

Diet Selection and Ingestive Behavior of Lambs Fed Diets with Increasing Levels of Whey Permeate



TROPENTAG
September 20-22, 2017, Bonn
Germany

Introduction

The selection of feed by ruminants may have an impact in their productivity due to the nutritional value of different diets, changing the time spent in feeding and rumination, and the size of ingested particles.

Objective

The aim of this study was to evaluate the diet selection and ingestive behavior of lambs fed diets with levels of dry whey permeate (WP) during different times along the feedlot.

Material and Method



- **Local of study:** UFPR, Palotina, Paraná, Brazil
- **Animals:** 24 crossbred Dorper x Santa Inês male lambs, with four months of age and 24.1 ± 3.2 kg BW
- **Diet characteristics:** R:C ratio = 64:36; CP = 15.8%; TDN = 67.0%
- **Treatments**
 - **Whey permeate:** 0.0; 5.0; 12.5 and 25.0% DM replacing ground corn
 - **Feedlot times:** 9, 37, 71 and 86 days
- **Measurements:** Time spent on feeding, rumination and other activities; particle size of leftovers (large; middle; lower; bottom pan; average particle size)
- **Stats:** Mixed model with fixed effects for whey permeate, feedlot time and their interactions (5%)



Results

Table 1. Means and standard error of the mean (SEM) for the time spent in feeding, rumination and other activities by lambs fed diets with increasing levels of dried whey permeate

Activity	Time (days)	Levels of whey permeate (% DM)				Mean	SEM
		0.0	5.0	12.5	25.0		
Feeding (min/d)	9	350	352	345	320	342 a	5.42
	37	303	277	278	297	289 c	
	71	315	370	312	322	330 ab	
	86	345	330	302	307	321 b	
	Mean	328	332	309	312	320	
Rumination (min/d)	9	557	595	625	570	587 a	6.87
	37	510	535	550	531	532 b	
	71	536	537	587	554	553 ab	
	86	516	518	523	574	533 b	
	Mean	530	546	571	557	551	
Other activities (min/d)	9	533	493	470	550	512 c	9.11
	37	627	628	612	609	619 a	
	71	589	533	542	562	556 b	
	86	579	592	615	557	586 ab	
	Mean	582	562	560	569	568	

Means followed by different lowercase letters in the same column differ by F test ($P < 0.05$)

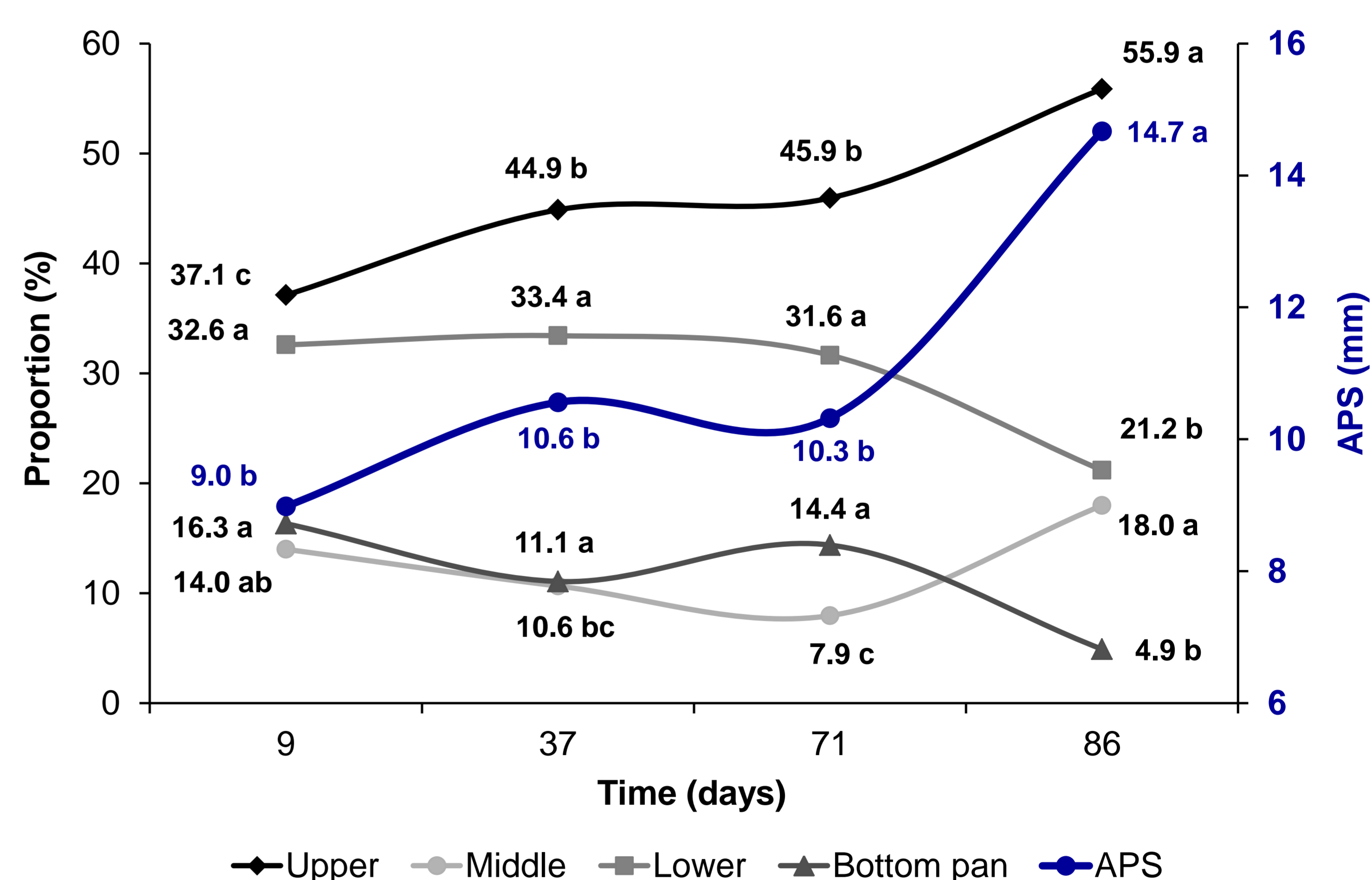


Figure 1. Proportion of particles retained in the sieves of particle separator and average particle size (APS) from leftovers of lambs during feedlot period. Upper = particles > 19 mm; Middle = particles between 7.8 and 19 mm; Lower = particles between 1.7 and 7.8 mm; Bottom pan = particles < 1.7 mm. Means followed by different lowercase letters in the same line differ by F test ($P < 0.05$)

Conclusion

- ✓ Whey permeate does not affect diet selection of feedlot lambs. Behavior and diet selection changes are probably due to different physiological requirements during the time.



Thalyane Rodrigues, Caroline M. Souza, Eduardo M. Nascimento, Heloise Maggioni, Carine I. Schröter Bach, Willian G. Nascimento*, Sergio R. Fernandes, **Américo F. Garcez Neto***

*Contact of author: americo.garcez@ufpr.br



Federal University of Paraná
Palotina - PR - Brazil



Study Group on Ruminant
Nutrition and Forage Crops