

**Integrated Pest Management  
(IPM)**

**Southwest Mosquito Abatement  
& Control District**

Presented by

**Mario Boisvert, Ph.D.**

District Manager



- Integrated Pest Management Components



# SWMAACD Mission Statement

- ... to represent the citizens of Washington County in setting policies leading to the enhancement of health and quality of life through the suppression of mosquitoes and mosquito borne diseases as well as the reduction of annoyance levels caused by nuisance mosquitoes.
- ... to provide safe, effective, and economical mosquito control.
- ... to practice integrated mosquito management principles.**



# Integrated Pest Management (IPM)

- Definition <sup>1</sup>:

An effective and environmentally sensitive approach used to manage mosquitoes, relying upon a combination of scientific knowledge and common sense.

<sup>1</sup>. Rutgers University

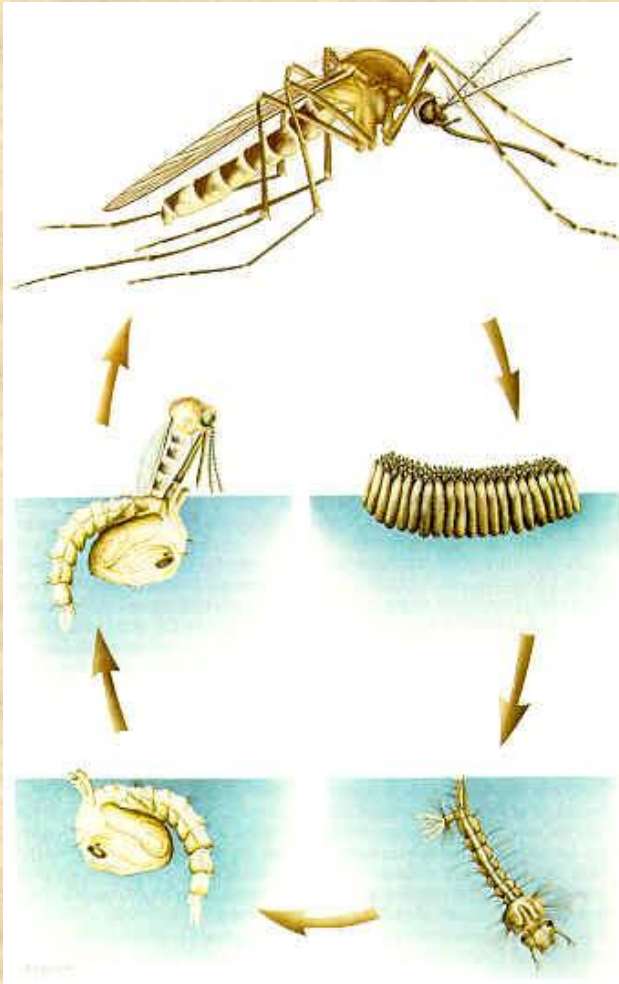


# IPM Components

1. Mosquito Sampling & Surveillance
2. Mapping
3. Physical Control (source reduction)
4. Mosquito Population Control (larvicides & adulticides)
5. Resistance Monitoring
6. Disease Surveillance
7. Public Education & Community Outreach
8. Budget



# 1. Mosquito Sampling & Surveillance



# 1. Mosquito Sampling & Surveillance

- Larval mosquito surveillance
  - Inspection of sites in rural & urban areas
- Adult mosquito surveillance
  - Light traps (looking for a blood meal)
  - Gravid traps (ready to lay eggs; already had a blood meal)



## 2. Mapping

- Maps
- The plotting (identification and counts of larvae and adults)
- Global Positioning System (GPS)
- Geographic Information System (GIS)



# 3. Physical Control Source Reduction

- Sanitation
  - Removal of water-holding tanks, buckets, etc.
  - Maintenance & repair
- Water management
  - Filling low-lying depressions
  - Ditching



# 4. Mosquito Population Control

- Larvicide
  - Granular and/or liquid formulations
  - Ground applications
  - Roadside ditches, permanent ponds, storm water retention structures, floodwater pools, etc.
  
- Adulticide
  - Liquid formulation
  - ULV ground application (mounted truck)



# 5. Resistance Monitoring

- Larvicide resistance
  - Evaluation of treatment efficacy
  - Bioassays
- Adulticide resistance
  - Evaluation of treatment efficacy
  - Caged mosquito tests
- Research is an integral part of the mission



# 6. Disease (Resistance) Surveillance

- Vertebrate host surveillance
  - Sentinel flocks
  - Equine cases
- Bird surveillance
  - Corvidae (crows, ravens, jays, etc.)
- Vector surveillance
  - Adult mosquito species
- Human case surveillance
  - State Public Health Officials



# 7. Public Education & Community Outreach

- Importance of Public Education in the program
  - Virus transmission
  - Life cycle and biology
  - Insecticides used (modes of action)
  - Attitudes and protection
  - Young students and adults tailored education program
  - Community groups, outdoor clubs, scouts, etc.



# 7. Public Education & Community Outreach

- Suggested activities
  - Civic presentations (education)
  - Displays
  - Brochures
  - Website



# 8. Budget

- Expenses categories of a MACP
  - Personnel costs (salaries & benefits)
  - Chemicals
  - Operating expenses
  - Capital expenses
  - Contracting



