

**Objectives & Design of the USDA ARS Project for Area-Wide Management of the Asian Tiger Mosquito
– Sean Healy (Monmouth County Mosquito Commission)**

- a) Centered on management of pests where effective control is best over a large area
 - i) First project targeting a mosquito
 - ii) Projected 5-year budget is \$3.8 million
- b) Asian tiger mosquito
 - i) Aggressive daytime feeder
 - ii) Container breeder
 - iii) Wide host range
 - iv) Most important pest species in many areas
- c) Current situation
 - i) First detected in mid-80s
 - ii) Now found in 30 states
 - iii) Good vector for many viruses
 - iv) Spread of the Tiger (paper)
- d) Pilot study – New Jersey
 - i) 2 counties – Monmouth and Mercer
 - ii) *Ae albopictus* found in nearly every county in NJ
 - iii) WNV+ pools detected
 - iv) Objectives:
 - (1) Demonstrate an effective area-wide control – 95% reduction
 - (2) Demonstrate the public health and socio-economic importance – cost benefit analysis
 - (3) Establish strategies for continued control - manual
 - v) Multi-agency project
- e) Proposed Methods
 - i) Risk assessment – GIS
 - ii) Surveillance
 - (1) Variety of traps
 - (a) BG Sentinel Traps
 - (b) Ovitrap
 - (2) Service calls
 - iii) Control
 - (1) Education
 - (2) Source reduction
 - (3) Tire remediation
 - (4) Larval and adult control
 - iv) Maintenance
 - (1) Residual barriers
 - (2) Personal protection
 - (3) Other
 - v) Products
 - (1) Training manual
 - (2) Public education
- f) Picking sites - considerations
 - i) Assessment
 - ii) Population genetics
 - iii) Insecticide resistance
 - iv) Overwintering

- v) Control optimization
- vi) Economic evaluation
- vii) Human component
 - (1) Abundance
 - (2) Complaints
 - (3) Health
 - (4) SEC
- viii) Dealing with control (non-treatment) sites
 - (1) Treated using current operational protocols
 - (2) Will respond to problems
- ix) Project phases
 - (1) Collect baseline data – locating larval habitats
 - (2) Implement program at 2 sites – develop guidelines
 - (3) Expand program countywide – improve guidelines
 - (4) Extend approach to other areas
- g) Analysis
 - i) Spatial using GIS
 - ii) Economic cost effectiveness analysis
 - iii) Measure public perception of nuisance and costs
 - iv) Measure social and health costs
- h) Benefits to agriculture
 - i) Reduced threat of disease in livestock
 - ii) Reduced threat of zoonoses
 - iii) Reduced nuisance