**Plant Breeding Journal and R club**

**Contact Information:**

Emily Klarquist [emily.klarquist@wsu.edu](mailto:emily.klarquist@wsu.edu)

Lance Merrick [lance.merrick@wsu.edu](mailto:lance.merrick@wsu.edu)

Meeting Time: 1:00-3:00 pm Wednesday

Location: Johnson Hall Room 204

**Overview:**

The plant breeding journal and R club is designed to give students an opportunity to discuss plant breeding and plant genetic related topics in a peer-to-peer environment conducive to learning the knowledge and skills required to be a successful plant breeder in their future career. It will entail learning how to analyze field trial data in R and discussing academic articles pertaining to relevant topics. It will be run and organized by students but will have one of the breeders participate each month in the journal discussion and supply the data and objectives for the R analysis. They will help explain topics brought up in the articles and give feedback on results obtained from the R analysis.

**Objectives:**

1. To teach students typical field trial analysis using R on real world plant breeding datasets and how to discuss and interpret results.
2. To enable the discussion of plant breeding and plant breeding technologies between students for further improvement of student knowledge and abilities.

**Outcomes:**

1. Learn the skills necessary to design and analyze any field trial.
2. Learn statistical analysis behind experimental design and analysis.
3. Learn how to graphically display and communicate experimental results.
4. Learn how to run R and share code on github.
5. Learn about and communicate new technologies in the field of breeding and genetics.
6. Learn how to run and adapt to any modern breeding program.

**Schedule:**

At the beginning of each month we will introduce the data set and objectives for that month and introduce 1 or 2 journal articles. The second and third week will be optional meetings to allow students to work together on the data set and discuss relevant ideas and topics. The last week of each month will be for the discussion of the journal article(s) and results of the data analysis. A breeder will be in attendance to help facilitate journal article discussion, results and interpretation of the data.

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| Monthly Schedule. | |
| 1st week: | * Introduce data set and objectives for the month * Introduce 1-2  journal articles (possibly from TAG collection) -breeder can pick an article or a student can pick the article(s) |
| 2nd week: | * Group working session: discuss and work on the data set together   -- optional attendance for those wanting to work with others on the project |
| 3rd week: | * Group working session: discuss and work on the data set together -- optional attendance for those wanting to work with others on the project |
| 4th week: | * Breeder attend meeting. * Discuss results of data sets and any other plant breeding questions- * Discuss journal article |

**Necessary Software and additional resources:**

R- <https://www.r-project.org/>

R-CRAN-*Oregon State (*nearest CRAN Mirror)- <https://ftp.osuosl.org/pub/cran/>

RStudio- <https://rstudio.com/>

Github- <https://github.com/>

eXtension webinars and Tutorials- <https://articles.extension.org/plant_breeding_genomics>

Plant Breeding Training Network (PBTN)- <https://passel.unl.edu/communities/pbtn>

Plant Breeding Consortium (NC State free lectures)-<http://www.plantbreedingcenter.ncsu.edu/online/index.html>

Theoretical and Applied Genetics: New Technologies for Plant Breeding-

<https://link.springer.com/journal/122/132/3?wt_mc=alerts.TOCjournals&utm_source=toc&utm_medium=email&utm_campaign=toc_122_132_3>