



THE UNIVERSITY OF BRITISH COLUMBIA

Animal Welfare Program

Faculty of Land and Food Systems

Striving for high standards of calf health and welfare: An ideal strategy for both the calf and the farmer

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What did we do?



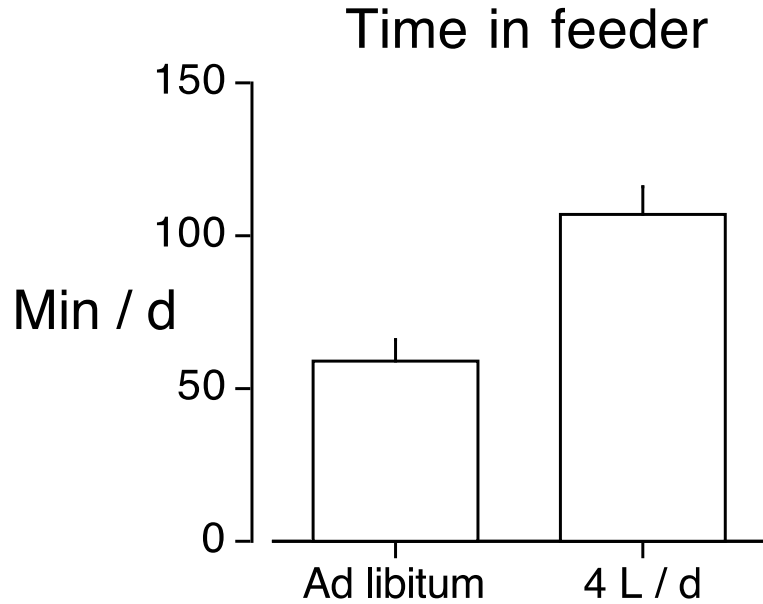
- *Feed 2 times a day*
- *Feed using a bucket*
- *Provide about 4 L of milk/d*

What does the cow do?

