

## Frequently Asked Questions

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### **Q. What attracts female mosquitoes to humans?**

**A.** Carbon Dioxide (CO<sub>2</sub>), Hormones, Pheromones

### **Q. Why can't mosquito control programs spray during the day?**

**A.** Mosquitoes are more active and people are less active in the evening. Also, the spray will be lifted quicker from the ground due to rising air currents during the day. Daytime spraying is also not practiced to avoid killing beneficial insects.

### **Q. When do you spray for mosquitoes?**

**A.** To spray for mosquitoes, certain types of mosquitoes must be found in significant numbers. This is done by obtaining landing counts and setting out light traps to determine if the need to spray is required or through a citizen request. To initiate a request for this service, please call the Public Services Division at 561.804.7034. Adulticide spraying can vary from year to year due to environmental conditions, which include rainfall amounts and tide changes.

### **Q. Is the Spray harmful to people or pets?**

**A.** The amount of mosquito control pesticide that is sprayed from the trucks is not harmful to people or pets. However, as with any pesticide, it is a good idea to keep exposure to a minimum. For this reason, children should not be allowed to follow the mosquito trucks as people often did in the 1940's and 1950's. Pets usually are repelled by the high pitch of the machine. Therefore, even if it seems that they are not spraying, the trucks should not be followed. Unless someone is very sensitive or allergic to pesticides, washing the skin with water is all that is needed. At the low insecticide dosage used, no symptoms should be experienced.

### **Q. What do I do if I am chemically sensitive to the spray?**

**A.** If you believe you are chemically-sensitive to the spray, you will need to have the "Prior Notification Application" completed and signed by a physician and mailed to the Florida Department of Agriculture and Consumer Services along with a check or money order in the amount of \$50.00 for a new registrant. Once you are placed on the registry and wish to continue to be on the list each year, you will be required to send the application in annually with a \$10.00 fee to renew.

## **Q. Do mosquitoes carry AIDS?**

**A.** No evidence to support that likelihood exists. If HIV-infected blood is taken in by the mosquito, the virus is digested and quickly dies in the mosquito's stomach. If a mosquito takes a partial HIV-infected blood meal from a person and then immediately feeds on an uninfected person, there would not be enough HIV particles present to transmit the disease.

## **Q. What criteria are used when deciding when and where to spray?**

**A.** Treatment for larval mosquitoes occurs only when problem species of mosquito larvae are found in large numbers. This involves constant monitoring of mosquito larvae habitats. Heavy rainfall and exceptionally high tides can cause high increases in larval populations, which will soon advance to the adult stage where they become problems for humans. Spraying for adult mosquitoes occurs only after the targeted species of mosquito has reached a point where they have become a documented problem. To spray for mosquitoes, certain types of mosquitoes must be found in significant numbers.

## **Q. Who oversees pesticide applications?**

**A.** Florida mosquito control programs are established and operated according to the procedure given in the Mosquito Control Law, Chapter 388 Florida Statute (F.S.) and the Mosquito Control Rules, Chapter 5E-1 3, Florida Administrative Code (F.A.C.) The Federal Insecticide, Fungicide and Rodenticide Act of 1972 (FIFRA) requires that the Environmental Protection Agency (EPA) be certain that all personnel handling hazardous or restricted chemicals be trained to do so correctly and safely and that they be certified as pesticide applicators.

The state agency administering the certification is appointed by the governor of each state. In Florida, the Department of Agriculture and Consumer Services (DACCS) is the lead agency. The law requires that every person applying pesticide be certified or be supervised by a certified applicator. Every Florida district and program goes to great lengths to see that all personnel are trained in proper handling, use and application of pesticides. There are training courses offered throughout the year and each winter there is a week-long short course which offers job specific training. This training results in the certification of all mosquito control personnel.

Program directors must abide by several laws and regulations to provide for the safe use of pesticides by all employees. Directors are obligated to meet the requirements of the right to know law and the Occupational Safety and Health Act (OSHA). Ultimately, directors are responsible for everything that goes on within their administration.

### **Q. What if I am allergic to DEET?**

**A.** There are many repellents that do not contain DEET that can be applied to the skin. Products with citronella (an oil extract from a lemon-scented grass) or eucalyptus can be purchased in health-food or camping/outdoor stores. Avon's Skin-So-Soft is widely used as a repellent but it is not effective for all people. These are good choices for children, although they must be reapplied more frequently. These are much less effective than DEET. If your child is under the age of 5 years old, always check with your family doctor before you apply any repellent.

### **Q. What is Duet?**

**A.** Duet is the name of a public health mosquito control product. It has two active ingredients: Sumithrin and Prallethrin. They are formulated to mimic the natural pyrethrins that are extracted from chrysanthemum flowers. Duet was registered by the U.S. EPA for use for public health applications in 1995 to help control adult mosquito populations.

