Integrated Mosquito Management

What It Is...What It Isn’t

Joseph M Conlon
Technical Advisor
American Mosquito Control Association
Integrated Mosquito Management

What It Is

Knowledge-based

Surveillance-driven

Resource-limited

Elements:
- Public Education/Community Involvement
- Surveillance
- Source reduction
- Larval Control
- Adult Control
Reproductive Capabilities

• 4 Generations at 16 weeks
  
  – 25% Mortality 49,843,353,164
  
  – 50% Mortality 12,974,633,789
  
  – 75% Mortality 810,914,612
Public Education/Community Involvement
Surveillance - Larvae
Source Reduction/Modification
Larval Control - Predators
Larvicides

• Microbials
  • *Bacillus thuringiensis israeliensis*
  • *Bacillus sphaericus*
  • Spinosad

• Chemical
  • Juvenile Hormone Analogs
  • Monomolecular Films
  • Oils
  • Temephos
Adult Survey
Adulticides

• Residual Barriers
  • Nontargets

• Thermal Fogs
  • Resource intensive

• Ultra Low Volume
  • Calibration/maintenance
  • Certification
Ultra Low Volume
### ULV DROPLET SIZE

**THE VOLUME OF ONE BB SHOT WOULD MAKE:**

<table>
<thead>
<tr>
<th>Droplet Size (µm)</th>
<th>Number of Droplets</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>9,761,000</td>
</tr>
<tr>
<td>17</td>
<td>15,079,991</td>
</tr>
<tr>
<td>10</td>
<td>74,088,000</td>
</tr>
</tbody>
</table>
## TIME REQUIRED FOR A DROPLET OF MALATHION TO FALL 10 FEET*

<table>
<thead>
<tr>
<th>Droplet Size (Microns)</th>
<th>Time in Minutes</th>
<th>Downwind Drift (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>12.5</td>
<td>2,200</td>
</tr>
<tr>
<td>20</td>
<td>3.2</td>
<td>569</td>
</tr>
<tr>
<td>30</td>
<td>1.4</td>
<td>252</td>
</tr>
<tr>
<td>50</td>
<td>0.5</td>
<td>94</td>
</tr>
<tr>
<td>80</td>
<td>0.4</td>
<td>64</td>
</tr>
</tbody>
</table>

*In 2 mph wind, assuming gravity only*
AIMMS-20 Onboard Meteorological Package

AIMMS-20 Probe

Processor and Inertial Unit

Wingman GPS System

Tail GPS Antenna

Front GPS Antenna
Integrated Mosquito Management
What It Is

• Public Education
• Community Involvement
• Surveillance
• Source reduction
• Larval Control
• Adult Control
Integrated Mosquito Management
What It Is Not

• Does not seek eradication

• Pesticide Averse

• Unless circumstances dictate, sole reliance on:
  • Source Reduction
  • Biorational Larvicides
  • Chemical larvicides/adulticides
  • Traps
  • Repellents
  • Natural Predators
Integrated Mosquito Management is a comprehensive mosquito prevention/control strategy that utilizes available mosquito control methods singly or in combination to exploit the known vulnerabilities of mosquitoes in order to reduce their numbers to tolerable levels while maintaining a quality environment.