County of Santa Clara
Consumer and Environmental Protection Agency

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FREQUENTLY ASKED QUESTIONS AEDES AEGYPTI AND WIDE AREA LARVICIDE SPRAYING

- Invasive *Aedes Aegypti* Mosquitoes
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Invasive *Aedes Aegypti* Mosquitoes

Q. What is the *Aedes aegypti* mosquito?
A. *Aedes aegypti*, commonly known as the *yellow fever mosquito*, is an invasive mosquito that is native to the tropical and subtropical areas of the world. Because they aren't native to California, they don't thrive in the state's natural areas, but instead live and thrive near people.

Q. Why is this mosquito of concern?
A. This mosquito can transmit a variety of viruses, including chikungunya, dengue, yellow fever and Zika. It prefers to feed on humans, transmitting the diseases in human populations. There were three locally transmitted dengue cases in Southern California in 2023. Although these diseases are not endemic to the County, we do have cases where people contract them while traveling, which increase the risk for local transmission.

Q. Has this mosquito been detected in the county before?
A. Yes. This is the second time this mosquito species has been detected in Santa Clara County. We carried out a successful control and surveillance effort the first time the invasive mosquito was detected, which occurred in the fall of 2022 at an industrial facility in North San José. Following the two detections, no additional mosquitoes were detected in the area. *Aedes aegypti* is currently present in 19 counties in California.

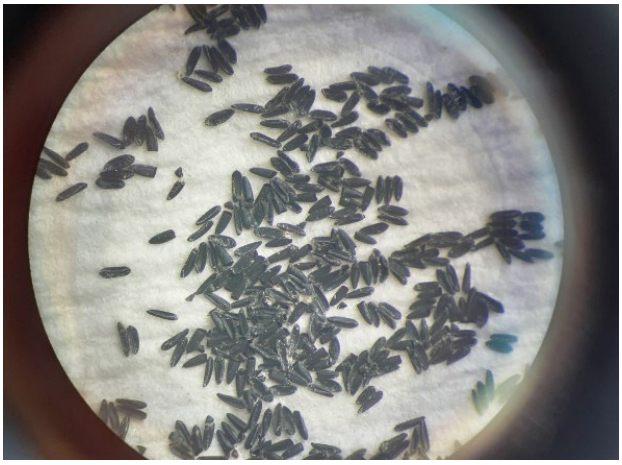
Q. How did they get here?
A. This mosquito is known to invade new territories through transportation of containers that are contaminated with the mosquito eggs. The mosquito lays eggs on damp surfaces such as plant pots, plant shoots, abandoned tires holding water, toys, etc. As these materials are transported to new locations and the eggs get in contact with water, they hatch into larvae and emerge as adult flying mosquitoes.

Q. Where do *Aedes aegypti* breed?
A. They thrive well in urban environments and often in people's backyards – areas where mosquito and vector control districts can't easily access.

Aedes aegypti mosquitoes are "container breeders," meaning they prefer to lay their eggs on the inside of containers filled with water or on stems of plants growing in water. These eggs can survive for more than a year (even if they dry up) and will hatch when they come in contact with water again. They will lay eggs in a container as small as a bottle cap.

Q. What do they look like?
A. The flying (adult) stages are a small (about ¼ inch) mosquito with black and white stripes on their back and legs as pictured below.

Their eggs, shown below under a microscope, are about half a millimeter in size and look to the naked eye like tiny bits of dirt. They can be very difficult for residents to identify.



Q. Where have these mosquitoes been found?
A. As of May 22, 2024, 12 adult female *Aedes aegypti* have been detected in the neighborhood between Machado Lane and Fleming Avenue, near Story Road in East San José. We continue to enhance our surveillance to determine the spread of the invasive mosquito, and we are conducting control measures.

Q. Have any of the mosquitoes caught been infected with any disease?
A. The California Department of Public Health can provide testing services for us when needed. However, the trapped mosquitoes were not tested as they were fairly young and had not had their first blood meal yet.

Q. When are these mosquitoes most active?
A. *Aedes aegypti* is an aggressive mosquito that will bite any time of day (even indoors) and will bite multiple times. They are known as “ankle biters” because they tend to bite humans around

the ankle.

Q. Why is it important to prevent this mosquito from establishing itself in the county?
A. *Aedes aegypti* are capable of transmitting Zika and other viruses, and they are difficult to manage once they are established because of their ability to thrive in urban settings and their eggs' ability to survive dry conditions. They are an aggressive, biting mosquito. If they are able to get a foothold in the county, our community's quality of life would be permanently affected.

Mosquito Control – Wide Area Larvicide Spraying Treatments

Q. What is the District doing to prevent this mosquito from spreading?
A. We have a specific response plan in place for this mosquito. Our first level of response includes amplifying surveillance, providing door-to-door service and education, and using approved and safe larvicides (larviciding) with the use of backpack sprayers in properties after talking to the property residents.

