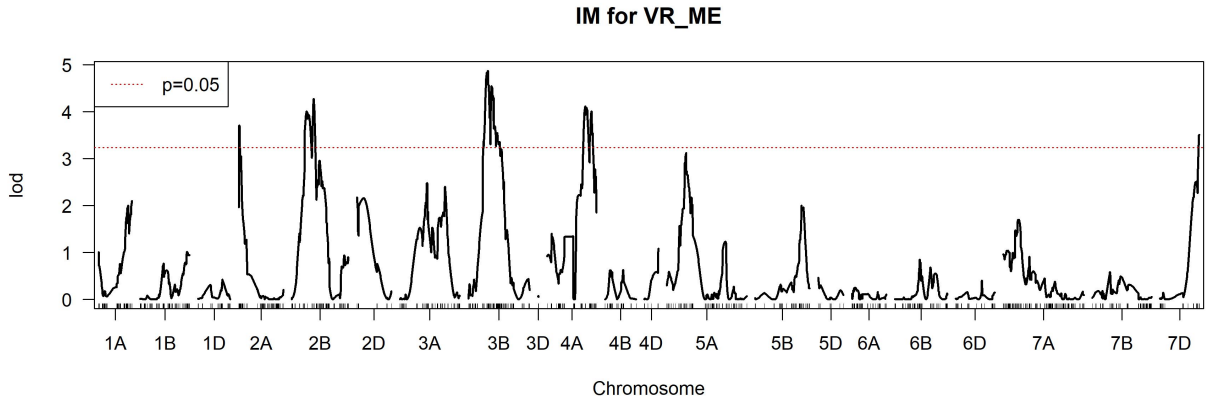
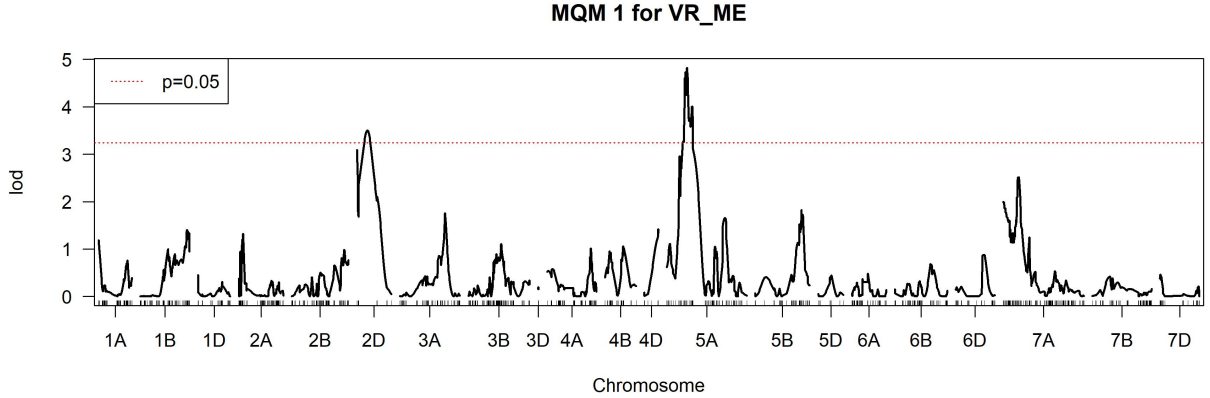
Supplemental Information 3

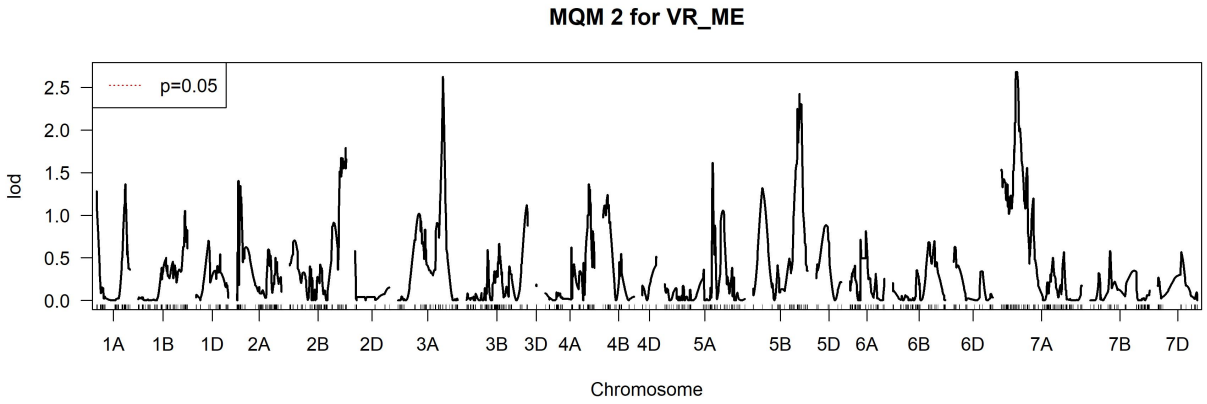
Description

Interval mapping (IM) and multiple-quantitative-trait-locus mapping (MQM) scans for Fusarium head blight (FHB) disease resistance traits visual rating (VR), Fusarium damaged kernels (FDK), and deoxynivalenol (DON) content quantitative trait loci (QTL). In the title of each graph is displayed which type of scan (IM vs MQM) and the trait which the scan belongs to. The number following MQM titles indicates which round of MQM the scan belongs to (e.g., MQM 2 is the second round of multiple QTL mapping). The y-axis displays the likelihood of odds (LOD) score of every position across the genome. The dotted line denotes the 1000 permutation at alpha equals 0.05 significance threshold. If the significance threshold is not displayed within the graph, this indicates that all peaks detected in the QTL scan were below the significance threshold. This is usually apparent in the last MQM scan performed. The x-axis displays each linkage group, designated by their corresponding chromosome names (e.g., 1A, 1B, 1D, etc.). The rug of hash marks denotes the cM position of each marker in the recombination map.

Visual Ratings Across All Environments



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1B
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2D
3A
3B
3D
4A
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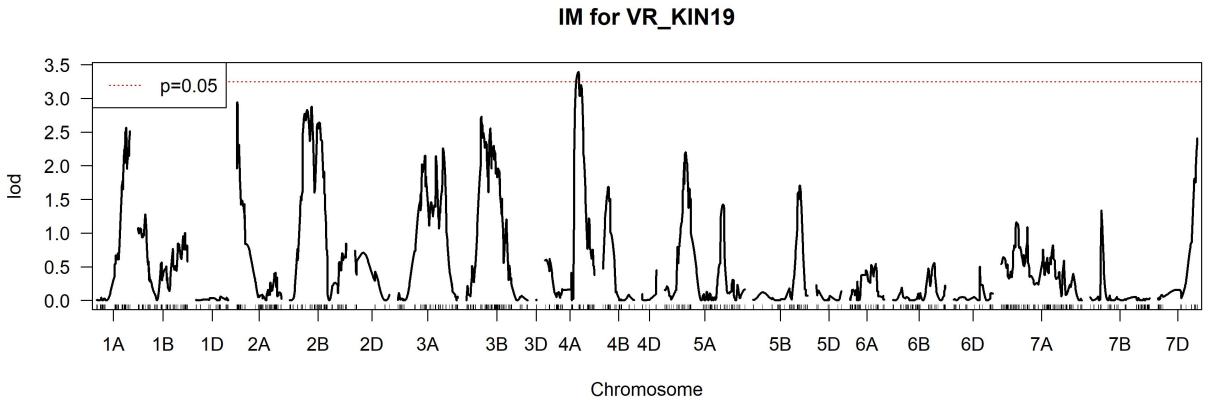
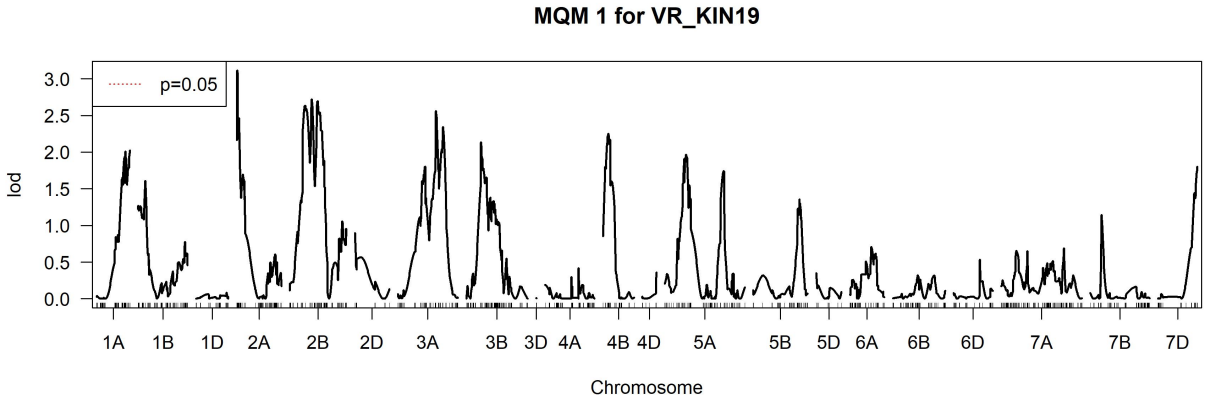
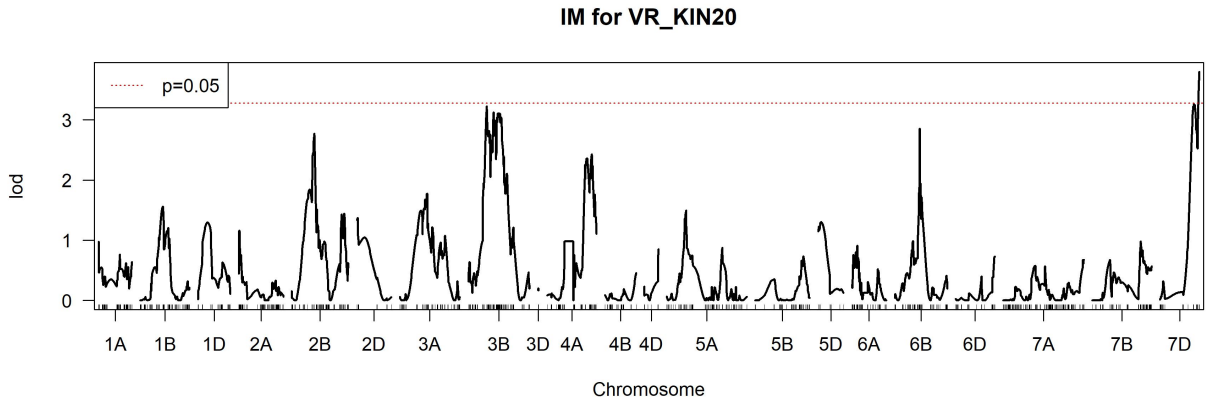
7B
7D
Chromosome

