

Biotechnological approaches to control the crop pathogen *Fusarium* and development of nanotechnology-based diagnostic methods for detection of plant diseases.

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The plant fungal pathogen *Fusarium* is the causal agent of 'Fusarium wilt' and results in large losses on a wide range of crops including vegetables, flowers, trees and field crops. Control methods for *Fusarium* wilt are very limited. Crop rotations are ineffective because *F. oxysporum* has such a large host range and is able to survive in the soil for long periods of time and genetic resistance is very scarce or on-existent in many crops. I will describe the development of two biotechnological approaches to produce fusarium resistant plants, one of which has produced 100% resistance. I will also present the development of nanotechnology-based diagnostic methods that can be coupled with DNA electrode recognition technology to detect and identify over 100,000 different pathogens in a single diagnostic test.