

Feeding of EM (Effectice microorngnisms) to sheep:

Effects on haematological, clinical and parasitological parameters

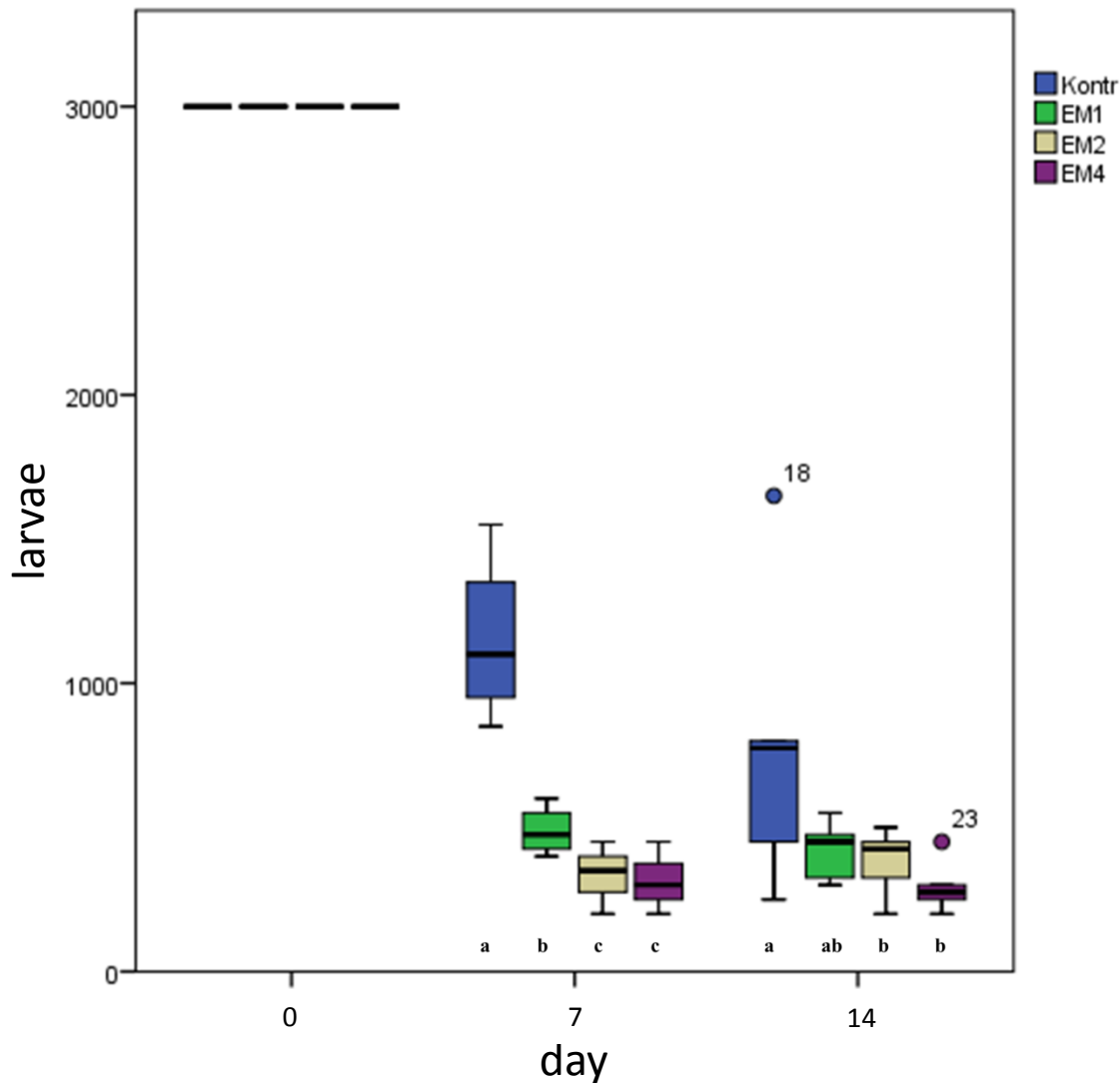
Parasite management – organic farming

- Anthelmintics
 - Double withdrawal time, resistancies
- Pasture management
 - Difficult austrian conditions
- Plants/forages which contain condensed tanins (polyphenolic compounds)
 - Until now no practical recipies
- Biological control:
 - Duddingtonia flagrans: nematode trapping fungus
 - Until now no european authorization for additional feeding

