

Fusarium Head Blight Resistant Canadian Wheat through Genomics

Objective: Accelerate the production of Fusarium Head Blight (FHB) resistant wheat varieties; specifically to pursue potential new and native resistance from AAFC varieties FL62R1 and Emerson.

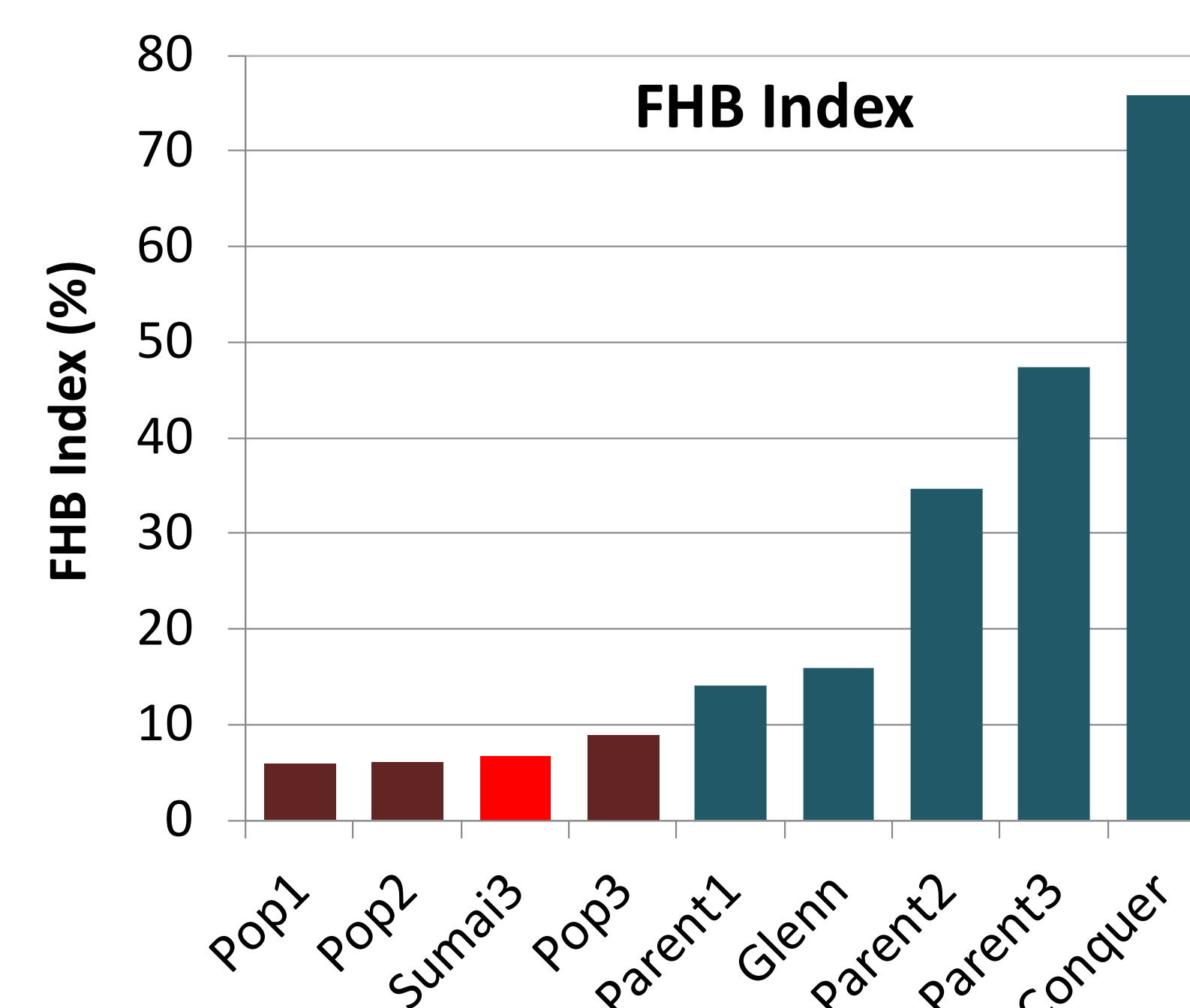
Outputs thus far: Wheat lines with FHB resistance comparable to the resistance standard (Sumai3). Two breeder-friendly molecular markers that tag major effect QTL developed and being tested.

Impact: Introduction of novel sources of resistance into Western Canadian spring wheat, diversifying the genetic base of FHB resistance.

