2016 AHGSA R Club –

Summer Semester

# Agenda for Meeting One (07/26)

1. R and RStudio
   1. Check if any issues with download/installation
   2. Bit of history
   3. Why using an editor? Syntax suggestions, color-coded
2. Familiarizing with RStudio
   1. Script window
   2. Console window
   3. Environment window
   4. Files/Plots/Packages/Help/Viewer window
3. R terminology
   1. Object
   2. Function
   3. Parameter
   4. Package
4. Importing a dataset
   1. Let’s use cotton dataset
   2. Tidy dataset concept
   3. Data formatting before importing
   4. Variable types: factor, numeric, integer (functions summary, class)
   5. Resampling a dataset by $ and [,]
5. Plotting: Exploratory statistical analysis
   1. Different packages for plotting (base R, lattice, ggplot2)
   2. Install and load ggplot2
   3. Geoms:
      1. geom\_histogram (x)
      2. geom\_density (x)
      3. geom\_boxplot (x,y, group)
      4. geom\_violin (x,y,group)
6. Plotting: Exploratory using aesthetics
   1. geom\_point (introduce aes concept, try in and outside aes function)
   2. geom\_jitter
   3. geom\_smooth
   4. facets
7. Plotting: Summarizing data
   1. Install and load dplyr, tidyr and magrittr
   2. Calculate means and sem
   3. Plot means and sem using geom\_point and:
      1. geom\_errorbar
      2. geom\_crossbar
      3. geom\_linerange
      4. geom\_pointrange