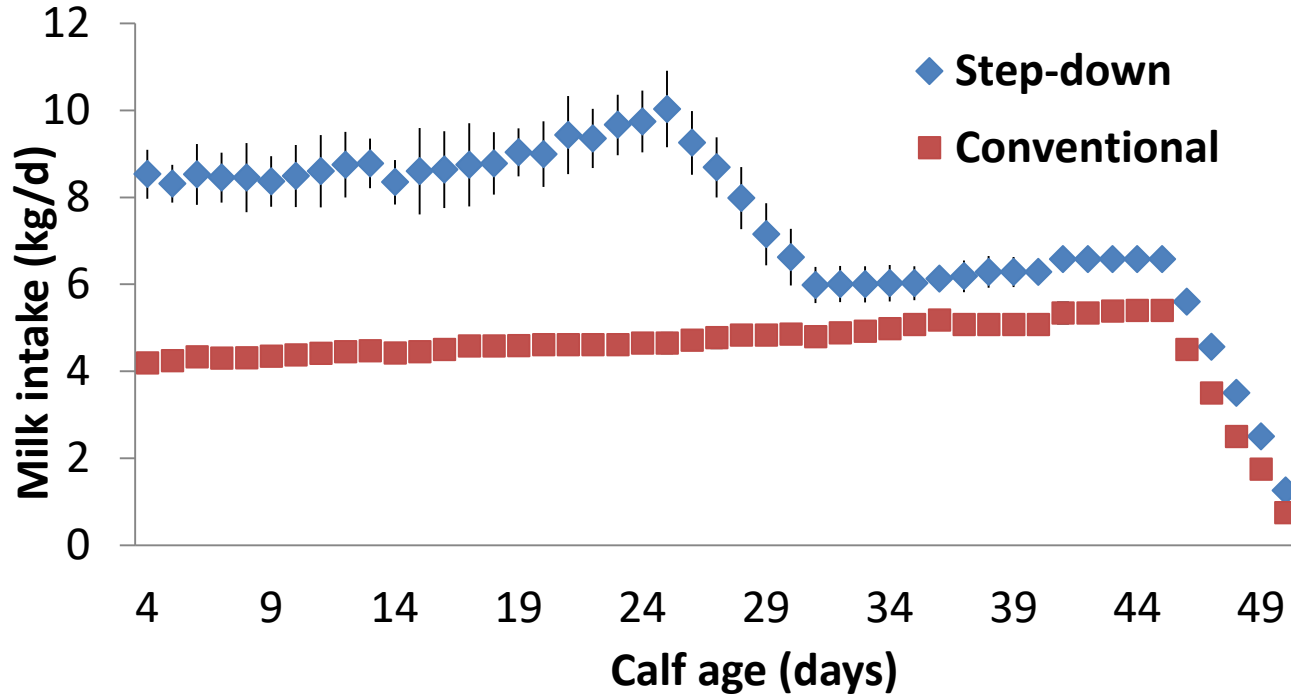


- *Nurses calf 5 - 10 times/d*
- *Nursing bouts last 5 - 10 min*
- *Provides about 10 L of milk/d*

