



#ASPA2017

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FEEDING BEHAVIOUR OF MASSESE LAMB REARED INDOORS

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UNIVERSITÀ
DEGLI STUDI
FIRENZE

DISPAA

DIPARTIMENTO DI SCIENZE DELLE
PRODUZIONE AGROALIMENTARI
E DELL'AMBIENTE

Valorization of traditional products of mountainous areas

Massese breed

In this context, the traditional rearing system of the breed is:



Indoor
Autumn - Winter



Pasture
Spring - Summer

Traditional products

Pecorino cheese



Light lamb (within 30 days, 12-15 kg)



Innovative product

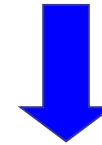
Lamb reared up to 70 days



[Progetto Integrato di Filiera «PIF 40/2015 *Montagna Pistoiese* – Misura 16.2 *ValMontI*»]

AIM OF THE STUDY

The study examines the feeding behaviour of Massese lambs reared up to 70 days of age



Indoor



Understand phases and timing of transition from milk to solid food

Materials and methods



Rearing technique:

- Collective boxes
- Suckling milk + hay and pelleted concentrate
- Salt integration available

Behavioural observations:

- Focal observations on 12 lambs
- Scan sampling (5 minutes intervals)
- Every 7 days, from birth to 70 days
- Daylight hours



Feeding	Milk
	Hay + concentrate
	Water
	Salt
Rumination	Standing
	Lying
Resting	Standing
	Lying
Moving	Movement
	Playing
	Grooming

Materials and methods

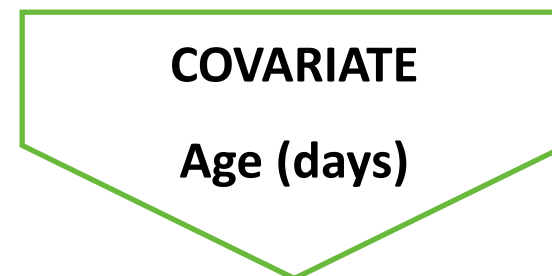
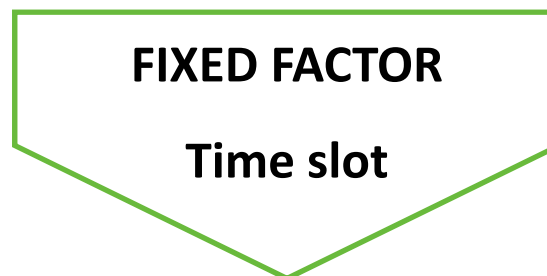
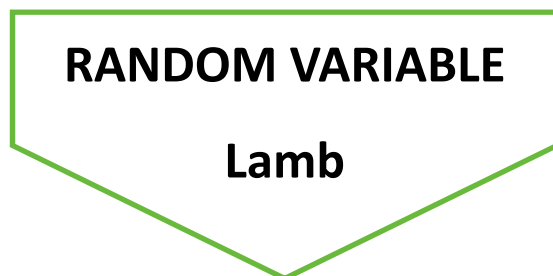
4 time slots



