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Locomotor activity of dairy cows in relation to season and lactation

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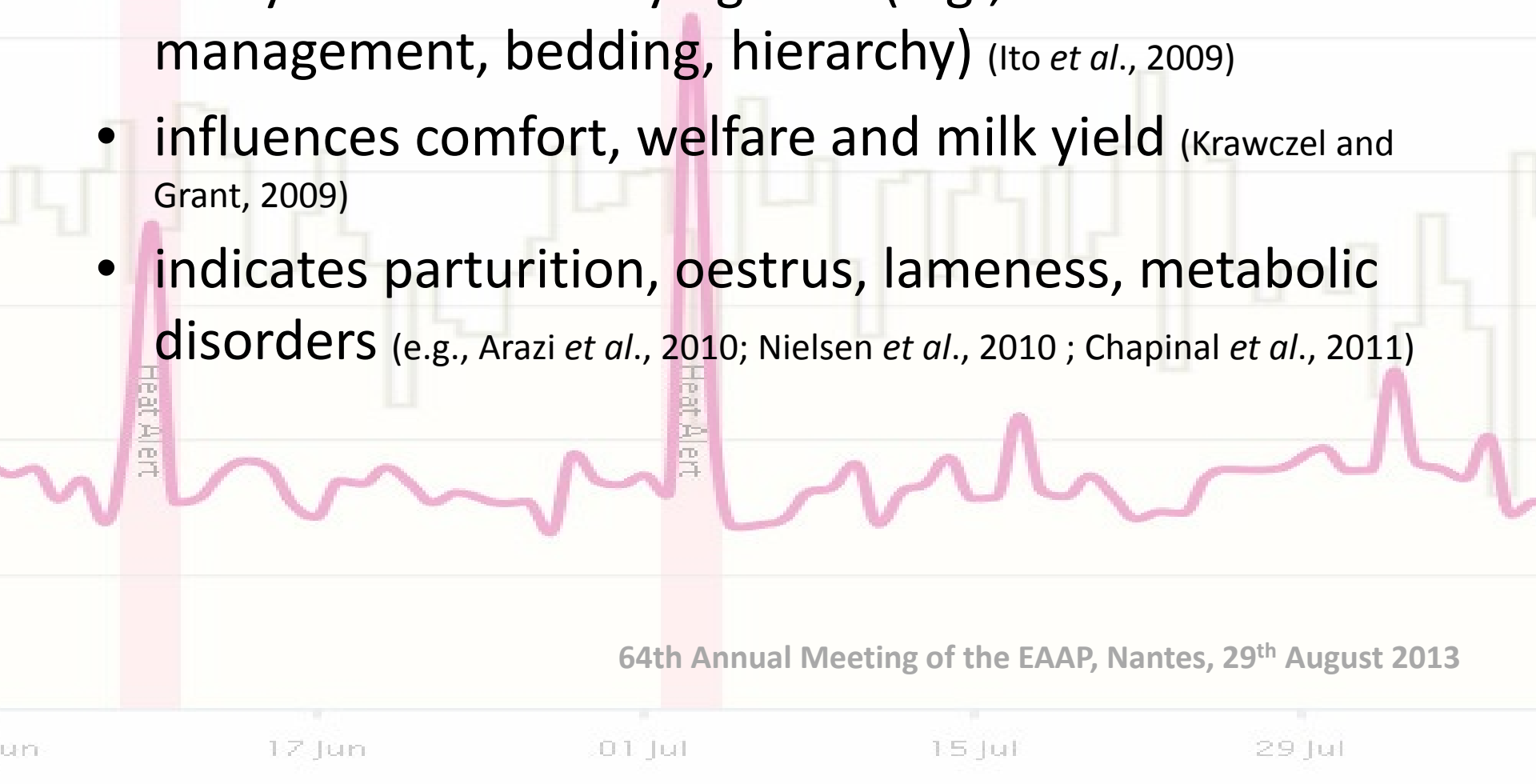
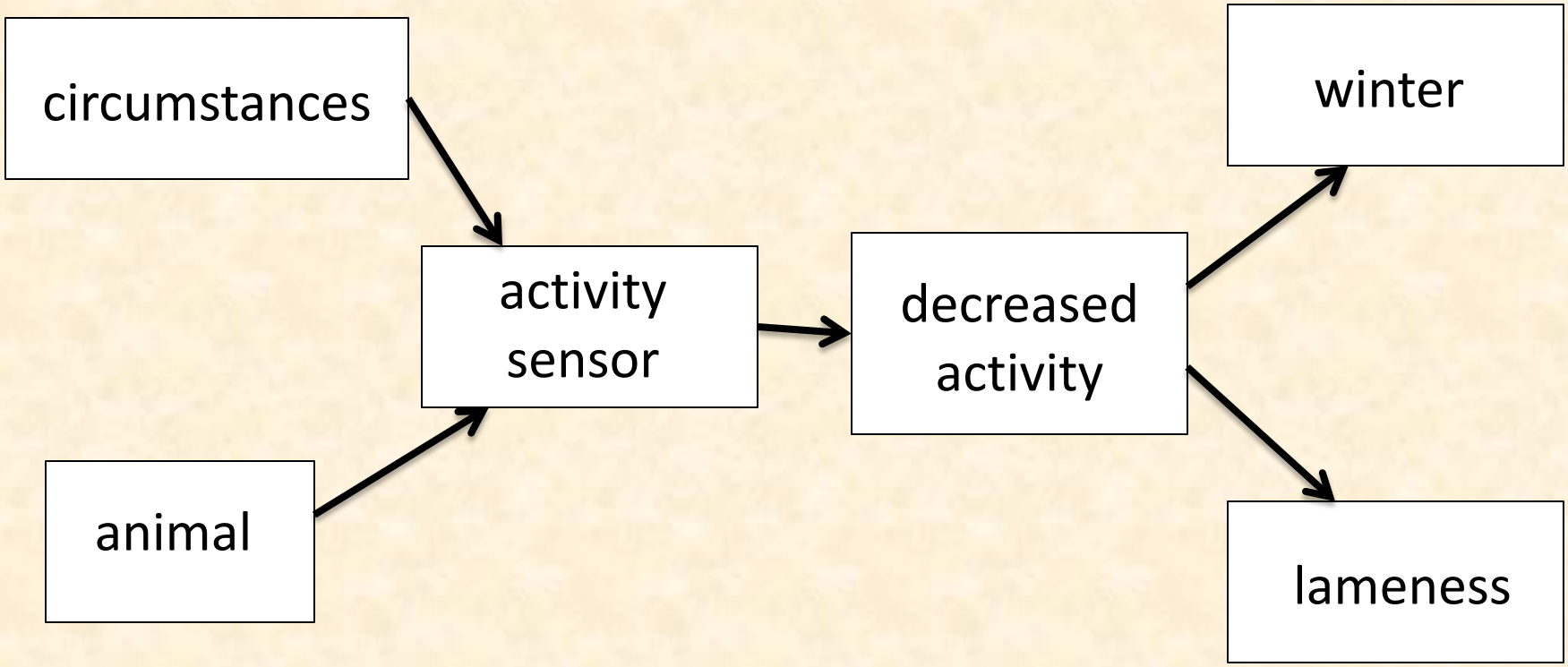
Cattle activity

