Selection for Yield and Seed Composition Traits with Lines from a Recombinant Inbred Line Population

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Core ideas here.

# Title

Author list + affiliations Abbreviations (alphabetical order: Abbreviation, definition; next abbreviation, next definition; …)

CAS, Caswell research farm; CLA, central crops research station; PLY, Tidewater Research Station; SDWT, one hundred seed weight;

# Abstract

# Introduction

* Importance of yield.
* Importance of oil, protein coupled with oil. Stats on worldwide meal consumption, value contributed by high protein.
* Difficulty in simultaneously increasing yield, protein.
* Need for diverse germplasm with high protein, yield, good agronomic qualities.

# Materials and Methods

## Pedigree

* Brief details about the populations they were selected from
  + Number of RILs in each population
  + Population parents, parental pedigree (perhaps supplementary for detailed pedigrees)

## Population development

* Criteria for selection from the starting RIL populations.
  + Two trials per RIL population.
* How were lines selected for progression to the 2020 season.
  + Two trials in total.

## Plot techniques

* Plot techniques: How many rows, row lengh, spacing, seeding rate (from lead sheets)
* How data was converted between three-row and four-row trials

## Phenotypic data collection

* List each relevant phenotype and how it was measured
  + Yield, protein/oil, logding, agronomic score, seed weight.

## Statistical analysis

* Statistical model used to analyze data, fixed vs random effects what software was used.
  + Model used.
  + ANOVA results for model term significance (mainly genotype).
  + Software used to fit the model
  + How were genotype means compared (LSD?)

# Results and Discussion

* Report agronomic performance of well performing lines.
  + Well performing lines are those with yield within a LSD of the check average.
  + Report yield, maturity, lodging, heinght, seed weight, seed protein, seed oil, and meal protein.
    - Meal protein maybe from the SPROC program(?) **look into how to calculate this**

# Acknowledgements

# References