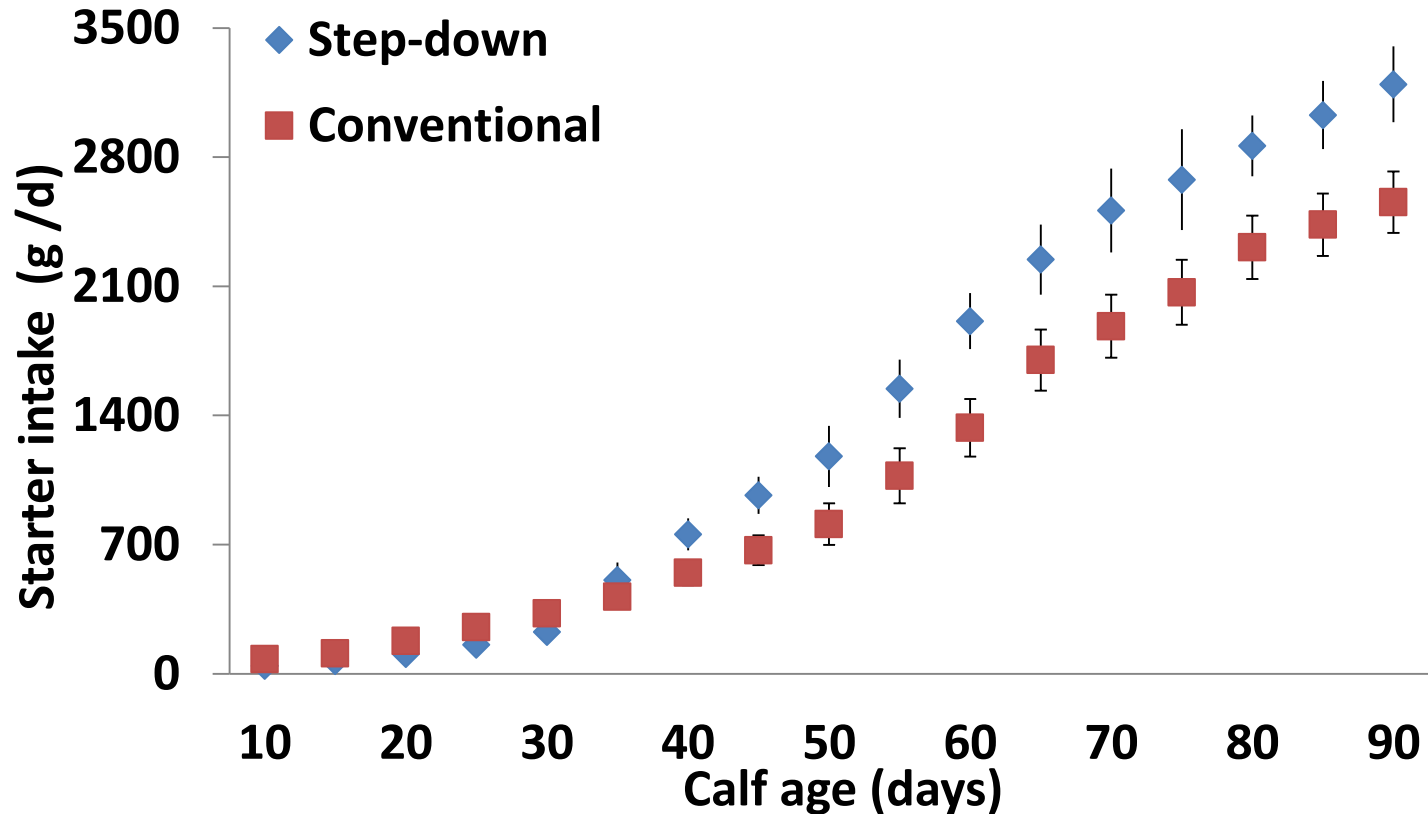
Limit feeding leaves calves hungry



Step down milk feeding regime

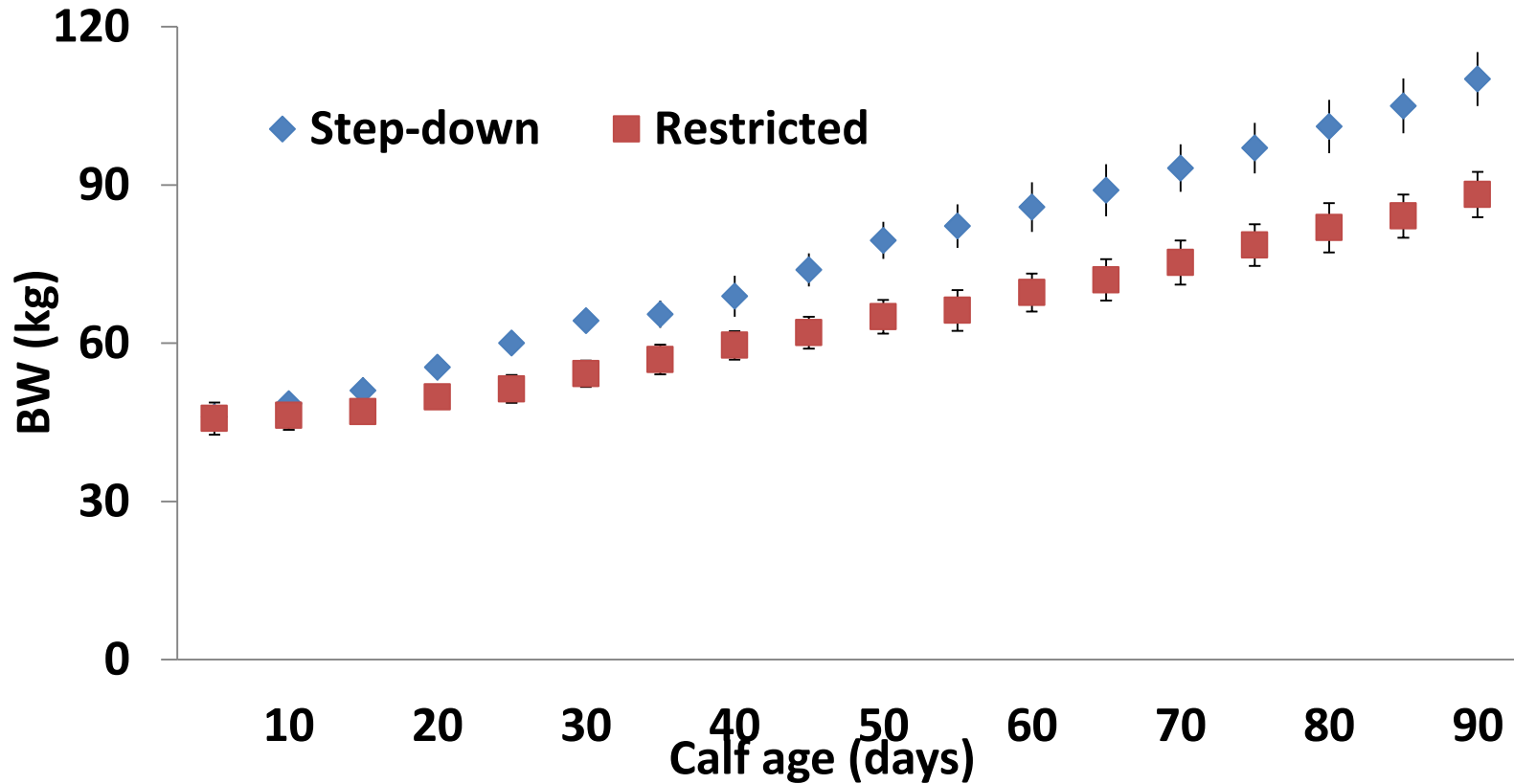


Step down feeding regime – Starter intake



Khan et al., 2007. J. of Dairy Sci., 90, 3376-3387.

