

PLSC 731 – Plant Molecular Genetics

QTL Mapping Homework

Date Due: April 5, 2022

100 points

This is a group assignment. Work together in your crop group and submit one final report for the whole group.

As we have discussed extensively in class, many traits of interest are inherited in a quantitative manner. Therefore it is important to understand the principles of QTL mapping. Your assignment is to perform a QTL analysis with the BR34xGran gQENE-2.qdf data set. Here are the specific instructions

1. Download all of the data sets from this site.
2. Complete the QGene tutorial. (The necessary data files are found on this WWW page.)
3. Do a complete (and informative) analysis of the phenotypic and genotypic data found in the file BR34xGran gQENE-2.qdf. The trait abbreviations are:

DTH – Days to heading

Htave – Average height

Sn69 – Resistance response to Stagonospora race 69

Sn11 - Resistance response to Stagonospora race 11

Sn6 - Resistance response to Stagonospora race 6

4. Use the standard paper format for the class. The maximum number of pages is two.

Note: You should consult other QTL mapping papers to ensure you do a complete analysis.