


Hülya AYAR-KAYALI, Leman TARHAN

University of Dokuz Eylül, Faculty of Education, Department of Chemistry,
35150 Buca, İzmir-TURKEY

e-mail: leman.tarhan@deu.edu.tr

 [Keywords](#)
 [Authors](#)



chem@tubitak.gov.tr

[Scientific Journals Home](#)
[Page](#)

Abstract: The changes in the activity of cellular detoxifying defence enzymes such as SOD, CAT and GSH-Px against superoxide anion radical and hydrogen peroxide, and in LPO levels in the filamentous fungus, *Fusarium equiseti* were measured under growth condition. Experiments were performed comparing changes in glycerol and saccharose (5-25 g/L) as carbon sources, and in glycine, peptone (5-35 g/L) as nitrogen sources in an AFM medium. While SOD activities correlate well with respect to the increase in the glycerol concentration ($r = 0.437$, $p < 0.001$), CAT activities showed negative correlation ($r = -0.663$, $p < 0.001$). The increase in SOD and CAT activities of *F. equiseti* correlated with increases in saccharose concentration. When glycerol and saccharose were used as carbon sources, the maximum SOD, CAT and GSH-Px enzymes activities and the minimum LPO level were determined in the medium containing 15 g/L of saccharose on the 12th day at 66.61, 182.79, 1.045 IU/mg and 1.41 nmol MDA/ gr wet weight, respectively. The effects of peptone and glycine as nitrogen sources were also investigated: 53.4% and 48.03% decreases were observed in the SOD and CAT activities of *F. equiseti* in the presence of 10 g/L of peptone in the culture medium. The presence of 15 g/L of glycine caused 5.30% and 69.90% decreases in the SOD and CAT activities in comparison to the presence of 15 g/L of saccharose, respectively. On the other hand, LPO levels increased in proportion to the decrease in antioxidant enzyme activities in glycine and peptone supplemented media.

Key Words: *Fusarium*, glycerol, saccharose, glycine, peptone, SOD, CAT, GSH-Px, LPO (MDA)

Turk. J. Chem., **28**, (2004), 213-222.

Full text: [pdf](#)

Other articles published in the same issue: [Turk. J. Chem..vol.28.iss.2.](#)