Step down feeding regime – BW



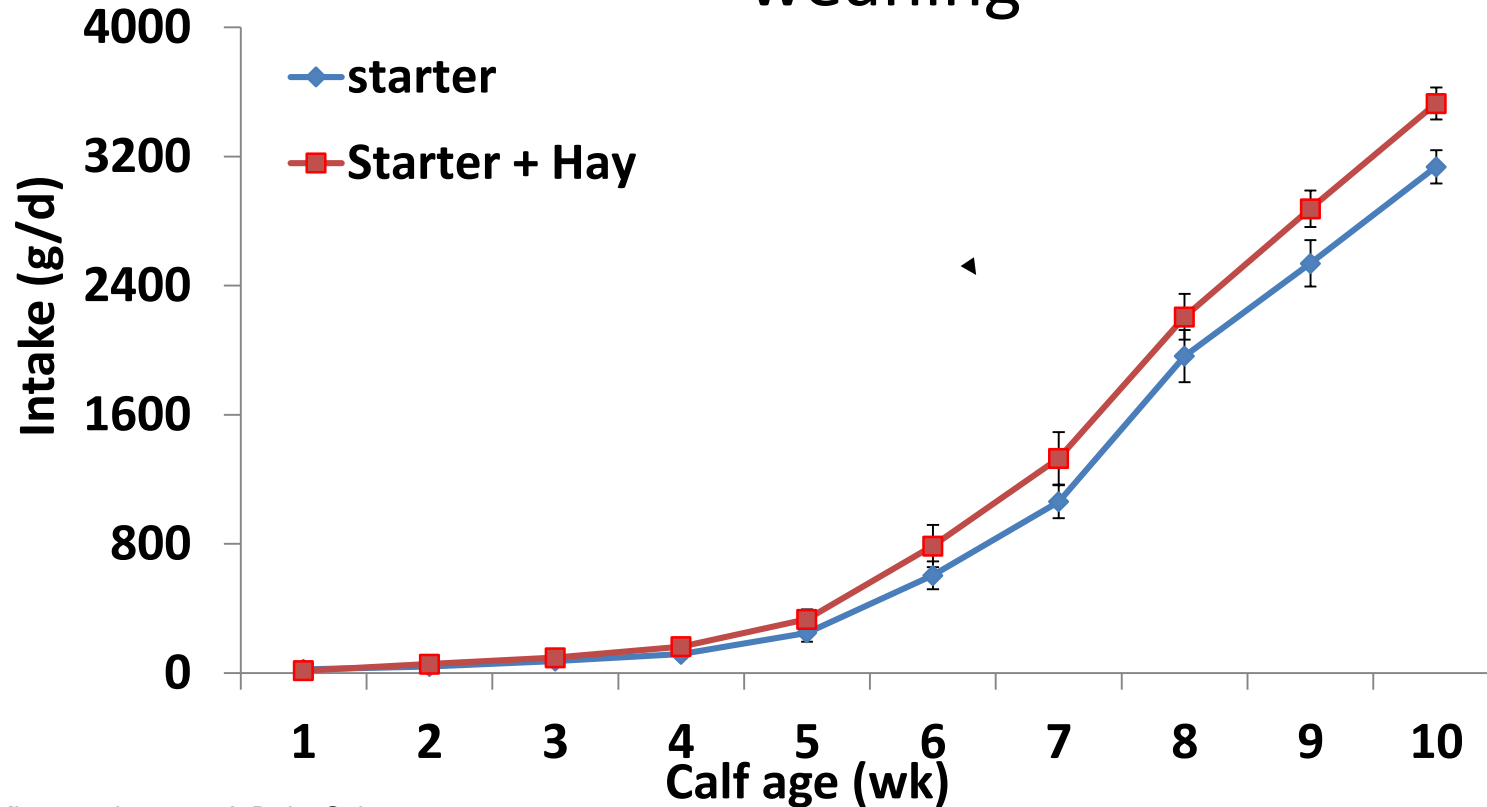


There is growing evidence that pre-weaning weight gains predict future productivity, especially first-lactation milk yield (eg. Heinrichs and Heinrichs, 2011; Soberon et al., 2012; Van De Stroet et al., 2016)

