

Association Mapping, simulated example for amy10

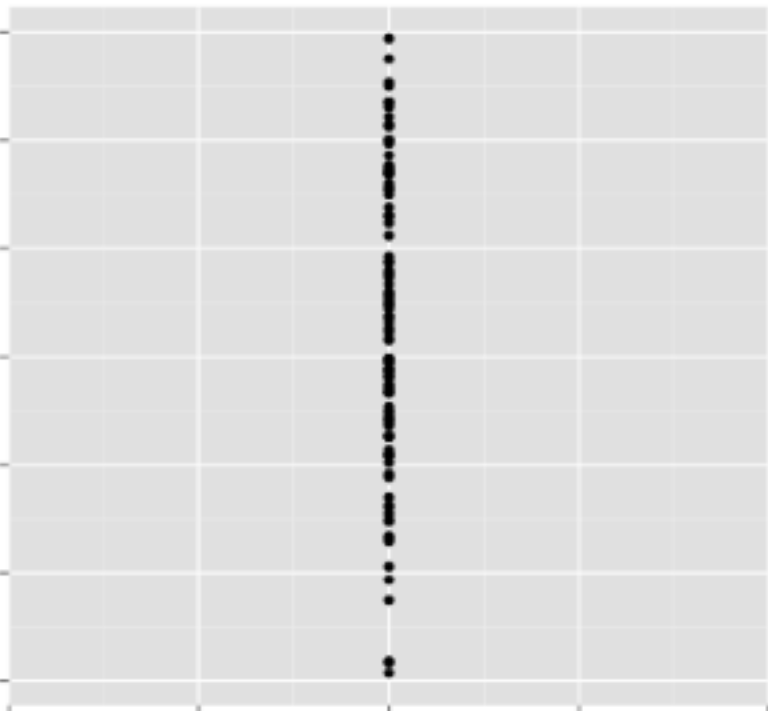
- Measure amylose in many rice varieties

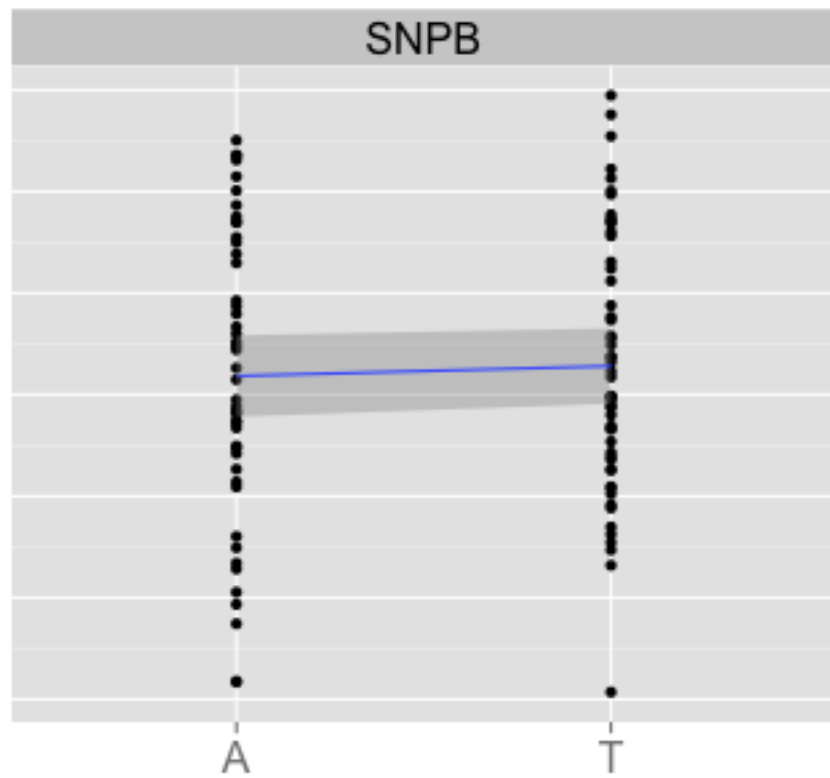
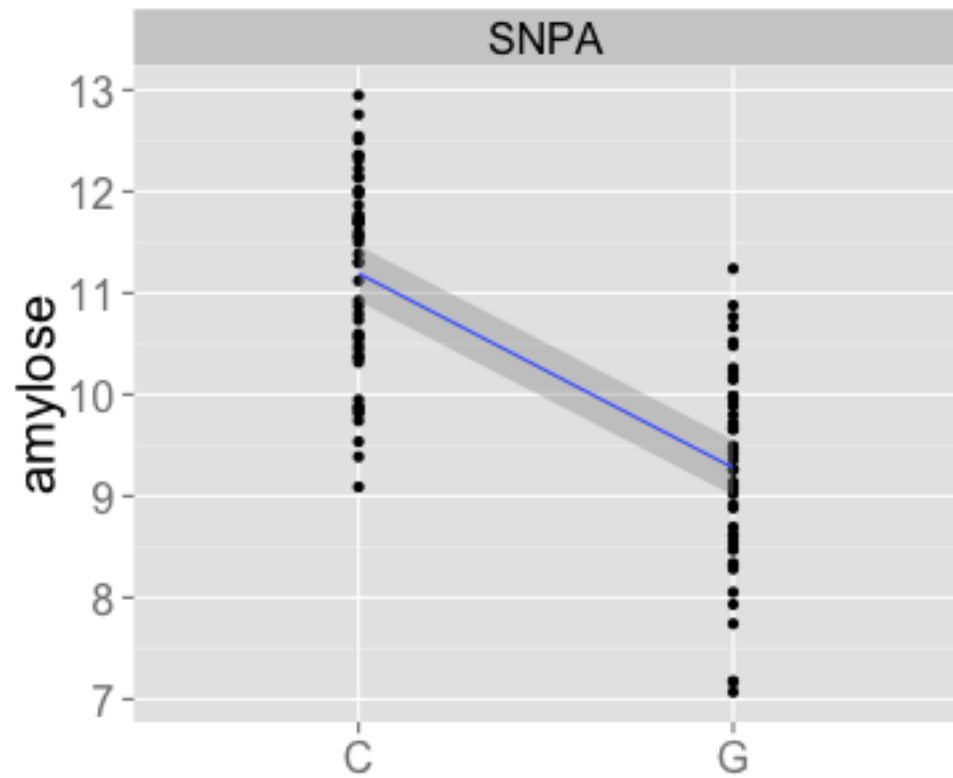
- Separate measurements according to SNP allele

