High throughput marker assisted selection for disease resistance in soybean. (C07-liard153305-Poster)

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Abstract:

Genetic resistance among soybean cultivars to various diseases such as sudden death syndrome (SDS) and soybean cyst nematode (SCN) is a significant indicator in determining crop productivity. Through the comparison of molecular markers, which are continually being utilized to locate possible resistant genes (loci) in soybeans, the inheritance of these loci in the selected soybean cultivars/varieties can be obtained to a certain level of expectancy. This is the foundation to our project, which was designed to locate the underlying loci among the DNA sequence that would lead to the prediction of disease resistance in our pre commercial soybean cultivars. We have developed high-throughput methods to isolate DNA from soybean embryos and leaves in 96 sample format. After identifying polymorphic markers (closely linked to resistance genes), high-throughput PCR is performed for screening the germplasm for markers linked to loci underlying disease resistance. The service is used for screening material used in SIUC breeding program and also provided to commercial partners at very nominal prices.

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