

HOW DOES COWS' ACTIVITY CHANGE AFTER FEEDING BIN CHANGE

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Third DairyCare Conference, October 2015

Feeding Bins



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Background

- Throughout lactation cows are offered different rations from different bins. Changing both the site and the ration offered to lactating dairy cows may disrupt their established behavioural routine.
- Activity and rest are fundamental components of animal behaviour (Champion, Rutter & Penning, 1997)
- Changes in behavioural activity can reflect challenging situations caused by internal or external stimuli (Wechsler, 1995 reviewed by Müller & Schrader, 2003)

Background II

- Feeding involves a complex series of decisions and depends upon an elaborate array of mental, motor and digestive abilities (Broom & Fraser, 2007)
- Outdoors, grazing cattle walk about 4 km/day, graze about 4- 14 hours within a 24-hour period and lie down for about 9- 12 hours
- It is known that cattle spend about five hours a day eating (Broom & Fraser, 2007; Yeiser et al., 2012), and cows modify feeding behaviour according to the food supplied, and demonstrate clear preferences (Broom & Fraser, 2007)



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Broom, D. M., Fraser A. F. (2007). Domestic Animal Behaviour and Welfare 4th edition. Cambridge University Press, Cambridge.

Yeiser, E. E., Leslie, K. E., McGillard, M. L., Petersson-Wolfe, C. S. (2012). The effect of experimentally induced Escherichia coli mastitis and flunixin meglumine administration on activity measures, feed intake, and milk parameters. J. Dairy Sci. 95, 4939-4949.



Aim of study

- The aim was to see if a change in the ration and a change in the feeding bin affects the cows' feeding behaviour.
- How the feeding bin change affects cows activity



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Method

- Trials were carried out at the experimental farm of the Estonian University of Life Sciences
- There were 60 cows in the total group, and data was collected from eight Estonian Holstein dairy cows (3 primiparous and 5 multiparous)
- The animals were cubicle housed, and fed a partial mixed ration from feeding bins (30)
- There were three feed rations fed



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Method II

- The partial mixed ration consisted of a grass and clover silage and (three different rates of) a compound feed of barley, rapeseed cake and soya bean meal
- Cows had access to the bins at all times. Transponders on neck collars identified cows, and the gate providing access to the bins was only lowered to the correct cow.
- Cows had access to drinking water at all times.



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Method III

- Observations were made from December 2014- August 2015
- Parameters recorded were: motion index, standing, lying, steps and lying bouts



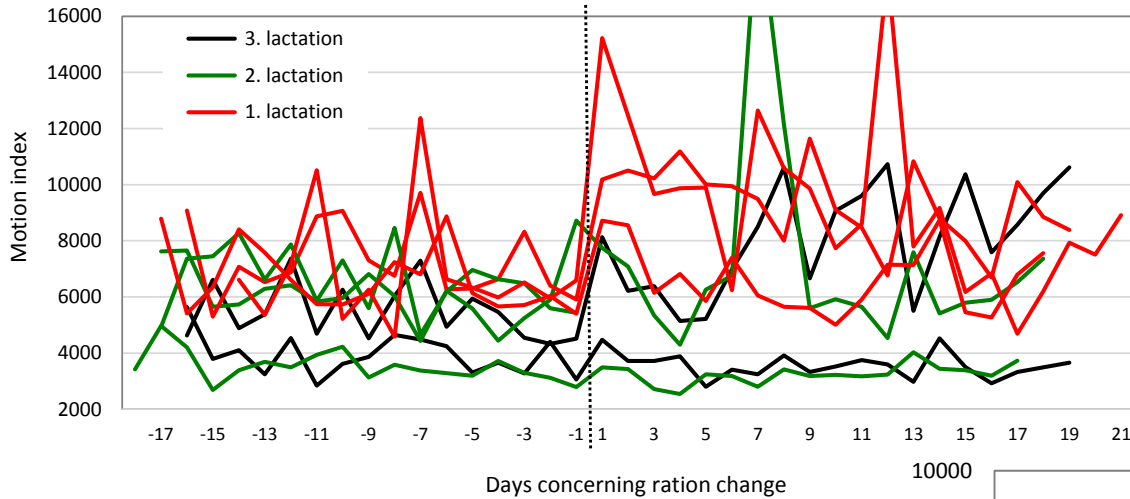
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Results

