Tentative plans for studying TL – Strongyle relationships :

Week 1/3 – 5/3

1. Subset data to only include lambs
2. For the lambs, test for relationship between TL and strongyle FEC
3. Control for variables (such as sex, body weight) that might explain some of the variation in TL and strongyle
4. Summarize results from models explored above (try to write a short paragraph about what the results show for each of the models and plotting the relevant results – feel free to reach out if you need help!)

Week 8/3 – 12/3

1. How to include random effects in the model – Controlling for ID, Year, PCR-specific variables in the model
2. Re-run previous models including these random effects in each model.
3. Summarize results from these models in a short paragraph (2-3 sentences) and plot results.

Reading resources: <https://www.theanalysisfactor.com/understanding-random-effects-in-mixed-models/>

<https://www.youtube.com/watch?v=FCcVPsq8VcA&ab_channel=UniversityofNottingham>

<https://jontalle.web.engr.illinois.edu/MISC/lme4/bw_LME_tutorial.pdf>

Week 15/3 – 19/3

1. How to include interactions in the model – age-specific and sex-specific associations between TL and strongyles
2. Explore models that include these interactions (and also includes other fixed and random effects)
3. Summarize results from these models in a short paragraph (2-3 sentences) and plot results.

Reading resources: <https://www.theanalysisfactor.com/interpreting-interactions-in-regression/>

<https://www.youtube.com/watch?v=BPezEFME7QI&ab_channel=DataCamp>

Week 22/3 – 26/3

1. How to perform model comparison – Comparing the complete set of models you’ve explored in the last 2 weeks using AIC
2. What are the results of your model comparison approach?
3. Summarize results from the best-fitting model in a short paragraph (2-3 sentences) and plot results of best-fitting model.

Reading resources: <https://www.r-bloggers.com/2018/04/how-do-i-interpret-the-aic/>

<https://bookdown.org/animestina/intro_stats_rms/model-selection.html>