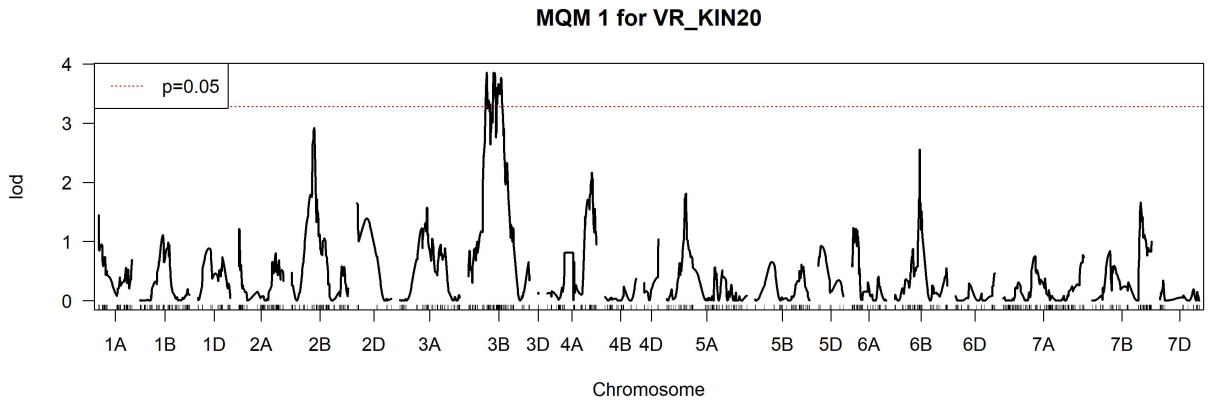
Visual Ratings in Kinston, NC - 2019

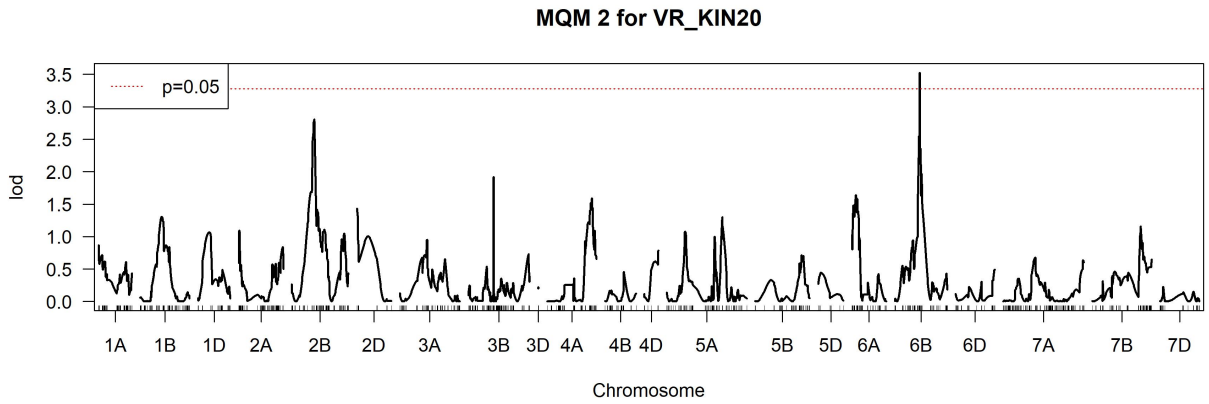


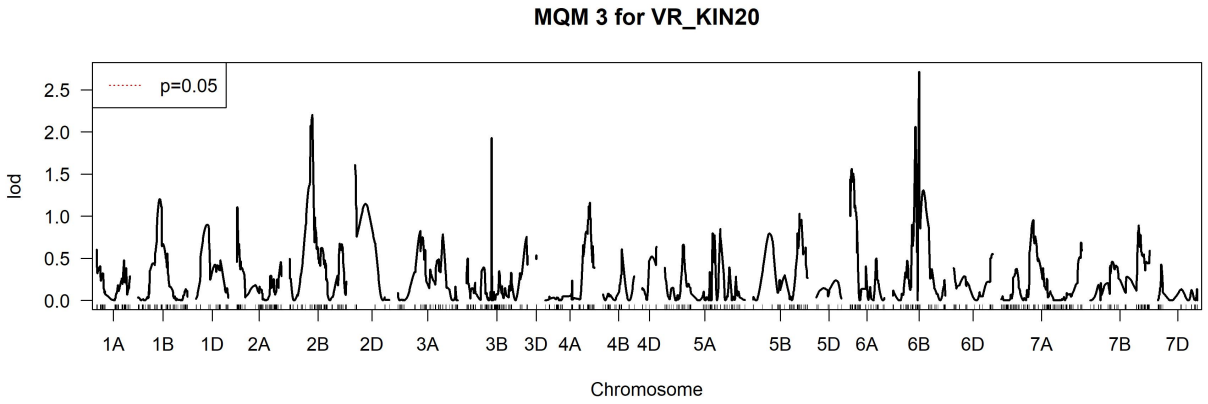


Visual Ratings in Kinston, NC - 2020





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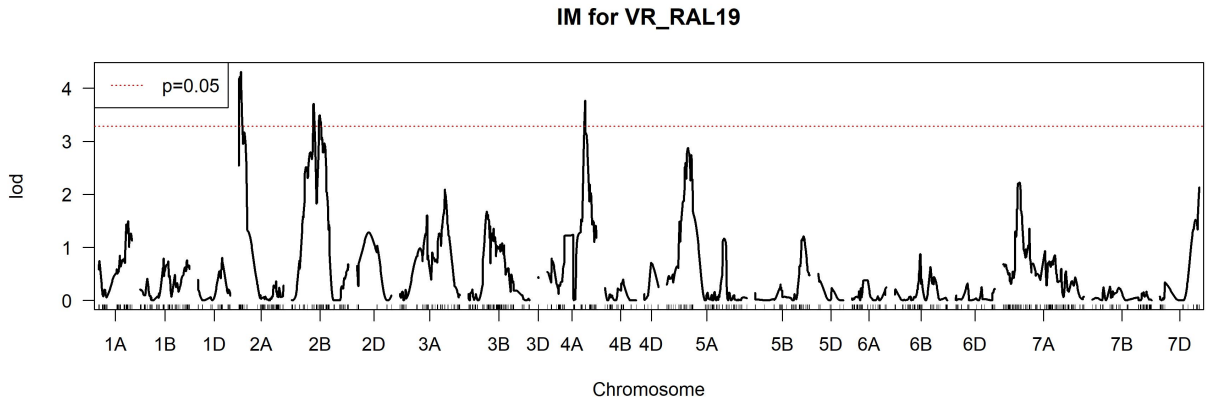
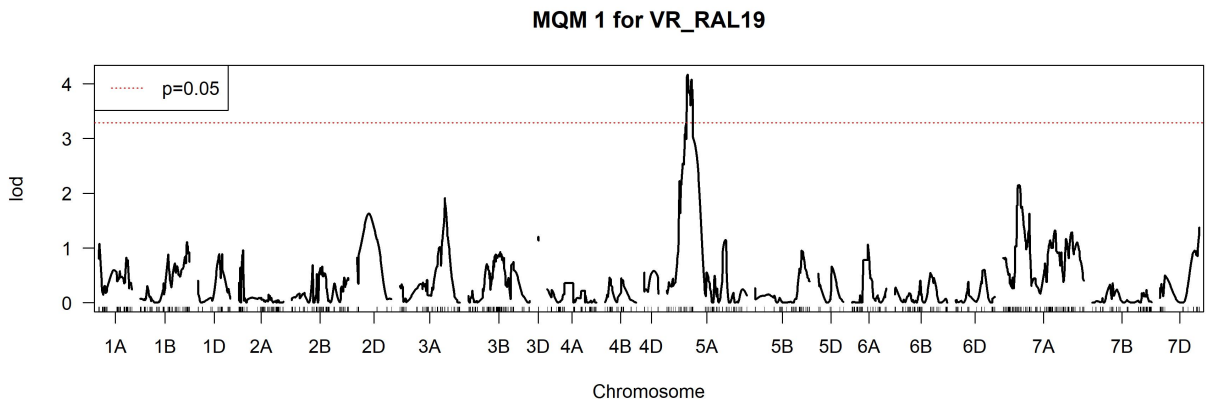
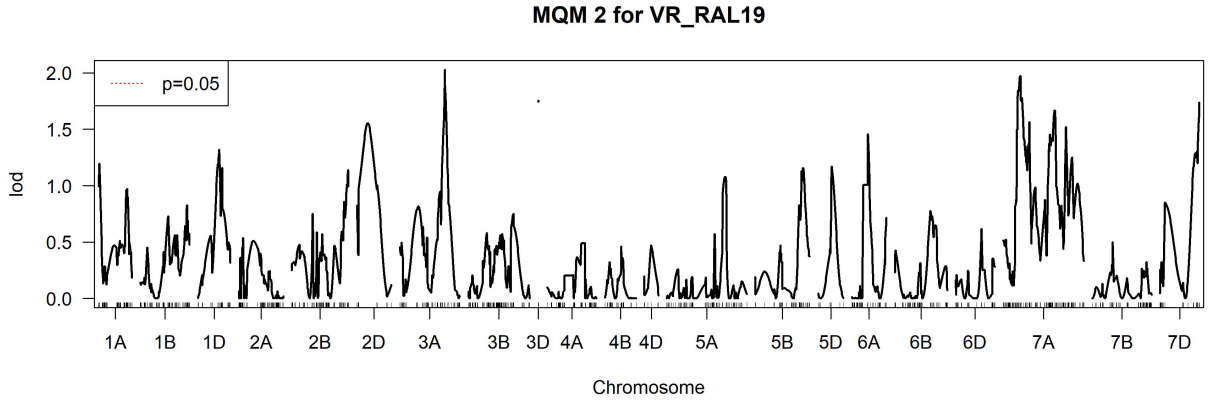
7D
Chromosome

