



Effect of timing of silage supplementation on nitrogen partitioning and milk production of grazing dairy cows during autumn



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INTRODUCTION

Factors limiting grazing milk production in Chile

< DMI

< E intake

N/E Asynchrony

Low NUE and high urinary N excretion

Strategies

1. Timing and **type** of supplementation
2. Timing of pasture allowance

Autumn?

OBJECTIVE

To evaluate the effect of timing of silage supplementation on nitrogen partitioning and milk production of early lactation dairy COWS.





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MATERIAL AND METHODS

Location and Experimental design

- May to July, 2015
- 36 Holstein Friesian cows (22.9 kg milk/d, 509 kg LW, 60 DIM)

Sampling and analysis

- Milk, food and feces samples → weeks 7 and 8 → N intake and milk, feces, and urine nitrogen content

TREATMENTS

NAME	AM SUPPLEMENTATION	PM SUPPLEMENTATION
MMS	3 kg DM maize silage	3 kg DM grass silage
EMS	3 kg DM grass silage	3 kg DM maize silage
MEMS	1,5 kg DM maize silage + 1,5kg DM grass silage	1,5 kg DM maize silage + 1,5kg DM grass silage

- Herbage allowance (**afternoon**) : 17kg DM/d
- Concentrate : 3.5kg DM/d



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RESULTS

	Treatment			SEM	P-value
	MMS	MEMS	EMS		
Milk production, kg/d	21.9 ^a	19.9 ^b	20.0 ^b	0.5	0.05
N intake, g/d	412	356	389	11.4	0.16
Milk N, g/d	106	97	100	2.7	0.39
Urinary N excretion, g/d	196 ^a	150 ^b	185 ^{ab}	7.4	0.05
Feces N excretion, g/d	110	110	103	2.8	0.52
Milk N/N intake, %	25.9	27.3	25.9	0.5	0.45



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CONCLUSION

The MEMS treatment reduce urinary nitrogen excretion but showed a lower milk production compared with MMS