The ECOSPHERE research group aims to study aquatic and valley ecosystems that are continuously challenged by natural and anthropogenic stressors. The research focuses on acquiring fundamental and applied knowledge at different levels of structural and functional organisation in order to underpin environmental management decisions.

MASTER THESIS SUBJECT 2023

Effect of veterinary anthelmintic compounds on dung beetle diversity in horses

Research group: ECOSPHERE

Hosting laboratory: CGB – building U

Promotor(s): Lieven Bervoets: lieven.bervoets@uantwerpen.be

Daily supervision: Lieven Bervoets

- ➢ **This topic mostly contains** ⊠ **literature study, x lab work, x field work, ☐ experimental work, ☐ GIS, ☐ numerical modelling, ☐ other:** ……………………………………………………………………….
- ➢ **Possession of driver's license B is ☐ needed, x recommended, ☐ not needed**
- ➢ **Possession of certificates needed: ☐ FELASA C, ☐ other:** …………………………………………………

Summary: Anthelmintic medicines are used to control internal and external parasites in livestock. These compounds, including ivermectin, have a negligible toxicity to mammals and as a result are widely used for improving the health of livestock, including horses. However, these compounds are poorly metabolized and pass relatively unchanged to the urine and dung. Since these compound have a high toxicity for arthropods, they can have lethal and sublethal effects on invertebrates that colonize the dung.

In this subject the aim is to assess the beetle diversity in dung of horses that are treated with anthelmintic compounds. The effect of the active compound, frequency and moment of application can be compared.

For this subject the student has to actively contact horse keepers and question them on the type and frequency of anthelmintic compounds used and assess the diversity of beetles present in the dung. In addition the decomposition rate of the dung in relation to the beetle diversity can be assessed.

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