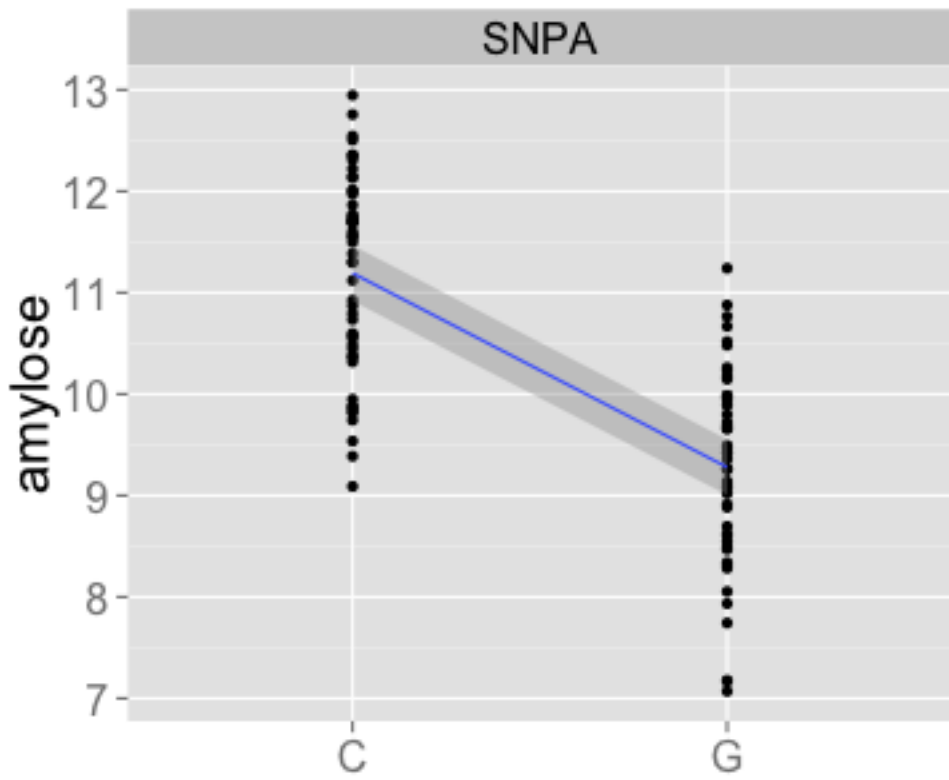
- **Test for association. Slope not equal to 0 = association.**