% of intervals devoted to each activity

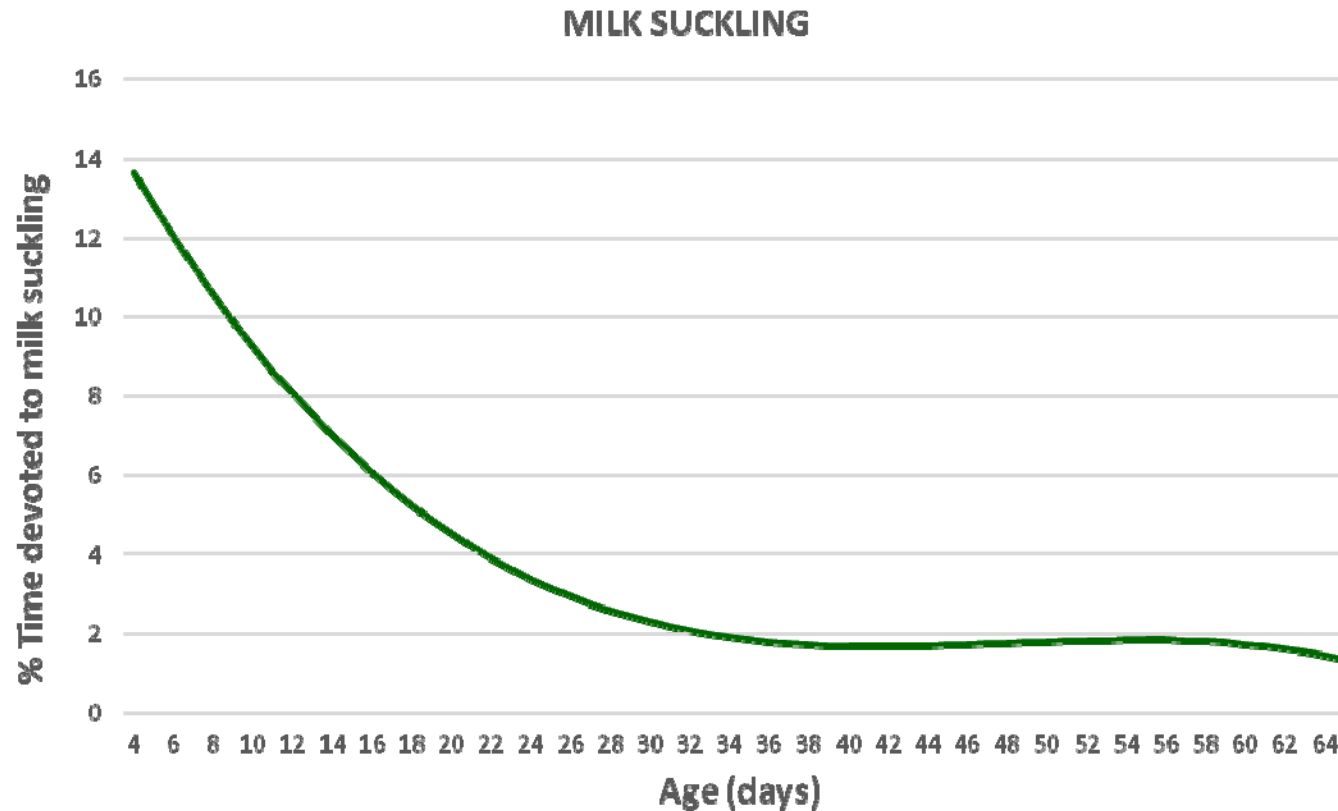
within time slot

MIXED (SAS)



