Poster Abstract - D.15

THE EXPRESSION OF SEVERAL *CBF* GENES AT THE *FR-A2* LOCUS IS LINKED TO FROST RESISTANCE IN WHEAT

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wheat, frost tolerance, Cbf, transcription factor

The *C-repeat Binding Factor* (*Cbf*) gene family has been shown to have a critical role in the regulation of low temperature stress response in Arabidopsis. In *Triticum monococcum* a locus carrying a family of *Cbf*-like sequences, orthologs of Arabidopsis *Cbf* genes, map at the frost tolerance locus $Fr-A^m2$, representing candidates for the differences in frost tolerance mapped at this locus. In this work we show that several of the *Cbf* genes have dramatically different levels of induction after cold exposure in hexaploid wheat. The *Cbf*-transcription levels differ between substitution and single chromosome recombinant lines carrying different 5A chromosomes or chromosome segments of the *cbf* sequences showed a significantly higher relative transcription levels (more than 4 fold change) in lines differing for the *Fr-A2* region. Differences in *Cbf* expression was also associated with a difference in frost tolerance.