Summary of the DVM thesis No 4874 , Factually of Veterinary Medicine, Urmia University.

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Title of thesis: Assessment of oxidative/nitrosative stress biomarkers in *Marshalagia marshali*, following exposure to Lavender Essential oils

Summary:

Drug resistance in parasitic disease ranked among the top public healthconcerns. Therefore, seeking for new agents to control parasites is an urgent strategy. In the recent years, metallic nanoparticles have been considerably evaluated for anthelmintic effects. The current study was carried out to assess possible anthelmintic impacts of Lavender essential oils on *Marshalagia marshali*, a prevalent gastrointestinal nematode.Several biomarkers of oxidative/nitrosative stress and DNA damage were measured. Various concentrations of the Lavender extract (1, 5, 10, 25 and 50 mg/mL) and examined helminths were provided and co-incubated for 24 hours. The parasite mobility, mortality, several biomarkers of oxidative/nitrosative stress and DNA damage were measured. The mobility decreased and the mortality increased in a concentration and time dependent pattern. Lavender essential oils exerted significant wormicidal effects via induction of oxidative/nitrosative stress and DNA damage. in-vitro antiparasitic effect of the methanolic essential oils of Lavender was satisfactory in this study, however, in-vivo efficacy of Lavender essential oils, recommended for further studies.

Key words: *Marshalagia marshali*, Lavender essential oils, Oxidative stress, DNA damage, Nitric oxide