Effective microorganisms

- Mixture of bacteria, yeasts, fungi, etc.
- Mainly lactic acid producing bacteria
- Often used in composting, horticulture, private gardening, etc,
- Also in stables to reduce smell

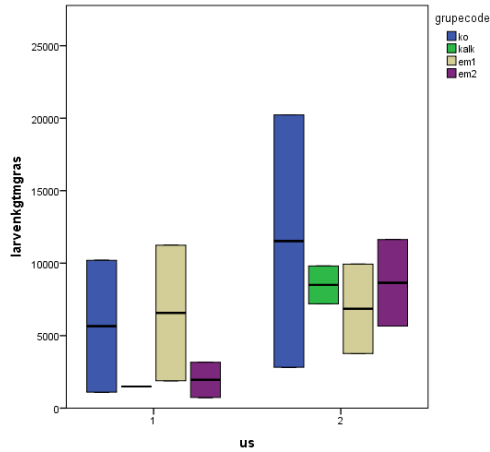
In vitro: recovery rates



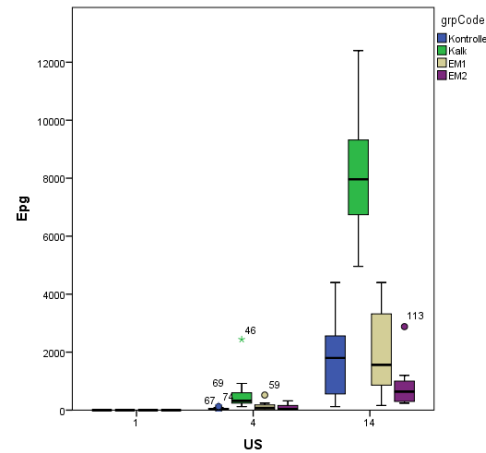
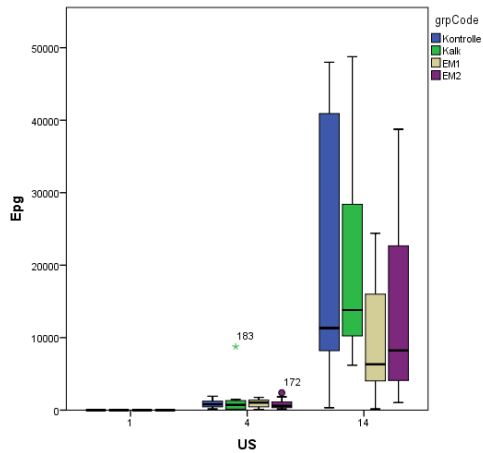
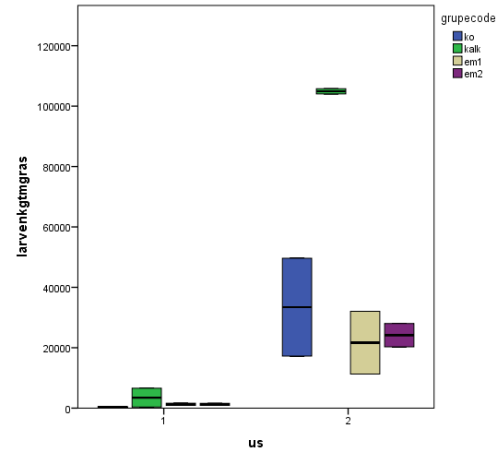
Pasture trial: Laboratory examinations



2013



2014



Material und method



	Control n=8	EM1 n=8	EM2 n=8
Week 1+2	2 x daily 10 ml H ₂ O	2 x daily 1,25 ml EMa + 8,75 ml H ₂ O	2 x daily 2,5 ml EMa + 7,5 ml H ₂ O
Week 3+4	2 x daily 10 ml H ₂ O	2 x daily 2,5 ml EMa + 7,5 ml H ₂ O	2 x daily 5 ml EMa + 5 ml H ₂ O

