**ANS 6905 Fall 2019: Applied Statistics for Animal Sciences**

**Quiz November 21**

**Name:**

An experiment was conducted to evaluate the effect of fertilizer and type of pruning on the sweetness of grape wines. The fertilizer treatment consisted of amendment with phosphorus or amendment with phosphorus and potassium. The pruning treatment was defined in terms of the number of buds left on a trunk; pruning was done to leave either 60, 50, 40, or 30 buds.

The experiment was conducted in four vineyards. Within each vineyard, two rows of vines were chosen, and each one was randomly assigned to receive one of the fertilizer treatments. Within each of the rows, four trunks were chosen, and each of the trunks was randomly assigned to receive one of the four pruning treatments. Finally, at harvest time, a cluster of grapes was sampled from each trunk, and the sweetness of the cluster was determined.

**Question 1.** Describe the ***experimental design*** used in this study.

**Question 2.** Write the ***most appropriate statistical model*** to analyze *grape sweetness*.

**Question 3.** Provide a table with the ***sources of variability*** and ***degrees of freedom****.*

**Question 4.** Briefly explain how to test the effect of ***fertilizer***

**Question 5.** Briefly explain how to test the effect of ***pruning***

***t-distribution***



