

## The relationship between feed efficiency and behaviour differs between lactating Holstein and Jersey cows

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### SUPPLEMENTARY FILE

3 **Table S1.** Means ( $\pm$  SD<sup>1</sup>) of behaviour trait by lactation period and breed.

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	DIM <sup>2</sup>			
	5-35	36-75	76-120	121-200
Holstein				
Number of observations	3329	4277	4018	6018
Eating time, min/d	166 (50)	194 (49)	201 (48)	204 (50)
Eating visits, no./d	29.5 (14.2)	34.5 (16.4)	34.6 (16.1)	33.5 (15.4)
Eating rate, g/min	103 (28)	103 (29)	106 (29)	106 (30)
Steps, no./d	2415 (801)	2364 (729)	2272 (686)	2161 (687)
Lying time, min/d	660 (135)	687 (124)	721 (128)	746 (128)
Lying bouts, no./d	14.0 (6.7)	13.0 (6.5)	12.2 (5.5)	12.2 (9.0)
FE <sup>3</sup> , kg ECM <sup>4</sup> /kg DMI <sup>5</sup>	2.21 (0.50)	1.88 (0.36)	1.75 (0.27)	1.67 (0.21)
Jersey				
Number of observations	2929	4250	4130	6036
Eating time, min/d	152 (42)	165 (43)	173 (45)	170 (40)
Eating visits, no./d	73.4 (39.6)	82.5 (44.6)	88.4 (45.3)	79.8 (37.2)
Eating rate, g/min	102 (38)	107 (39)	110 (44)	109 (37)
Steps, no./d	3189 (961)	3040 (925)	2950 (794)	2827 (739)
Lying time, min/d	593 (132)	614 (131)	631 (116)	652 (110)
Lying bouts, no./d	12.6 (8.5)	12.9 (9.9)	11.7 (5.9)	12.8 (8.8)
FE, kg ECM/kg DMI	2.12 (0.45)	1.93 (0.33)	1.80 (0.28)	1.78 (0.26)

- 5 1) SD: standard deviation  
6 2) DIM: days in milk  
7 3) FE: feed efficiency  
8 4) ECM: energy corrected milk  
9 5) DMI: dry matter intake

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11 **Table S2.** Intraclass correlations (repeatability estimates) between feed efficiency and behaviour  
 12 traits by lactation period and breed.

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	DIM <sup>1)</sup>			
	5-35	36-75	76-120	121-200
Holstein				
Number of lactations	114	114	96	84
Efficiency	0.51 ± 0.04	0.43 ± 0.04	0.43 ± 0.04	0.29 ± 0.04
Eating time	0.63 ± 0.03	0.73 ± 0.03	0.77 ± 0.03	0.75 ± 0.03
Eating visits	0.68 ± 0.03	0.79 ± 0.02	0.80 ± 0.02	0.74 ± 0.03
Eating rate	0.81 ± 0.02	0.83 ± 0.02	0.86 ± 0.02	0.85 ± 0.02
Steps	0.41 ± 0.04	0.48 ± 0.04	0.57 ± 0.04	0.62 ± 0.04
Jersey				
Number of lactations	94	109	97	82
Efficiency	0.56 ± 0.04	0.50 ± 0.04	0.51 ± 0.04	0.45 ± 0.04
Eating time	0.69 ± 0.03	0.75 ± 0.03	0.77 ± 0.03	0.73 ± 0.03
Eating visits	0.77 ± 0.03	0.85 ± 0.02	0.88 ± 0.02	0.83 ± 0.02
Eating rate	0.83 ± 0.02	0.85 ± 0.02	0.90 ± 0.02	0.83 ± 0.02
Steps	0.54 ± 0.04	0.64 ± 0.03	0.61 ± 0.04	0.63 ± 0.04

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1) DIM: days in milk