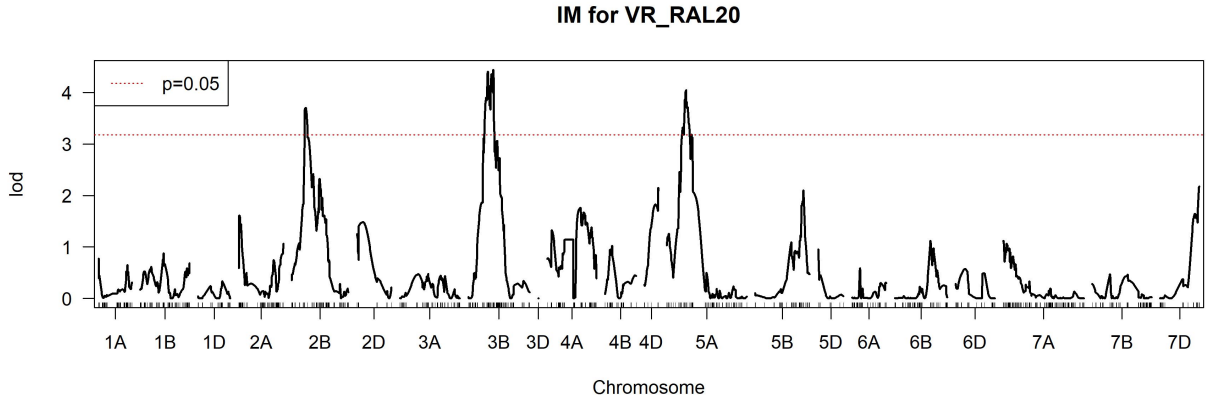
Visual Ratings in Raleigh, NC - 2019

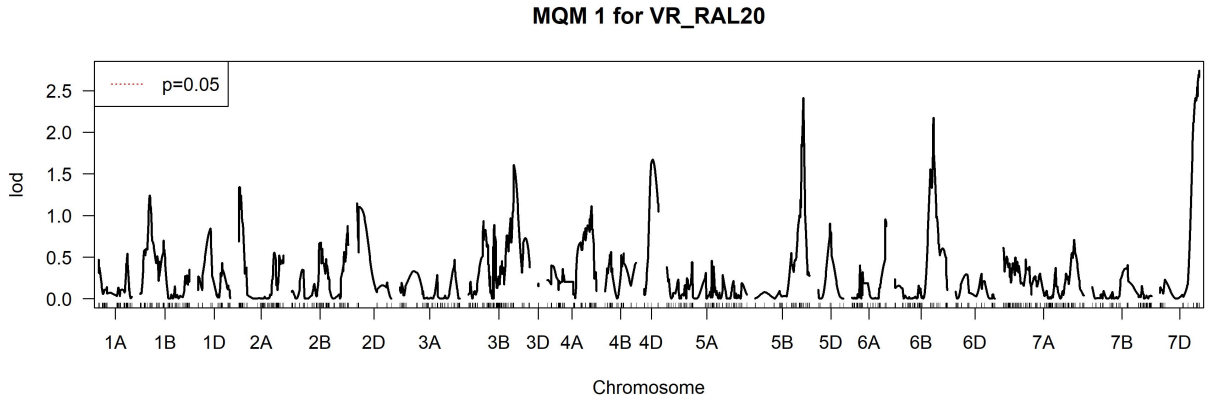




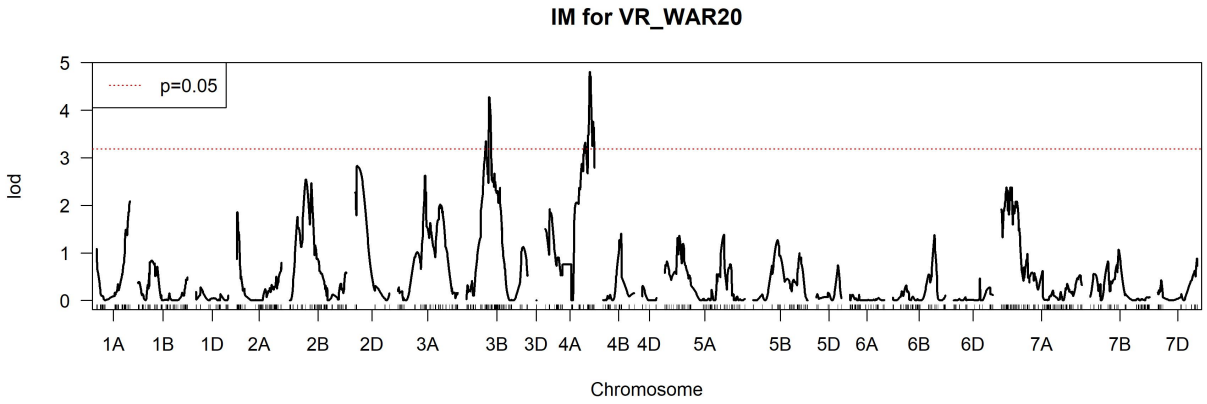


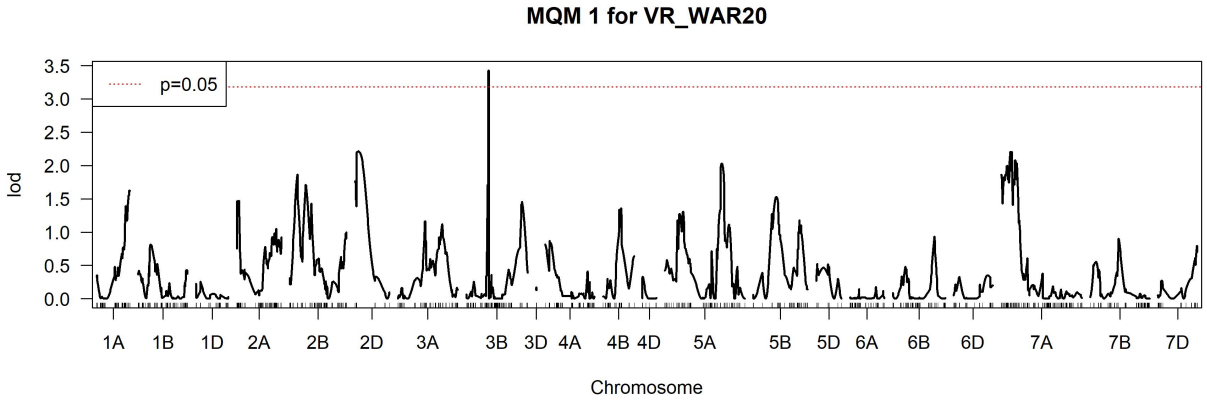
Visual Ratings in Raleigh, NC - 2020

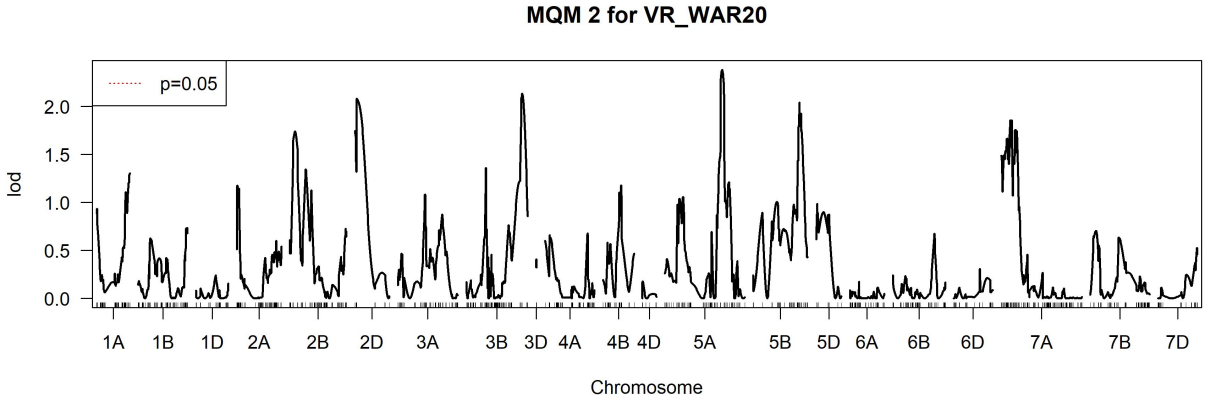




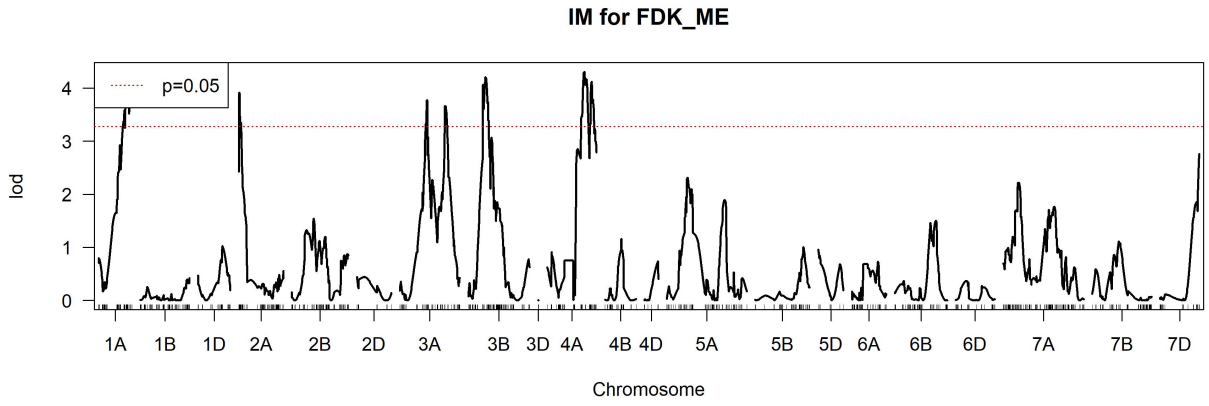
Visual Ratings in Warsaw, VA - 2020

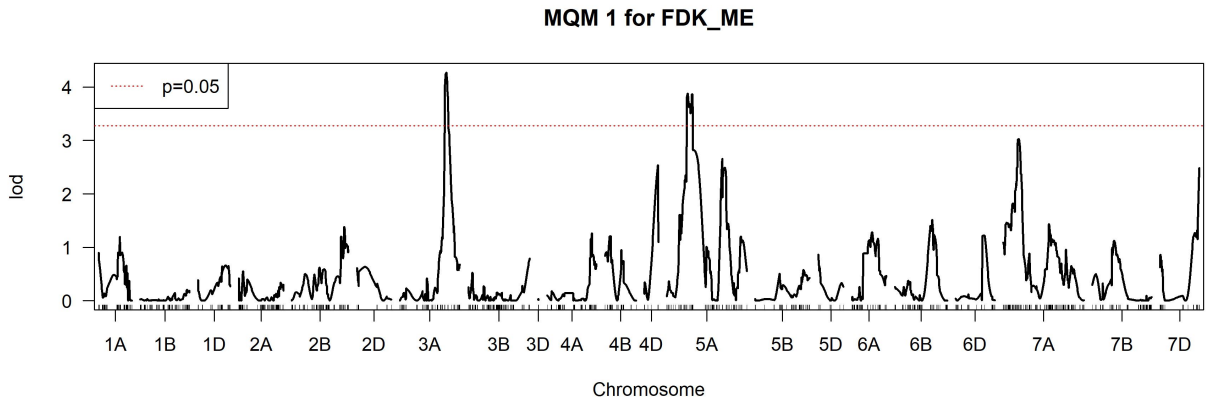


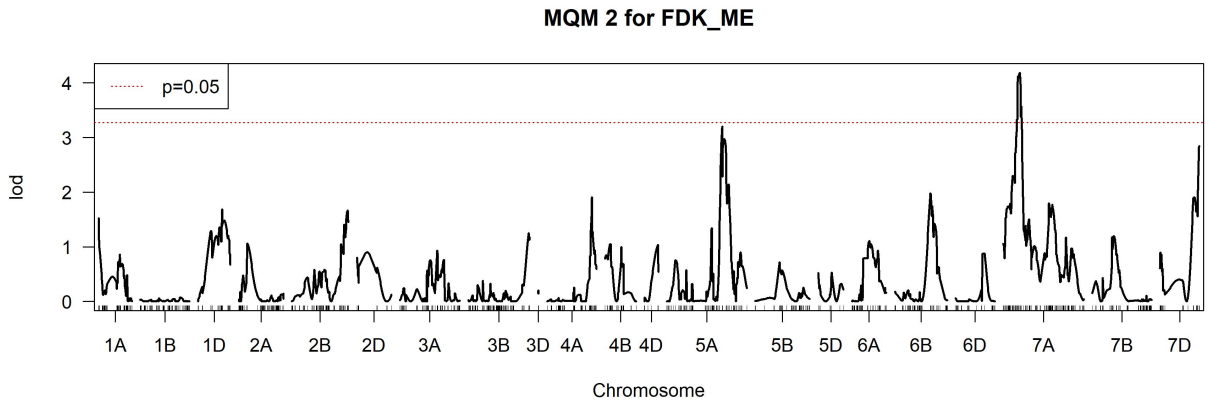


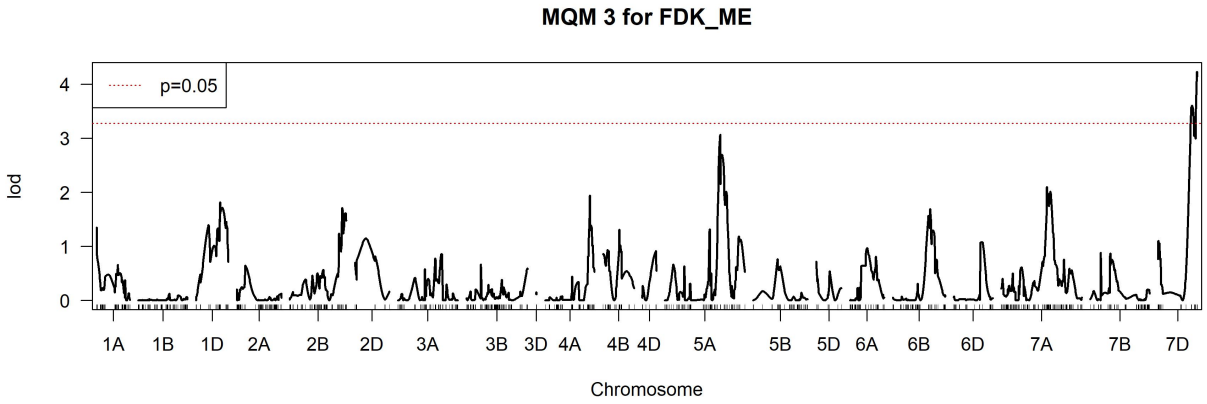


Fusarium Damaged Kernels Across All Environments





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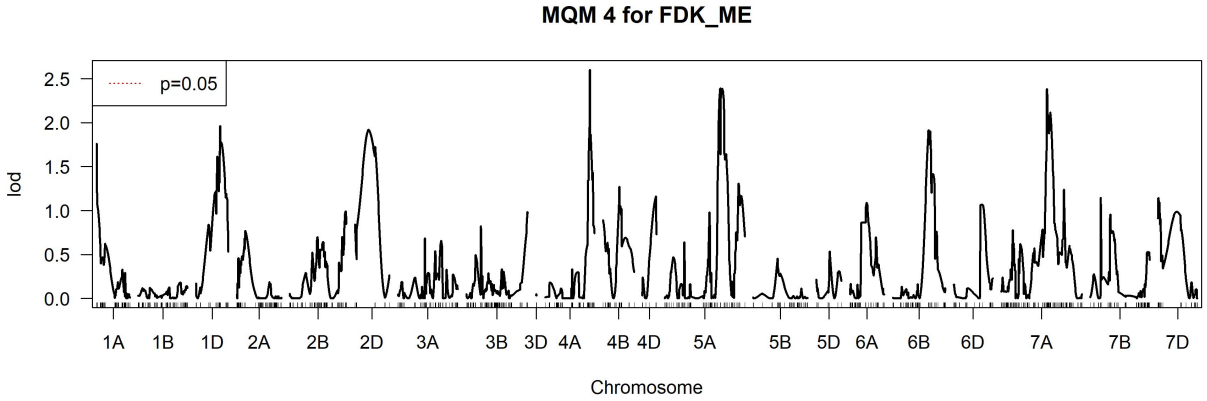
Chromosome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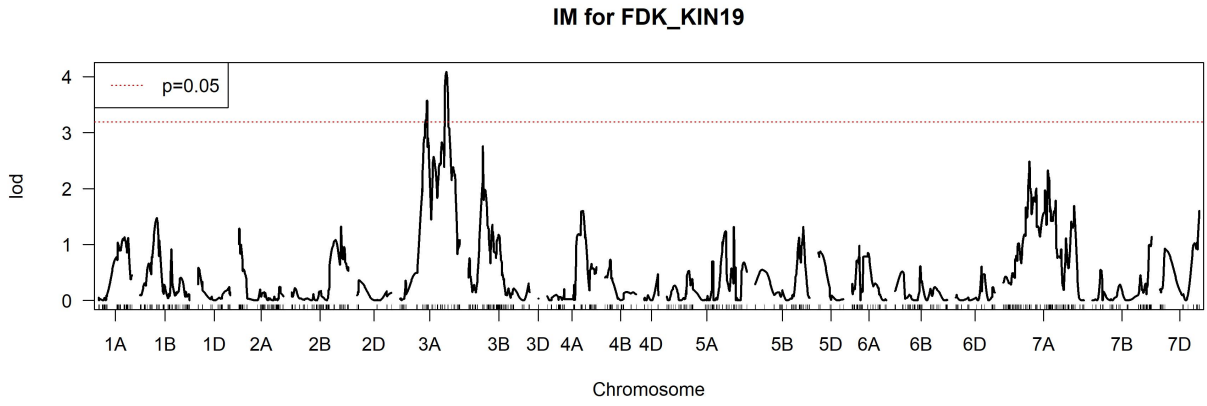
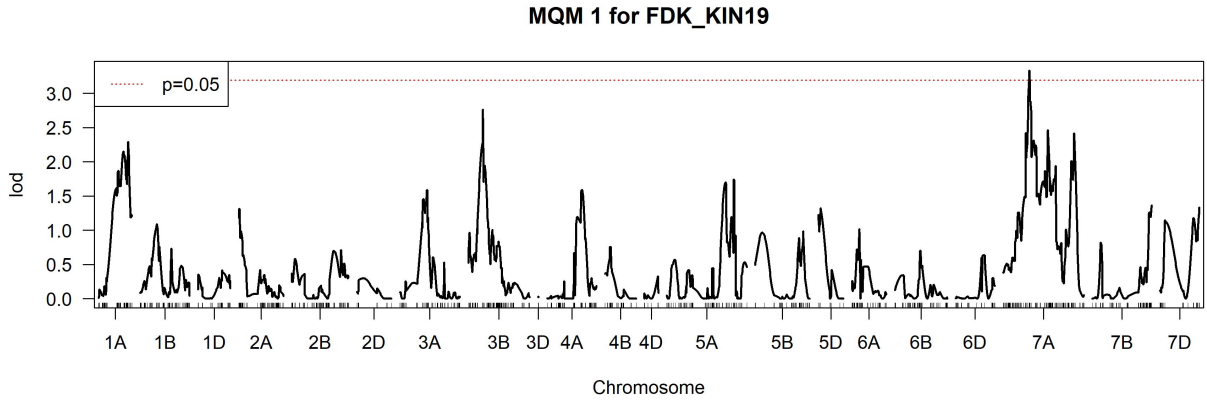
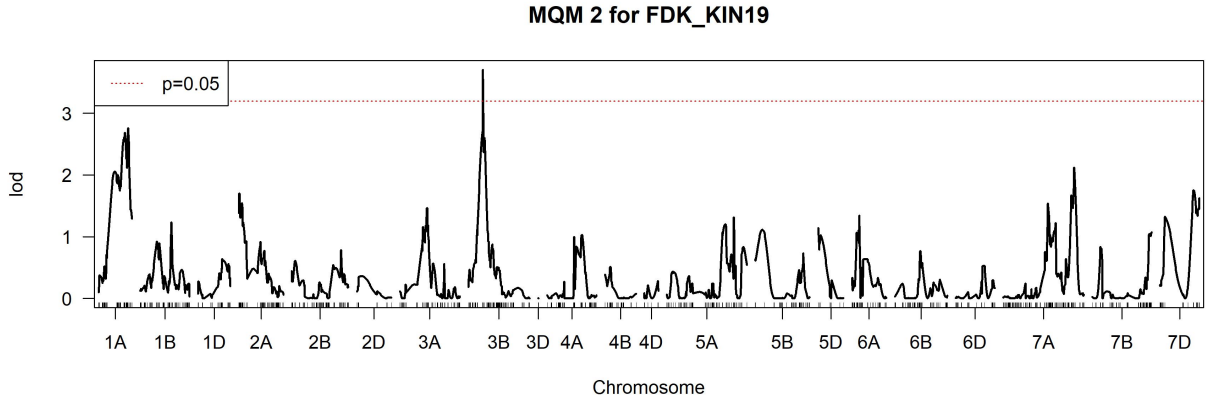
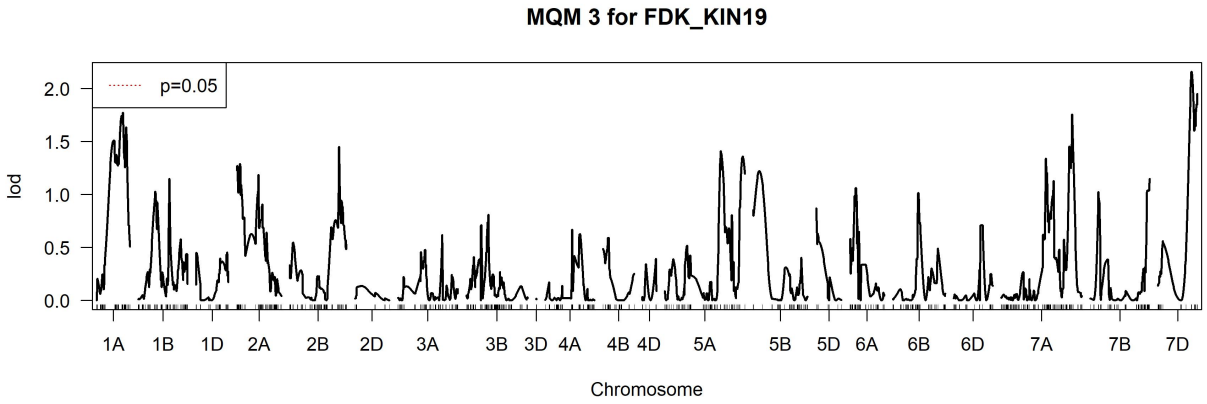
Chromosome