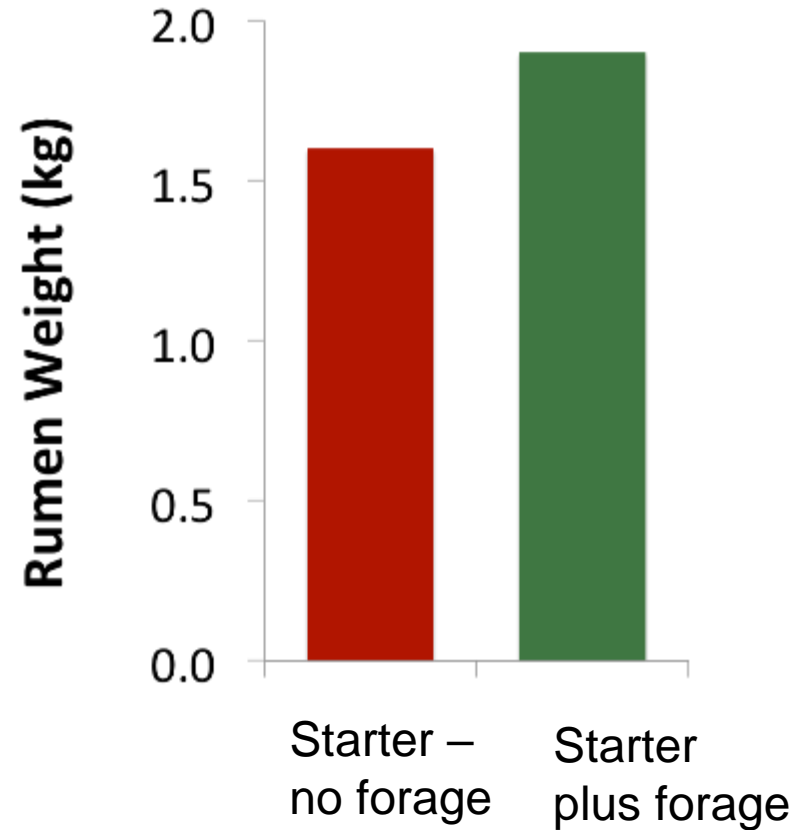
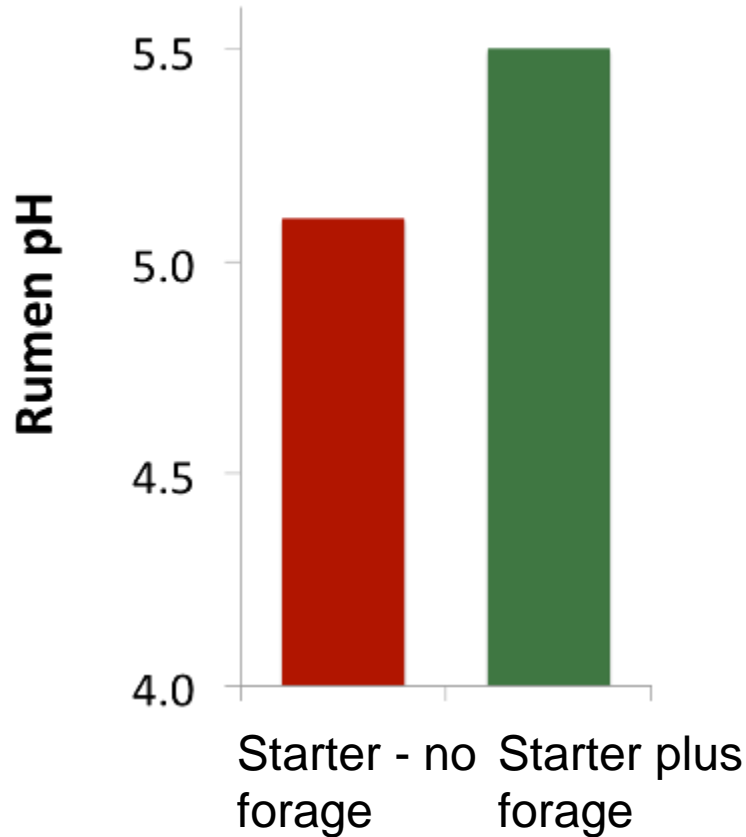
Conclusions

- Feed calves *more* milk and via a nipple; don't wean abruptly

Access to hay early in life promotes intake pre and post weaning



Calves fed forage before weaning had larger rumens with higher pH at 10 wks, indicative of improved ruminal development.