> **Surveillance:** We have increased the number of mosquito traps located within a 300-yard radius of where the original specimens were found. Traps are being placed in the front and back yards of the neighborhood properties and checked on a daily basis.
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> **Education:** We are working directly with community members and property owners to remove sources of standing water and providing education on how to protect themselves from bites and reminding them to report any mosquito activity to us. A variety of door hangers in English, Spanish, Chinese and Vietnamese have been distributed to the immediate area. We have also deployed targeted social media messages to social media users within the affected ZIP code and included an educational blurb in our monthly newsletter to increase education around this invasive mosquito.
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> **Mosquito Control Methods:** We use various methods to control mosquitoes, such as removing standing water, placing free mosquitofish in ponds and pools, and using EPA-approved larvicides that target only mosquito larvae (larviciding). We spray larvicides with backpack sprayers in the properties to which wehave been granted access. Larvicide treatments prevent mosquito larvae from reaching the flying adult stage. In large-scale control, the same larvicides are sprayed using truck-mounted equipment over all properties. The method is called Wide Area Larvicide Spray (WALS). In addition, adult-mosquito-control treatments could be conducted as needed to prevent the spread of flying mosquitoes. (See below for more information on adult-mosquito-control treatments.)

Q. Has the District been successful in limiting the spread of this mosquito?
A. No. We are still looking for their larval developmental site, and the invasive mosquitoes are

spreading to multiple properties in the affected residential area. Our goal is to eliminate this invasive mosquito from our county.

Q. What are the District's next steps?
A. We will be using a specialized truck-mounted mist sprayer to conduct a wide area larvicide spraying (WALS) treatment to reach cryptic pockets of water that were not accessible to treat with backpack sprayers and to reach source of stagnant water in properties we are not able to access.

Q. What is Wide Area Larvicide Spraying (WALS)?
A. WALS is a mosquito larval control method that uses a naturally occurring bacterium to kill mosquito larvae in stagnant water before they reach the flying adult stage. We use specialized truck-mounted equipment that disperses the larvicide to a large area.

Larviciding is a large part of the work we do, as our goal is to prevent mosquitoes from reaching the flying adult stage.

Q. How does this treatment differ from the adult-mosquito-control treatments?
A. Wide Area Larvicide Spraying (WALS) differs from the adult-mosquito-control treatments we conduct to control mosquitoes that carry West Nile virus in a few important ways. It uses a different pesticide, takes place during the day, and targets mosquito larvae in the water instead of flying adult mosquitoes.

Q. How often will WALS treatments occur?
A. We will likely conduct additional WALS treatments several times over the next few months in the area where *Aedes aegypti* have been discovered.

Q. Why is it important to control *Aedes aegypti* mosquito larvae?
A. Once the mosquito is established, it is very difficult to manage and would result in a significant decline in our community's quality of life. It is urgent we tackle hard-to-reach mosquito breeding sources before these aggressive mosquitoes can reproduce and expand their range, increasing their chance of establishing in our county.

Mosquito breeding sites can include French drains, rain gutters, planter pots, cisterns, bird baths, toys, tarps, etc.

Q. What are the benefits of doing Wide Area Larvicide Spraying (WALS)?
A. WALS allows for efficient spraying, covering a large area in a short period of time.

Q. What types of larvicides does the District use for WALS treatments?
We use naturally a occurring bacterium, known as Bti, that targets only mosquito larvae. It is nontoxic to beneficial insects, wildlife and humans.

Q. What other methods does the District use to control mosquitoes?
A. We follow best management practices that include the use of integrated pest management (IPM) methods. This includes the use of physical, cultural, biological and chemical controls in addition to surveillance.

Physical Control: This means modifying the environment to reduce breeding sources and mosquito populations. This includes emptying containers and removing leaf litter and other obstructions to allow water to flow, as this eliminates the need for larvicides.

Cultural Control: Education is key to the management of mosquitoes and all vectors. Our outreach team educates the public year-round using a variety of educational methods, including print, radio, TV and online advertisements, social media, newsletters, school and community presentations and participation in community events.

Biological Control: We use mosquitofish, a natural predator of mosquitoes in aquatic stages to help control immature mosquitoes. Mosquitofish are an excellent option for mosquito control in artificial bodies of water such as neglected pools/spas, water troughs, ponds, and rain barrels. We provide mosquitofish to the public for free. For more information on our mosquitofish program, or to request them, visit vector.santaclaracounty.gov/mosquitoes/mosquitofish.

