# GWAS Worksheet

Walk through the following result files: phenotype, marker density, Manhattan Plot, QQ plot, GWAS result table.

1. Quickly compare your result for plant height and heading date from different models (GLM vs. MLM). What differences do you see between them (**hint:** look at the Manhattan plots)?
2. Why does GLM have more significant association than MLM (**hint**: take a look at the QQ plot)?
3. For your favourite marker-trait association for plant height and heading date, find the following information necessary for future experiment.

|  |  |  |
| --- | --- | --- |
|  | Heading date | Height |
| Marker name |  |  |
| *p-*value |  |  |
| Base pair (**hint: check genotype table**) |  |  |
| SNP |  |  |
| Allelic effect |  |  |
| List three genotype with positive allele and three genotype with negative allele |  |  |