QTL Associated With Scab Resistance in The Soft Red Winter Wheat Ernie. (C07-liu174617-Poster)

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Abstract:

Fusarium head blight (scab) in wheat is a major problem world-wide. No source of complete resistance is known. The identification of different sources of resistance is critical to breeding scab resistant wheat. A major QTL conditioning scab resistance in Sumai 3 has been identified on 3BS. Ernie, a scab resistant cultivar, released from the Univ. of Missouri, does not contain the QTL found in Sumai 3. Using AFLP and SSR markers we have mapped the scab resistant QTL in Ernie by 300 F8 recombinant inbred lines (RILs) developed from a cross between Ernie and MO 94-317, a highly susceptible Missouri variety. The scab index (the ratio of infected spikelets to total spikelets of the inoculated head) in these lines ranged from 15.7 to 75.7%. Eight EcoRI and 8 MseI primers forming 64 primer pairs were used to screen the parents. Over 80% of these pairs had polymorphic bands. The average number of polymorphic bands was 7 with a range of 2 to 21. The top 10 polymorphic primer pairs were used to construct the AFLP map. SSRs were used to anchor the AFLP markers to chromosomes.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1407L

Keywords:
Ernie, QTL, Scab, Wheat