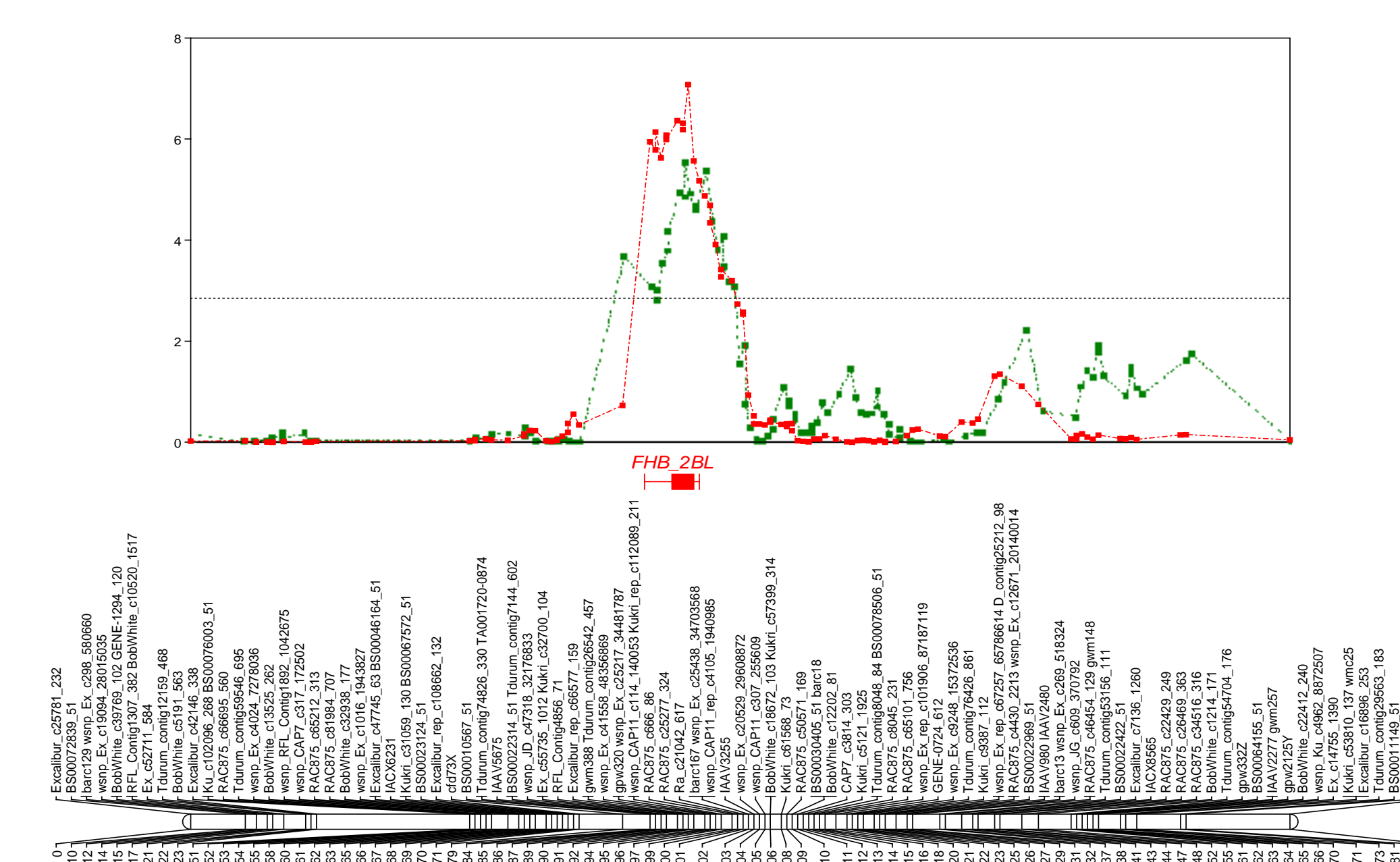
Deployment path: FHB resistance germplasm transferred to AAFC partners for evaluation and incorporation into breeding programs.

Delivery date: Germplasm transferred 2016, markers available early 2017

Resources committed: ~\$2 million over 5 years



Disease (FHB) index of the 10 best lines from our new populations (pop) compared to the FHB resistant standard Sumai3, parental lines and current Canadian and US varieties.



Genetic map of QTL for FHB resistance on chromosome 2BL. Red and green lines indicate QTL identified from two independent experiments.

Opportunity for collaboration: fine-mapping FHB QTLs, evaluating the effects of QTL combinations, marker development and validation

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