



Disentangling separation: bringing new data to the old problem of cow-calf separation



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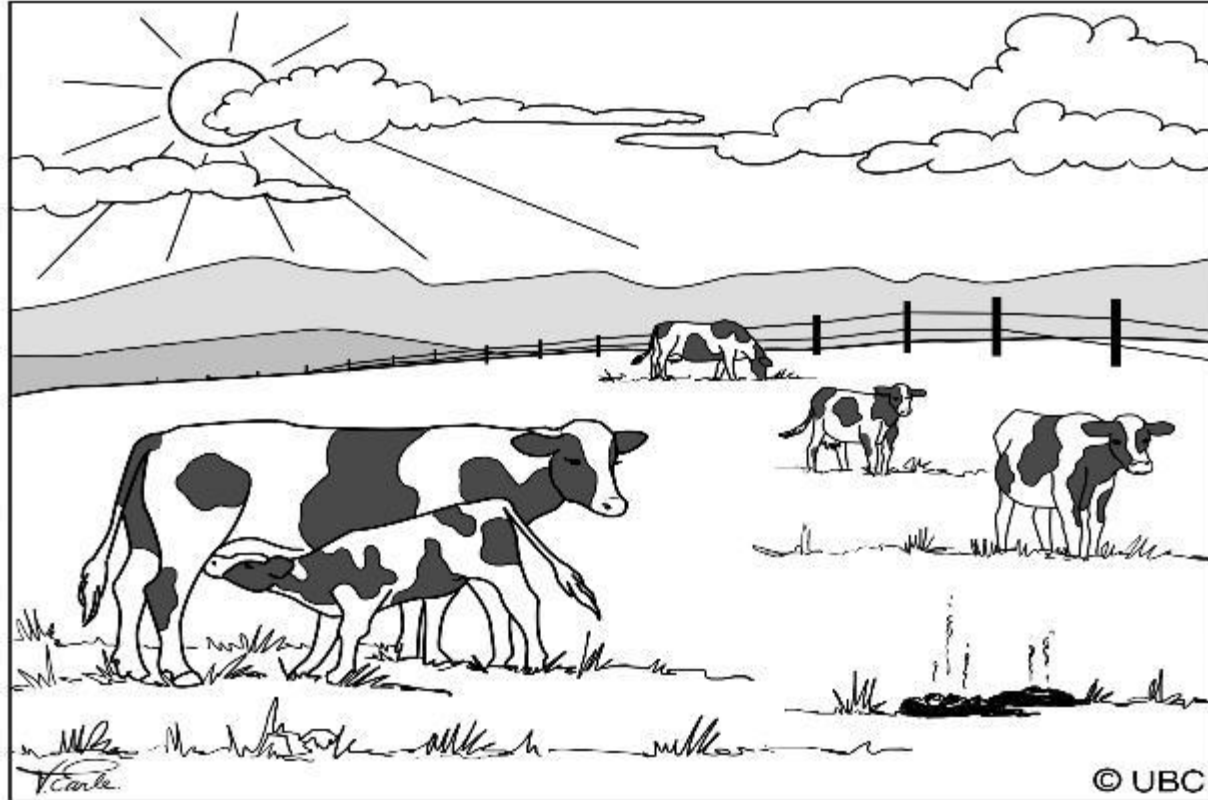


Johnsen et al. 2015, J. Dairy Sci. 98:4800-4810

Johnsen et al. 2015, Appl. Anim. Behav. Sci. 163:50-57



Imagining the ideal dairy farm





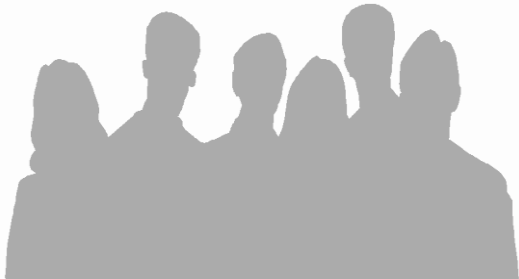
“Should dairy calves be separated from the cow within the first few hours after birth?”