Chemical Control: Chemical control includes the use of larvicides for larval mosquito stages and adulticides for adult mosquitoes. Larvicides are often based on naturally occurring materials, such as bacteria found in soils (including *Bacillus thuringiensis* var. *israelensis* and spinosad) and insect growth hormones (methoprene). All larvicides and adulticides we use are approved by federal, state and local authorities.

Surveillance: We monitor the abundance of mosquitoes year-round and monitor for the presence of invasive mosquitoes countywide.

Q. How much larvicide is used in each WALS treatment?
A. Following the directions on the larvicide label, it equals about seven ounces per acre. This amount doesn't pose any health risks to humans or animals

Q. How does the District know its WALS treatments are effective?
A. Our continued surveillance trapping will monitor the efficacy of the treatment results**.**

Q. How long does the larvicides stay in the area?
A. It stays in the air for less than a minute as the droplets fall. It can control mosquito larvae for approximately one week.

Q. Will you need to enter my property?
A. We will not need to access your property for a WALS treatment. Once the larvicide is released from the truck-mounted machines, the rain-sized droplets settle on the ground.

Q. Will the treatment cause reduced visibility when I am driving around in the neighborhood?
A. No. The WALS treatment is very dilute and will not reduce visibility for driving or other activities.

Q. Do I need to stay indoors during the WALS treatment?
A. Yes. We urge you to stay inside to minimize exposure to the larvicides during the treatment. You can come outdoors after the completion of the treatment.

Q. Do I need to keep my pet inside during the treatment?
A. We urge you to keep pets inside to minimize exposure to the larvicides during the treatment. They can be let outdoors after the completion of the treatment.

Q. I live in the affected area. How can I receive notifications regarding future WALS treatments?
A. General notifications are provided through social media including Facebook, Instagram, and Twitter, emails to register voters in specific precincts, on our website at vector.santaclaracounty.gov, and through news releases to the media. Direct notifications are sent to neighborhoods in the treatment areas through Nextdoor and the County's emergency alert system, AlertSCC.

Please note that, per California Code of Regulations, CCR3 §6620, the District does not need consent from property owners to conduct mosquito control treatments and is not required to provide notice to the community beforehand. However, we do our best to send courtesy notifications to the public before conducting WALS treatments in residential areas.

Health and Safety

Q. How will this larvicide affect my family and me?
A. Based on the EPA approved larvicide label, there should be no health risks to you and your family. However, if you have concerns, please contact your doctor.

Q. Will the larvicide affect things in my yard such as lawn furniture, toys, plants and swimming pool water?
A. No. The larvicide targets only mosquito larvae and has no effect on those items.

Q. Is it safe to consume the fruits and vegetables from my garden?

A. Yes. Regular washing is sufficient.

Q. Is it safe to drink water from an open container after completion of WALS?
A. Bring in or cover any sources of drinking water before the start of the treatment.

Q. What if I am pregnant?
A. There is no health risk to pregnant women; however, we recommend staying indoors during the duration of the treatment. If you have concerns, please consult your health provider.

Q. How do we know the WALS treatment will not cause negative health effects?
A. The EPA has conducted studies and has determined it has no adverse effects on humans and animals. For more information on Bti, visit the website of the Environmental Protection Agency.

Environmental Impact

Q. Do WALS treatments affect bees and sensitive species?
A. No. This larvicide has no effect on bees or any pollinators.

SELF-PROTECTION

Q. How can I protect myself?
A. Apply insect repellents containing EPA-registered ingredients such as DEET, picaridin, IR3535 or oil of lemon eucalyptus, always following label instructions. Wear long-sleeve shirts, pants, socks, and shoes when spending time outdoors and make sure your window and door screens are in good condition.

Q. What should I do if I have been bitten around the ankle by a mosquito?
A. Report any day-biting mosquitoes with black and white stripes on their back and legs by calling the Vector Control District office at (408) 918-4770, emailing vectorinfo@cep.sccgov.org or submitting an online service request.

Q. How can I help?
A. You can help by:

- Granting us access to your property, allowing us to inspect for the presence of mosquitoes and mosquito breeding sources. If you are concerned about your privacy, we emphasize that our staff who enter private properties are not authorized to do anything besides check for mosquitoes and treat mosquito-breeding sources.
- Request a mosquito inspection. Inspections are provided at no additional costs.

- Looking for small mosquitoes with black and white stripes on their backs and legs.
- Report mosquitoes that bite during the day and at night (even indoors).
- Prevent water from accumulating in containers such as plant pots, saucers, barrels, bins, buckets, and old tires.
- Keep pet dishes, bird baths and kiddie pools scrubbed and clean.
- Cover outdoor trash cans, toys and recycle bins and keep items that could hold water out of the rain and away from sprinklers.
- Be sure rain barrels are properly sealed since mosquitoes can lay thousands of eggs inside them.
- Keep rain gutters and drains free of debris.