



Association Mapping, simulated example for amy10

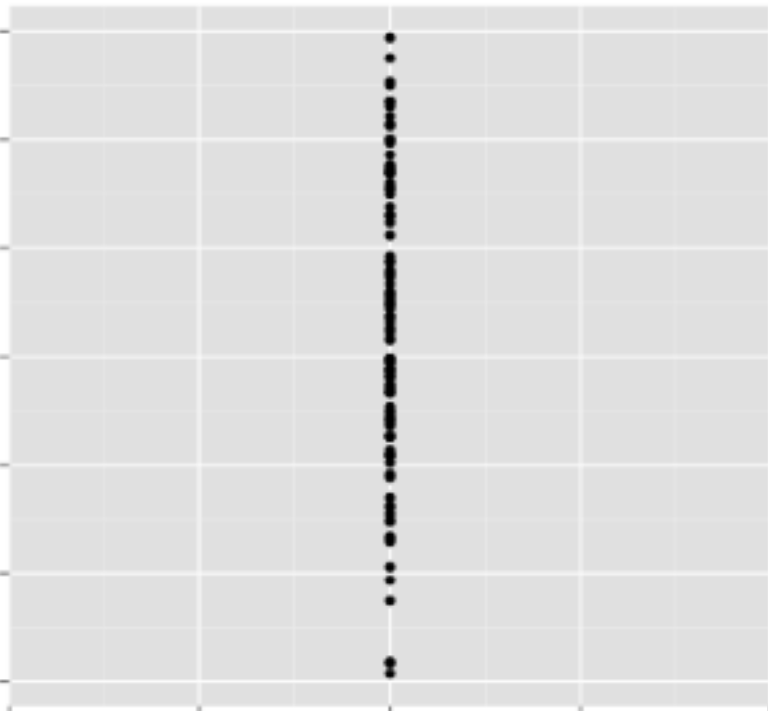
- Measure amylose in many rice varieties

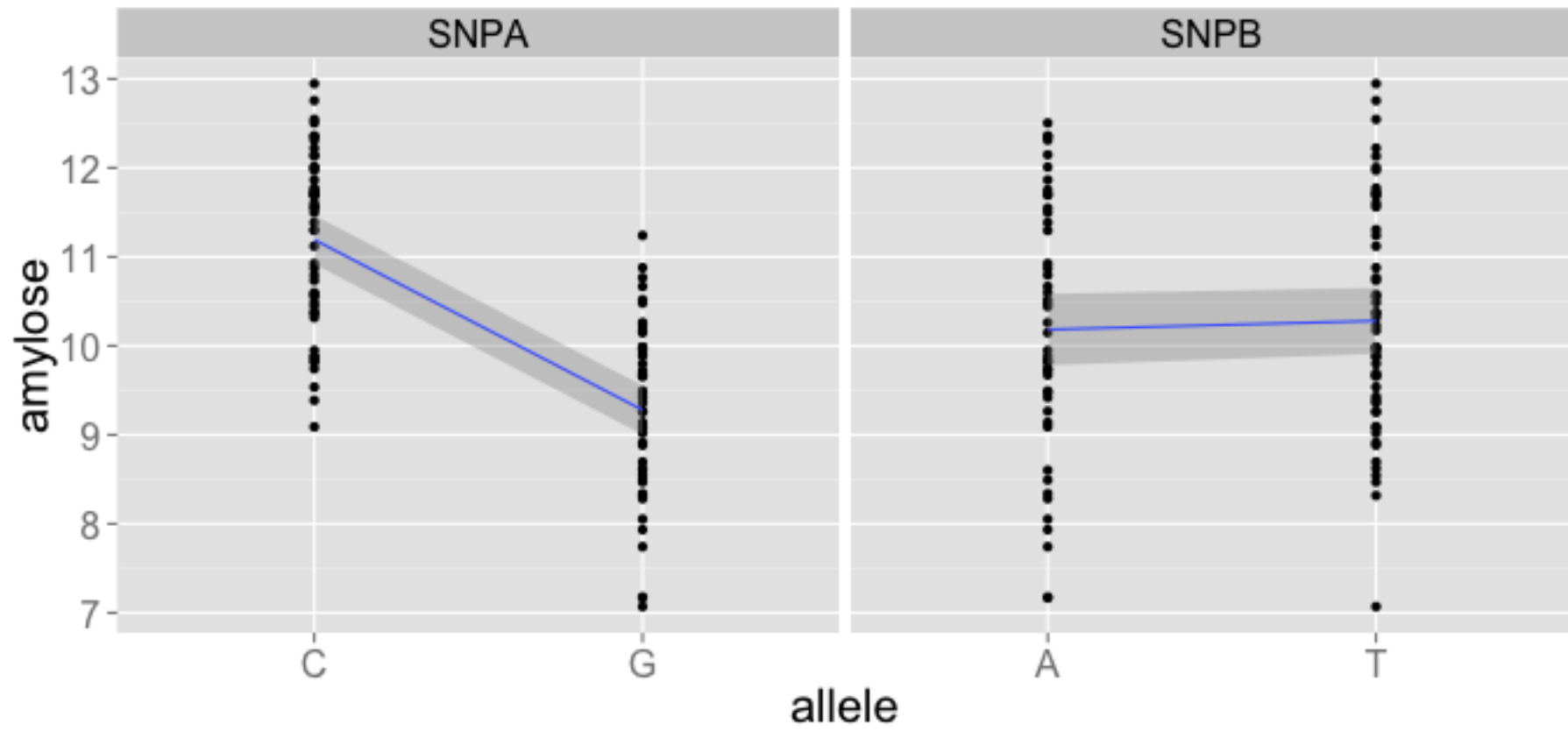
- Separate measurements according to SNP allele