Fusarium Damaged Kernels in Kinston, NC - 2019





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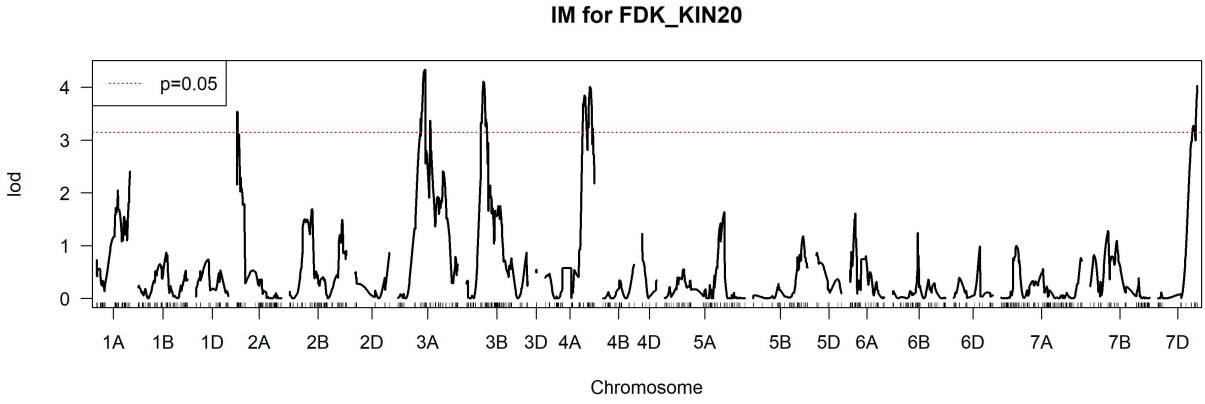
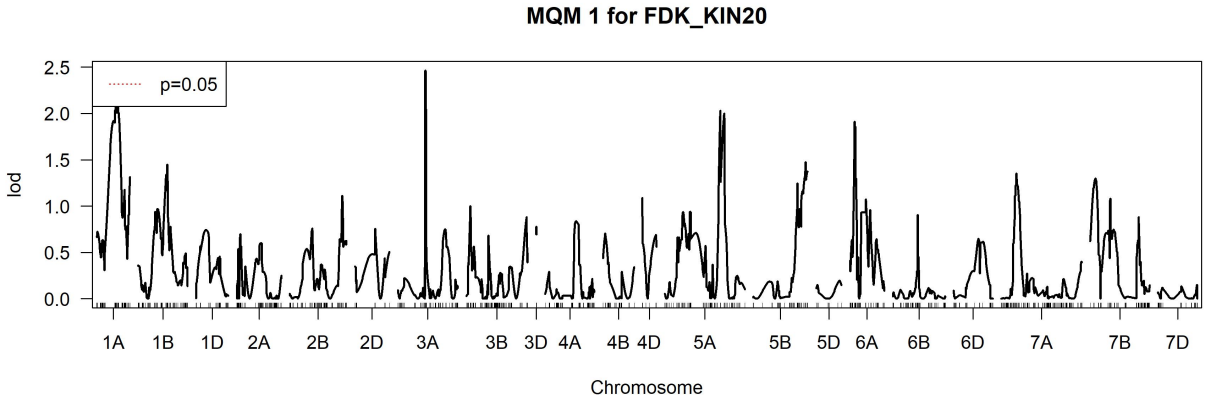
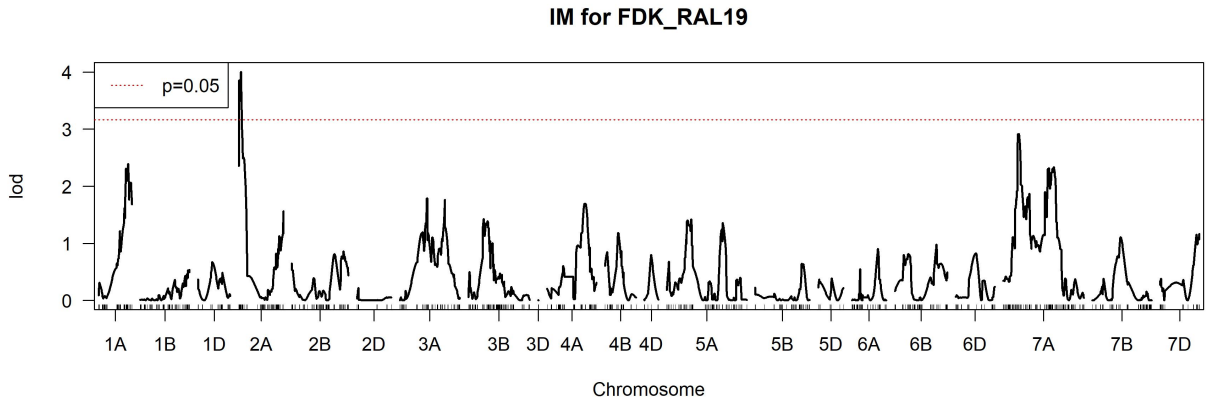
Chromosome

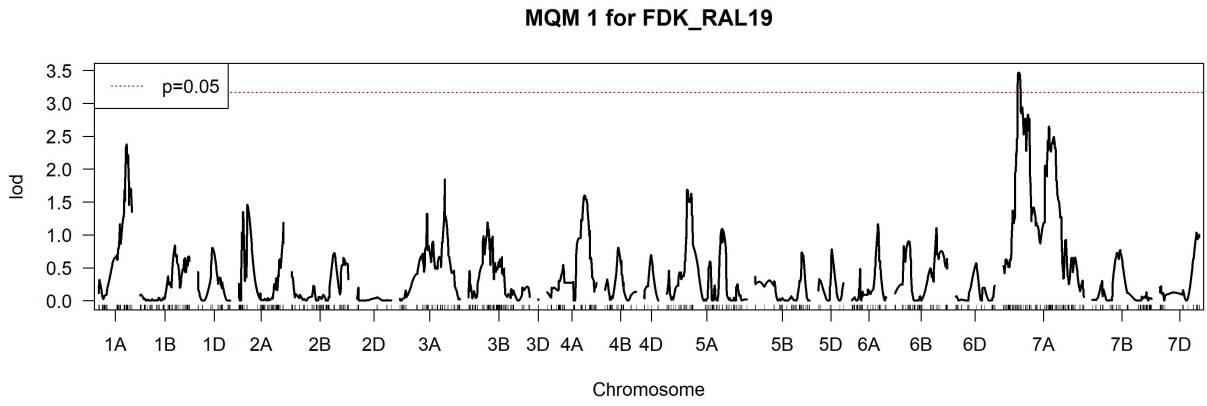
Fusarium Damaged Kernels in Kinston, NC - 2020

