Adult Mosquito Spraying Fact Sheet

1. **What Can I Do to Prevent Mosquito-borne Infections?** – Get outside and enjoy the summer, but remember that infected mosquitoes are on the wing in many areas of North America during the summer months. Since there is often no good vaccine for people, the best way to personal protection is to prevent infected mosquito bites. Therefore, the Pennsylvania Department of Health (DOH) recommends that children and adults routinely wear mosquito repellent while outdoors during the April – October mosquito season, especially during dusk and dawn when many mosquito species are actively feeding. Further, the insect repellent should contain DEET, and be applied following the manufacturer's written directions.

2. **When is Adult Mosquito Spraying Required?** - If Pennsylvania's Mosquito Surveillance Program test results document significant numbers of adult mosquitoes infected with either an Arbovirus; e.g. Eastern Equine Encephalitis Virus, Rift Valley Fever Virus, Saint Louis Encephalitis Virus, or West Nile Virus; or significant clusters of animal or human mosquito-borne disease in an area, adult mosquito spraying will be used to protect the public health.

3. **What Can I Do to Reduce the Number of Mosquitoes around My Home? -** Remember mosquitoes will lay eggs in any standing water that may remain for more than four days, and that the adult mosquitoes that emerge from any water near your home will probably seek out your family for their first blood meal. Here are some simple protective steps you can take:

a. Maintain good screens on your windows and doors to keep infected mosquitoes out.

b. Regularly empty any outside containers, or drill drainage holes in their bottoms.

c. Turn over plastic wading pools and wheelbarrows when not in use.

d. Clean clogged roof gutters that may allow the pooling of rain water.

e. Do not allow water to stagnate in either bird baths or ornamental ponds.

f. Clean and chlorinate swimming pools and remove standing water from pool covers.

g. Use landscaping to eliminate standing water that routinely collects on your property.

h. Remove discarded tires from your property as they make an excellent larva habitat.

i. For standing water that can't be eliminated, residents can buy either *Bacillus thuringiensis israelensis* (Bti), or *Bacillus sphaericus* (Bsp) tablets at any lawn and garden store. After such a tablet is thrown into the water the bacteria will infect and kill any mosquito larvae present, but the water will remain safe for people, pets, aquatic life and plants.

4. **When is Mosquito Larviciding Required?** – Mosquito larva control activities are an important part of any integrated pest management program. The larvicides used by the Department of Environmental Protection (DEP) include Bti, Bsp, and Methoprene®. Both Bti and Bsp are naturally occurring bacterial mosquito pathogens that have a very low environmental impact. Methoprene® interferes with the normal development of mosquito larvae, but is relatively harmless to non-target organisms. Hand application, truck-mounted, and/or aerial equipment is used to distribute larvicides.

5. **When is Adult Mosquito Spraying Required?** - If the Commonwealth of Pennsylvania's Mosquito Surveillance Program laboratory test results document significant numbers of adult mosquitoes infected with either a mosquito-borne virus (e.g. Eastern Equine Encephalitis Virus, LaCrosse Virus, Rift Valley Fever Virus, Saint Louis Encephalitis Virus, or West Nile fever Virus) or significant clusters of animal or human disease is found, adult mosquito spraying will be used to protect the public health. Allergic individuals; pregnant women; and caregivers for either the elderly, the ill or young children should comply with announced precautionary recommendations. Any person experiencing an adverse health effect should immediately consult with their health care provider.

a. Most adult mosquito spraying scenarios involve certified pesticide applicators using truck mounted pesticide spraying equipment to spray from roads. They spray neighborhoods when adult mosquitoes are most active, usually in the early evening. The manufacturer's instructions are followed to formulate a pesticide mist that will kill flying mosquitoes upon contact and then either evaporate before reaching the ground, or degrade rapidly in sunlight. Residents should close windows and doors and turn off air conditioners before the spraying period begins, and remain inside. Residents should reopen windows and doors, and turn on air conditioners 30 minutes after the spraying period ends.

b. The next most common adult mosquito spraying scenario involves certified pesticide applicators using all-terrain-vehicle mounted spraying equipment to spray off-road areas. These application methods and precautions are the same as 6.a.

c. Rarely a larger area will require aerial spraying by a certified contractor using either a fixed wing aircraft or a helicopter. DEP will choose a pesticide that has been mutually agreed upon by the DOH and the county mosquito control partners where the spraying is taking place. Application methods and precautions are the same as 6.a. and 6.b.