- 8 to 15 hours lying (Tucker *et al*., 2009)
- many factors affect lying time (e.g., barn management, bedding, hierarchy) (Ito *et al*., 2009)
- influences comfort, welfare and milk yield (Krawczel and Grant, 2009)
- indicates parturition, oestrus, lameness, metabolic disorders (e.g., Arazi *et al*., 2010; Nielsen *et al*., 2010 ; Chapinal *et al*., 2011)



Cattle activity



The objective of the study

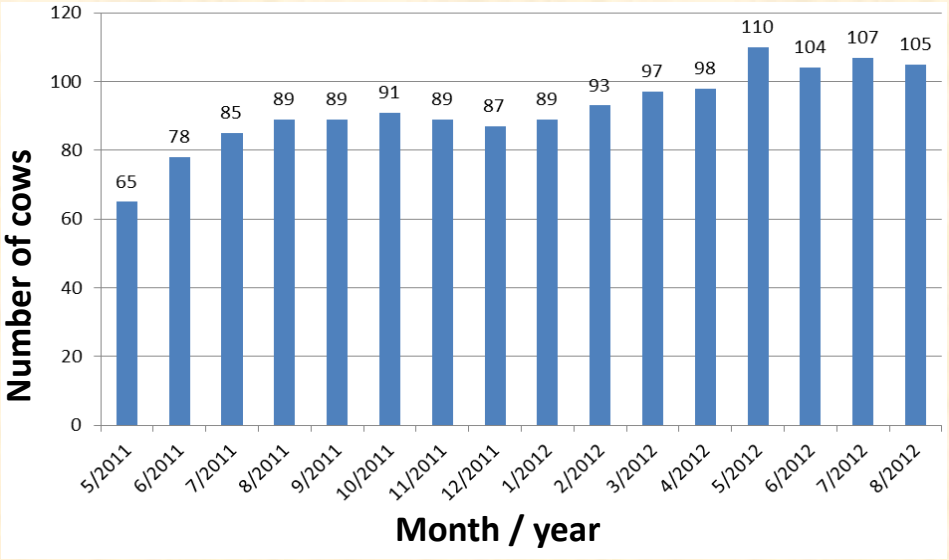
Can the information obtained from activity sensors be improved, by correcting it for additional factors?

PARITY?

STAGE OF LACTATION?

SEASON OF YEAR?

