

Vector Index and Resistance, Shelby County – Ture Carlson

- a) County divided into spray zones
- b) Vector Index
 - 1) Vector index compared to human cases
 - 2) VI of 0.5 predicted 80% of human cases
- c) Culex density
 - 1) Weekly trap averages
 - 2) Density per zone
- d) Use New Jersey Light traps on photocells for nuisance mosquito surveillance
 - 1) Year data vs average
 - 2) Heavy rain and water just below flood stage led to a few huge spikes in 2015
- e) Larval surveillance
 - 1) ~3500 sites inspected every 2 weeks
 - 2) Start collecting in March
 - 3) WNV
 - (i) Track *Culex restuans* vs *Cx pipiens*
 - (ii) Switch from nuisance mosquito control to vector control
- f) Adulticiding
 - 1) Based on presence of disease
 - 2) Resistance testing
 - (i) *Culex* spp
 - (ii) Permethrin resistance seen, but PBO helps
 - (iii) Mixed *Cx quinquefasciatus*, *Cx pipiens*, hybrid populations
- g) Complaints
 - 1) Tire cleanup no longer funded
 - 2) Graph complaints by months
 - 3) Break down by type
 - 4) Swimming pool issues
 - (i) No ordinance mentioning standing water and mosquitoes
 - (ii) Ordinance mentions vegetation and mosquitoes