Stat 500   **Lab 8**

Objective:
(1) Use SAS to conduct analysis of the penicillin example, an RCBD.
(2) Use SAS to analyze an example of the Latin Square design.

1. Penicillin example in lecture (an RCBD)

a) From the SAS output, find the full ANOVA table and analysis of the different processes on the yield of penicillin.

b) There are three orthogonal contrasts specified in the SAS code. Describe the analysis provided by these contrasts and determine which are statistically significant. Write a summary of your findings.

c) Check the assumptions of normality using SAS output.

d) Perform all pairwise comparison using Tukey's method.

2. A LS example in lecture: (data file: brome.txt and sas file: brome.sas). Two blocking factors are considered in the design. One is the distance from a stream (river) and another is the distance from the freeway. The yield of rare grass is the response variable.

a) From the SAS output, find the full ANOVA table and analysis of the different management plans on the yield of rare grass.

b) Is there any difference between the management plan of "in situ" versus the other plans?

c) Did the consideration of rows (stream) help? Compare the LS design with a design dropping the stream effect and give your conclusion.

3. Optional: multiple Latin Squares Example: brome2.sas
Multiple squares like below (separate squares)

	First square			Second Square		
1						
2						
3						
4						
5						
6						