The effect of vitamin supplementation on the breeding result of blue foxes

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Background

For blue foxes the side effects of excess vitamins and vitamins needed in joint development and reproductive performance are not known. The results among pigs and dogs show excess of fat-soluble vitamins in the diet may lead to impaired growth, anorexia, bone and joint disorders and the development of a normal animal, loss of mobility. Overdose of vitamin A to mink and foxes may include symptoms like anorexia, bone changes and spontaneous ruptures, dekalsification and hair loss. However, vitamins are needed for normal breeding of blue foxes and possible over- or underdosing adverse effects on growth, fur quality and breeding performance have not been adequately studied.

Aim was to to study animal health, weight change, feed consumption and breeding result with different concentrations of vitamins during breeding season. Based on the results it might be expected to update recommendations for addition of vitamins in feed for blue foxes during breeding season. .

Material and methods

There were three treatment groups, each including 70 young and 30 two to three year old blue fox vixens.

Treatment groups:

1. Fat soluble vitamins were added according to the recommendations of Finnish Fur Breeders' Association (FFBA), no supplemental vitamins B (100 % + 0 %).
2. Fat soluble and vitamins B were added according to the recommendations of FFBA, (100 % + 100 %).
3. Fat soluble vitamins were added according to the recommendations of FFBA, vitamins B were added as double compared to the recommendations of FFBA (100 % + 200 %).

Dry weight, chemical composition and vitamin leves of the diets were analysed. Feed consumption was registered throughout the experiment. The weight gain of the vixens and cubs were monitored. Health status was registered throughout the experiment and breeding result was calculated one day, two and four weeks after birth and at weaning.

Results and Conclusions

The group 1 (0 + 100%) had to be removed from experiment on the 25th of March because of the underdosing effects of vitamines B. Mean live weights and feed consumption were similar among groups from the beginning until the end of the trial.

In the future, fur-bearing animal feed vitaminization designing should pay attention to the amount and recommendation of folic acid. Also other B-group vitamins proportion of feed should be kept at the level of what they are in practice at the present time, in accordance with the recommendations. On the behalf of other vitamins can be assumed that the extra addition –more than recommended- is not resulting to a better breeding result.

	Group	
	Vit 100 + 100 %	Vit 100 + 200 %
Number of cubs at birth:		
Live	5.14±4.90	5.38±5.03
Death	0.55±1.39	0.85±2.23
Total	5.70±5.27	6.23±5.38
At the age of two weeks		
Total number of cubs	3.28±4.10	3.77±4.25
At the age of four weeks		
Number of cubs	3.21±4.03	3.58±4.01
Males	1.58±2.12	1.78±2.29
Females	1.63±2.25	1.79±2.24
At weaning		
Number of cubs	3.14±4.00	3.50±3.95
Males	1.54±2.18	1.67±2.12
Females	1.60±2.16	1.85±2.23

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