

Effect of phytogetic feed additives on performance parameters of fattening lambs

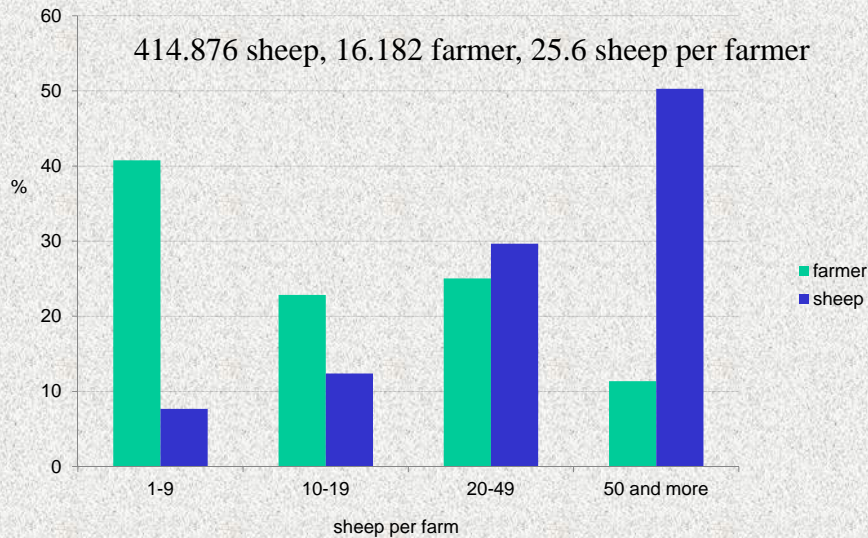


overview

- introduction
- material and method
- results
- summary

Structure of sheep keeping in Austria

(source: VIS 2010)



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Introduction

- Lamb meat is a valuable food
- Optimizing production conditions
- Phytogetic feed additives are offert on the market
- Improve feed intake and feed conversion
- Saliva secretion is motivated
- Positive effect on rumen microbes
- Success in cattle and pigs
- Not enough results in lamb feeding



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Material and method

- 56 Merinoland sheep lambs from 3 farms
- Claw bath and worm treatment
- 3 experimental groups
1 control group,
14 animals per group
- Individual pens with straw



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Material and method - feeding

- Concentrate and hay
- Standard commercial concentrate
- 3 different additives
 - A: 0.02%
 - B: 0.0012 %
 - C: 0.25 %
- group D same concentrate without additive
- Concentrate ad libitum



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Material and method - feeding

- Hay depending on body weight

- < 25 kg – 200 g/d
- Ab 25 kg – 250 g/d
- Ab 30 kg – 300 g/d
- Ab 35 kg – 350 g/d
- Ab 40 kg – 400 g/d



- Recording of daily hay and concentrate intake
- Free water intake



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Material and method

- Final body weight female 39 kg, male 44 kg
- Slaughtered in our slaughterhouse
- Collecting rumen liquid



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Results – fattening performance

Item	Experimental group (E)				Gender (G)		P	P
	A	B	C	D	m	f	(E)	(G)
Fattening period, d	56.5	53.0	54.0	56.0	53.3	56.0	0.7378	0.2964
Daily gain, g	335	368	364	357	410	318	0.4750	<.0001
Daily feed intake, g DM	1350	1352	1360	1342	1429	1297	0.9418	<.0001
Daily hay intake, g DM	210	194	210	200	222	190	0.2631	<.0001
Daily concentrate intake, g TM	1140	1158	1150	1141	1207	1106	0.9738	0.0003
Feed conversion, kg DM/kg gain	4.09	3.74	3.79	3.89	3.50	4.14	0.2014	<.0001



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Results – slaughter performance

item	Experimental group (E)				Gender (G)		P	P
	A	B	C	D	m	f	(E)	(G)
Dressing percentage, %	47.97	47.78	48.20	47.71	47.29	48.36	0.9197	0.0520
Muscle, points ¹	2.86	3.00	2.71	2.86	2.78	2.91	0.2001	0.1821
Fat, points ²	3.21	3.07	3.07	3.29	2.83	3.39	0.6801	0.0003
Kidney fat, %	2.56	2.43	2.29	2.56	1.71	2.98	0.7445	<.0001
Loin muscle, %	49.17	51.78	52.25	50.01	52.84	49.38	0.1610	0.0022
Loin fat, %	30.13	28.37	27.91	29.32	25.80	31.11	0.5899	<.0001
Loin bone, %	20.06	19.08	19.14	20.05	20.64	18.85	0.6091	0.0202

¹ according EUROP. E=1. P=5; ² Fat class 1=very thin, 5=very fat



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Results – rumen liquid

Item	Experimental group (E)				Gender (G)		P	P
	A	B	C	D	m	w	(E)	(G)
Acetic acid, %	54.28	56.18	57.86	50.91	50.10	59.51	0.8863	0.1617
Propanoic acid, %	24.28	23.94	28.98	26.82	24.26	27.74	0.6874	0.3116
Butyric acid, %	12.70	12.82	14.99	11.22	10.90	14.97	0.6840	0.0788



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Summary

- High daily gain, good feed conversion, high carcass quality are the most important criteria in lamb meat production
- Effect of phytogenic feed additives??
- 3 additives was tested
- No effect of additives was observed
- Daily gain 355g, daily DMI 1.35 kg, feed conversion 3.9 kg DM/kg gain



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