Lamb finishing on chicory containing swards relative to grass-clover mixtrues

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1. Introduction

Reducing lamb grazing days on range resources through improved weight gain using alternative forage crops may complement existing feed resources whilst minimizing welfare problems and loss of lambs. Here, we assessed the short term grazing effects of *Cichorium intybus* (Chicory alone; CHA) and its mixture with grass/clover (CGC) relative to grass/clover mix (GCM) with weaned lambs. Previous works with chicory in other parts of Europe showed improved lamb bodyweight (BW), carcass yield (CY) as percentage of live weight and reduced parasitism[1,2].

The objective of this work was to assess lamb BW change and CY whilst grazing chicory or chicory containing pastures relative to the conventional grass/clover mixtures.

2. Materials and Methods

Forty-eight (42 Spæalsau and 6 Norwegian White) weaned lambs were allocated into 3 treatments (CHA, CGC and GCM) replicated 3 times being balanced for initial BW and gender. Replicate one finished the experiment on day 28 due to shortage of DM whereas replicates 2 and 3 completed on day 42 as planned. At completion of the experiment, all lambs were fed on similar feed until sent for slaughter.

Lamb BW data was analysed using repeated measures ANOVA whereas ADG, final BW and CY of lambs were analysed with general ANOVA using GenStat 14. Effects were declared significant at $P \leq 0.05$.

3. Results and Discussion

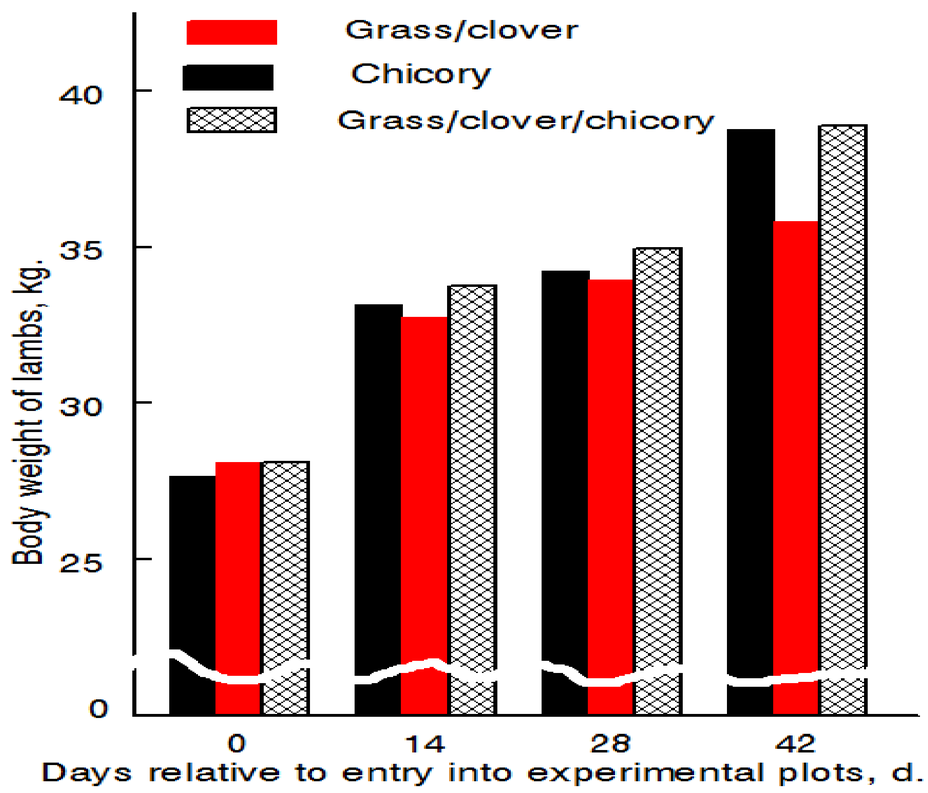
Lamb BW and ADG improved with grazing on chicory and chicory/grass/clover mix compared to grass/clover mixture (Table 1) regardless of gender and breed involved.

Lamb CY as a percent of body weight (%) was not affected by either forage type or gender.

Table 1. DM on offer, allowance relative to BW, final BW, ADG and CY of lambs

Forage type	DM offer (kg/d/head)*	DM allowance (% of BW)‡	Final BW (kg)	ADG (g/d)	CY (%)
CHA	1.21	4.32	40.6[a]	289[a]	36.9
CGC	1.18	4.15	40.4[a]	289[a]	36.0
GCM	1.38	4.82	36.9[b]	203[b]	35.8
SEM	-	-	*0.60*	*15.6*	*0.66*
P-value	-	-	*<0.001*	*<0.001*	*0.468*

** estimated based DM available on day one of the experiment*
‡ estimated based on initial BW and DM offer on day one of the experiment
[a,b] means in a column with different superscripts are different at P <0.05



Figrue1. Lamb bodyweight development over the experimental days (*Forage effect P =0.029)*

4. Conclusion

The preliminary results from our work indicate that chicory could be used for improved lamb production either as a sole stand or in mixtures with grass/clover. Chemical analysis on sward samples collected from this work is pending analysis but from our 2 year plot experiment the observed effects could very well be due to improved macro- and micro-nutrient supply and a balance therein in addition to higher digestibility of the crop.

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References:

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