

Last week: Review session

- Descriptive statistics
- Plotting
- ANOVA
 - > *aov(response ~ treatment)*
 - > *Anova()* to get an ANOVA table.
- Testing assumptions
 - > *leveneTest()* in package:car to test for equal variances
 - > *shapiro.test()* to test for normality (residuals for ANOVA)
- Kruskal-Wallis test
 - > *kruskal.test(response ~ treatment)*

This week: Multiple comparisons

Parametric tests:

- Tukey's HSD
 - > *tukeyHSD()*
- Bonferroni test
 - > *ghlt()* in package: multcomp

Non-parametric tests:

- Dunn's test
 - > *dunn.test()* in package:dunn.test

Exercise 1: ANOVA and multiple comparison

Data: The counts of insects in agricultural experimental units treated with different insecticides (sprays = A, B and C).

Instructions:

1. Run an ANOVA (assume that all assumptions have been met).
2. Conduct a multiple comparison that you think is relevant.
3. Plot your results.
4. Write a summary statement for both the ANOVA and multiple comparison tests.



Exercise 2: Kruskal-Wallis and multiple comparison

Data: Daily air quality measurements on Roosevelt Island, New York in 1973. Test whether the mean ozone (ppb) was different among the three months.

Instructions:

1. Run an Kruskal Wallis (assume that all assumptions have been met).
2. Conduct a multiple comparison that you think is relevant.
3. Plot your results.
4. Write a summary statement for both the Kruskal-Wallis and multiple comparison tests.