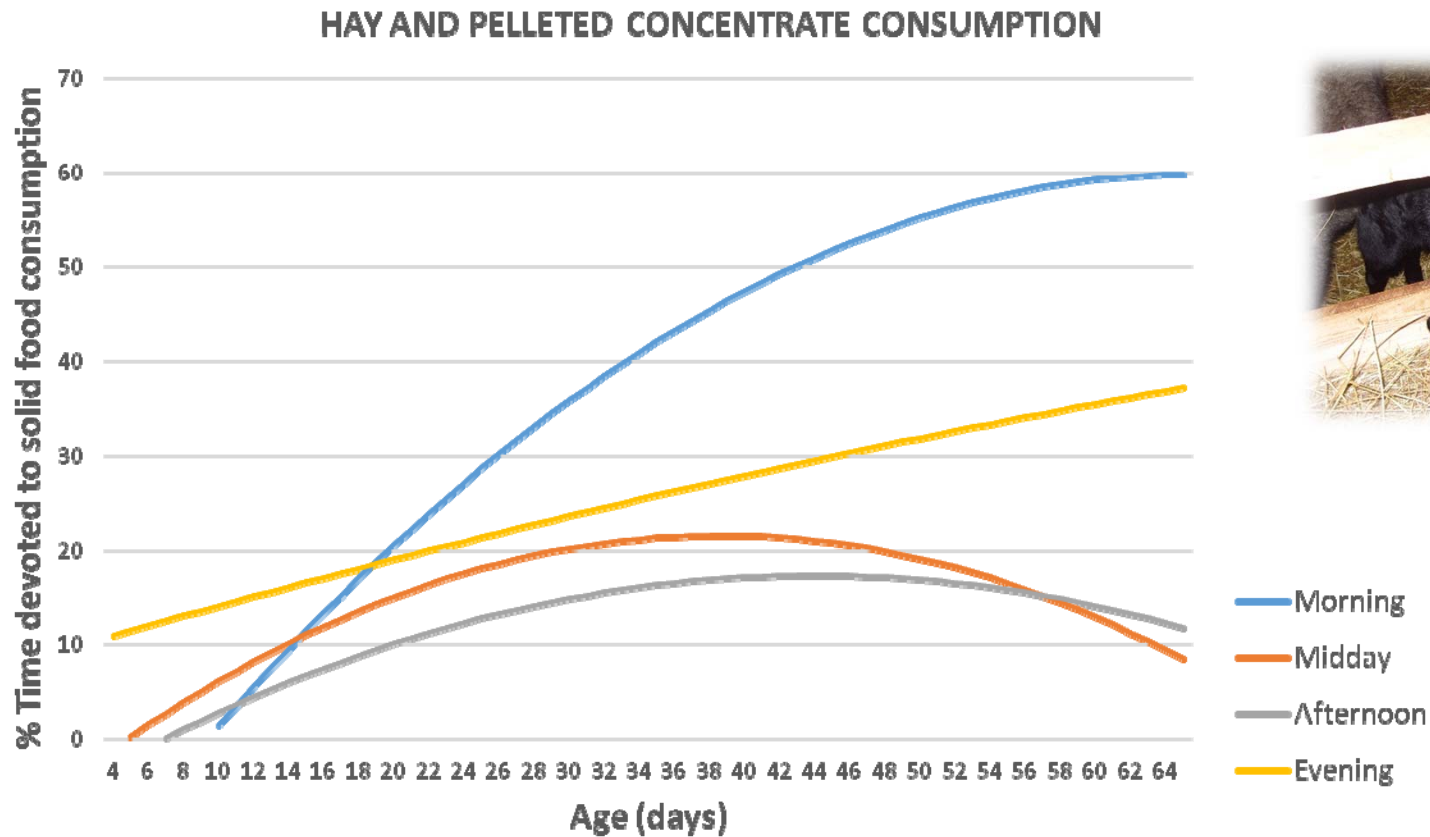
$$Y_{ijk} = \mu + \text{Lamb}_i + \text{Time slot}_j + b_j * \text{Age}_{ijk} + \epsilon_{ijk}$$

