## Methods in Experimental Ecology II (PCB 6468) Exercise 9 – Zero-Inflated Models Due April 8, 2016



Flowers were counted in rose plants in greenhouses located in north and south Medellin (Colombia). Locations within the greenhouses varied in the amount of moisture the plants received. The horticulturist is interested in finding out if there are significant differences in number of roses per plant between greenhouses, and his gardeners have noticed a lot of plants without flowers this year.

- 1. Use the Exercise9\_data.R script provided in the class website to generate a sample [roses] following the description above (you only need to run it once and then keep the data as a fixed input for your analyses).
- 2. State *your* scientific hypothesis.
- 3. Inspect and plot *your* data (publication quality).
- 4. Select and justify a statistical model to test *your* hypothesis using the data.
- 5. Verify the assumptions of the model *you* selected using plots.
- 6. Plot *your* predicted model with 95% CI (publication quality).
- 7. Compare *your* results to, at least, another student in class.
- 8. Interpret *your* results.

**NOTE:** Please submit your paper as a single word document. Remember to include your raw data and all the appropriate R code as appendices at the end.