Agronomy 526 Homework

Due: 3/10/22

1. The following data are from an experiment designed to test the effect of a plant growth regulator (PGR) known to inhibit reproductive growth on the quality of tall fescue forage. The PGR was applied at the onset of seed head initiation at rates of 0, 0.5, 1.0 kg a.i. per ha. Plots were harvested at 0, 14, 28, and 42 d after boot stage occurred in control plots. The data in the table represent in vitro dry matter digestibility (IVDMD) in units of percent DM.

		Block			
Rate	**Date**	1	2	3	4
1	1	82.67	76.04	73.60	75.26
1	2	72.47	69.86	62.53	63.29
1	3	60.77	60.34	63.04	63.23
1	4	50.97	47.54	47.49	47.27
2	1	79.16	73.38	73.94	76.47
2	2	75.16	71.13	73.09	71.81
2	3	63.05	64.16	61.24	63.56
2	4	54.67	60.00	60.40	57.42
3	1	70.63	72.96	71.95	77.79
3	2	77.92	72.23	68.55	68.25
3	3	62.94	64.58	68.42	64.08
3	4	60.70	61.90	63.72	63.39

Assuming blocks are random and all other factors fixed:

a. Write the linear additive model and expected mean squares for the experiment.

b. Perform the analysis of variance.

c. Interpret the results making sure to explain any interactions.

d. Graph your results.

* turn in your SAS programs as well as output