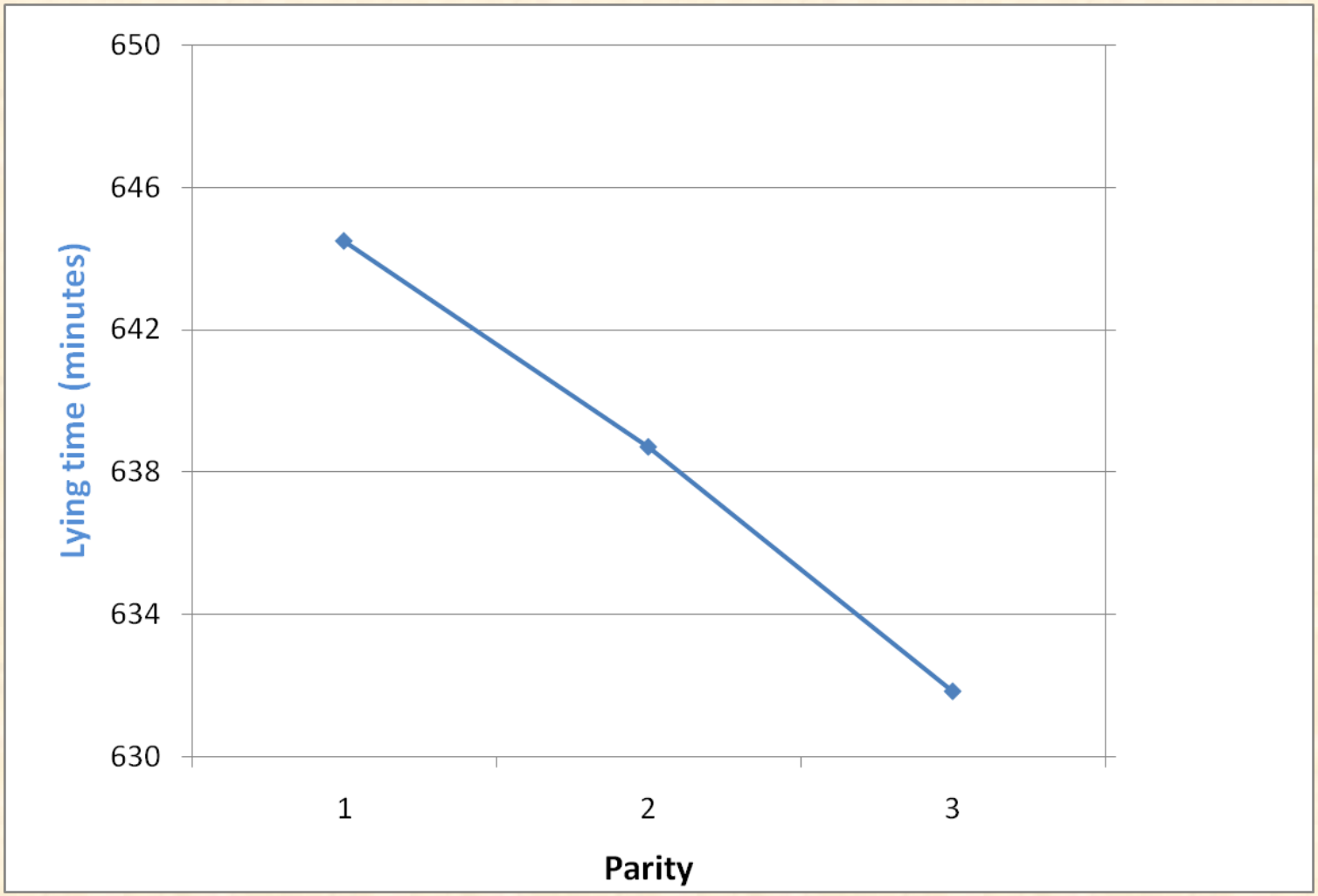
Materials and methods



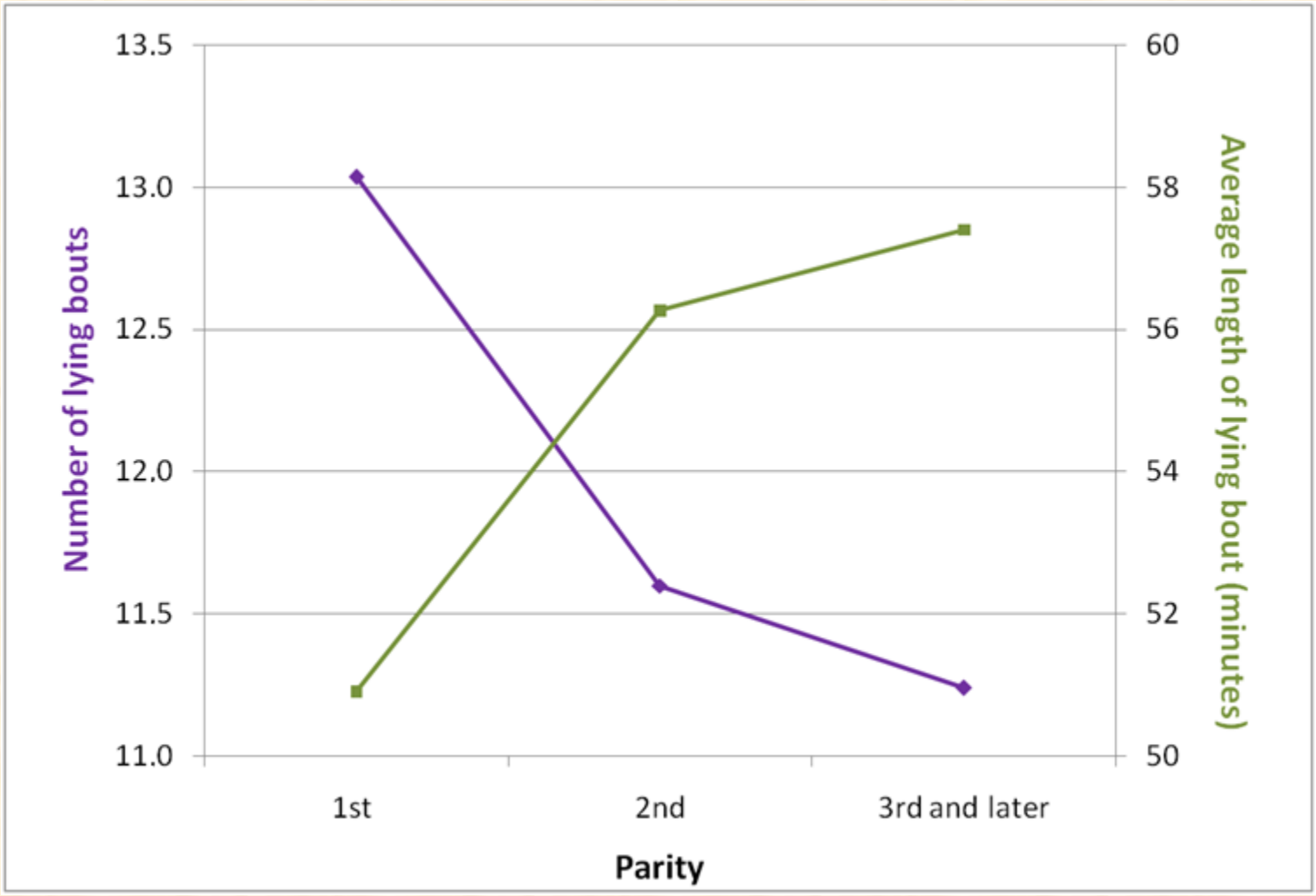
Materials and methods

Factor	Classes							
Parity	**1**		**2**			**3**		
	1^{st}		2^{nd}			3^{rd} and later		
Months (season)	**1**	**2**	**3**	**4**				**5**
	XII + I	II + III	IV + V	VI + VII + VIII + IX				X + XI
Days in milk	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
	0-10	11-30	31-50	51-70	71-100	101-150	151-250	Over 250

