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Identification of QTLs associated with horizontal resistance against *Phytophthora sojae* in early maturing soybeans

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Although the deployment of resistance genes that confer complete immunity against *Phytophthora sojae* is currently the most attractive means to reduce soybean losses, the constant evolution of new avirulence genes can eventually lead to a breakdown in resistance. A complementary approach is to rely on horizontal resistance, or partial resistance, that is not dependent on a gene-for-gene interaction. The objective of this study is to identify QTLs in two soybean populations that have been obtained from two early maturing lines adapted to Canadian conditions, and a line showing high levels of horizontal resistance both in field observations and greenhouse testing. For both populations, 150 F5 lines were selected on the basis of their field performance and brought to F6 stage. A first population of 150 lines was phenotyped exhaustively for horizontal resistance against *P. sojae* in a hydroponic bioassay. In parallel, GBS was performed on all lines and the resulting reads (~1M/line) will be used for SNP calling and constructing a genetic map. Phenotypic data have revealed discriminant levels of resistance among the lines which suggest the presence of strong QTLs separating the lines.