# Assignment 5 STAT 315-463: Multivariable Statistical Methods and Applications

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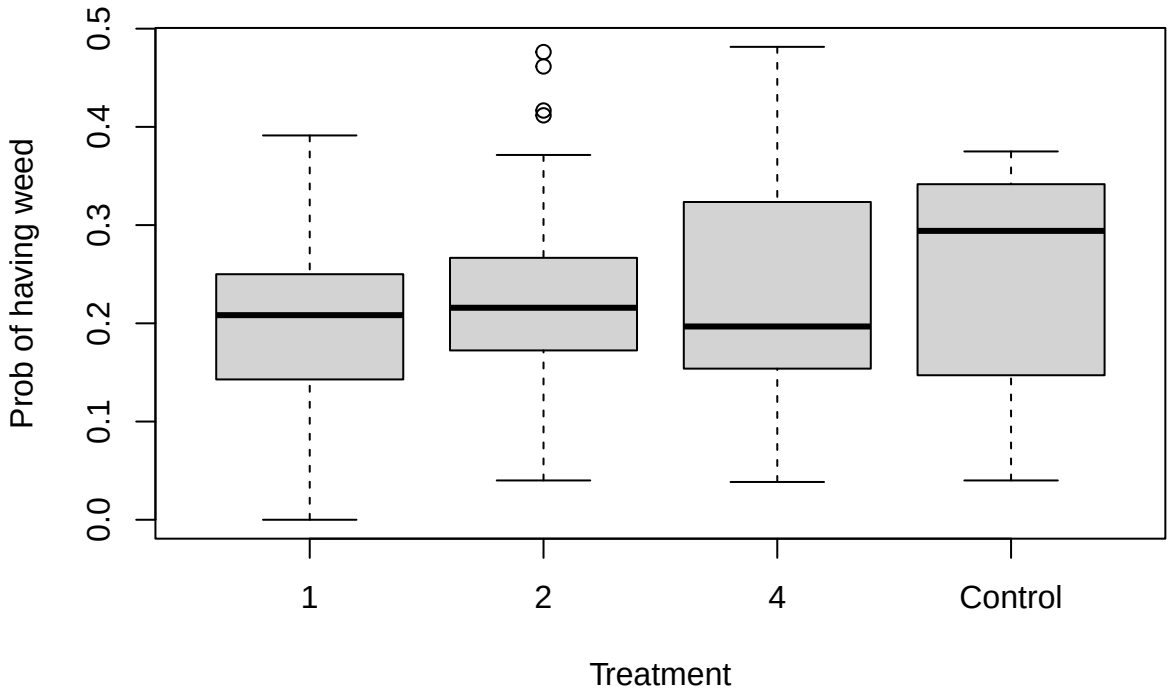
```
# Read in data file
initobs <- read.table("initobs.csv", header = TRUE, sep = ',', na.strings = "na")
```

**a):Explain why observer should be included in a model as a random effect.**

The observers are the source of random variation. It is assumed here that these observers are from a random sample selected from a large collection of observers.

**b) What distribution would be appropriate for these data and why?**

```
plot(as.factor(initobs$Trt), initobs$Bc/initobs$Steps, xlab="Treatment",ylab="Prob of having weed")
```




These data are not continuous, therefore it is not very suitable to use normal linear regression models.

**c) Fit an appropriate random effects model to these data**

- a. Discuss the results of the analysis, include comments about the following:
  - i). Scaled residuals
  - ii). Random effects
  - iii). Fixed effects
- b. What would your overall conclusion be?

**d) Draw graphs of the residuals and the random effects and comment on these.**