hold water and empty remaining items after each rain event or at least twice a week. If possible, store remaining containers indoors.
- Check folds in pool covers and tarps that can trap rainwater and become a breeding site.
- Store boats upside down so they drain. If covered, keep the tarp tight so water doesn't pool on top.
- Check for items under bushes, in tall grass, and other areas that are shaded.
- Check downspout extensions. If ribbed, or at an angle that allows rainwater to pool inside the extension, this creates a perfect habitat for mosquitoes to breed.
- Change water in bird baths, fountains, and animal troughs weekly. Stock fish or add mosquito larvicide to ornamental ponds.
- Maintain backyard pools. Poorly maintained pools can become a mosquito breeding ground within days after you stop adding chlorine or some other disinfectant.
- Buy mosquito repellent to spray yourself and family members when going outdoors.
- Use an oscillating fan on decks and patios while entertaining to keep mosquitoes away.
- Maintain screens on doors and windows to keep mosquitoes from entering your home.
- Consider hiring a private contractor to spray if you're planning an outdoor event.

For more information on the Mosquito Commission or for schedules on spraying, visit [www.camdencounty.com](http://www.camdencounty.com), where you can also register to receive weekly email updates on news and information useful to you.

FOR YOUR NEWS & EVENTS  
THE BOARD OF COMMISSIONERS

camdencountynj  
    
CamdenCounty.com

camden county  
Making It Better, Together.



# MOSQUITO CONTROL

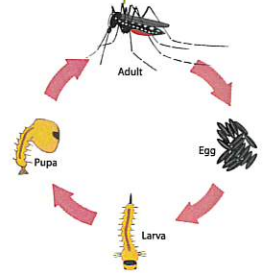
Help us help you by eliminating standing water after every rain!

camden **county**

Making It Better, Together.

## DESCRIPTION:

**Lifecycle:** All mosquito species go through four stages of development - egg, larva, pupa, and adult. Female mosquitoes lay their eggs in standing water where they develop into larva and then pupa before emerging as an active flying adult insect. The development from egg to adult takes between 7 to 10 days to complete.



## HABITATS:

Mosquitoes need standing water to go through their lifecycle. Check your property regularly for anything that holds water for more than a few days. These include trash cans/lids, flowerpots, bird baths, buckets, tires, rain gutters, unused or draped tarps, kids' toys, tire swings, kiddie pools, and even things as small as bottle caps.



## WHAT YOU CAN DO:

Homeowners can help control mosquitoes by eliminating standing water on their property after every rain.

- Keep gutters clean and free flowing.
- Remove or overturn containers that may collect water.
- Remove water from swimming pool covers. If pools are not covered, make sure the water is clean/treated.
- If you wish to collect rainwater, tightly screen the tops of the containers to prevent mosquitoes from depositing their eggs on the water surface.
- Items such as pet water bowls and birdbaths should be emptied and refilled at least once a week.



## OTHER RESOURCES:

Camden County Mosquito Commission  
[www.camdencounty.com/mosquitocommission](http://www.camdencounty.com/mosquitocommission)

NJ Department of Environmental Protection  
<https://www.nj.gov/dep/mosquito/>





# SPOTTED LANTERNFLY (SLF)

## *Lycorma delicatula*

### DESCRIPTION

**Egg Mass:** Egg masses are approximately 1 inch in size and can contain between 30-50 eggs. They are laid by female spotted lanternflies between September and December and can be seen between September and June. Egg masses are often laid on flat surfaces including tree bark and lawns.

**Nymphs:** There are four nymphal instars, the first 3 are black with white spots appearing between May through July, the fourth is red with white spots, appearing between July through September. All nymphal stages are strong jumpers to avoid capture or predators.

**Adults:** Adults can be seen between July and December. The forewing is gray with black spots and the wing tips have black spots outlined in gray. Hind wings have contrasting patches of red and black with a white band. The abdomen is yellow with broad black bands. While the adults can fly, they generally prefer to hop/jump and glide exposing their hindwings.

### HOSTS

The Spotted Lanternfly (SLF) prefers, possibly requires, the Tree of Heaven (*Ailanthus altissima*) but will feed on over 70 other host plants including woody trees, ornamental trees, fruit trees, vegetables, herbs, grains and vines. This feeding behavior varies with the life stage, with early instar nymphs having a broader host range than adults.

### CONTROL METHODS

**Egg Mass Removal:** Egg masses can be scraped off, double bagged and thrown away between the months of September and June. They can also be placed into alcohol, bleach or hand sanitizer to kill them.

**Trapping:** Circle traps can be set on infested trees to collect Spotted Lanternfly nymphs or adults without the use of chemical pesticides. More information can be found through the PennState Extension.

**Pesticide Applications:** Many commonly available insecticides that kill insects on contact are effective against the Spotted Lanternfly. A list of available products can be found on the NJDA website listed below. Read each label carefully and apply according to the label directions.

### OTHER RESOURCES

Camden County Mosquito Commission  
[www.camdencounty.com/service/mosquito-commission/](http://www.camdencounty.com/service/mosquito-commission/)

NJ Department of Agriculture  
[www.badbug.nj.gov](http://www.badbug.nj.gov)

NJ Agricultural Experiment Station at Rutgers  
[njaes.rutgers.edu/spotted-lanternfly/](http://njaes.rutgers.edu/spotted-lanternfly/)