Results



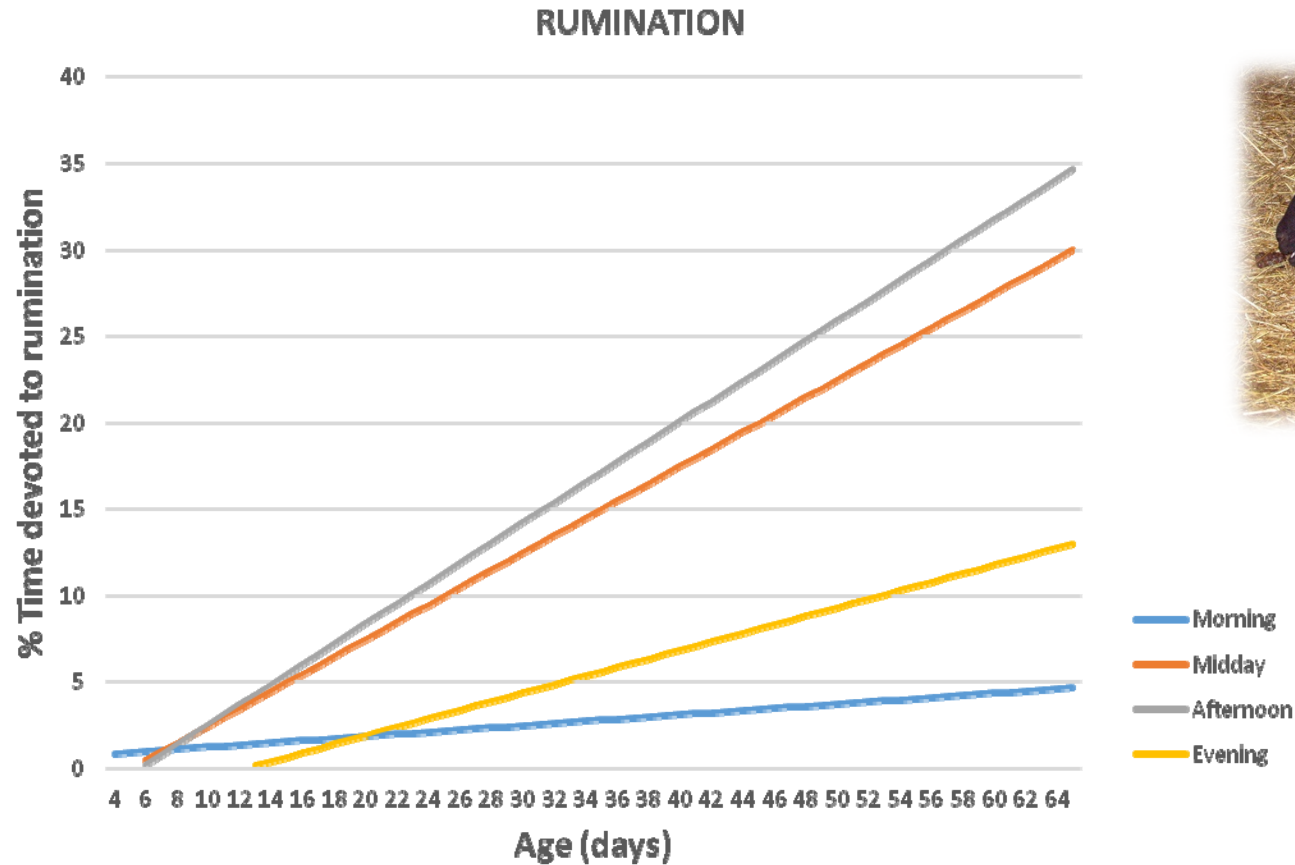
- Lambs dedicated to suckling activity equally during the time slots ($p = 0.102$)
- Time devoted to milk suckling decreased with age ($p < 0.001$) until the age of 40 days approximately
- The presence of the dam induces lambs to continue milk intake

Results



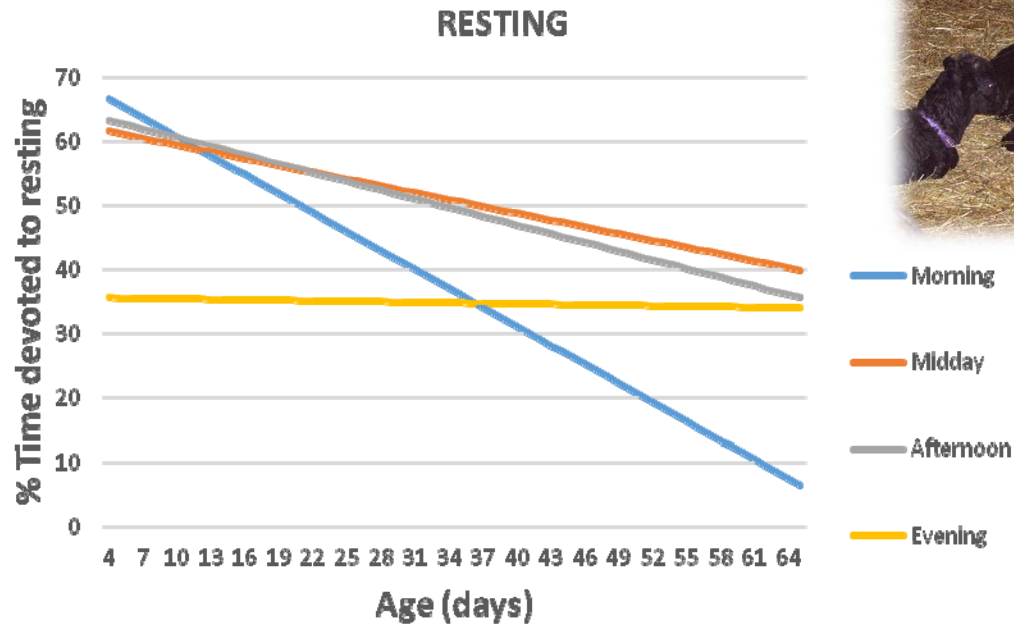
- Lambs begin to show interest in solid food by the 4th day of age
- Hay and concentrate consumption was more frequent in the early morning and in the evening

