

Agronomy 526 Homework

Due: 4/28/22

1. The following data are from the sugar beet nitrogen experiment that you analyzed last week as a Latin square. Recall that six sources of nitrogen were applied at a rate of 100 lb/acre to determine nitrogen effects on yield (tons/acre). The six treatments were: A) ammonium sulfate, B) ammonium nitrate, C) urea, D) Ca nitrate, E) Na nitrate, and F) control (no N).

		Column											
Row		1	2	3	4	5	6	1	2	3	4	5	6
1		28.2	F	29.1	D	32.1	A	33.1	B	31.1	E	32.4	C
2		31.0	E	29.5	B	29.4	C	24.8	F	33.0	D	30.6	A
3		30.6	D	28.8	E	21.7	F	30.8	C	31.9	A	30.1	B
4		33.1	C	30.4	A	28.8	B	31.4	D	26.7	F	31.9	E
5		29.9	B	25.8	F	30.3	E	30.3	A	33.5	C	32.3	D
6		30.8	A	29.7	C	27.4	D	29.1	E	30.7	B	21.4	F

- a. Perform the analysis of variance in PROC MIXED using an appropriate model to account for spatial correlation.
- b. Compare treatment effects on adjusted means.
- c. Compare the results of this analysis with the Latin square analysis. How does the interpretation change?
- d. Interpret the results.