

Genetic and physical map of ESTs in soybean. (C07-cryder164852-Oral)

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Abstract:

Fusarium solani f. sp. *glycines* (Fsg) is a soil-born fungus and is responsible for sudden death syndrome (SDS) of soybean. The fungal attack leads to changes in expression of a number of genes involved in plant defense. These genes include those involved in phenyl propanoid pathway, cell wall synthesis, and signal transduction. The objectives of this research are to physically and genetically locate the genes and ESTs that are differentially expressed in Fsg inoculated roots. The ESTs were selected from a subtractive hybridization cDNA library. The ESTs were then archived in a 96 well plate and the inserts were amplified using universal primers. The amplified inserts were labeled with alpha-32 P dCTP, vertical and horizontal pools were made, and hybridized to high-density gridded filters containing Hind III Soybean BAC Library with 1x coverage. Microsatellites of soybean map have also been anchored in the BAC clones. Upon the completion of this project, the physical and genetic location of these ESTs will be determined. The development of these maps will allow further improvement of soybean resistance to SDS by methods such as gene fishing.

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