



## Performance and Behavioural Effects of Separating Dairy Cows and Their Calves at Birth

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Hello, my name's Mike Steele and I am a dairy consultant and director of Inspire Cattle Solutions.vet. And you are addressing the audio summary; What are the performance and behavioural effects of separating dairy cows and their calves at birth?

The clinical bottom line was calves allowed to suckle from their mothers show stronger behavioural bonds at weaning and appear to gain more weight at weaning than separated and automatically fed calves. However, due to the milk yield loss in subsequent favourable weight gains after weaning from ad-lib sucking, Separation at birth becomes a preferable economic decision. So, for this, I searched Google Scholar, CAB and Pub-Med databases with 18,888 hits and 16 papers reviewed, of this, there were 11 cohort studies, one case series, three case reports, and one review from 1973 to the present day. Dairies were represented from all over the world, and most had separated calves within 24 hours and some within one to seven days versus animals allowed to stay with their mother until weaning.

So, I separated behavioural effects and performance effects, I will address behaviour first. Outcomes were mostly measured on stress indications, such as head-bobbing, licking, vocalization, movement, and lying times. All these outcomes were subject to some areas over time and subjective monitoring. There were generally small population numbers in the papers, rarely counting of above eight mother-calf pairs. Now although suggestions can be made from the behaviour results. It is difficult to draw a reliable conclusion because it seems that calves do vocalize and seek their mothers after separation, the longer access they have to them, but the actual stress impact is harder to determine. Mother offspring bonding is an emotive human concern, as humans have vulnerable and helpless babies relative to ruminants but assessing the impact of separation in cattle cannot be humanized and their offspring are able to stand and find their own food within minutes of birth, so emotion is always difficult to evaluate in ruminants. For performance, it is easier to measure milk intake, milk yield with mother and growth as these are absolute numbers, but calves with mothers often drink more, eight to 10 litres a day, than is provided for group or individual fed calves at less than eight litres a day. So, comparing growth rates to weaning is less reliable.

From this evidence, it appears that calves grow better if kept with their mothers and eat less concentrates in total up to weaning. However, this is more than compensated for because 14 litres of milk a day is lost from the mothers if the calves are allowed to stay with them. Calves from separated groups, catch up after weaning and overtake non separated cohorts. So due to the significant economic loss of milk, when calves are allowed free access to their mothers, it is clearly economically beneficial to separate them within 24 hours. So, to make a general conclusion that separation results in better growth rates, however, comes with words of warning.

There are so many other confounding management factors to consider until the calves reach the milking herd. For example, feed quality access, parasitism, and disease that it would not be wise to

assume that separation alone affects such a long-term end. Thank you for listening to this summary report.

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