

Agronomy 526 Homework

Due: 1/27/22

1. The following data are from an experiment designed to compare twelve corn hybrids at a single location in central Iowa.

Hybrid	Replication			
	1	2	3	4
1	158.26	145.19	139.74	146.85
2	161.30	165.15	154.77	148.15
3	161.88	163.71	148.95	148.90
4	153.63	170.96	167.64	146.09
5	177.70	156.62	158.67	159.29
6	163.04	148.29	152.82	165.71
7	154.38	166.45	153.36	149.10
8	169.49	149.16	148.28	155.96
9	164.64	153.13	160.70	169.73
10	153.03	147.22	165.58	138.48
11	161.32	142.20	137.06	148.06
12	158.69	157.95	155.41	145.50

- a. Perform an analysis of variance of the data using the SAS procedures: ANOVA, GLM, MIXED, and GLIMMIX.
- b. Interpret the effect of Hybrid as determined by each procedure.
- c. Are there differences among the procedures for the Hybrid F-test?
- d. In what ways do the outputs of the four procedures differ?
- e. Which of the four procedures is superior for analyzing this particular dataset and why do you think so?