Results



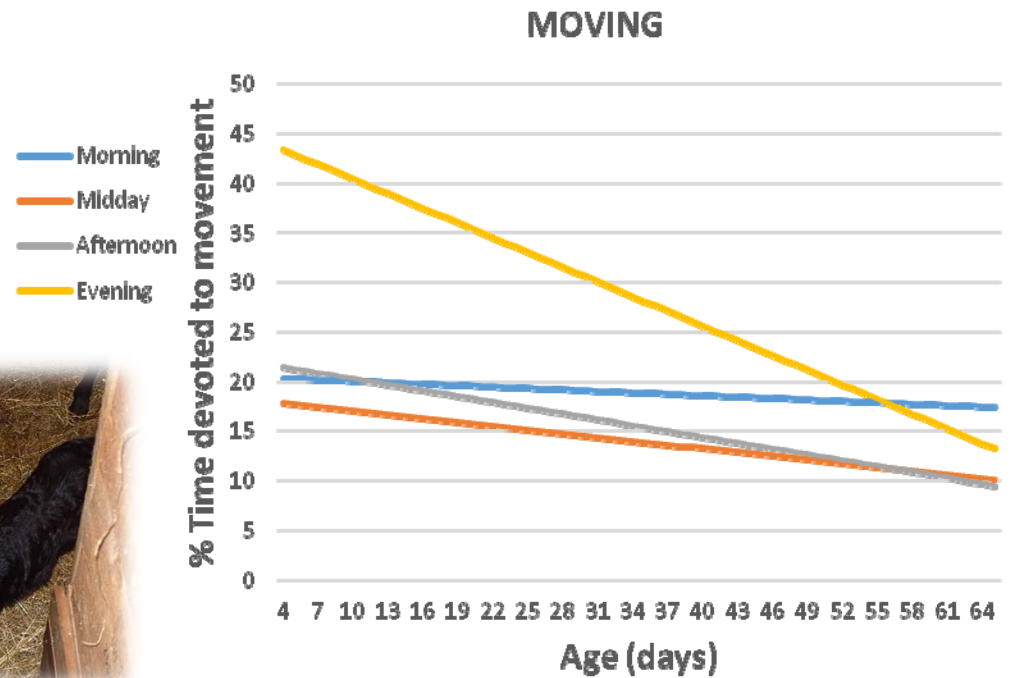
- Rumination started to occur by the 12th day of age
- Time devoted to this activity increase linearly with age during all the time slots ($p < 0.001$)
- Lambs dedicated to rumination activity mainly during the central hours of the day, in correspondence of the main resting bout

Results



- Time devoted to resting decreased during all time slots ($p < 0.001$), excepting the evening
- With the exception of the first days of life, resting bouts occur mainly in the central part of the day

