Insecticide Resistance in Mosquitoes – Stephanie Richards

a. Routine monitoring is an important part of mosquito control
   b. Study
      i. Why
         1. Determine susceptibility/resistance of several US population
         2. Different technical grade active ingredients
         3. Done over several years
      ii. Design
         1. Ship eggs in mail
         2. Reared in lab
      iii. Active ingredients
         1. Malathion
         2. Etofenprox
         3. Several pyrethroids
      iv. Mosquitoes
         1. *Culex quinquefasciatus*
         2. *Aedes albopictus*
      v. Bottle bioassay
      vi. Analysis
         1. Ordinal logistic regression
         2. WHO guidelines
         3. Odds ratio

   c. Results
      i. South
         1. Dallas, TX
            a. Aedes generally more susceptible than Culex
            b. Resistance seen in Aedes to several active ingredients
         2. Greenville, NC
            a. No mosquito control
            b. Collected from detention pond
            c. Resistance changed over time

      ii. Lots of variation
      iii. Lots of resistance
         1. Resistance higher in Culex than Aedes
         2. Some populations are highly resistant to everything

   d. Why the differences
      i. Different pesticide applications
         1. Different products
         2. Different times
         3. Different methods of application (ULV vs Barrier)
      ii. Mosquito control is only a small part of the pesticide pressure