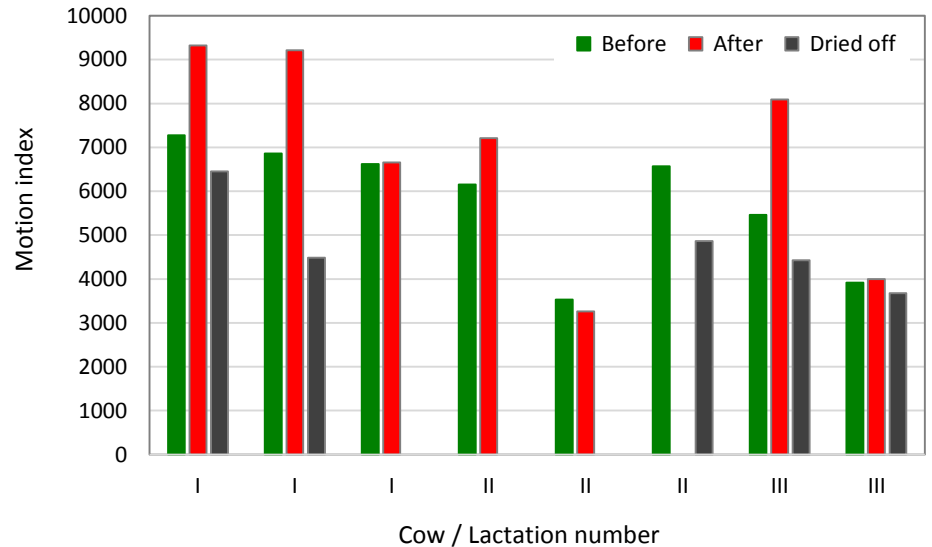


Motion index

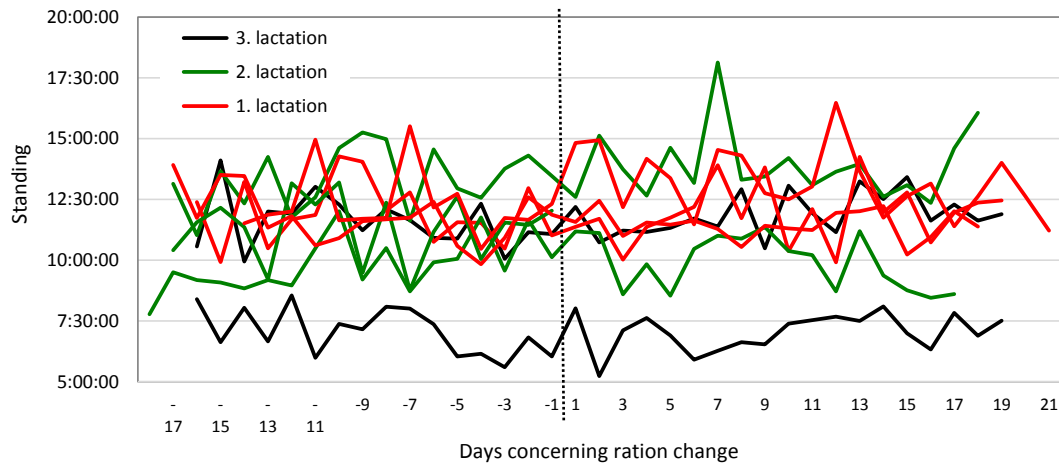
Before ration change 5763,1

After ration change 6905,8

Dried off 4794,3



Results II

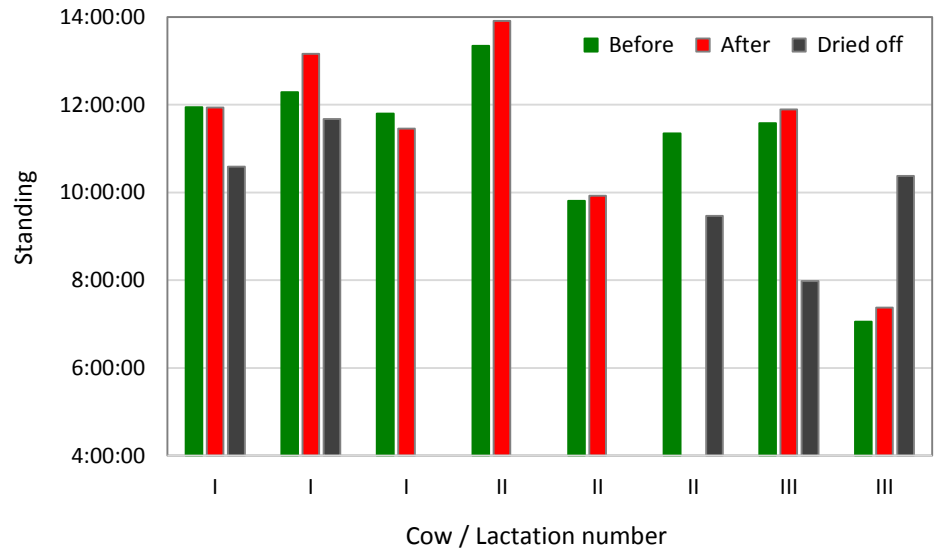


Standing

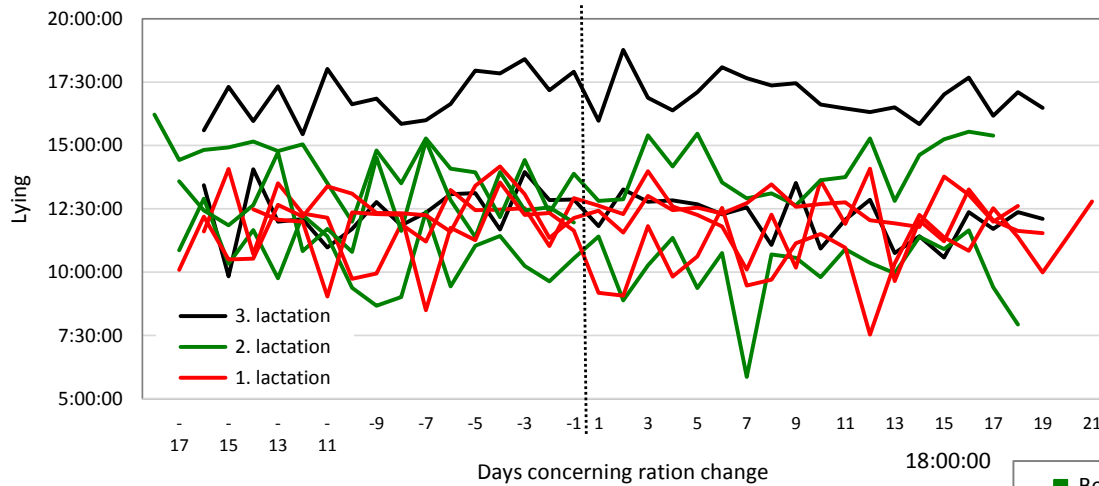
Before ration change 11:07:44

After ration change 11:23:27