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“NO, because...early
separation does not work
in preventing disease;
current methods of
management still result in
high levels of disease in
dairy calves”



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“YES, because...it’s better for both the calf and the mom to separate sooner because otherwise there is too much attachment, and it’s very hard on the mother!”



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“NO, because...immediate separation causes trauma... especially for the mother”



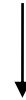
Three big questions of cow-calf rearing:

Effects on **health, production** and **behaviour**?



A systematic review of the effects of early cow calf separation on dairy cow and calf health

Records identified by Web of Science
($n=126$)



After screening, addition of papers from
reference sections, etc. ($n=63$)



Calves: scours ($n=12$), crypto ($n=9$), Johne's
($n=13$), immunity ($n=9$), mortality ($n=9$)
Cows: mastitis ($n=18$)

Effects of a prolonged suckling period on calf and cow health

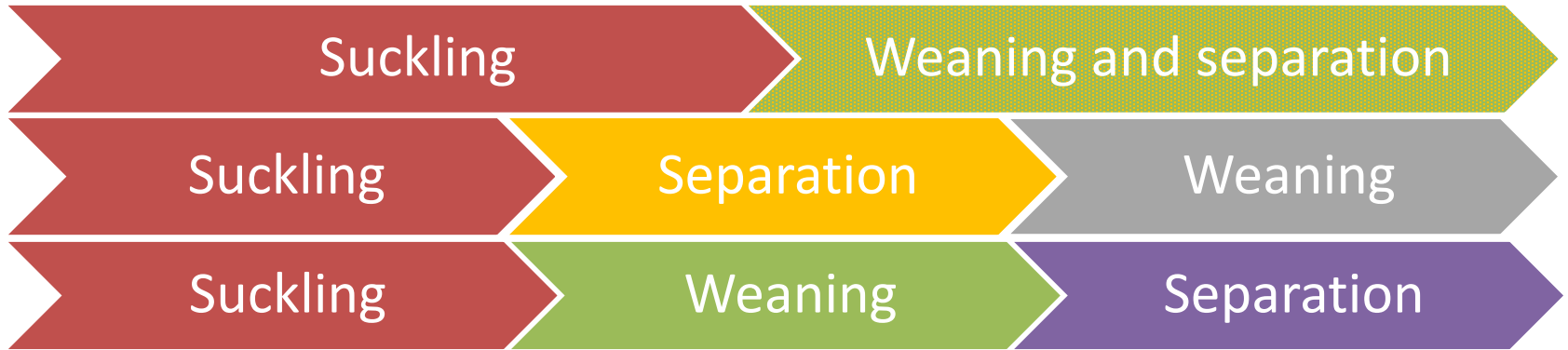
	Positive	Mixed	Negative
Calf			
<i>Scours</i>	6	5	1
<i>Cryptosporidiosis</i>	2	5	2
<i>Pneumonia</i>	1	2	0
<i>Immunity</i>	3	2	4
<i>Mortality</i>	6	2	3
<i>Johne's disease</i>	1	12	0
Cow			
<i>Mastitis</i>	11	7	0
<i>Other conditions</i>	?	?	?

..and on performance and behaviour

Calf	Positive	Mixed	Negative
<i>Weight gain: during nursing phase</i>	16	10	3
<i>Weight gain: after separation</i>	1	5	6
<i>Weight gain: final weight</i>	9	5	0
<i>Acute separation response</i>	1	0	3
<i>Social behaviour</i>	9	1	1
<i>Abnormal behaviour</i>	9	2	0
<i>Response to novelty</i>	3	4	4
Cow			
<i>Milk production: during nursing phase</i>	7	2	6
<i>Milk production: extended beyond nursing</i>	3	11	0



Separation from the cow vs. weaning off milk



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Suckling systems-half day contact

