**Initial Meeting – Selby Boerman and Travis Mulliniks**

Master’s Student Animal Science

**Objective:** Determine the impact of milk production level on cow/calf performance

**Current Data and Initial Analysis Plans:**

* 60 pairs of cows estimated milk production. Separated cows and calves.
* Difference in weight determines the estimate how much milk was produced after the calves nursed.
* Selected 30 cows from the 60 pairs that were on the study.
* 5 different quantities of milk for lactation
* Using AUC for a regression analysis
* AUC gives the amount of milk they produced in their lactation 30 days after the cows calved up until waning.
* Cow performance measure include body weight, body condition score, blood samples (different metabolites)
* Looked at milk production on calf growth, calf body weight, calf body condition, reproductive events
* AUC includes 5 time points
* Large environmental variation in March vs. May
* Similar ages, use age as covariate in the model
  + Will need to take the initial cow body weight out
* Minimized calving day
  + Will need to find calving date
* Sometimes using the same cows in both years
  + Tied into the year effect. No need to worry about the individual cow.
* Year increase of age of the cow will have an effect than the cow being in the same year.
* Calves weighed every time they are milked at 1, 30, 60, 90, 120 days, up until weaning
* Will look at interactions for the heifers and the steers

**Other aspects of the project:**

* Analyzing calf growth data highest priority
* Did acetate challenges on the cows (dataset not finished yet)
  + Subset of each herd, each year
  + 10 different time points of blood points to create acetate and glucose AUC up to 90 minutes
  + Selby will calculate these values
* Collected ramen fluid (VFA) taken at 30, 60, and weaning (someone else is working on this dataset)
* Grazing dataset will come later (uncertain when it’ll be ready, maybe mid-march)

**What’s next:**

* I will create a new variable in the dataset for “days from birth”
* I will work an exploratory data analysis this week