Dried off 9:36:43



Results III



Lying

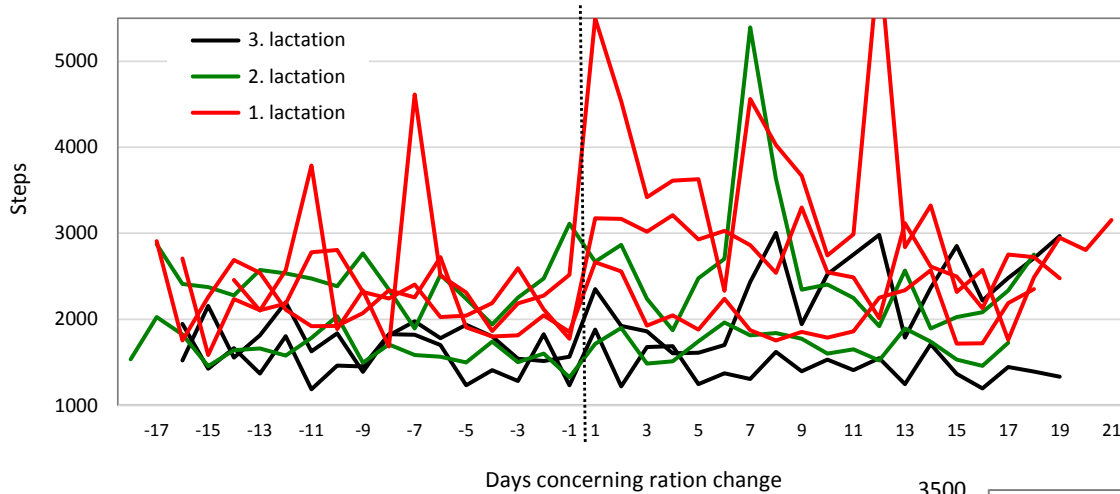
Before ration change 12:51:08

After ration change 12:36:06

Dried off 13:00:26

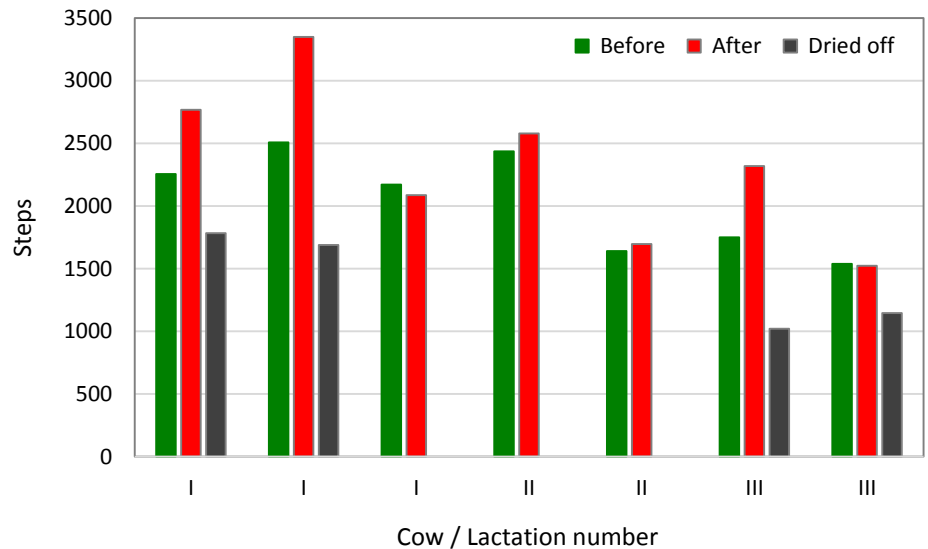


Results IV

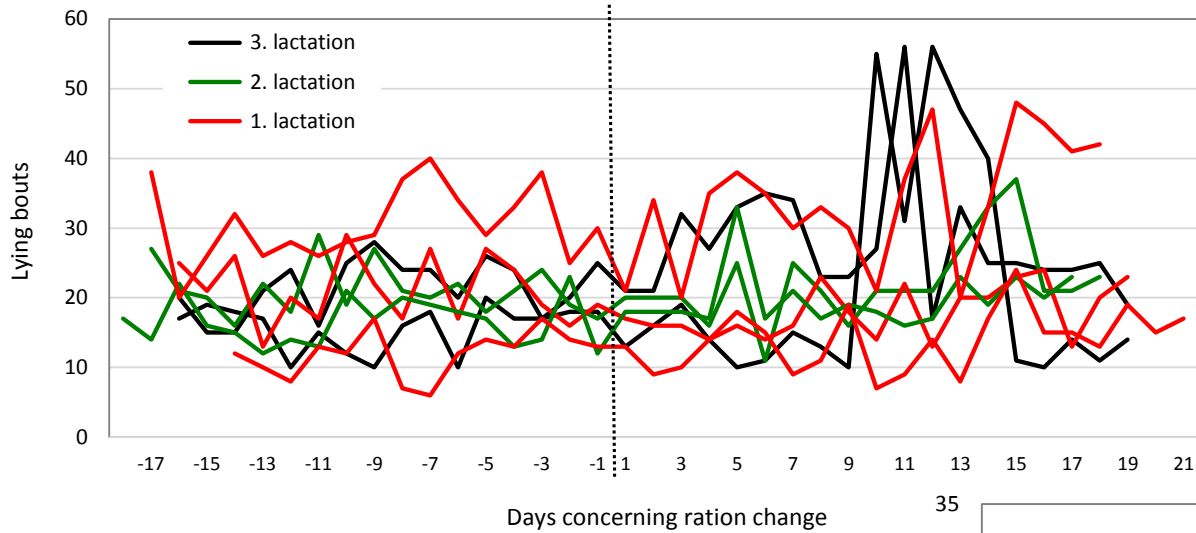


Steps

Before ration change 2032,5
 After ration change 2357,9
 Dried off 1335,4

