Rearing organic dairy calves - alternative rearing and weaning methods -

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Organic livestock farmers strive for good animal welfare and naturalness. However, rearing of organic dairy calves is in contrast to this philosophy.

Conventional calf rearing practice
• Immediate separation after birth • bucket feeding • weaning at 10 weeks (Schoenmaker, 2006)

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>Tame cattle</td>
<td>High mortality (12%) (Flemish Gov., 2009)</td>
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<tr>
<td>Less disease transmission</td>
<td>Limited growth and development (Wagenaar and Langhout, 2007)</td>
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<tr>
<td>Easy to monitor calf’s health</td>
<td>Abnormal behaviour; (Roth ea., 2009): Excessive vocalizations, restlessness, cross-sucking, tongue rolling</td>
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<td>Maximum milk yield</td>
<td></td>
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Alternative rearing method
• Prolonged suckling

<table>
<thead>
<tr>
<th>Pros *</th>
<th>Cons *</th>
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<tbody>
<tr>
<td>Bond with cow (naturalness)</td>
<td>Distress when breaking mother-calf bond</td>
</tr>
<tr>
<td>Natural suckling</td>
<td>(Poor milk let-down)</td>
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<tr>
<td>Social dairy herd</td>
<td>(‘wild’ calves)</td>
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<tr>
<td>Natural growth and development</td>
<td>(less control over calves)</td>
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<tr>
<td>Lower mortality (7%)</td>
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* Information derived from a questionnaire held among 96 organic dairy farmers (LBI, 2012) and derived from practical experiences of 20 farmers who have implemented a prolonged suckling system for over 5 years

Prolonged suckling systems enable natural cow herd behaviour. Calves can suckle their dam and form a crèche.
Weaning and separation methods after prolonged suckling

Conventional weaning and separation
• Weaning and separation at the same time at an instance (abrupt)

Alternative weaning methods
• Gradual weaning and gradual separation (fence-line)
• Gradual weaning and (abrupt) separation (nose-flap)
Calf weaned with nose-flap but still part of the herd

Separate calf barn adjacent to main dairy barn. Contact between calves and cows possible.

Calf suckling its mom through the fence-line.
Results
The effect of the different weaning and separation methods after a prolonged suckling period:

<table>
<thead>
<tr>
<th>Abrupt</th>
<th>Fence-line</th>
<th>Nose-flap</th>
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</thead>
<tbody>
<tr>
<td>Weaned and separated at an instance</td>
<td>Calf placed behind fence-line, ad libitum suckling and nursing possible</td>
<td>Weaned by means of nose-flap, not separated</td>
</tr>
<tr>
<td>Limited access to suckle, nursing possible</td>
<td>Fully weaned, contact with cows possible</td>
<td>Fully separated from the herd</td>
</tr>
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</table>

Summary of results

Response to conventional weaning and separation compared to behaviour in the herd
- decreased lying
- increased restlessness
- excessive vocalizations
- progressively increasing abnormal behaviour (cross-sucking, tongue rolling, pacing, excessive autogrooming)
- excessive weight loss

Response to fence-line weaning and separation compared to conventional weaning and separation
- less excessive vocalizations
- less restlessness
- almost no abnormal behaviour
- some weight loss

Response to nose-flap weaning and separation compared to conventional weaning and separation
- less vocalizations
- at both stages the animals are calm
- abnormal behaviour as in sucking attempts and some overt autogrooming was observed
- calves gained weight

General conclusions on prolonged suckling systems and alternative weaning and separation methods:
- Calves and dams behave naturally in the dairy herd. Calves are nursed by their dam or by another cow when calves formed a crèche
- Over time calves increase the distance from their dam and start eating roughage and drinking water
- Gradual weaning and separation enables a balanced development of the calf and less distress compared to conventional weaning and separation

Future research should focus on:
- The long term effects of prolonged suckling systems on calf development in terms of health, welfare and production
- The impact of separation after a prolonged suckling period on herd and cow welfare