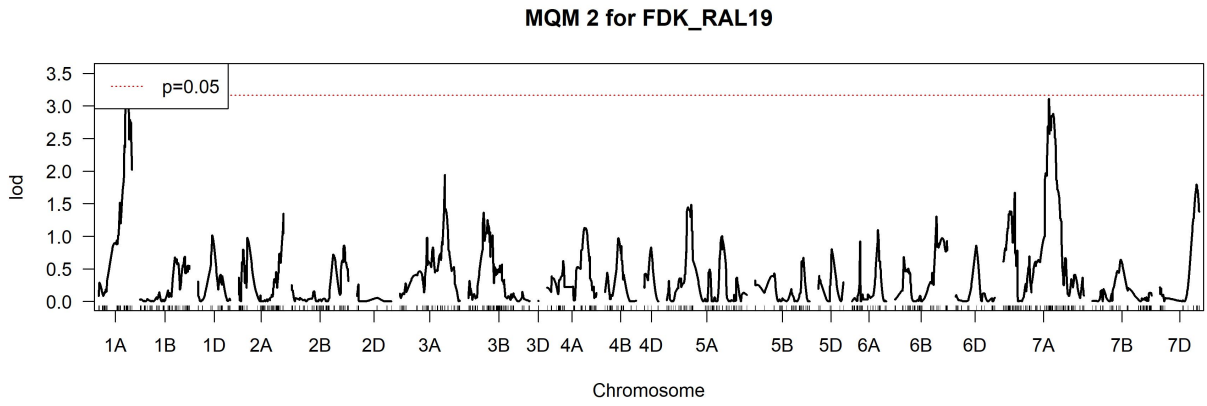


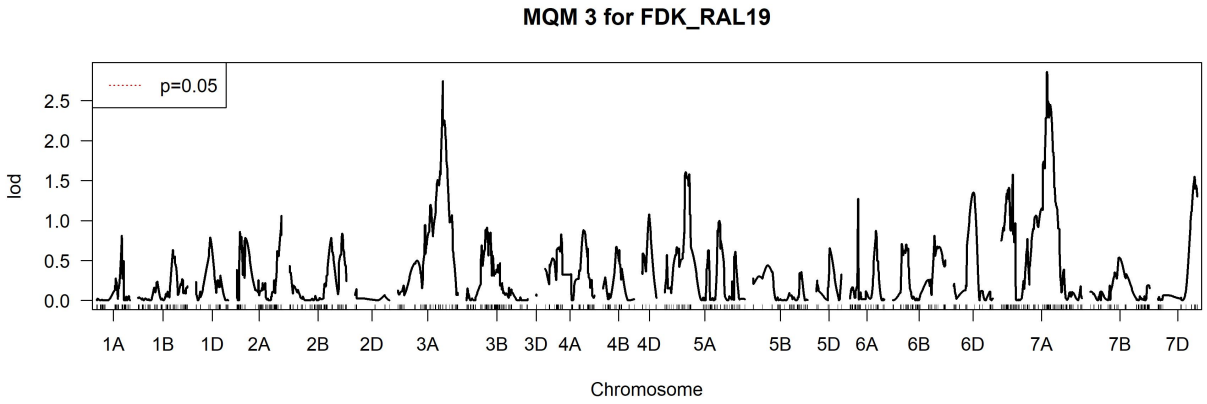


Fusarium Damaged Kernels in Raleigh, NC - 2019





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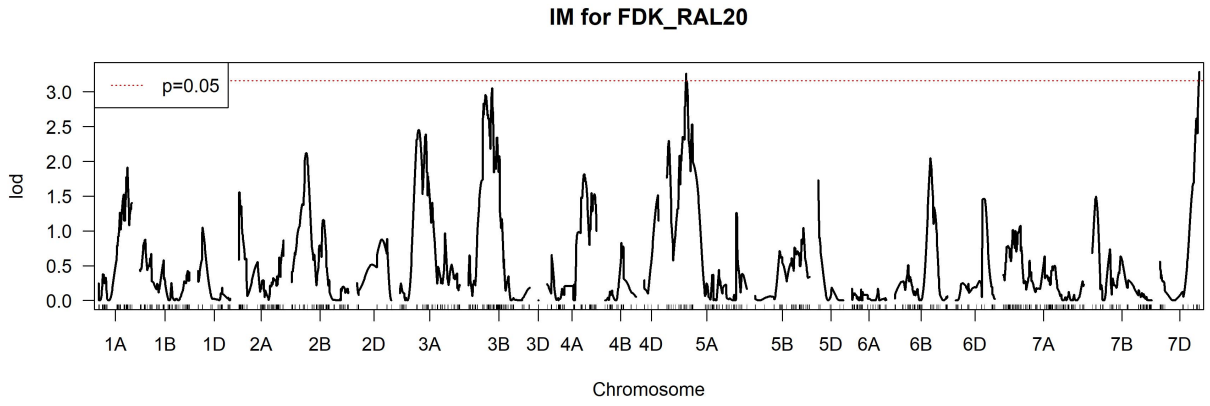
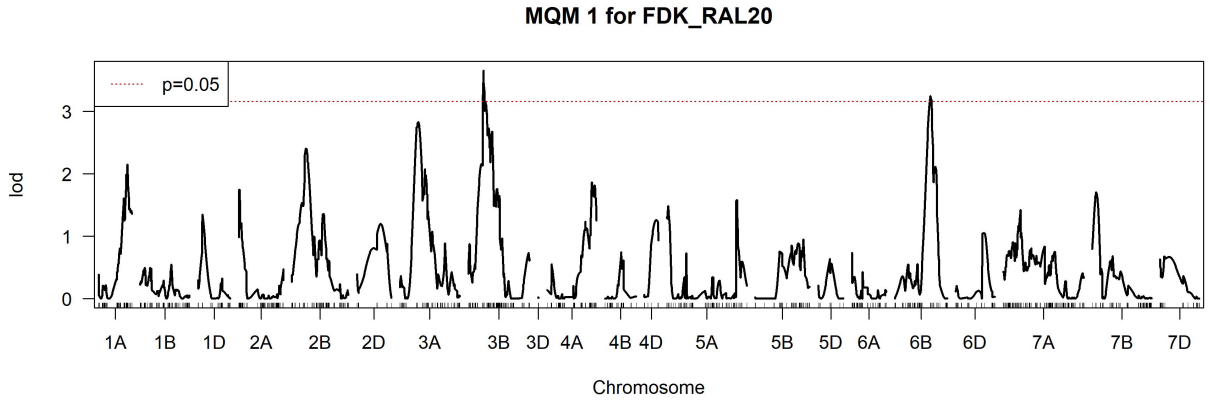
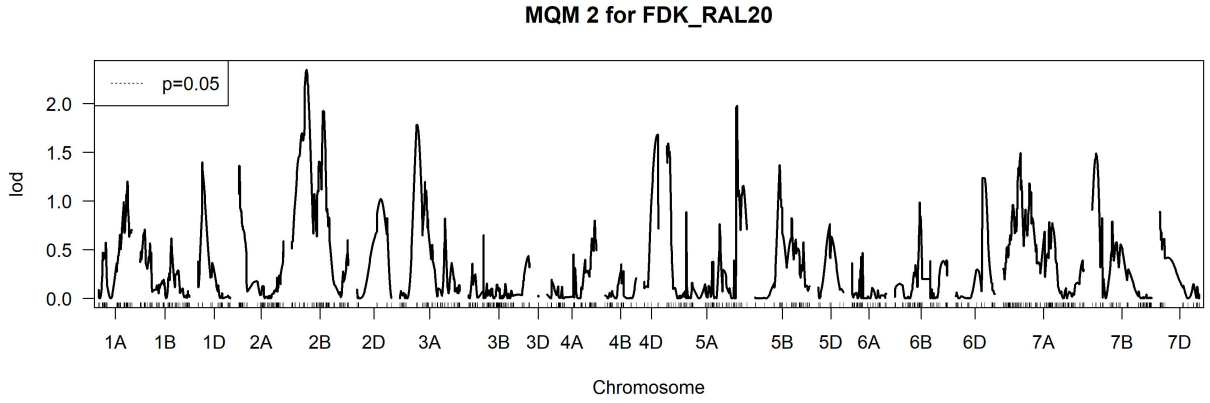
7D
Chromosome

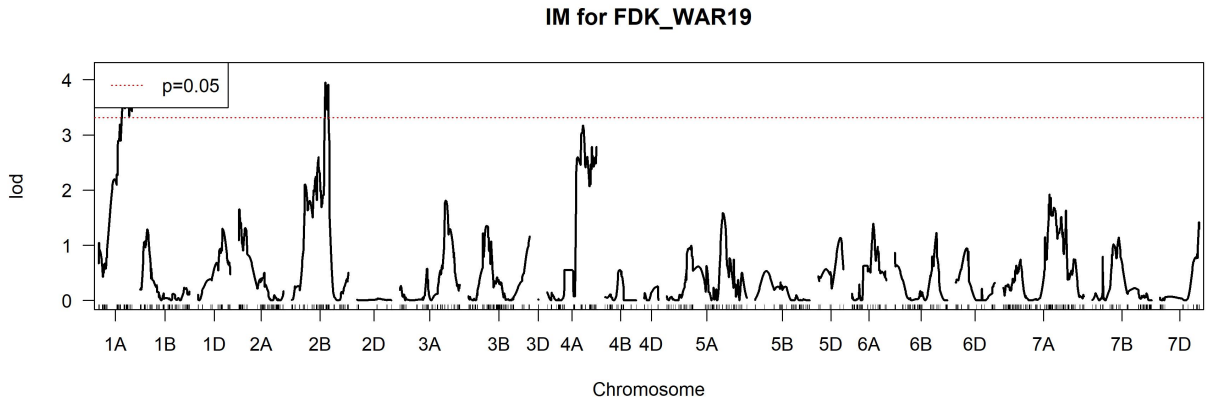
Fusarium Damaged Kernels in Raleigh, NC - 2020

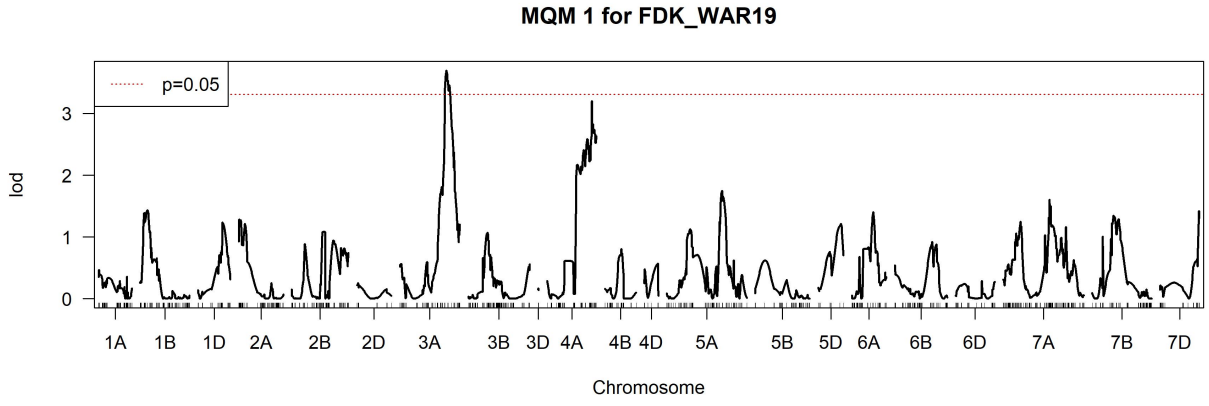


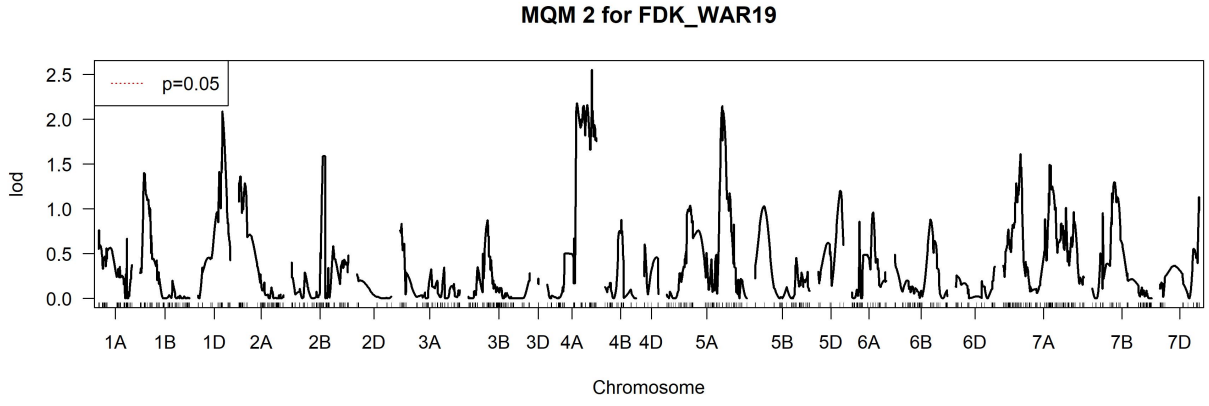




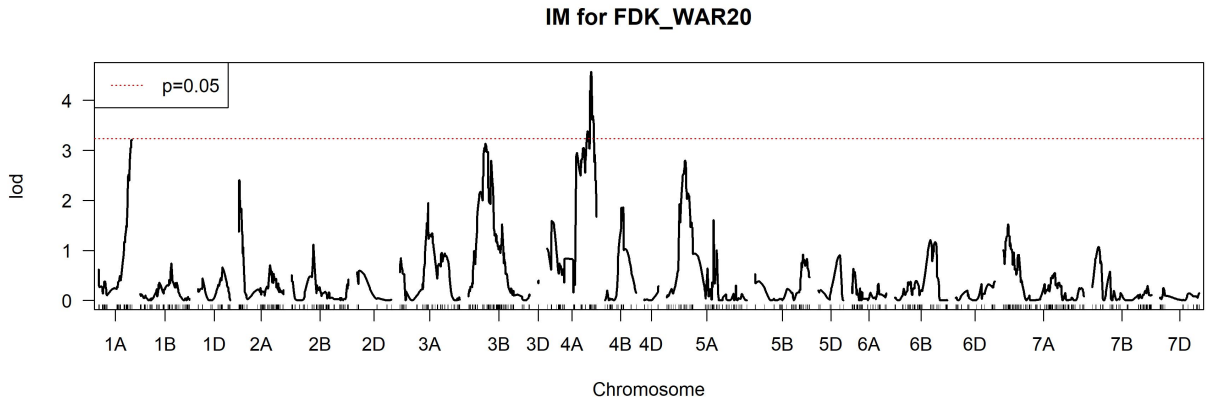
Fusarium Damaged Kernels in Warsaw, VA - 2019