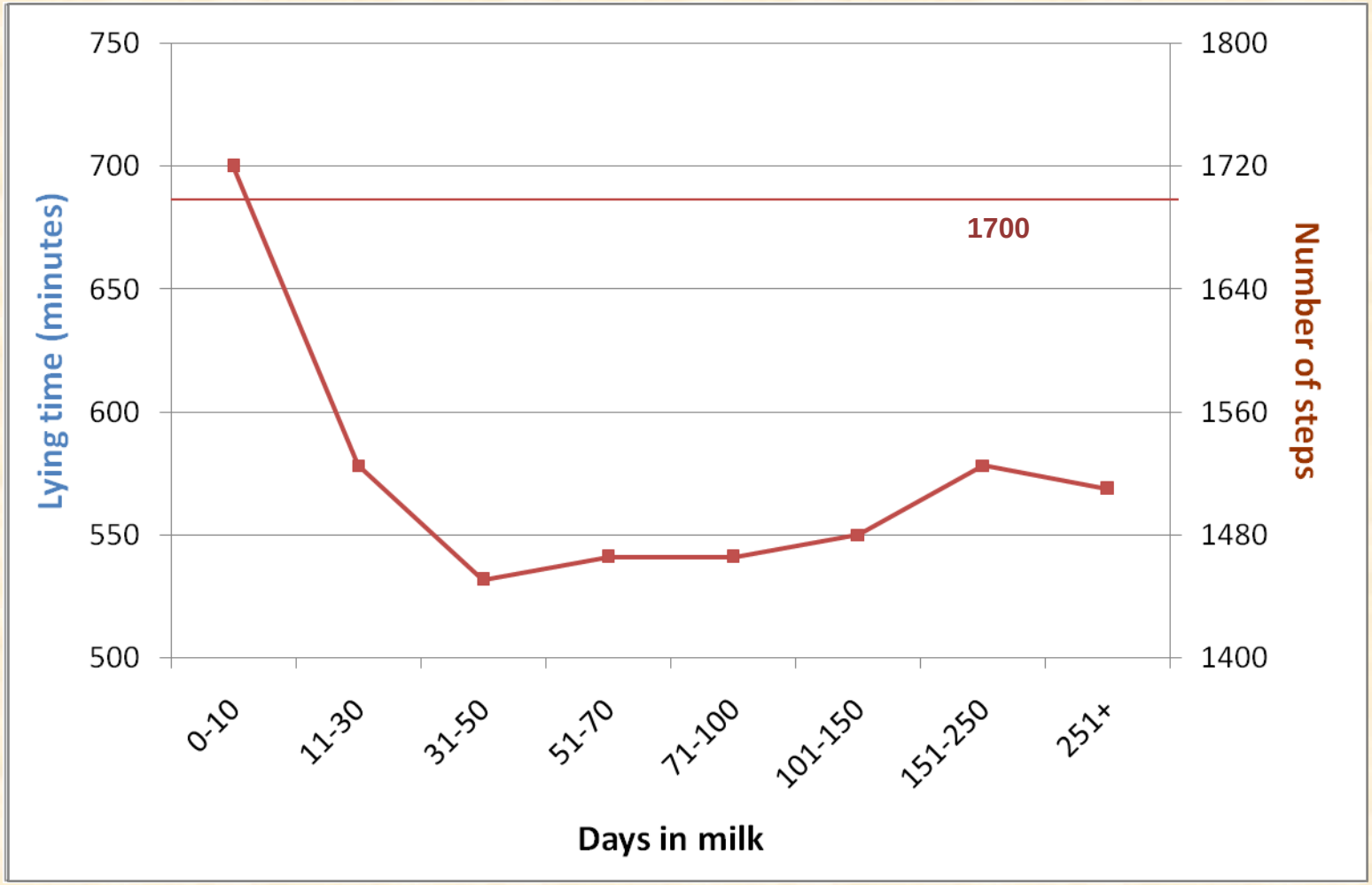
Results (parity)