Conclusions

- Feed calves *more* milk and via a nipple; don't wean abruptly
- Calves want to become ruminants....forage likely plays a role in facilitating this transition



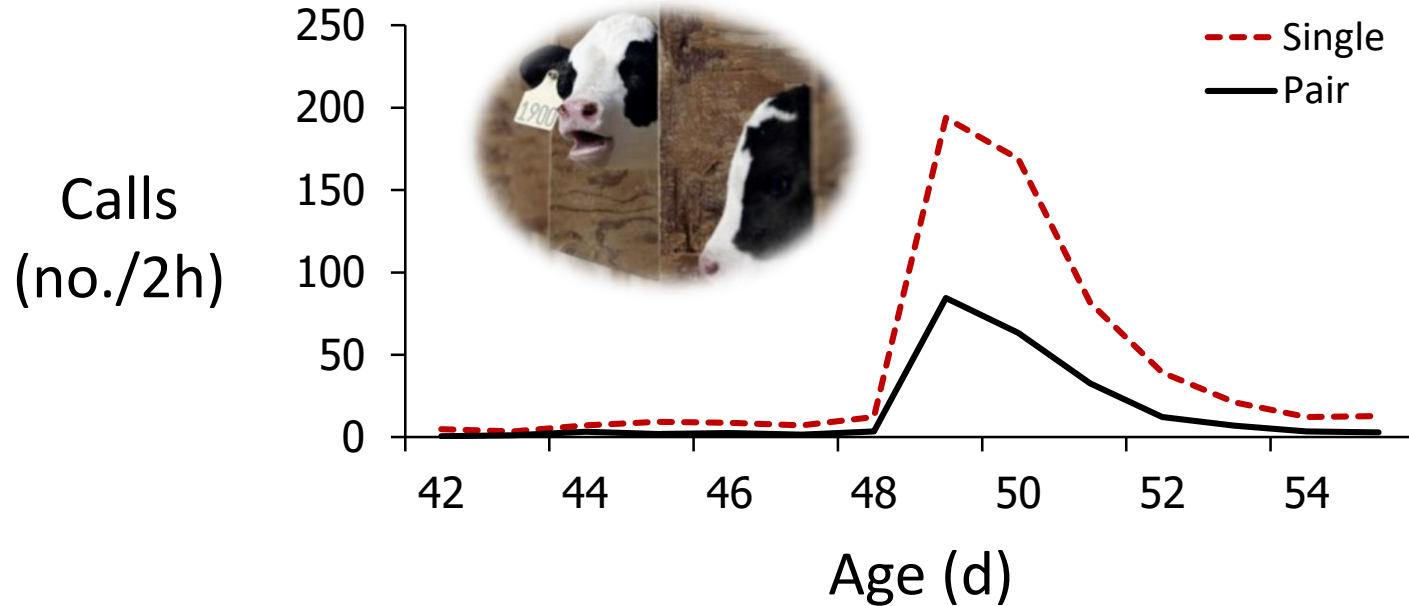
Where we started...