Material und method



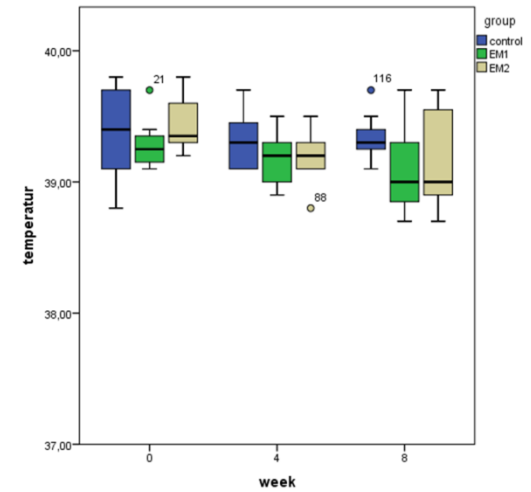
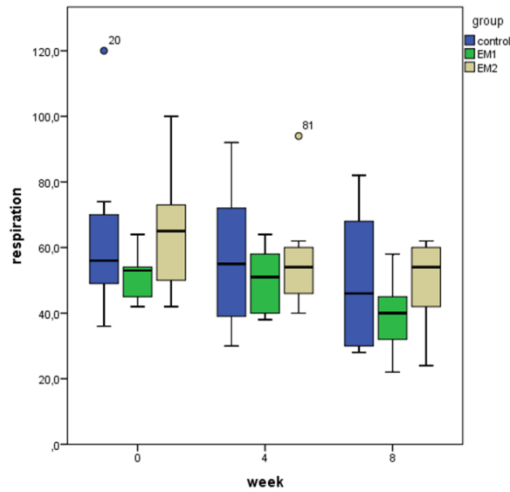
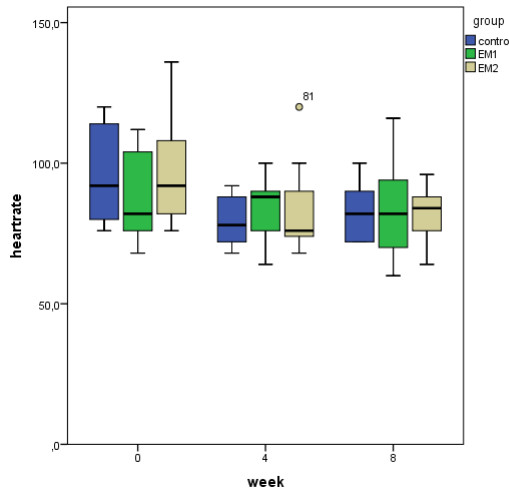
	weeks
Routine clinical examination	0, 4, 8
Blood samples	0, 4, 8
Fecal samples	0, 4, 8

Approval for animal experiments :Ges-140378/18-2013 Hi

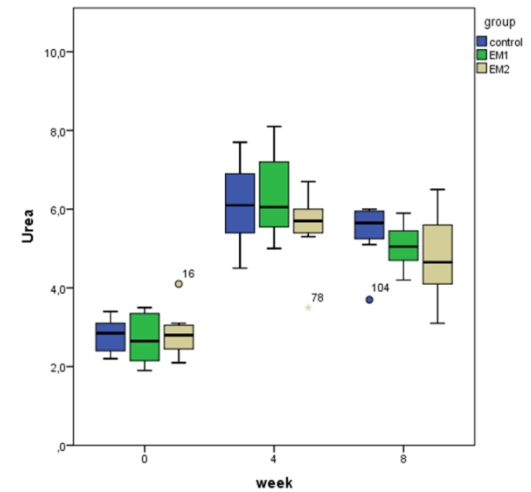
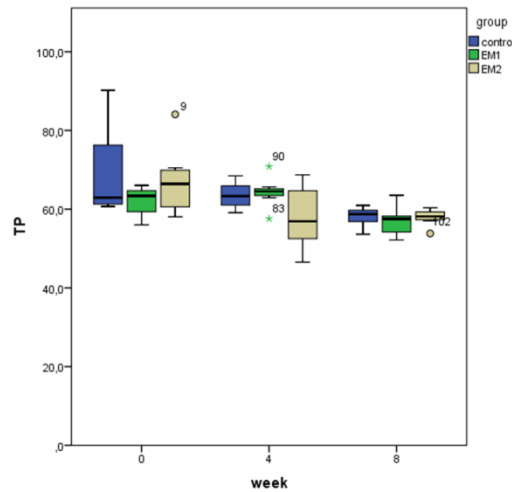
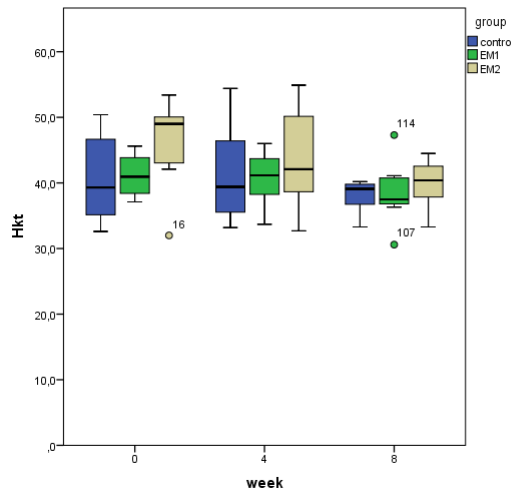
Results