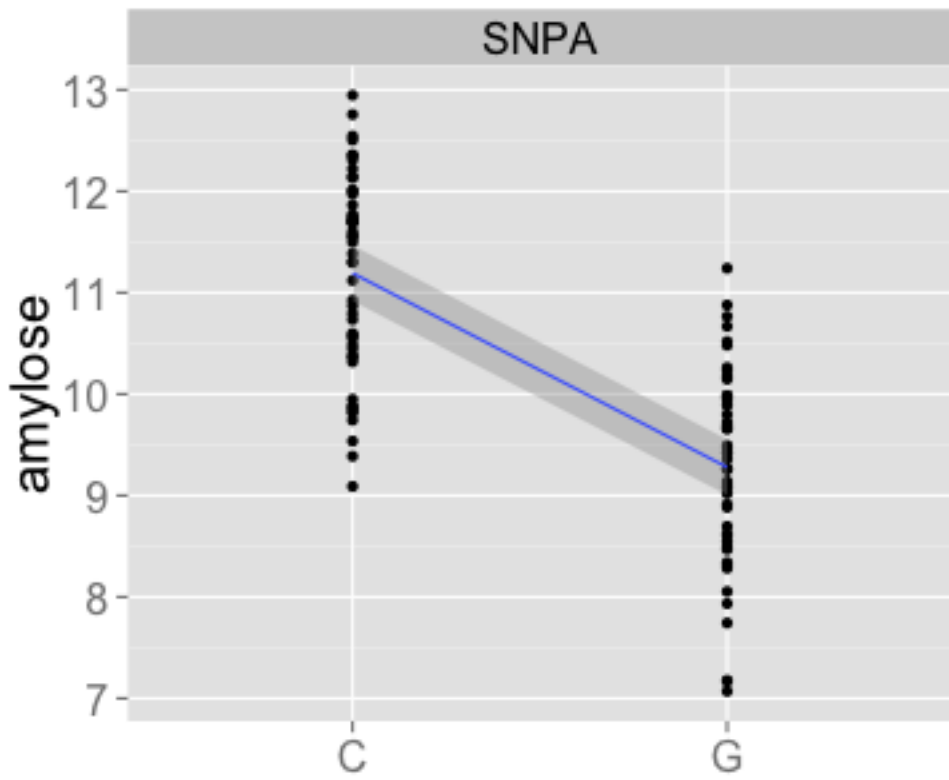
- **Test for association. Slope not equal to 0 = association.**