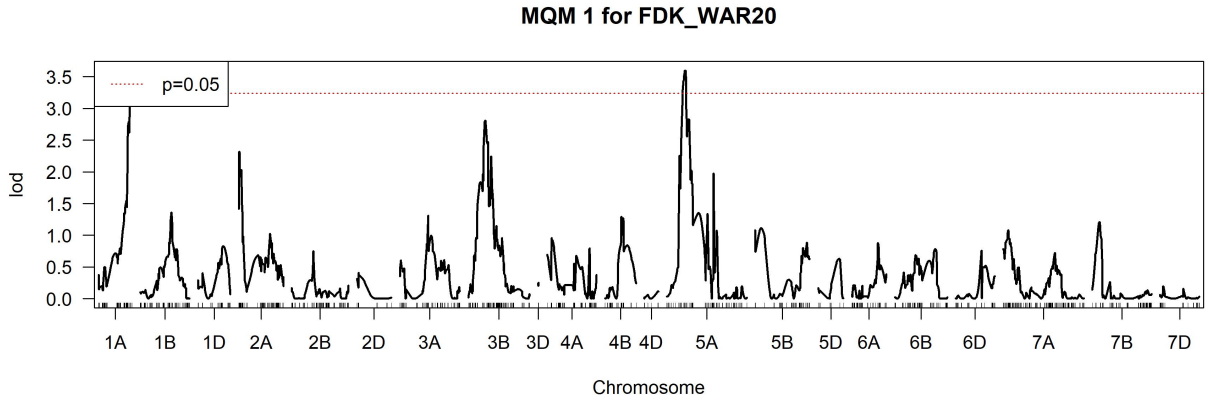


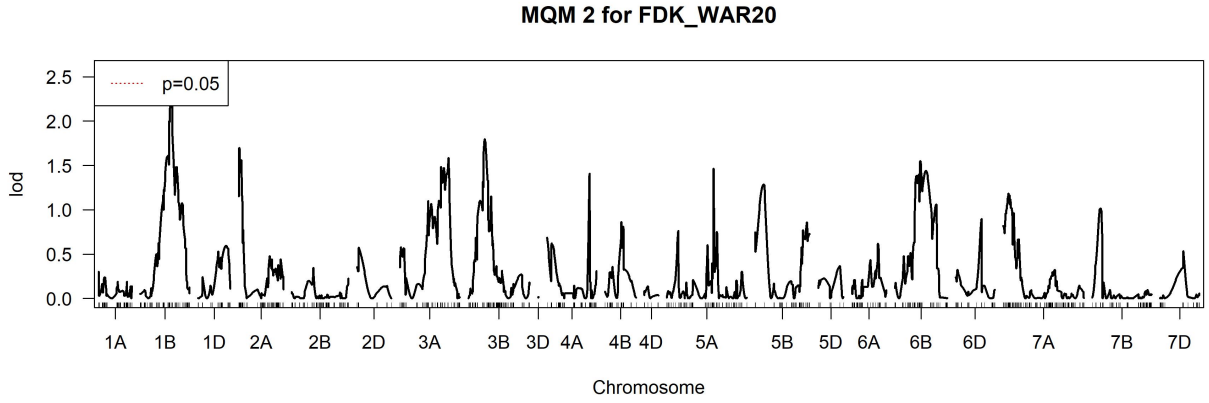




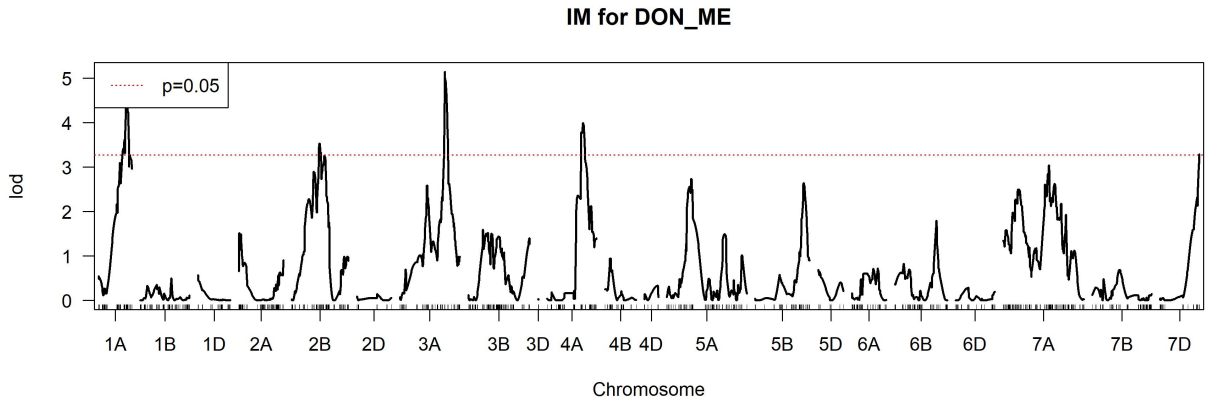
Fusarium Damaged Kernels in Warsaw, VA - 2020

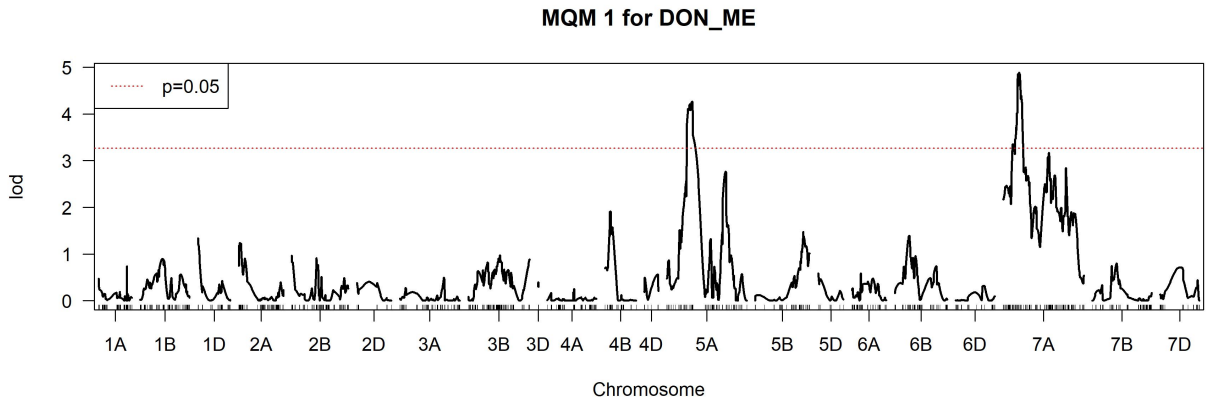


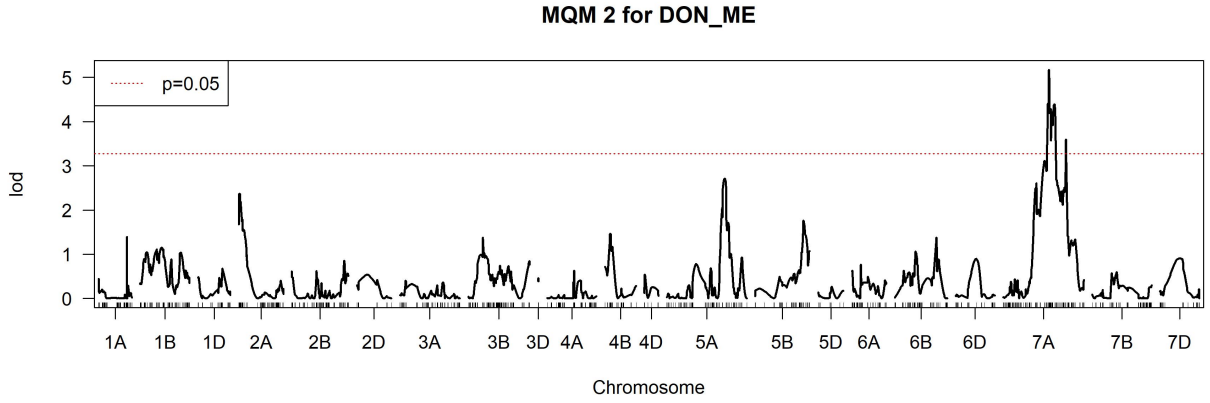


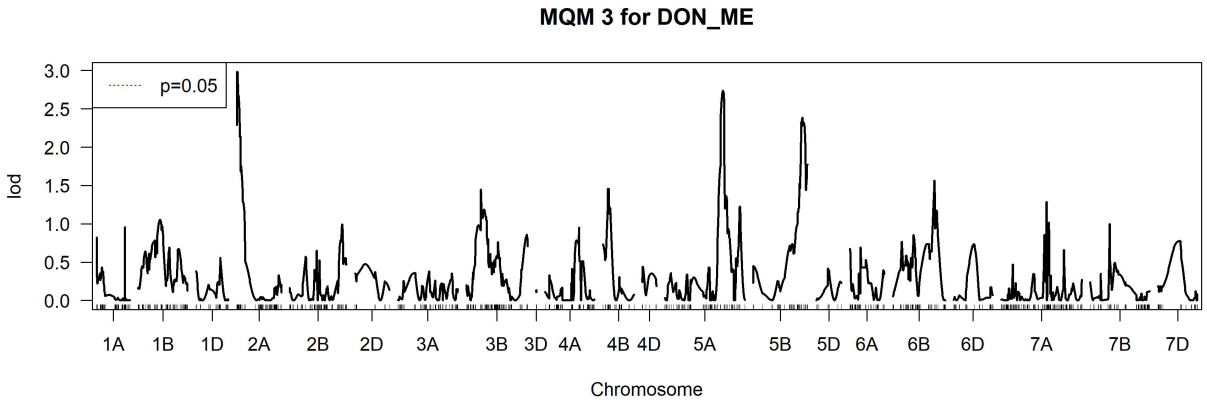


Deoxynivalenol Content Across All Environments





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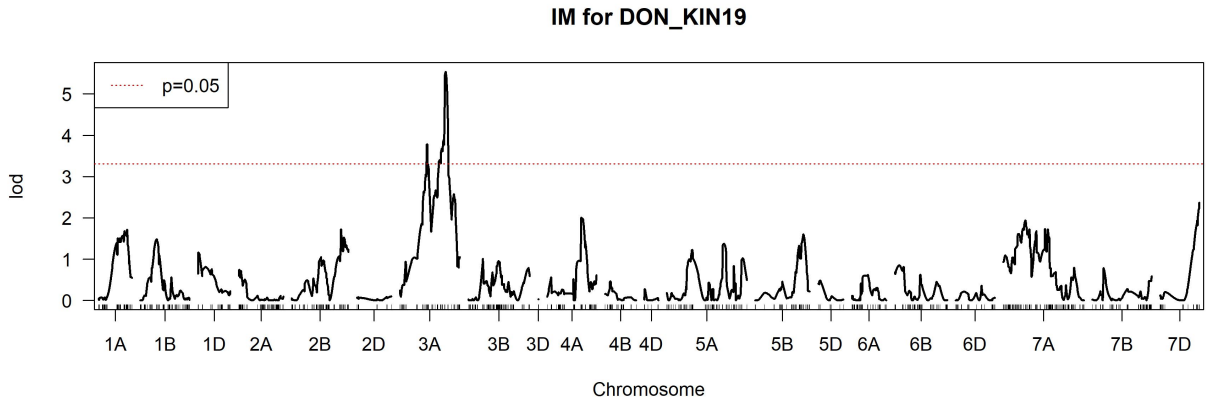
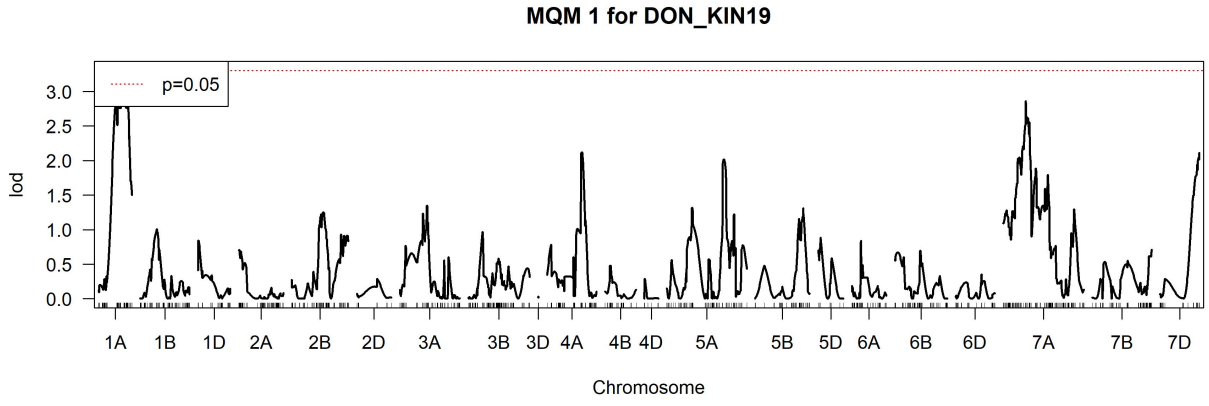
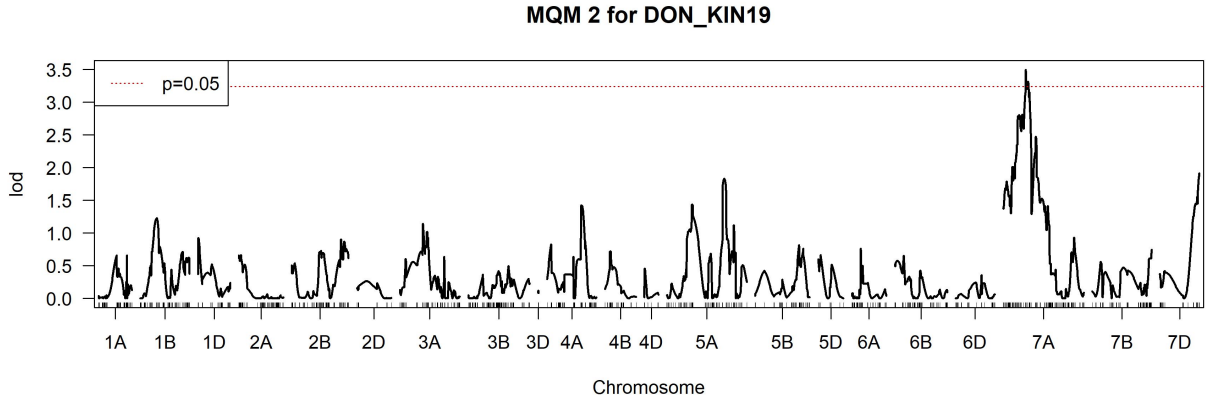
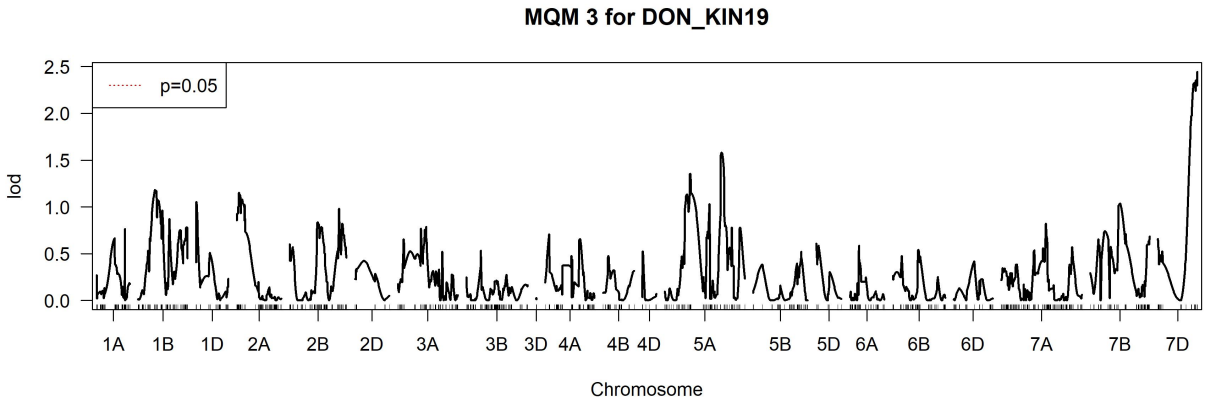
7B
7D
Chromosome