Week	0			4			8			grp	Wk
Group	Con	EM1	EM1	Con	EM1	EM1	Con	EM1	EM1		
Heart	96	88	97	80	84	84	83	84	82	0,5	0,01
Resp	63	51	65	57	50	55	50	39	50	0,3	0,0
Temp	39,4	39,3	39,4	39,3	39,2	39,2	39,3	39,1	39,2	0,6	0,03
Rumen	1,6	1,3	1,1	1,4	1,1	1,4	1,5	1,4	1,3	0,4	0,8
Hkt	40,8	41,1	46,2	41,3	40,7	45,0	38,1	38,5	39,9	0,08	0,02
GGT	76,3	68,6	70,5	83,5	70,6	72,0	84,3	68,1	74,4	0,7	0,6
TP	69,0	62,1	67,0	63,5	64,4	57,5	58,1	56,9	58,0	0,1	0,0
Urea	2,8	2,7	2,9	6,1	6,3	5,4	5,4	5,1	4,8	0,9	0,0
Epg	190	125	20	395	565	215	680	290	595	0,6	0,02

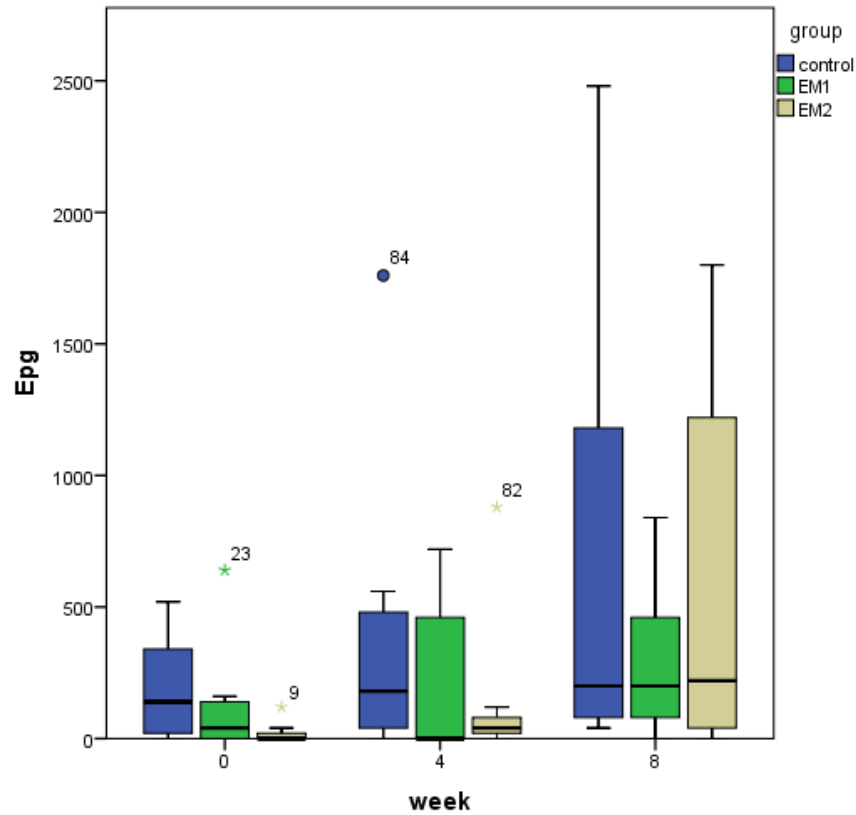
Results



Results



Results



Conclusion

- In vitro:
 - effects detectable
- Pasture trial:
 - best results reflect at best some tendencies
- Feeding trial:
 - EM can be improvidently fed to sheep
 - In the given dose and duration
 - No relevant effect in parasitological status

Discussion

- In vitro:
 - Effects strong enough to work in practice and how?
- Pasture trials:
 - intensity of pasture management?
- Feeding management:
 - Duration
 - Application of EM to water permanently?
 - Concentration
 - Other effects with higher concentration?