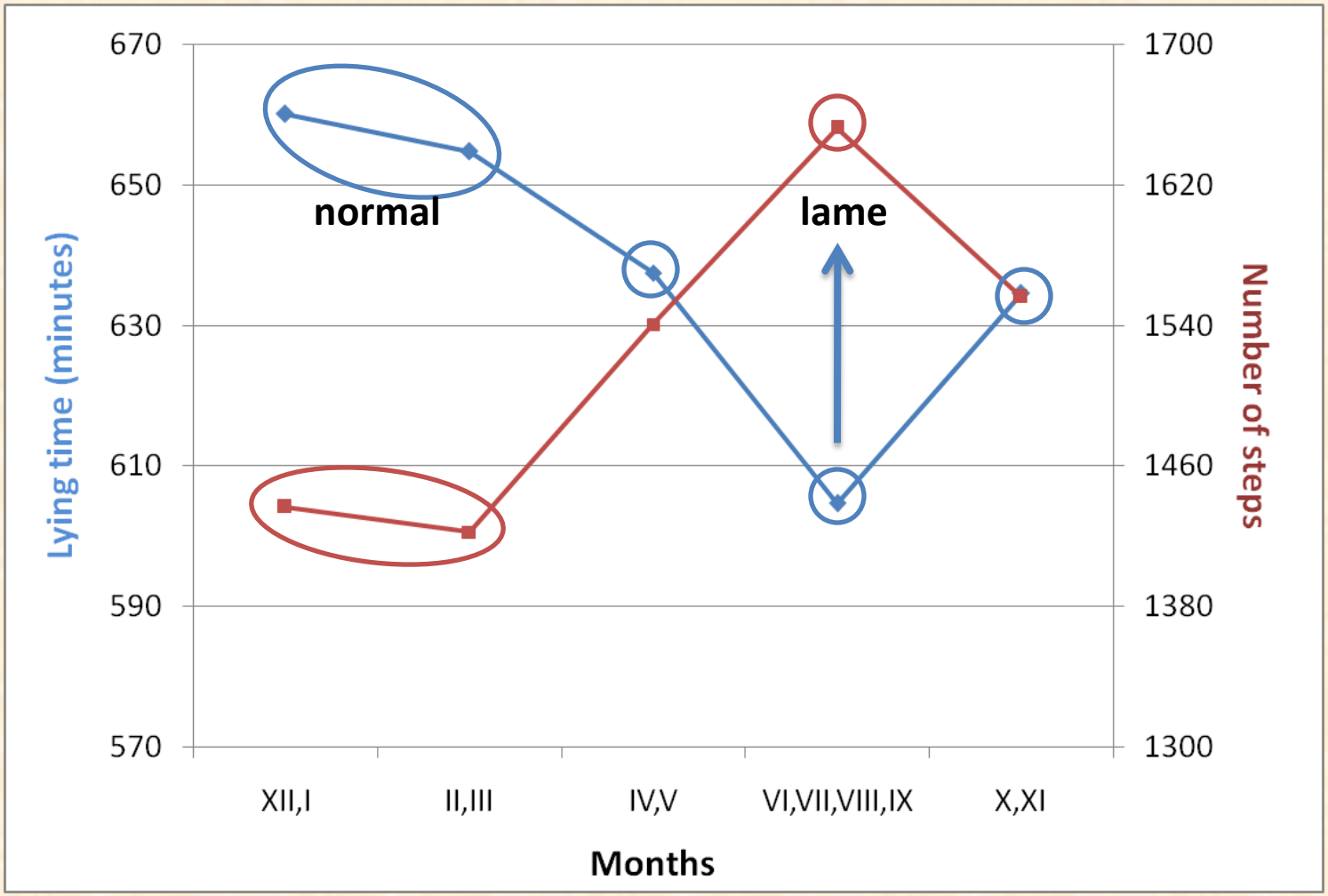
Results (parity)



Results (stage of lactation)



Results (season)



Conclusions

- The information produced by activity sensors could be made **more accurate**, if behaviour pattern is put against other factors affecting activity (parity, stage of lactation, season of year).
- We recommend fitting these factors in software analysing activity parameters, to **improve** the information obtained from sensors used in herd management and prevent false inferences.

Thank You for your attention!

Questions?