## Abstract

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Anthelmintics belong between the drugs widly used in veterinary medicine. In the environment, these drugs represent a significant source of pollution with a negative impact on micro-organism and entire ecosystems. The fate of anthelmintics and their effect on plants has not yet been studied sufficiently. The aim of this work was to investigate the effect of two frequently used anthelmintics, fenbendazole (FEN) and ivermectin (IVM) on antioxidant enzymes peroxidase (POX), catalase (CAT), ascorbate peroxidase (APX), glutathione reductase (GR), glutathione-S-transferase (GST) and superoxide dismutase (SOD) in model plant *Arabidospsis thaliana*. In this study was used *in vitro* cell suspension of *Arabidospsis thaliana*. Enzyme activity was measured spectrophotometrically in samples taken after 8, 24 and 72 hours. At samples exposed to effect of FEN the activity of SOD enzyme increased, on the other hand the activity of GST enzyme decreased. The presence of IVM has an inhibitory effect on GR, GST and SOD activity, on the other hand activity of CAT and POX increased. Enzymatic activity of APX is not significantly affected by IVM or FEN throughout the exposure period. Results have shown that both anthelmintics can affect the activity of antioxidant enzymes, which can lead to higher risk of oxidative damage in plant.