Deoxynivalenol Content in Kinston, NC - 2019





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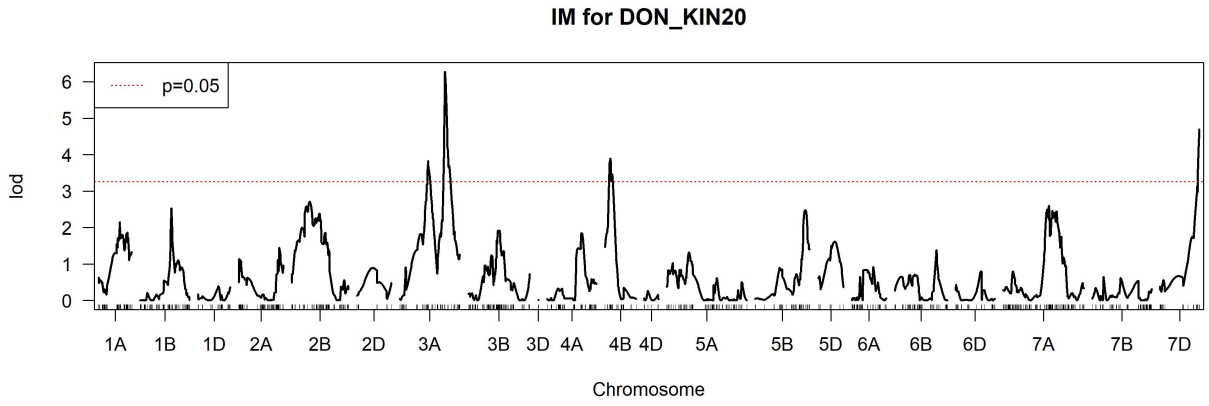
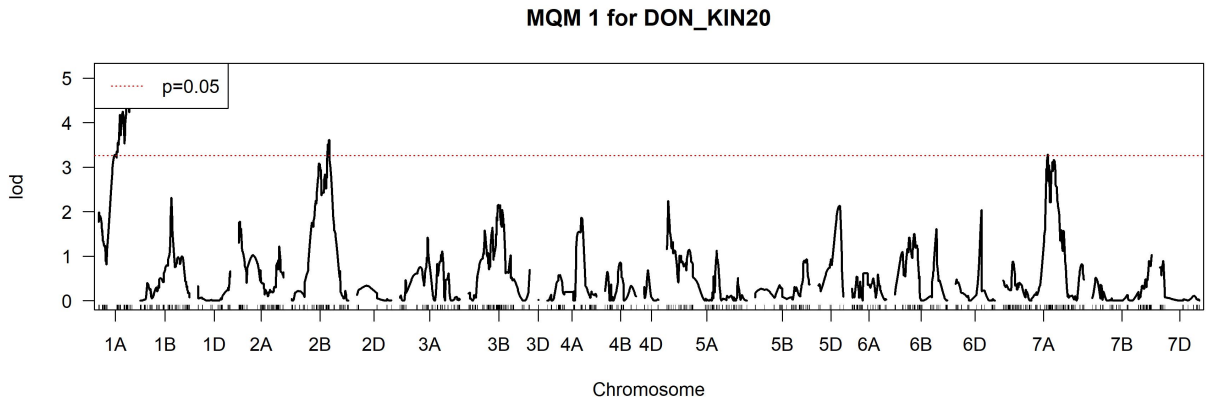
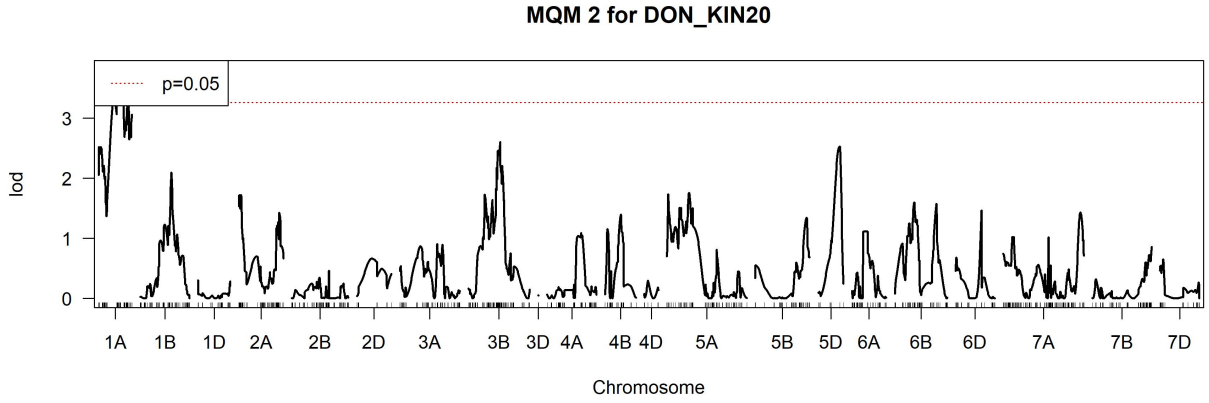
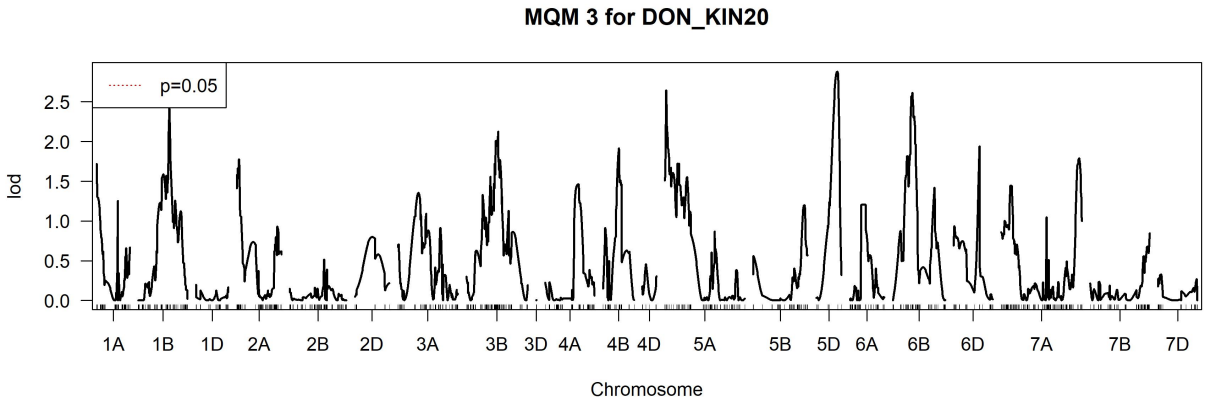
7D
Chromosome

Deoxynivalenol Content in Kinston, NC - 2020

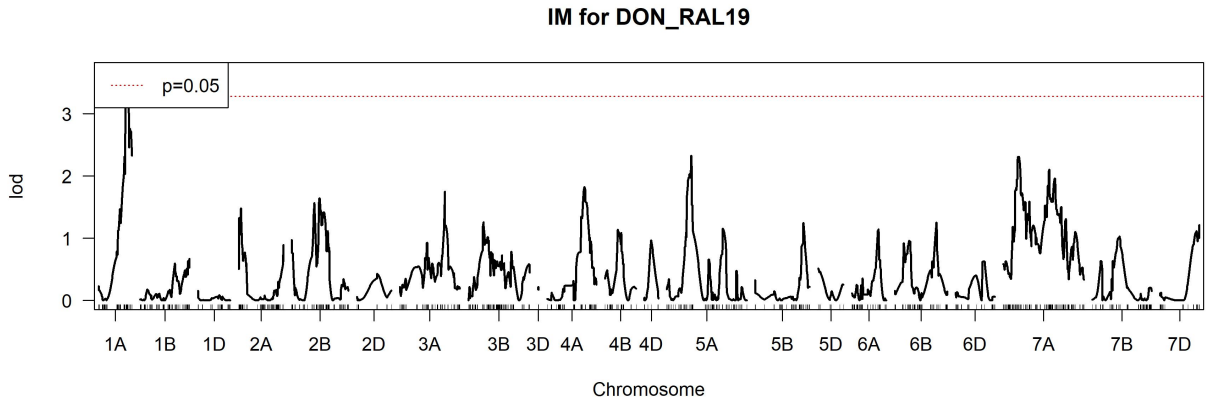


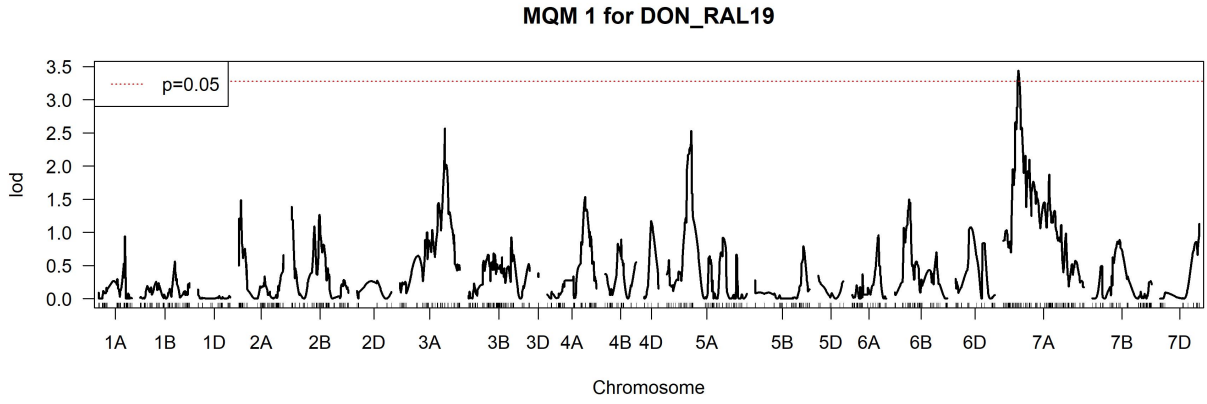


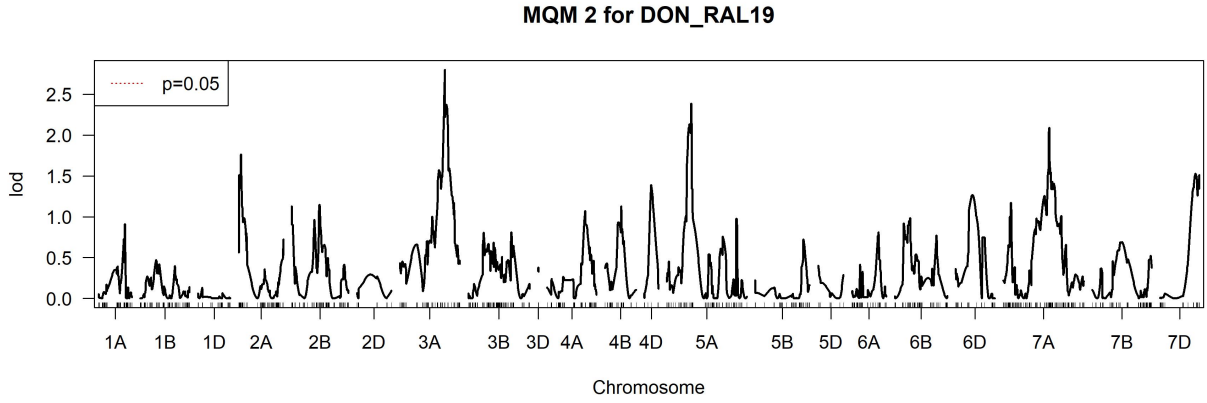



MQM 3 for DON_KIN20
p=0.05
lod
2.5
2.0
1.5
1.0
0.5
0.0
1A
1B
1D
2A
2B
2D
3A
3B
3D
4A
4B
4D
5A
5B
5D
6A
6B
6D
7A
7B
7D
Chromosome