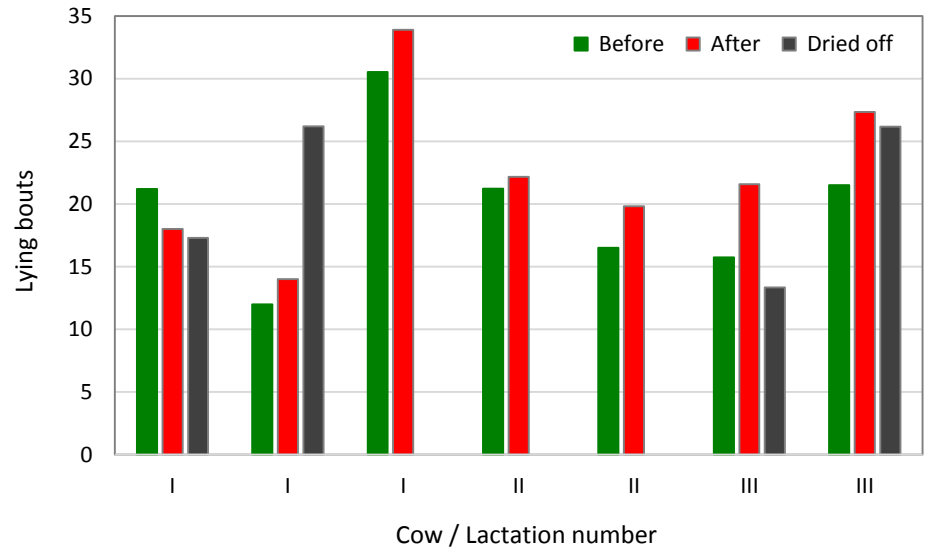


Results V



Lying bouts

Before ration change 20,00
 After ration change 22,20
 Dried off 18,97



Discussion and conclusion

- Motion index, standing time, steps and lying bouts increased, only lying decreased
- The same can be said about dried off period, where the number was lower than before and after ration change. Except lying.
- To conclude, there is change before and after feeding bin/ration change and all but one increased.



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Thank you for
listening!



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<http://fashions-cloud.com/pages/f/funny-cow-cartoon-milk/>