

-  [Current Issue](#)
-  [Browse Issues](#)
-  [Search](#)
-  [About this Journal](#)
-  [Instruction to Authors](#)
-  [Online Submission](#)
-  [Subscription](#)
-  [Contact Us](#)
-  [RSS Feed](#)

Acta Medica Iranica

2009;47(4) : 157-162

AIR POLLUTION EFFECTS ON THE ACTIVITY OF ANTIOXIDANT ENZYMES IN NERIUM OLEANDER AND ROBINIA PSEUDO ACACIA PLANTS IN TEHRAN

M. Ghorbanli, Z. Bakand, G. Bakhshi khaniki, S. Bakand


Abstract:

The air pollution effects on the activity of antioxidant enzymes were investigated on *Nerium oleander* and *Robinia pseudo acacia* in Tehran. Considering the information obtained from the Department of the Environment of Iran, Sorkh Hesar Park as well as South Azadi were selected as two sampling sites representing the unpolluted and polluted area respectively. A number of plant leave samples were collected from both sampling sites simultaneously. The activity of plant enzymes including peroxidase, catalase and ascorbate peroxidase was investigated using spectrophotometric methods. A higher level of peroxidase and catalase enzymes were measured in both plant samples collected from polluted area. However, this higher level was only statistically significant for the activity of peroxidase enzyme in *Robinia pseudo acacia* plants compare of to the control group ($p < 0.05$). The lower level of ascorbate peroxidase was observed in *Nerium oleander* plant leaves collected from the contaminated sampling site ($p < 0.05$), but though, the activity of this enzyme in *Robinia pseudo acacia* did not change significantly. The overall plant injury symptoms found in this study demonstrated that both *Nerium oleander* and *Robinia pseudo acacia* have a potential to be considered as effective bioindicators to reflect the environmental air quality in polluted areas.

Keywords:

[Nerium oleander](#) . [Robinia pseudo acacia](#)

TUMS ID: 3861

[Full Text HTML](#)  [Full Text PDF](#)  104 KB

top ▲

[Home](#) - [About](#) - [Contact Us](#)

TUMS E. Journals 2004-2009
Central Library & Documents Center
Tehran University of Medical Sciences

Best view with Internet Explorer 6 or Later at 1024*768 Resolutions