amylose

13
12
11
10
9
8
7

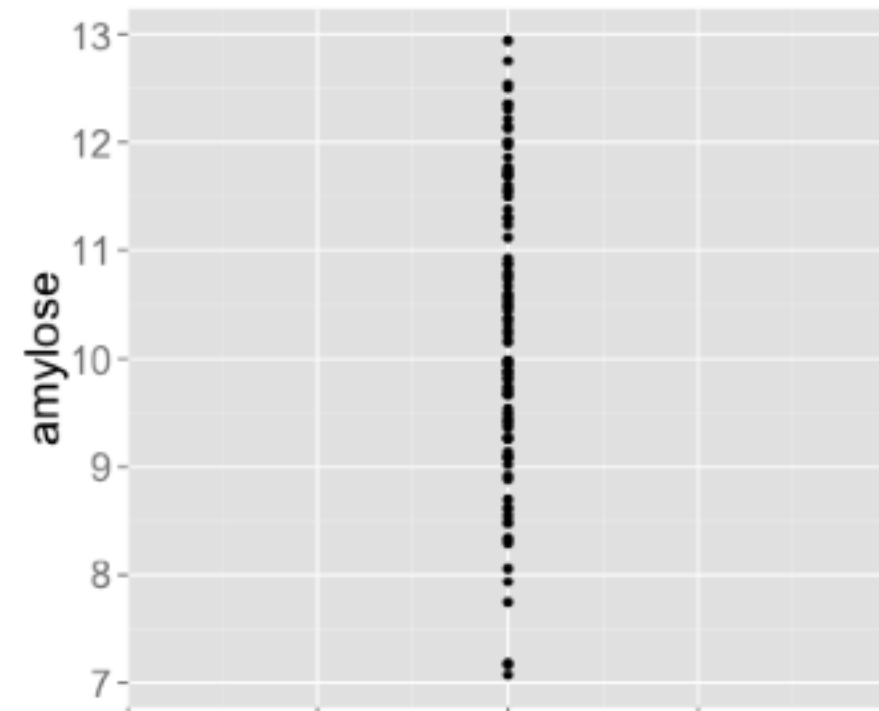




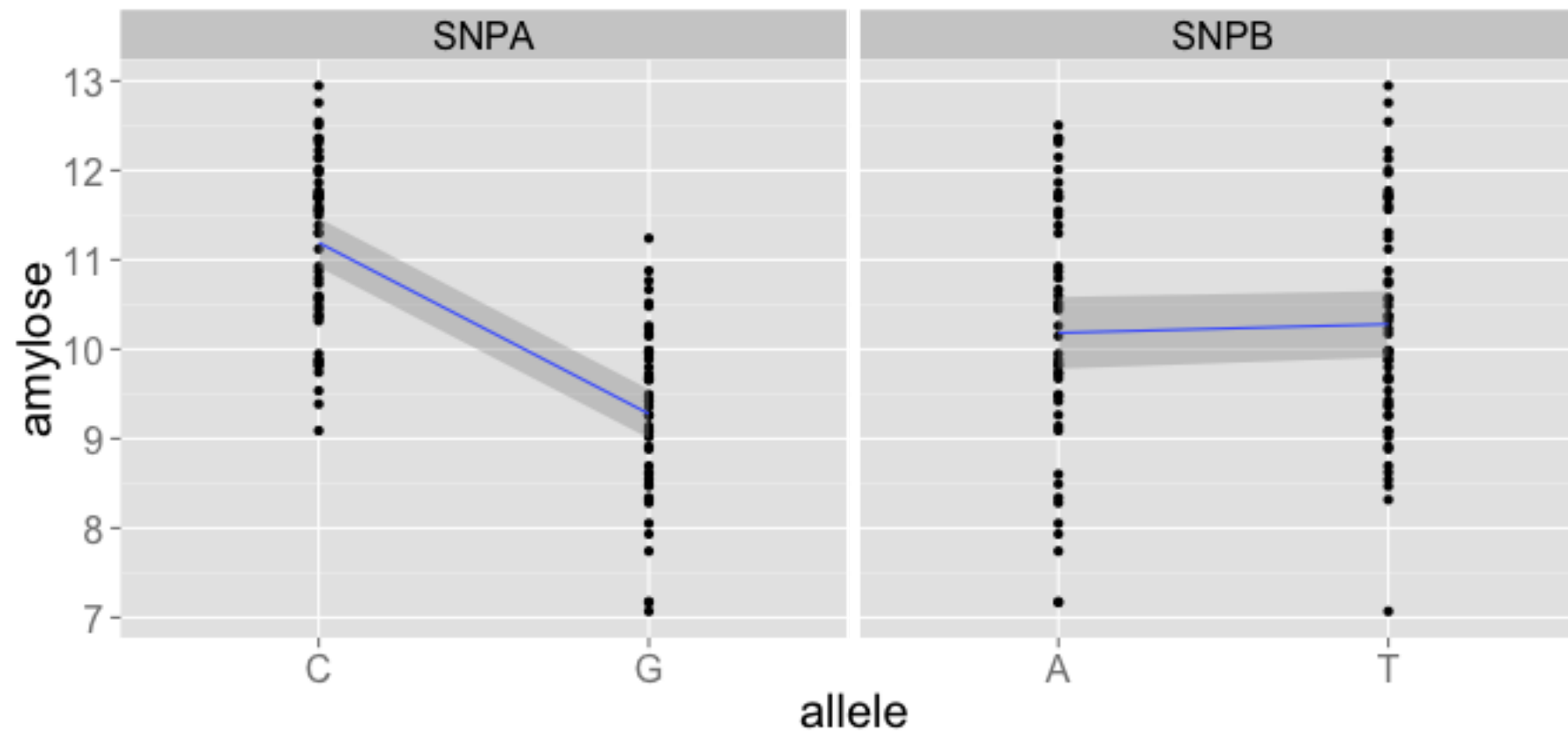


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- Separate measurements according to SNP allele



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Association Mapping vs Genome-Wide Association Mapping

- For GWAS repeat the analysis for SNPs across the whole genome.
- Can plot the results as a manhattan plot:
 - each point is a SNP
 - X-axis is position in the genome. In this case there are 5 chromosomes
 - Y-axis is $-\log_{10}(P)$ for association with the trait. Higher values are more significant.