Housed in adjacent pens during the day



Together during the night

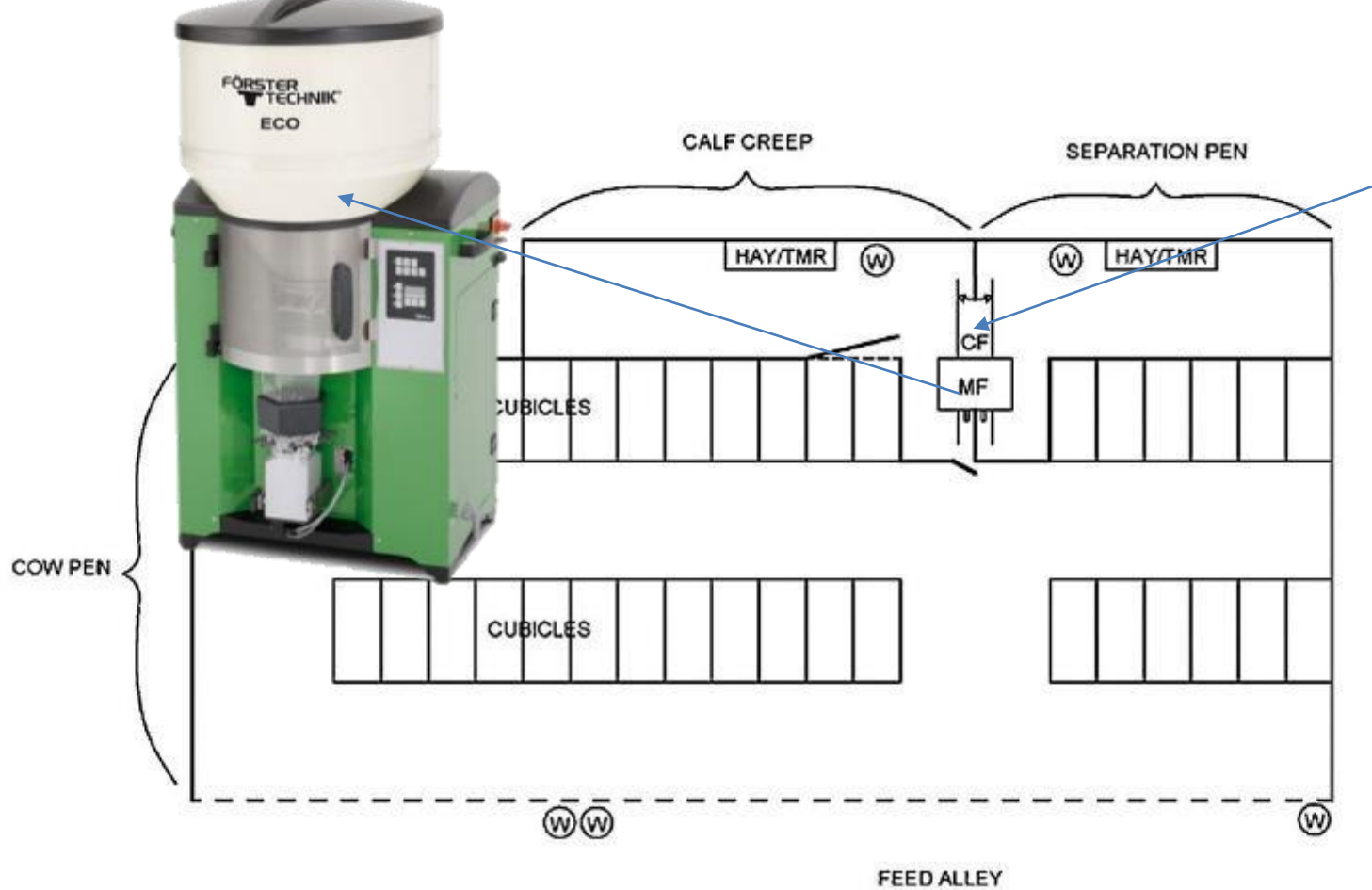


Veissier et al. 2013. Appl. Anim. Behav. Sci. 147:11-18

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Nursing phase 6
weeks

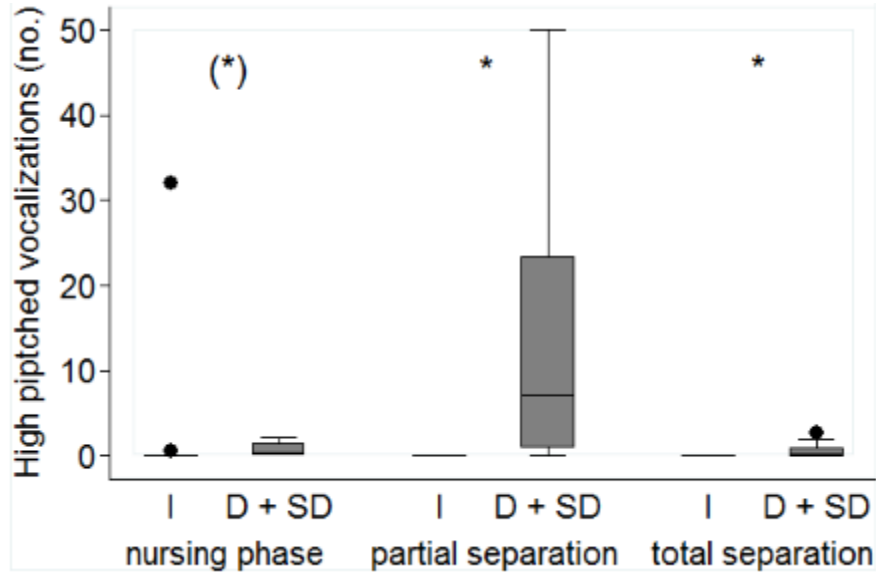
Total separation
3 d

Partial
separation 4 d

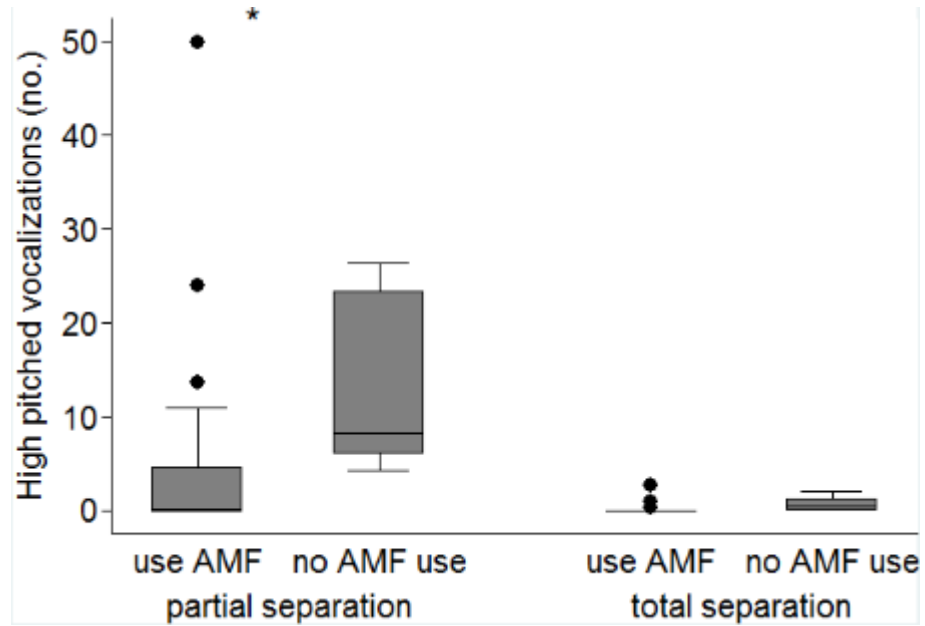


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I=Independent (milk feeder only)
D=Dependent (just suckling the cow)
SD=Semi-dependent (access to both milk feeder and the dam)



Nutritional independence from the dam can ease the response to separation



What do we need to do now?

- Develop workable management options for different production systems
- Document effects on transition cow disease
- Understand the long-term effects on cow behaviour and welfare



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