(1) The aircraft application is controlled by an onboard computer as the aircraft flies parallel grid lines. Constantly factoring in aircraft location and changing wind speeds and directions, the computer directs the pilot where to fly, and then controls the spraying equipment so that the invisible pesticide mist ends up in the designated treatment area. Aircraft spraying software discontinue spraying over bodies of water. For these reasons, an aircraft flying over your house may be accurately applying pesticide to a targeted area more than half a mile away.

(2) In 2008, **Scourge®** was used for the aircraft spraying in South East Pennsylvania, however, prior to that **Pyrocide 7596®** was used for aircraft applications.

6. **What Pesticides are used in Pennsylvania for Adult Mosquito Spraying?** A variety of commercial pesticides are used in these Ultra Low Volume (ULV) applications:

a. **Anvil 10+10®**

b. **AquaReslin®**

c. **Biomist 3+15®**

d. **Duet®**

e. **Permanone®**

f. **Pyrocide 7596®**

g. **Scourge®**

h. **Zenivex E20®**

7. **Is Any Pesticide Exposure Risk Free?** No. As a general rule pesticide products are considered inherently toxic, therefore, all pesticide applicators must be trained and certified. Since the likelihood of a person or pet experiencing any adverse health effects from exposure to any pesticide application mostly depends on the

concentration and duration of exposure, the best safety advice is to carefully follow announced recommendations.

8. **What Planned Spraying Notifications are Required?** - Registered hypersensitive persons http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_6_2_75292_10297_0_43/AgWebsite/ProgramDetail.aspx?name=Pesticide-Hypersensitivity-Registry&navid=12&parentnavid=0&palid=112& residing in the impacted area must be notified in advance of any planned pesticide spraying, so that appropriate self-protective measures may be taken during and after the planned spraying event. As a courtesy, The Department of Environmental Protection also notifies registered beekeepers in the application area.

9. **Should I Touch Pesticide Exposed Surfaces (e. g. grass or soil)?**

a. In general, adverse health effects are not expected from such limited skin exposure.

b. These types of pesticides are rapidly degraded by exposure to sunlight or water.

10. **Can Pets go Outside during Spraying?** - If possible, keep your pet inside during the announced spraying period and for about 30 minutes afterwards to minimize their exposure.

11. **Should I be Concerned about Pesticide in My Swimming Pool?** – Since these types of pesticides break down quickly in either water or sunlight, no special precautions are needed to protect swimming pools.

12. **What Steps can I take to Protect My Family?**

a. Residents should close windows and doors and turn off air conditioners before the spraying period begins, and remain inside during spraying.

b. Bring children’s toys indoors before spraying begins, or rinse them off after.

c. As usual always wash fresh produce before food preparation or eating. However, you may wish to pick any ripe homegrown fruits and vegetables in your garden before the scheduled spraying begins.

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d. Bring pets, food and water dishes indoors, and cover ornamental fish ponds.

e. Residents should reopen windows and doors, and turn on air conditioners 30 minutes after the spraying period ends.

f. As always, if you experience any adverse health affects you should immediately consult with your health care provider.

13. **For more information about Adult Mosquito Spraying**:

http://www.cdc.gov/ncidod/dvbid/westnile/resources/wnv_ReportOverview.htm#youcando

This fact sheet provides general information. Please contact your physician and/or veterinarian for specific clinical information related to you or your animal.

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