- Limit fed
- **Single housed**



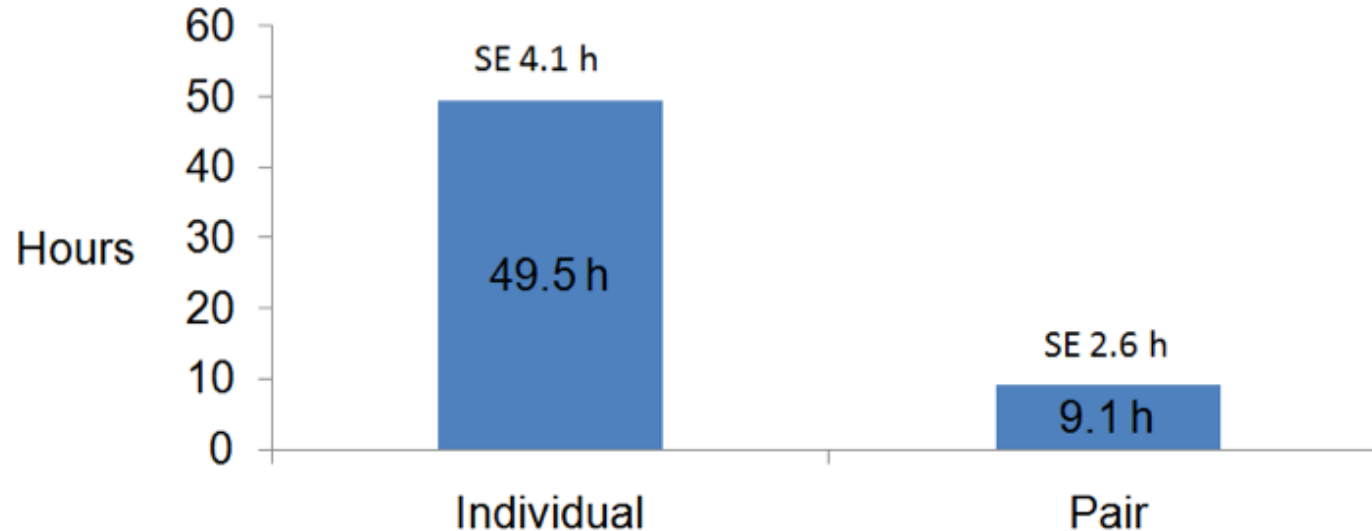


Weaning distress is reduced when calves are pair housed

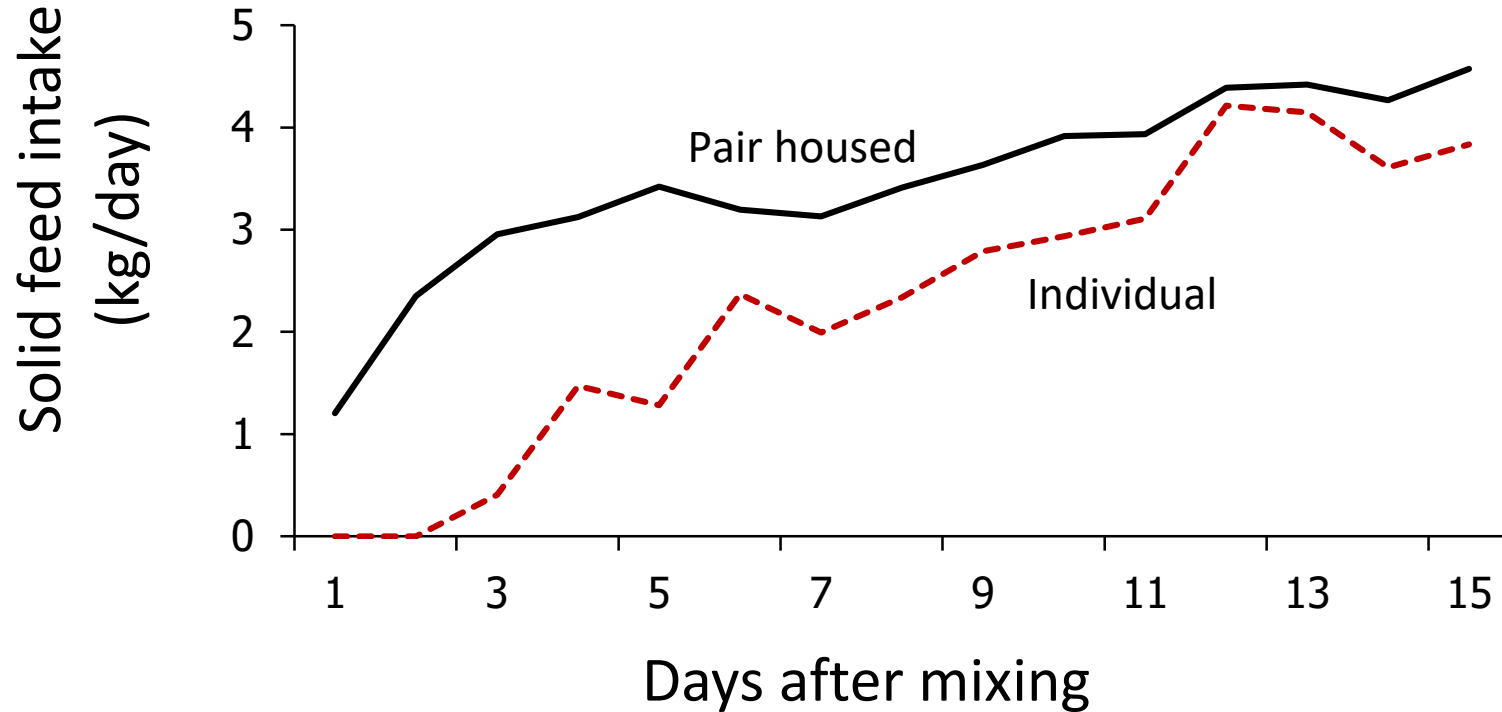




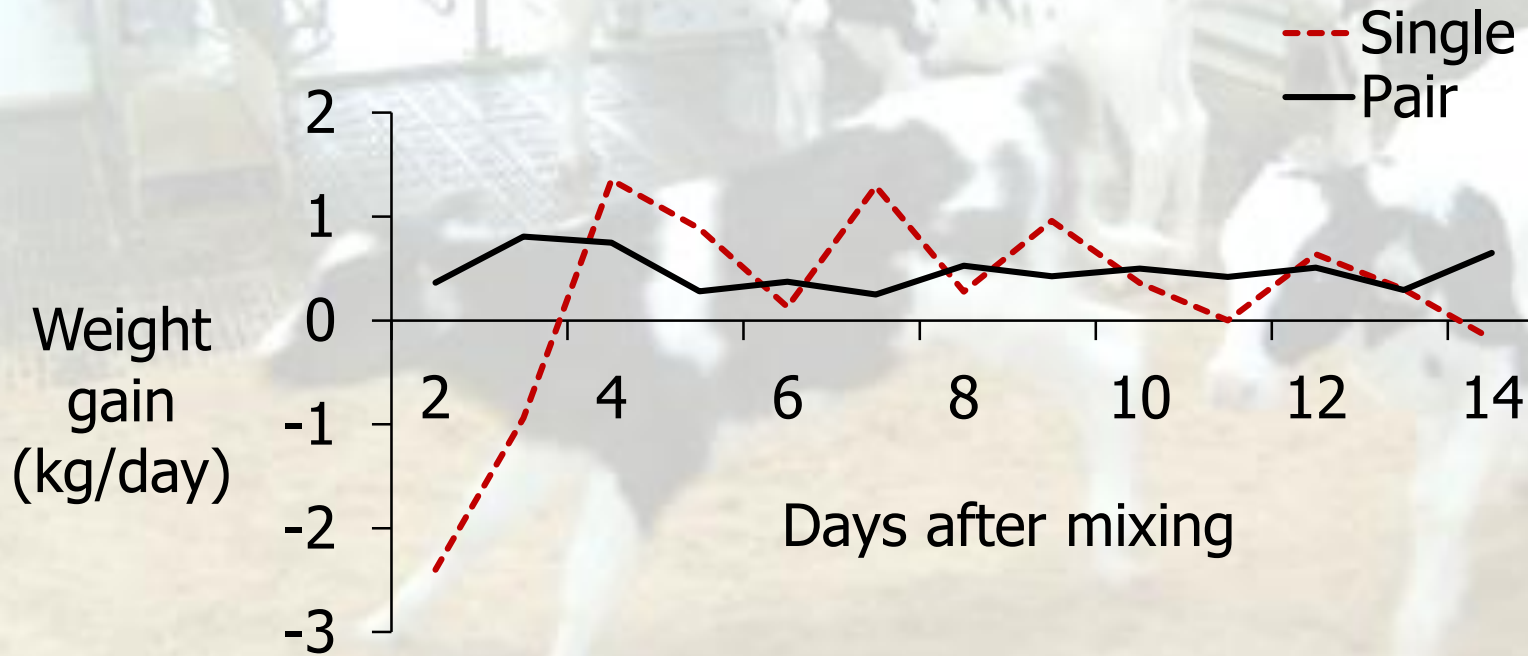
Time to start feeding after mixing is more rapid when previously pair housed



Feed intake after weaning and mixing



Individually housed calves gained less weight in the days right after mixing



Latency to socially
interact

Social interactions



Conclusions

- Feed calves more milk and via a nipple; don't wean abruptly
- Calves want to become ruminants....forage likely plays a role in facilitating this transition
- Individual housing impairs cognition, makes calves fearful and increases weaning stress; social housing in pairs or small groups provides multiple advantages