802 Project Summary

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```
  Batches Inoculation_Method Thickness Week Response
1       1                Dry  1/4-inch    1 4.301801
2       1                Dry  1/4-inch    2 4.273007
3       1                Dry  1/4-inch    3 4.200168
4       1                Dry  1/4-inch    4 4.442244
5       1                Dry  1/4-inch    5 4.737077
6       1                Dry  1/8-inch    1 4.808217
```

Introduction

For more information on the experiment, the data, or any other files used in this paper see our Github page which can be found at https://github.com/maksudatoma/Stat-802-Project. The coding languages used in the paper are R and SAS. The corresponding code can be found in *Appendix A - R Code* and *Appendix B - SAS Code* respectively.

Variables

Missing Values

Summary Statistics

Two plots

Figure 1: **?(caption)**

Exploring the Data

Model

Models can be written as

$$Y_{ijk} = \mu + \alpha_i + \beta_j + (\alpha\beta)_{ij} + u_k + e_{ijk}$$

where Y_{ijk} represents the final weight for the ith treatment, the jth sex, and the kth sire. μ represents the overall mean, while α_i is the fixed effect for the ith treatment, β_j is the fixed effect for the jth sex, and $(\alpha\beta)_{ij}$ is their interaction. The random sire effect is represented by u_k and we assume u_k $N(0, \sigma_k^2)$. We also assume the residual term e_{ijkl} is distributed as $N(0, \sigma^2)$.

Conclusion

Future Work

References

Appendix A - R Code

Appendix B - SAS Code