

## Mixed ration and free cow traffic in automatic milking – effects on production and milking frequency

Mikaela Patel, Hanna Driscoll & Eva Spörndly  
Department of Animal Nutrition & Management  
Swedish University of Agricultural Sciences

**Hypothesis:** lower milking frequency and lower milk yield when silage and concentrate is distributed as PMR compared with separate feeding.

## Background

- well-functioning cow traffic and frequent visits to the milking unit essential in AM
- Increased use of TMR/PMR in Sweden
- Nutrient dense feed mix → “lazy cow syndrome”?
- Few studies have compared feeding systems in AM
- 1/3 of the delivered organic milk from AM farms

### - Why do cows visit the milking unit?

- To be milked?
- No, cows' motivation to be milked is rather low.
- To get feed?
- Yes! Even a high yielding cow prefer feed instead of being milked

(Prescott et al., 1998)

## Materials & methods

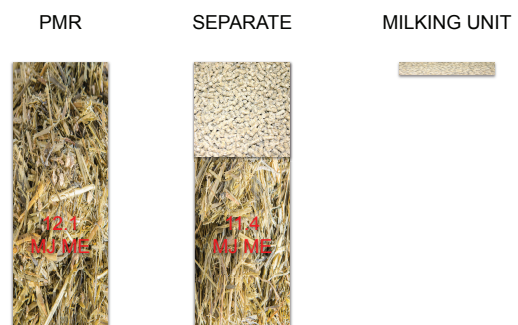
- 38 cows ( $70 \pm 30$  DIM) in free-cow traffic AM during 10 weeks allotted to either:

a) mix of grass/clover silage and concentrate (PMR)

b) separate ration of silage and concentrate

- Concentrate in automatic feeders to the separate group
- All cows were offered some concentrate in the milking unit

silage:concentrate 60:40 (DM-basis)





## Results

### Daily feed intake

	Treatment			
(kg DM)	Separate	PMR	SEM	P-value
<b>Silage</b>	13.9	15.5	0.44	0.01
<b>Concentrate</b>	10.1	11.3	0.31	0.003
<b>Total ME intake</b>	284	317	8.8	0.008

### Milking frequency

	Separate	PMR	SEM	P-value
No of milkings per cow (24h)	2.3	2.6	0.09	0.02
Milking interval (h)	11.0	9.6	0.41	0.02
No of fetched cows (24h)	3.7	2.1	-	-
Voluntary milking interval (h)	9.4	8.8	0.18	0.03

### Milk production

Kg/day	Separate	PMR	SEM	P-value
<b>Milk yield</b>	35.7	34.6	1.37	0.55
<b>ECM yield</b>	35.4	35.0	1.24	0.81
<b>Fat (%)</b>	4.05	4.12	0.10	0.64
<b>Protein (%)</b>	3.47	3.44	0.05	0.58
<b>Lactose (%)</b>	4.78	4.82	0.21	0.25
<b>SCC (log)</b>	1.50	1.70	0.09	0.13

## Conclusions

- 1) Higher milking frequency in cows fed PMR
- 2) No significant difference in milk yield between the groups

Perhaps due to the concentrate fed in the milking unit – more attractive to the PMR group

**Thank you!**

**Questions?**



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