

RESEARCH ARTICLE

# Production of cell wall degrading enzymes by *Fusarium oxysporum* f.sp. *cepae* causing basal rot of onion and its histopathological changes

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ARTICLE INFO

**Received** : 26.07.2013

**Revised** : 17.09.2013

**Accepted** : 20.09.2013

**Key Words :**

Basal rot, *Fusarium oxysporum*,  
Extracellular pectinolytic enzyme,  
Histopathological studies

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ABSTRACT

Basal rot is a devastating disease of onion caused by *Fusarium oxysporum* f. sp. *cepae*. *Fusarium oxysporum* f. sp. *cepae* excreted several extracellular pectinolytic and cellulolytic enzymes in the onion plants after infection. The production of polygalacturanase, pectin methyl esterase and pectin *trans*-eliminase increased in the onion plants infected with the pathogen. Histopathological changes occurred in onion due to infection of *Fusarium oxysporum* f. sp. *cepae*. Large numbers of small vacuoles were also observed in the cytoplasm. The xylem vessels were thickened and both proto and meta xylem plugged with mycelium. Infected onion bulbs showed disintegration of epidermal layer, cortex tissue and vascular bundle cells. Compared to healthy tissues of bulb, epidermal layer of infected bulbs were disrupted at several points.

**How to view point the article :** Malathi, S. (2013). Production of cell wall degrading enzymes by *Fusarium oxysporum* f.sp. *cepae* causing basal rot of onion and its histopathological changes. *Internat. J. Plant Protec.*, 6(2) : 412-418.

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