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Pathophysiology of *Fusarium oxysporum* f. Sp. *Dianthi* in carnation (*Dianthus caryophyllus* L.)

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ABSTRACT

The bio-chemical changes occurred in the carnation after inoculation with *F. oxysporum* f.sp. *dianthi* was studied under *in vitro*. Carnation plants inoculated with fourteen isolates of *F.oxysporum* f.sp.*dianthi* and monitored for their ability to production of fungal pectin-degrading enzymes *viz.,* Pectin Methyl Esterase (PME), Polygalacturonase (PG) and Pectin Trans Eliminase (PTE) involved in development of disease symptoms. Production of pectinolytic enzymes in carnation plants were assessed from 2 days up to 8 days after inoculation at 48h intervals. The accumulation of these enzymes increased in two days after inoculation and attained a peak at six days after inoculation and slowly declined thereafter in all the inoculated plants. Among the fourteen isolates, YRPFOD2 had maximum ability to increase the activity of pectinolytic enzymes *viz.*, Pectin Methyl Esterase (0.49 µ mole hydrogen ion / min / ml), Polygalacturonase (16.11% reduction in viscosity) and Pectin Trans Eliminase (57.59 % reduction in viscosity) after six days of inoculation in infected plants.

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