### **Q. Does Duet pose a health risk to humans?**

**A.** The U.S. EPA has reviewed Duet and approved it for both ground and aerial application in outdoor residential, recreational areas and other areas. Sumithrin, the active ingredient in Duet products, has been approved for use for outdoor mosquito control since 1987. Sumithrin is also a key ingredient used in products for the pet industry, in household insecticide products for flea and cockroach control, and in medicated lice control shampoos for humans. The second active ingredient in Duet is Prallethrin. It was developed in the 1980s as an alternative to pyrethrins and is used widely in pest control products throughout the world.

### **Q. Will this product harm my children and/or pets?**

**A.** No. The U.S. Environmental Protection Agency has approved Duet for use in outdoor residential and recreational areas. Duet is applied at extremely low dosage rates - less than an ounce per acre. An acre is equivalent to approximately a football field. Such low rates mean there is very low exposure, even if present during or immediately after the application is made. For added safety it is recommended for children and pets to wait until any application is dry (at least 30 minutes) before going into treated areas.

### **Q. Can my children and/or pets play outside after the application? How long after the application can we go outside?**

**A.** There are no re-entry precautions or limitations for Duet. It degrades rapidly in the environment and does not bio-accumulate, which means it is not passed through the naturally occurring food chain. Each state may make recommendations when communicating to their public to ensure that common sense steps are taken during and after spraying.

**Q. Will Duet harm my unborn baby?**

**A.** Several studies have been conducted to determine the teratogenic effects on unborn babies. No teratogenic effects have been associated with either active ingredient in the product. Duet is applied at extremely low dose rates and minimal precautions can eliminate or at least drastically minimize exposure to any insecticide that is sprayed to further reduce concerns.

**Q. Should the AC be shut down while the spray happens?**

**A.** No, this is not necessary.

**Q. Will this chemical harm the finish on my car or house?**

**A.** The ingredients of Duet are not corrosive or staining and therefore should cause no chemical harm to the finish of a car or house.

**Q. If they spray and the grass/grounds are wet, is it safe to walk on the grass?**

**A.** The ground should not be wet post spray event. If correct particle size is being reached, very little to no moisture or “dew-like” substance should be accumulating on the ground/grass.

**Q. Do vegetables and fruits need to be harvested before the spraying? Or is there a certain amount of time I need to wait? Is rinsing with water sufficient?**

**A.** Duet degrades quickly in the environment and will not have an accumulative effect. It is good common sense to always rinse fruits and vegetables with water as a precautionary measure.

**Q. Do I need to cover my fish pond prior to a spraying?**

**A.** The spraying should not pose a risk for a healthy pond under sound environmental conditions. If an individual does have a concern, covering the fish pond as an added precaution would be the best approach.

**Q. Do horses and livestock need to be sheltered during the application?**

**A.** Horses and livestock should not be adversely affected by applications of Duet. This product breaks down quickly through sunlight and does not bioaccumulate, meaning it will not affect the livestock.

**Q. How does Duet affect non-target insects?**

**A.** Because of the way in which Duet is applied and the time of day it is applied, it should not impact beneficial insects. Duet is applied in small droplets, which degrade quickly in the environment. Since the product must impinge or strike a mosquito to have an effect, it is

sprayed at night when mosquitoes are actively flying. This happens to be when other insects, such as bees and butterflies, are not active.

### **Q. How does Duet affect the environment?**

**A.** The U.S. Environmental Protection Agency has determined that Duet can be applied by truck or aircraft in outdoor residential and recreational areas, including vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses. It breaks down quickly in sunlight to primarily carbon dioxide, which is found in the air that humans exhale. It also breaks down into benzoic acid, which, per the EPA, poses little or no risk to soil, plants and the environment in general, if applied in the recommended amounts.

### **Q. How is Duet applied?**

**A.** Generally, Duet is applied at an ultra-low volume in an extremely fine mist of tiny drops, where the average droplet size is 17 microns. This amount is smaller than the size of a pinhead.

### **Q. How much is typically applied?**

**A.** Duet is applied in very low dosages, from less than half an ounce to a little more than one ounce of formulated product per acre (.41 to 1.23 fl oz/ac). This is approximately a teaspoon of formulated product on an area the size of a football field.

### **Q. Will this eliminate our mosquito population?**

**A.** Mosquito populations are not static. Instead, they are constantly regenerating. Source reduction (reducing unnecessary standing water), surveillance, and larviciding (controlling the mosquito population before adulthood) are not alone sufficient to control mosquito populations. To control the spread of disease, adulticiding, or spraying, is necessary. Duet is effective in controlling disease-spreading mosquitoes. A specific problem area is identified and sprayed, but the spraying in this targeted area is not reaching an entire habitat of mosquitoes. Sometimes mosquitoes move into the spray zone from outside of it after an application is made, which is called re-infestation, (i.e., they drift in on wind currents from upwind areas that have not been treated). When mosquito re-infestation occurs, additional sprayings must be considered to control the spread of the vector of Zika mosquitoes. Effectively controlling an adult mosquito population through spraying also depends on a few external factors, including timing, the level of re-infestation, methodology used during the spraying, and weather conditions.

### **Q. Do I have to go indoors during the applications?**

**A.** No. The U.S. Environmental Protection Agency has approved Duet for use in outdoor residential and recreational areas.