Effect on milk production and vitamin status in cows fed without synthetic vitamins

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Introduction

An EU law that forbids the use of synthetic vitamins in organic ruminant production was established in 2000. Furthermore, no use of products made from genetically modified organisms is allowed, which limits the use of naturally occurring vitamins. At present a general exemption applies until December 31, 2005. Vitamins A and E are antioxidants and they are important for the immune system and reproduction of ruminants.

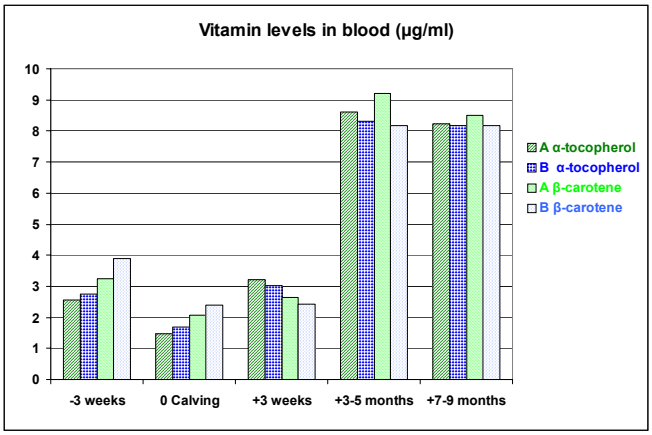
The aim of the study is to investigate the effects of a feed ration (silage, barley, peas, cold-pressed rapeseed cake) without added synthetic vitamins on vitamin status and performance of dairy cows during two complete lactations.

Method

A 25 Swedish Holstein cows are fed without added synthetic vitamins
B 25 Swedish Holstein cows are fed with added synthetic vitamins according to Swedish recommendations

Effects on milk yield, milk composition, milk quality, health and fertility are studied. The vitamin status in cow blood plasma and milk is followed during lactation.

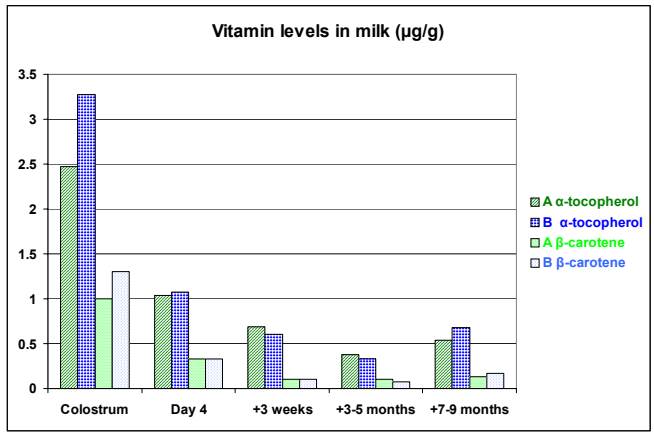
Preliminary results from lactation 1



The levels of α-tocopherol and β-carotene in blood plasma were low in both groups around calving. These vitamin levels should be above 3 µg/ml to be acceptable.

Mean levels of milk yield, milk composition and somatic cell count during 9 months after calving

	A	B
Milk Yield (kg)	36.2	35.7
ECM	34.1	33.5
Fat, %	3.7	3.6
Protein, %	3.2	3.3
Somatic cell count (cells / ml x1000)	216	190



Conclusion

Preliminary data from one lactation period showed no significant differences between the two experimental groups. The final results will be presented in 2006.