# 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)?

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1. A picture containing text, screenshot, line, plot

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1. 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 | AX-94390434 | AX-95177095 |
| *p-*value | 4.47E-10 | 2.59E-07 |
| Base pair (**hint: check genotype table**) | Chr 15 (5D) 466230338 | Chr 2 (1B) 410813584 |
| SNP | C/T | T/C |
| Allelic effect | -5.23 | 4.74 |
| List three genotype with positive allele and three genotype with negative allele | Earlier Heading (T):  1190827, 1190828, 1190829  Later heading (C):  1190001,1190010, 1190101 | Taller (T):  119010, 11190102, 1190103  Shorter (C):  1190398, 1190456, 1190488 |