

Influence of grapefruit seed extract on the exsheathment rate of parasitic third stage larvae

L. Podstatzky¹, P. Föttinger²

¹HBLFA Raumberg-Gumpenstein, A-8952 Irdning, Austria, ²FH Gesundheitsberufe OÖ, 4400 Steyr, Austria

Introduction

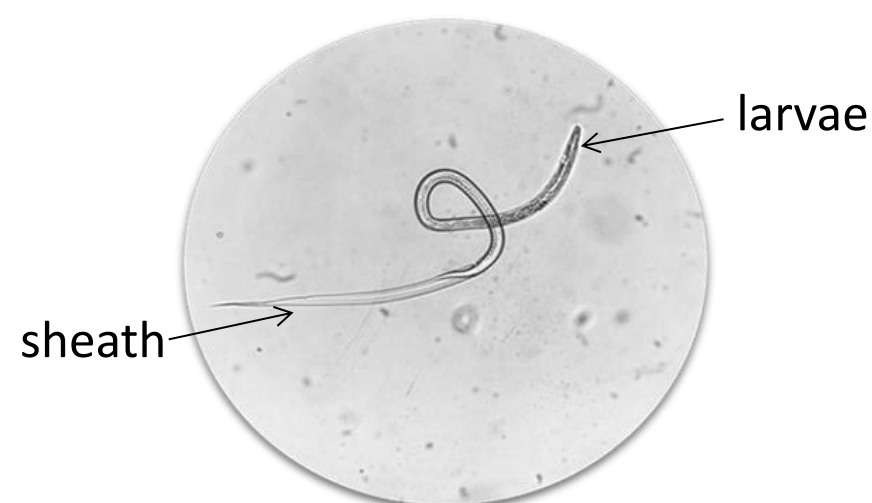
Frequent deworming may result in higher rates of resistancy. Secondary plant ingrediants can be tested in vitro prior to the use in the field. The aim of this study was to analyze the influence of grapefruit seed extract (GSE) on the exsheathment of parasitic L III larvae of goats in vitro.

Material and Methods

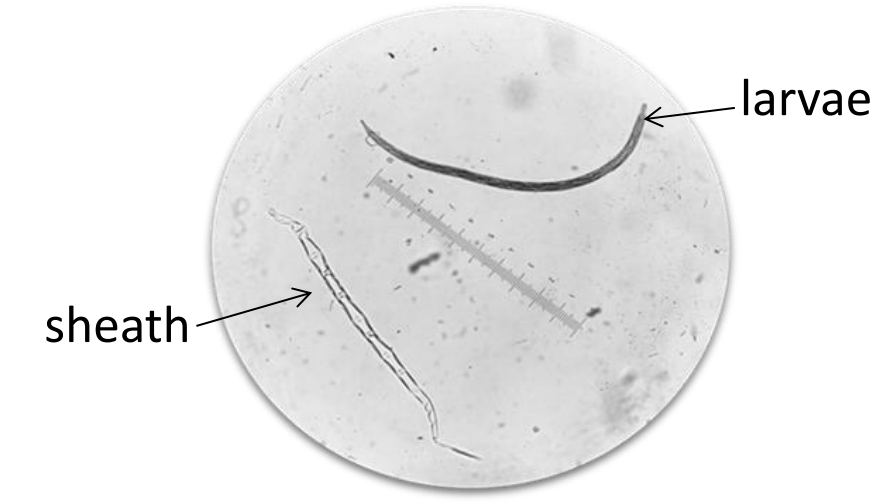
Procedure	Material	GSE 1,6 mg/ml (n=24)	GSE 3,2 mg/ml (n=24)	Positive control (n=24)	Negative control (n=24)
1 Pre-Incubation (22 °C, 3 h)	L III	1 ml (400 L III)	1 ml (400 L III)	1 ml (400 L III)	1 ml (400 L III)
	PBS	0,8 ml	0,6 ml	1 ml	1 ml
	GSE	0,2 ml	0,4 ml		
	Tetram. Hydrochl.			600 µg	
2 Washing/centrifugation	PBS	3x1 ml	3x1 ml	3x1 ml	3x1 ml
3 Incubation (20, 40, 60 min)	Na-hypochlorit (2%)	1900 µl	1900 µl	1900 µl	1900 µl
	L III	100 µl	100 µl	100 µl	100 µl
4 Observation of exsheathm.	Time (minutes)	20, 40, 60	20, 40, 60	20, 40, 60	20, 40, 60



