

## History of Mosquito Control in Shelby County – Ture Carlson

- a) City of Memphis
- b) Yellow fever
  - 1) First major outbreak in 1928
  - 2) 1850-1854: yellow fever cases every year
  - 3) 1855 outbreak
  - 4) 1867 – 3<sup>rd</sup> major outbreak
  - 5) 1873 – 4<sup>th</sup> major outbreak
  - 6) 1878 – 5<sup>th</sup> and largest outbreak
  - 7) 1879 – 6<sup>th</sup> and final outbreak
  - 8) 1897 – last local cases of yellow fever reported
- c) Board of Health convenes during outbreaks
  - 1) 1879 National Board of Health survey
  - 2) mosquitoes found in cisterns (probably *Aedes aegypti*)
- d) A lot of people fled town during outbreaks
- e) Positive results
  - 1) 1913
    - (i) Mosquito control
    - (ii) Screened windows
  - 2) Sanitary sewers
  - 3) Artesian aquifer resulted in cisterns being eliminated
- f) Early 1900s
  - 1) Mostly ditching and oiling water to eliminate malaria
  - 2) Shelby Health Department
  - 3) City of Memphis Health Department
  - 4) Pesticide building
    - (i) DDT
    - (ii) Paris Green
    - (iii) Slaked lime –
      - (a) A soft, white, crystalline, very slightly water-soluble powder,  $\text{Ca(OH)}_2$ , obtained by the action of water on lime: used chiefly in mortars, plasters, and cements.
      - (b) Used with Paris Green
  - 5) Mosquito surveys
  - 6) 1928: Malaria Control Program
    - (i) 1930s – 18% positives
    - (ii) malaria relief programs
    - (iii) *Anopheles* surveys
  - 7) 1936 Howard-Krauss Society
    - (i) Big education push
    - (ii) Malaria
    - (iii) Other pests of public health importance
- g) 1940s
  - 1) Shelby County – Memphis Health Departments combined

- 2) Extended malaria program
  - (i) Electric traps
  - (ii) Inside wall treatments
  - (iii) Primarily used DDT
- h) 1950s
  - 1) Probably resistance to DDT
  - 2) Switched to Chlordane-Dieldrin
  - 3) Also Malrin (carbamate insecticide) and malathion
  - 4) Residual spraying in homes stopped in 1953
  - 5) 1956 – malaria free
- i) 1960s
  - 1) *Aedes aegypti* eradication program started
  - 2) *Aedes aegypti* no longer found
  - 3) SLE first reported
- j) 1970s
  - 1) Bought ULV sprayers
  - 2) Started avian sentinel flocks
  - 3) 1974-1976: big SLE outbreak
  - 4) *Aedes aegypti* found again
  - 5) Organophosphate resistance found
  - 6) Switched to resmethrin
- k) 1980s & 1990s
  - 1) *Aedes albopictus* found
    - (i) Single female – 1983
    - (ii) Breeding population – 1986
  - 2) 1989-90: no more *Aedes aegypti*
- l) 2000s
  - 1) WNV 2002
  - 2) Fee placed on utility bill to support mosquito control county-wide
  - 3) City of Memphis defunds Health Department
  - 4) Currently also do rodent control