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

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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

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

- 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 ± 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)

PMR

SEPARATE

MILKING UNIT

Photo: Malin Alm

Photo: Malin Alm

Results

Daily feed intake

	Treatment			
(kg DM)	**Separate**	**PMR**	SEM	*P*-value
Silage	13.9	15.5	0.44	0.01
Concentrate	10.1	11.3	0.31	0.003
Total ME intake	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
Milk yield	35.7	34.6	1.37	0.55
ECM yield	35.4	35.0	1.24	0.81
Fat (%)	4.05	4.12	0.10	0.64
Protein (%)	3.47	3.44	0.05	0.58
Lactose (%)	4.78	4.82	0.21	0.25
SCC (log)	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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