No exsheathment.
Evaluation: ensheathed

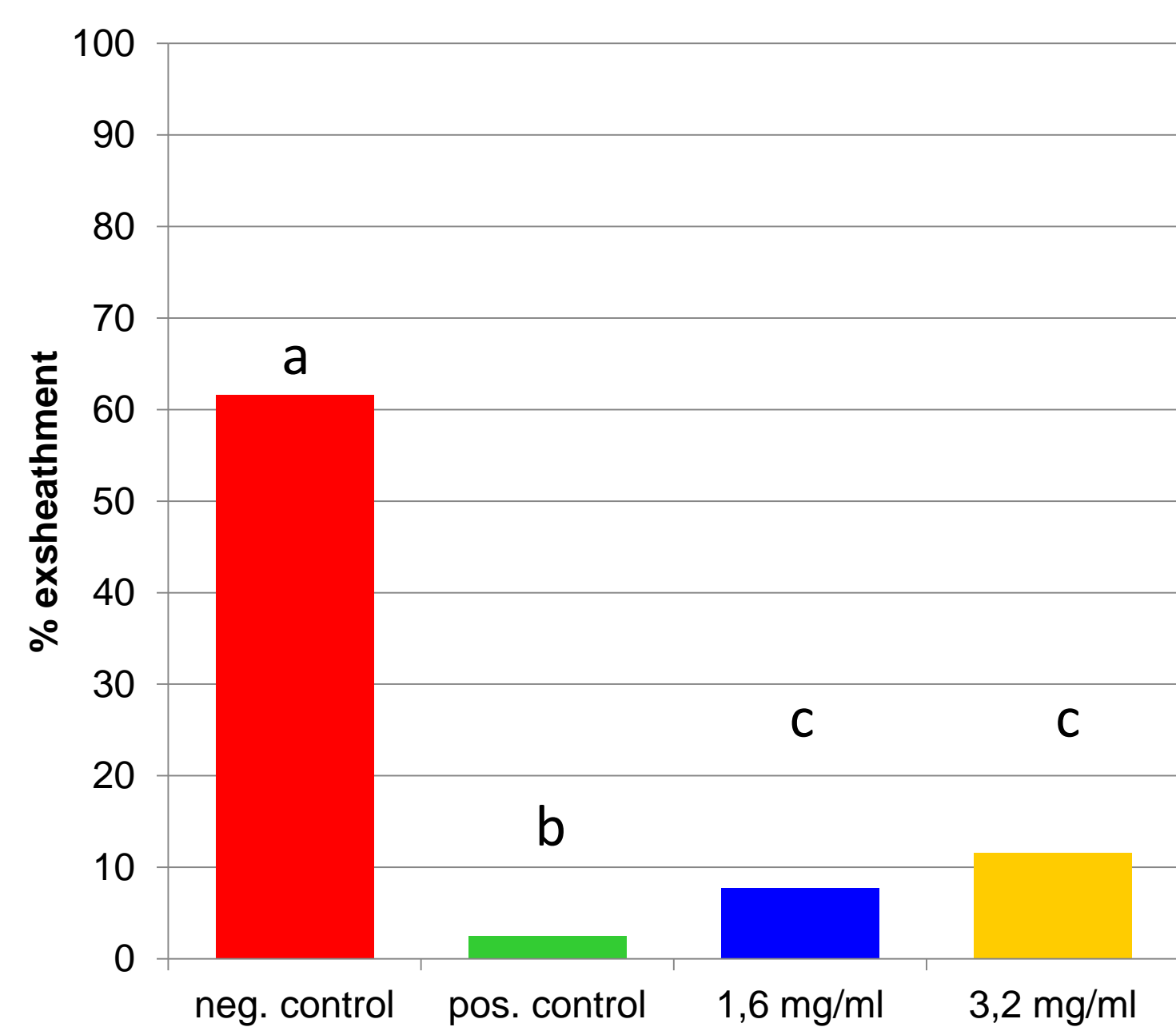


Exsheathment in progress.
Evaluation: ensheathed

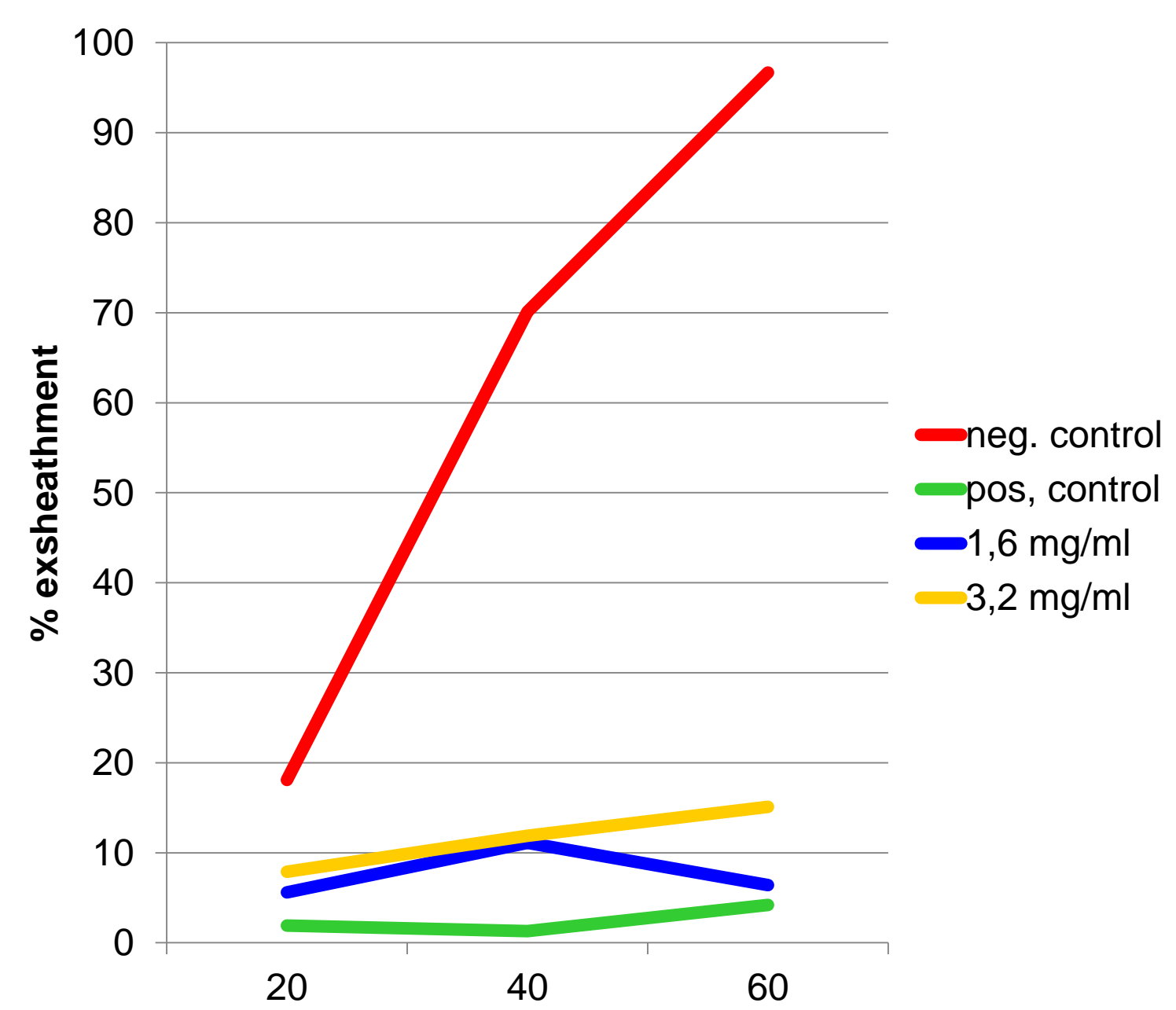


Finished exsheathment.
Evaluation: exsheathed

Results



Mean Exsheathment of the groups



Schedule of exsheathment

Discussion

Although this trial was conducted with a mixture of parasitic larvae further examination should be done with monocultures of parasitic larvae to evaluate the effects to the different parasitic species followed by feeding trials to evaluate possible effects on the field.