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Trasngenic Tomatoes by Disease Defense Related Transcription Factors

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Objectives

We have tried to obtain pathogen resistant tomatoes by transforming transcription factors.

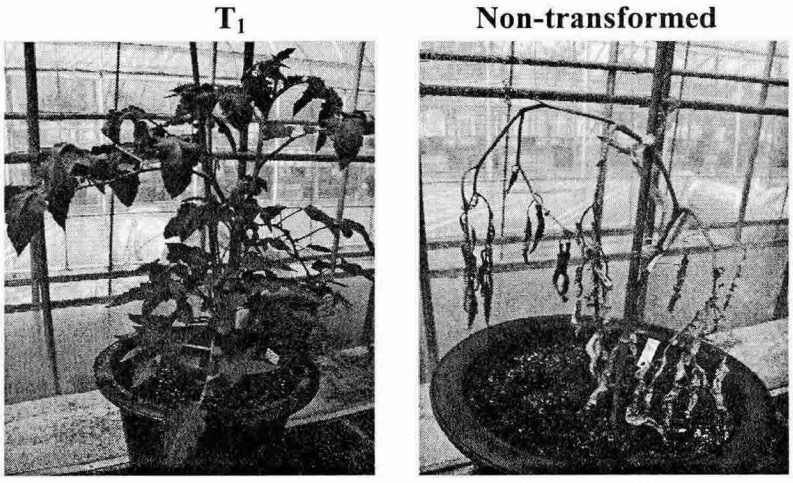
Materials and Methods

1. Material: Commercially important inbred lines were used

2. Methods: For transformation, a callus induced method was applied with *Agrobacterium* strains, EHA105 and EHA 101.

Results and Discussion

Two transcription factors were isolated from pepper: *WRKY* is a transcription factor present in plant only and related to plant pathogen resistance and *PPI1*, bZIP transcription factor, is related to disease resistance in pepper. We transformed these two transcription factors into tomato inbred lines. Several independent To plants were transformed with about 4% transformation rate and around 150 T_1 plants were tested for the resistance level against bacterial wilt (*Ralstonia solanacearum*), deadly damaged to tomato maturation. Six T_1 tomatoes were resistant to bacterial wilt pathogen by *PPI1* and 8 T_1 tomatoes by *WRKY*. Currently seeds for the T_2 generation have been harvested for the further research.



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