Agronomy 526 Homework

Due: 2/15/22

1. The data below are from a growth chamber experiment in which a number of treatments were applied to eastern gamagrass seed in an attempt to break dormancy and thereby increase germination percentage. The treatments consisted of: 1) control, 2) wet chilling for 2 weeks, 3) wet chilling for 4 weeks, 4) wet chilling for 2 weeks with scarification, and 5) wet chilling for 4 weeks with scarification. The experimental design was a CRD with 5 replications. Data are expressed as percentages.

	Rep				
Treatment	1	2	3	4	5
1	12.7	11.3	13.4	10.8	12.0
2	25.9	24.5	26.2	23.9	24.1
3	40.3	45.0	36.8	32.9	43.7
4	52.3	51.4	57.4	60.8	60.5
5	72.3	76.2	77.1	77.9	75.0

   a. Create a table of treatment means and variances.

   b. Plot the variances against treatment means in an XY graph.

   c. Perform Bartlett's test for homogeneity on the data.

   d. Assuming that treatment variances are not homogeneous, transform the data using an appropriate transformation (based on the type of data).

   e. Calculate the analysis of variance for the experiment using the transformed data.

   f. Calculate the appropriate LSD for comparing treatment means.

   g. Convert the transformed means back to the original scale.

   h. Interpret the results of the experiment.