Supplemental Information 4

Description

A visualization of all 1.5-likelyhood-of-odds (1.5-LOD) support intervals drawn from peak positions of significant quantitative trait locus (QTL) identified for plant height (PH), heading date (HD), Fusarium head blight (FHB) visual ratings (VR), Fusarium damaged kernels (FDK), and deoxynivalenol (DON) content. This is a nieve model that does not include marker covariates. Both multi-environmental (ME) and within-environment scans were mapped in this image. Within environment scans included the Cunningham Research Station in Kinston, North Carolina in 2019 (KIN19) and 2020 (KIN20); the Lake Wheeler Field Laboratory in Raleigh, North Carolina in 2019 (RAL19) and 2020 (RAL20), and the Eastern Agricultural Research and Extension Center in Warsaw Virginia in 2019 (WAR19) and 2020 (WAR20). Support intervals are denoted by bars to the right of linkage groups. The y-axis displays a scale for length of linkage groups in centimorgans (cM). Each linkage group is displayed as a series of points (markers) and a connecting line (distance between markers). The length and position of the bar denotes the length and position of the QTL on the resultant linkage group, which is denoted by the title above the linkage group (e.g., 1B). The color of the corresponding support interval denotes the corresponding scan to which that interval belongs (e.g., heading date across environments = HD_ME). Markers labeled by orange triangles denote peak QTL positions used as covariates in scans for visual rating of Fusarium head blight infection, Fusarium damaged kernels, and deoxynivalenol content. Covariate markers were selected based on their repeated occurrence across scans and their appearance in the multi-environmental scans of both plant height and heading date.

1.5-LOD Support Intervals

Plant Height (PH), Heading Date (HD), Visual Rating (VR), Fusarium Damaged Kernels (FDK), and Deoxynivalenol Content (DON)