



earth-wise guide to

# Mosquitos



Engorged Mosquito

## description

Adult mosquitos are small, long-legged flies; they have two wings with scales and long segmented antennae. Mosquitos have long piercing/sucking mouthparts; they lay their eggs in still water

## infestation

Found in Texas year round, but become more prevalent in the spring and summer; more active between dusk and dawn

## problem

Mosquitos can carry West Nile Virus and transmit the disease to humans and animals. Infected humans may develop severe symptoms such as high fever, headaches, coma and paralysis

For more information, visit the Center for Disease Control website at [www.cdc.gov](http://www.cdc.gov)

## Least Toxic Solutions...

### Reduce Mosquitos

- Eliminate breeding sites by reducing standing water (includes old tires, bottles, buckets, and clogged gutters)
- Replace water at least once a week in pet dishes, bird baths and watering troughs
- Repair leaky outside faucets and pipes
- Consider mowing or pruning dense vegetation to reduce mosquito habitat
- Keep window and door screens in good repair
- Fill in tree holes with sand and low spots in lawn with soil
- Stock permanent water areas with mosquito-feeding fish (*Gambusia affinis* can be bought in pet stores and bait shops)
- Carefully screen rainwater harvesting cisterns to exclude mosquitos
- Consider installing nesting boxes to attract bats and birds that feed on mosquitos

### Prevent Bites

- Avoid being outside at the peak mosquito hours of dusk and dawn
- Wear light colored, loose fitting clothing when outside; mosquito repellent clothing is also available

## Least Toxic Products...

- Use *Bacillus thuringiensis israeliensis* "mosquito dunks" to reduce mosquitos in rain barrels and permanent bodies of water. These products slowly release a biological larvicide that kills the pest
- Light citronella candles to provide short-term relief on areas such as patios
- Use mosquito repellents when outside. Apply to clothing and exposed skin according to label instructions. Once indoors, wash treated skin with soap and water
- Use topical, spot treatments for pets to help repel mosquitos and use in conjunction with heartworm medication because heartworms are transmitted by mosquitos

### If you must use a pesticide...

- Use the least toxic pesticide first
- Read and follow label directions

Use the American Academy of Pediatrics recommendations for application when using products with DEET on children.

**Avoid mosquito foggers, misters and electric zappers - they kill beneficial insects as well as pests**

# product toxicity comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or "other" ingredients.

**Toxicity/Threat:**

low  
  low to moderate  
  high  
  highest  
 NA not applicable  
 ? unknown toxicity  
 banned by EPA  
 earth-wise

**Hazards:**

human toxicity  
 aquatic life  
 birds, bees, pets  
 soil mobility  
 environmental persistence

| note | Product Name | active ingredient(s) / concentrations | human toxicity |         | aquatic life | birds, bees, pets | soil mobility | environmental persistence |
|------|--------------|---------------------------------------|----------------|---------|--------------|-------------------|---------------|---------------------------|
|      |              |                                       | acute          | chronic |              |                   |               |                           |

**Personal Insect Repellents**

|            |   |                        |                                  |   |     |     |     |     |
|------------|---|------------------------|----------------------------------|---|-----|-----|-----|-----|
| most toxic | Cutter® Advanced Insect Repellent           | Picaridin 7%           | <input type="radio"/>            | ? | N/A | N/A | N/A | N/A |
|            | Repel® Lemon Eucalyptus Insect repellent    | P-menthane             | <input type="radio"/>            | ? | N/A | N/A | N/A | N/A |
|            | SC Johnson Off® Botanicals Insect Repellent | P-menthane 0.3, 8 diol | <input type="radio"/>            | ? | N/A | N/A | N/A | N/A |
|            | Cutter® Skinsations (DEET)                  | DEET 7%                | <input checked="" type="radio"/> | ? | N/A | N/A | N/A | N/A |

**Standing Water Treatments**

|  |                        |                          |                       |   |                       |                       |     |                       |
|--|------------------------|--------------------------|-----------------------|---|-----------------------|-----------------------|-----|-----------------------|
|  | Summit® Mosquito Dunks | B.t. israeliensis 10.31% | <input type="radio"/> | ? | <input type="radio"/> | <input type="radio"/> | N/A | <input type="radio"/> |
|--|------------------------|--------------------------|-----------------------|---|-----------------------|-----------------------|-----|-----------------------|

**Vegetation Sprays/Granules:**

|            |   |   |                                  |                                  |                                  |                                  |                                  |                                    |
|------------|---|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|
| most toxic | Cutter® Bug Free Backyard® Concentrate  | Lambda-cyhalothrin 0.5%   | <input checked="" type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> / |
|            | Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate                     | Cyfluthrin 0.75%  | <input type="radio"/>            | ?                                | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>              |
|            | Bayer Advanced™ PowerForce® Mosquito Killer Plus Outdoor Fogger                 | Tetramethrin 0.15%,<br>Permethrin 0.15%<br>Piperonyl butoxide 0.75% | <input type="radio"/>            | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> / |
|            | Bayer Advanced™ Complete Insect Killer for Soil & Turf Ready-to-Spread Granules | Imidacloprid 0.15%<br>Beta-cyfluthrin 0.5%                          | <input type="radio"/>            | ?                                | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/>   |

**Airborne Repellent:**

|            |  |  |                       |                                  |                                  |                                  |                       |                                    |
|------------|--|--|-----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------|------------------------------------|
| most toxic | Bonide® Mosquito Beater Flying Insect Yard Fog | Resemethrin .2%                                      | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> | <input checked="" type="radio"/>   |
|            | Concern® Citrus Home Pest Control™             | D-limonene 5.8%                                      | <input type="radio"/> | ?                                | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/>              |
|            | SC Johnson Off® Mosquito Coil For Outdoor Use  | D-CIS transallethrin 0.33%,<br>Sodium benzoate 0.15% | <input type="radio"/> | ?                                | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/>              |
|            | Black Flag® Backyard Fogger                    | Permethrin 0.2%,<br>Tetramethrin 0.2%                | <input type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> / |

**Attractant:**

|                                 |                             |                       |   |                                  |                                  |                       |                       |
|---------------------------------|-----------------------------|-----------------------|---|----------------------------------|----------------------------------|-----------------------|-----------------------|
| SC Johnson Off!® Power Pad Lamp | D-CIS/transallethrin 21.97% | <input type="radio"/> | ? | <input checked="" type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
|---------------------------------|-----------------------------|-----------------------|---|----------------------------------|----------------------------------|-----------------------|-----------------------|

**why grow green?**

The Grow Green program educates Austin area residents on the LEAST TOXIC approach to pest management and responsible fertilizer use. Our goal is to reduce the amount of landscape chemicals that "runoff" into our waterways or leach into our groundwater and degrade water quality.

The City of Austin and the Texas AgriLife Extension Service provide this information as a comparative reference only. Listing of specific product trade names does not constitute an endorsement of its use. Many other pesticides and pesticide products are available and may be suitable for use other than those listed in these tables.

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service who can be reached for questions at (979) 862-1035. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

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

City of Austin  
**WATERSHED PROTECTION**  
974-2550

**AgriLIFE EXTENSION**  
854-9600 Texas A&M System