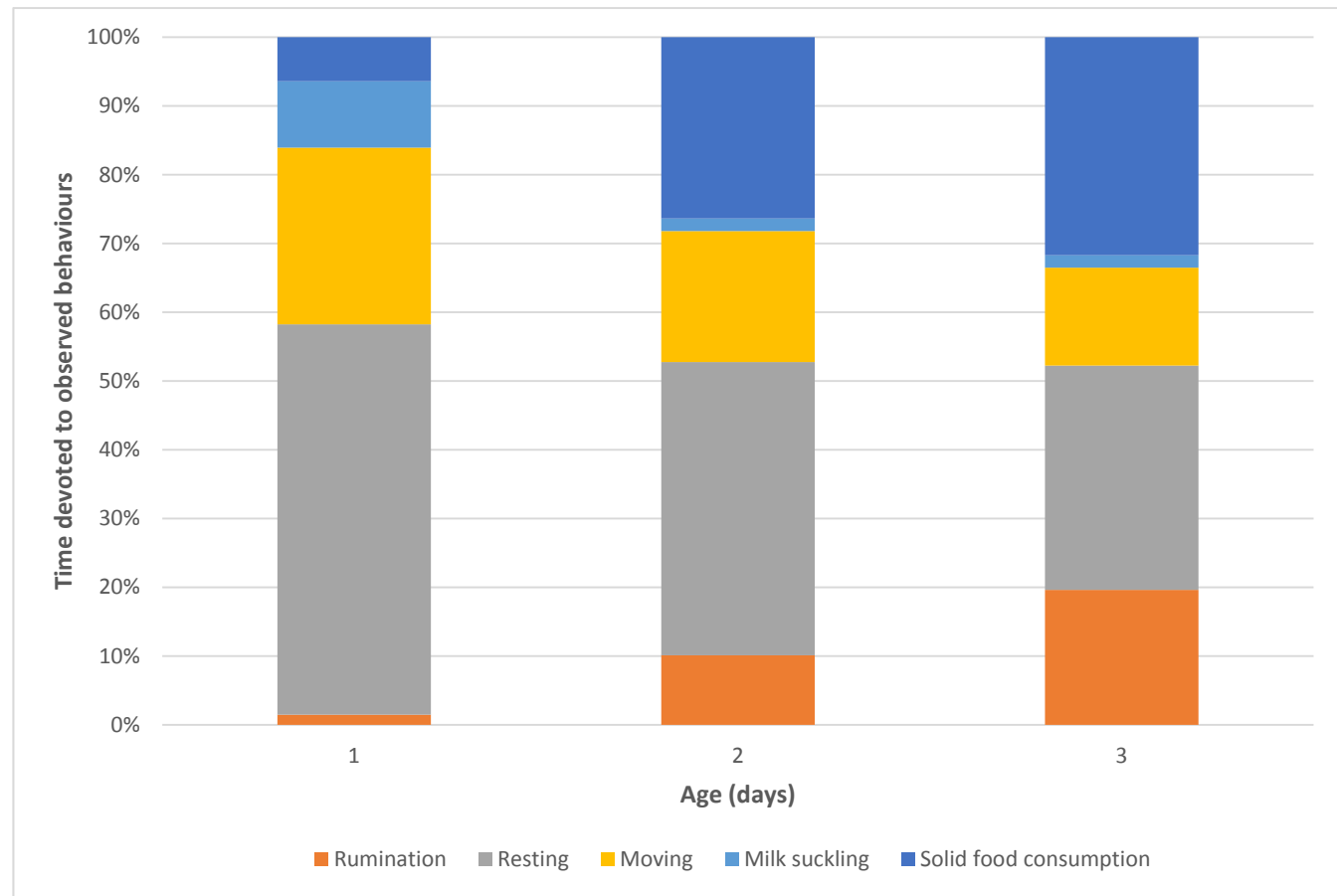
- Movement displayed a significant decrease ($p < 0.001$) only in the evening, when lambs dedicated an increasing amount of time feeding and ruminating



Least squares means of time devoted to observed behaviours at the age of 10, 35 and 60 days

Results

	10	35	60
Feeding			
<i>milk</i>	9.2%	1.8%	1.7%
<i>solid food</i>	6.1%	26.4%	30.4%
Rumination	1.4%	10.1%	18.8%
Resting	54.0%	42.6%	31.3%
Moving	24.5%	19.0%	13.6%



Conclusions

- ▶ Lambs displayed interest in solid food from the early days of life, but the consumption of hay and concentrate contributed to feeding starting from the 12^o day, as displayed by the onset of rumination;

- ▶ Time devoted to milk assumption, after a rapid decline, reaches a plateau between 35 and 40 days of age;

- ▶ At this stage, lambs could be separated from the dam:
 - To obtain a higher yield of milk for cheese production
 - Heavier lambs could provide additional income

A photograph of two black goats in a wooden stall. The stall is filled with yellow straw. The goats are positioned behind a wooden beam. The goat on the left is wearing a brown collar, and the goat on the right is wearing a red collar. The text "Thank you!" is overlaid in green on the wooden beam.

Thank you!

We acknowledge Azienda Agricola «Il Butale»