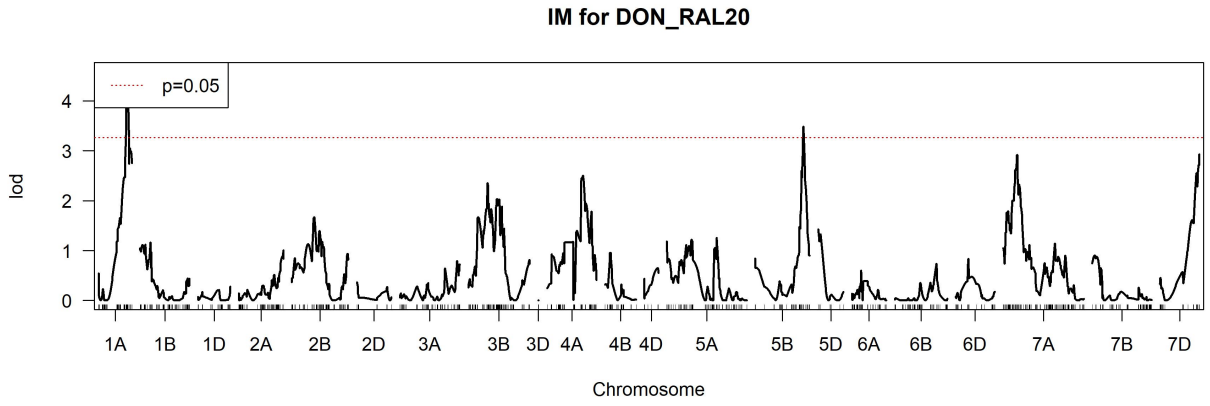
Deoxynivalenol Content in Raleigh, NC - 2019

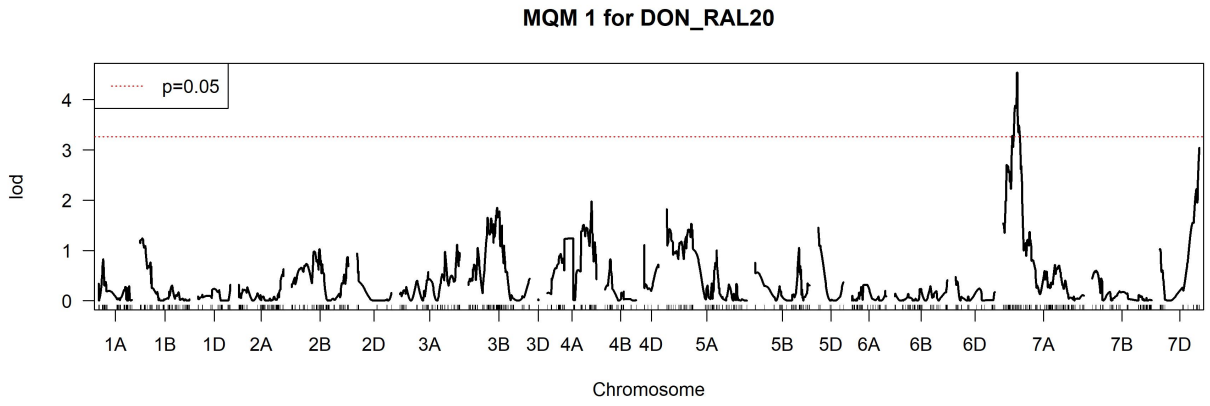


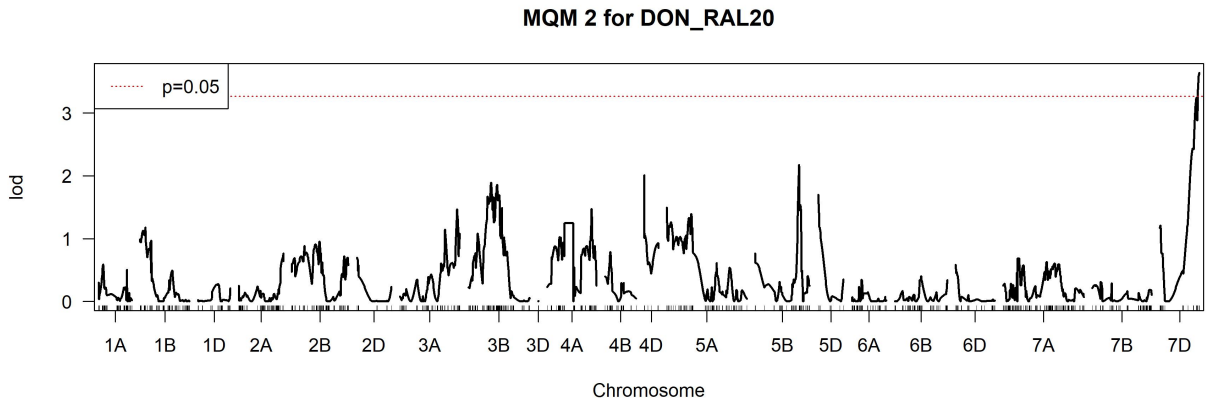


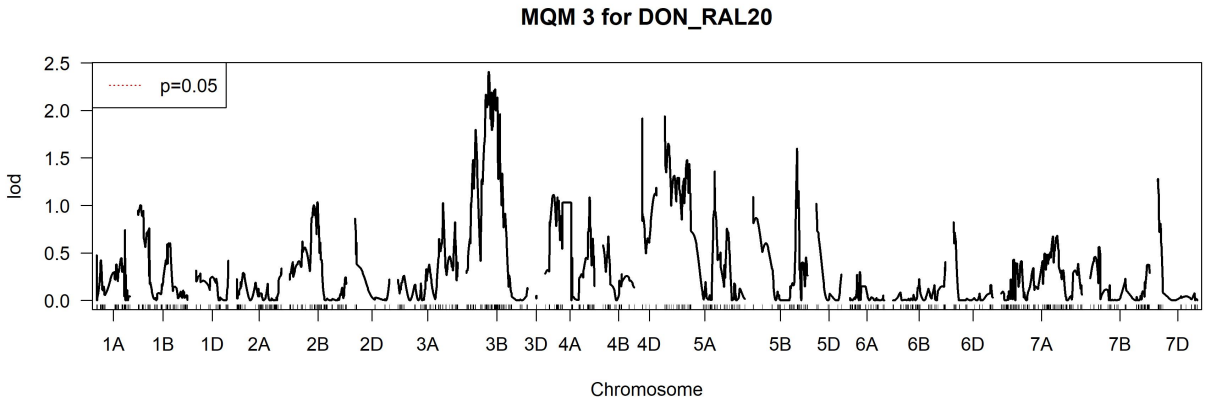


Deoxynivalenol Content in Raleigh, NC - 2020








MQM 3 for DON_RAL20
p=0.05
lod
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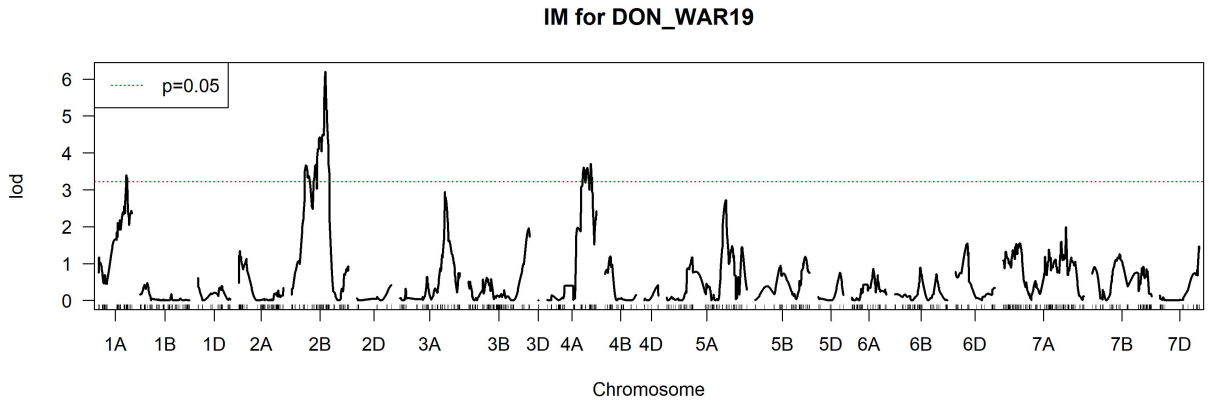
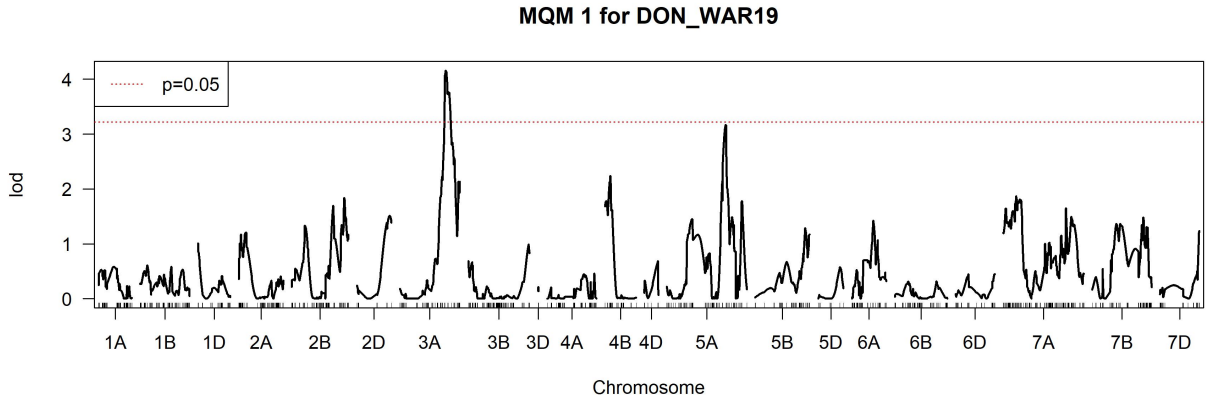
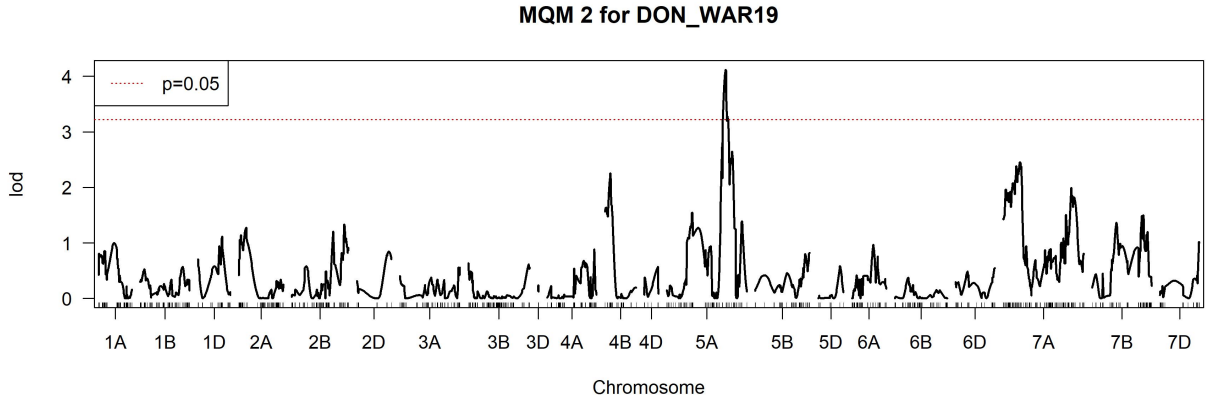
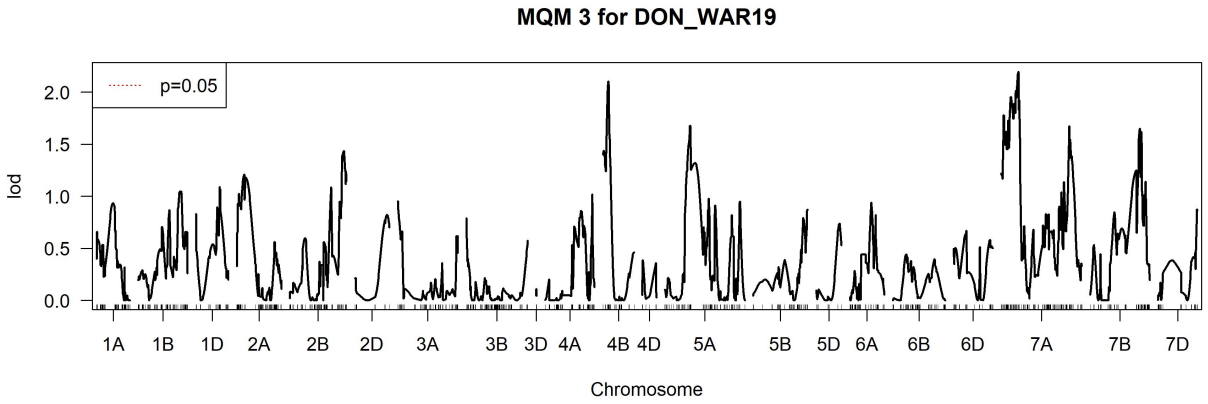
2.0
1.5
1.0
0.5
0.0
1A
1B
1D
2A
2B
2D
3A
3B
3D
4A
4B
4D
5A
5B
5D
6A
6B
6D
7A
7B
7D
Chromosome

Deoxynivalenol Content in Warsaw, VA - 2019








MQM 3 for DON_WAR19
p=0.05
lod
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1.5
1.0
0.5
0.0
1A
1B
1D
2A
2B
2D
3A
3B
3D
4A
4B
4D
5A
5B
5D
6A
6B
6D
7A
7B
7D
Chromosome

Deoxynivalenol Content in Warsaw, VA - 2020