amylose

13  
12  
11  
10  
9  
8  
7



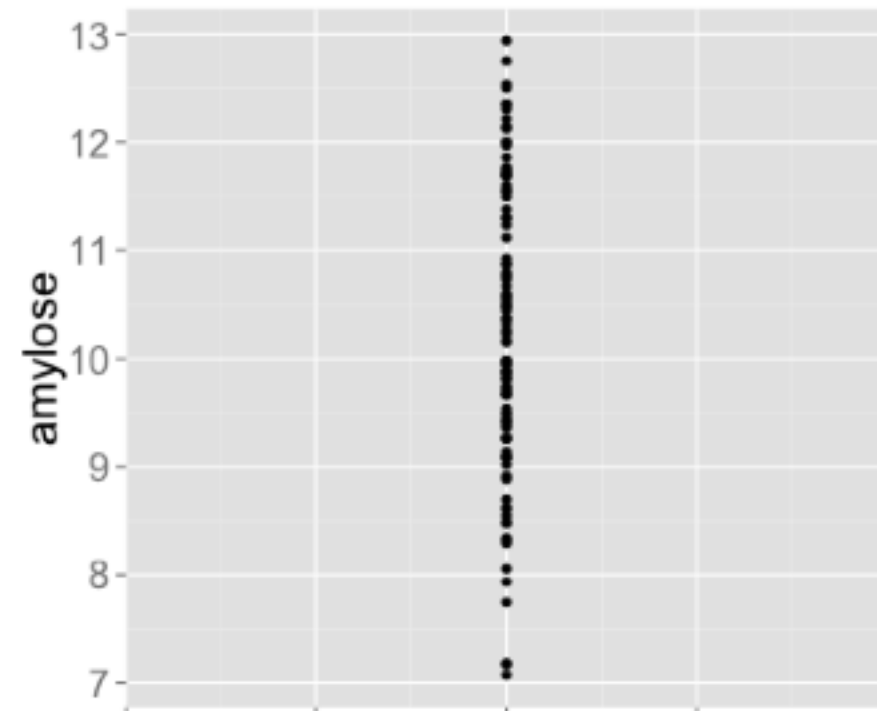




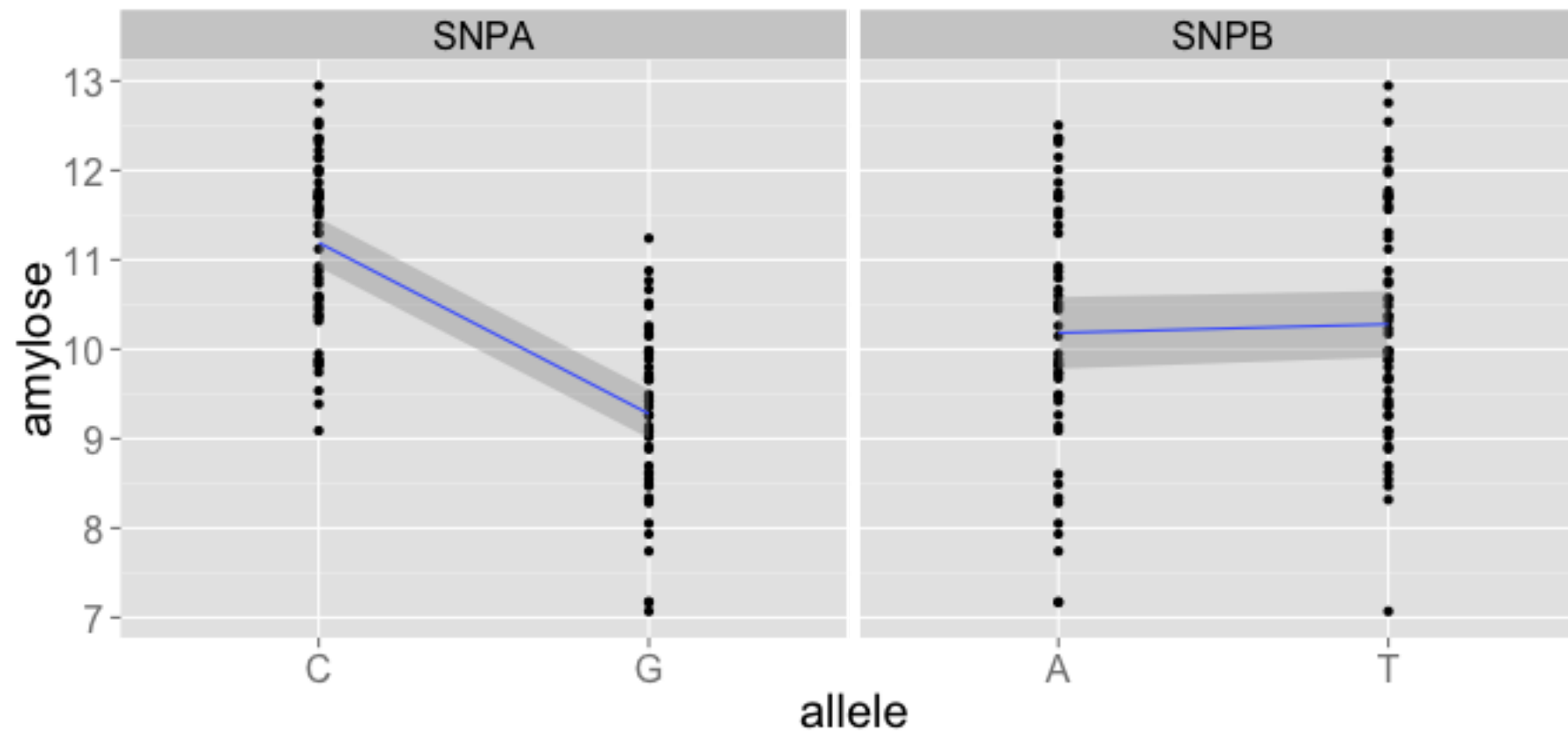


## Association Mapping, simulated example for amylose

- Measure amylose in many rice varieties



- 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.

