Effect of Unsaturated N-3 Fatty Acids From The *Camelina Sativa L* Cake on Fatty Acid and Adipokine Contents in The Serum of HF Heifers

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Polyunsaturated fatty acids (PUFAs) stimulate reproductive functions in cattle. We investigated the effect of *Camelina sativa L* cake, a rich source of n-3 fatty acids (FAs), on selected parameters related to reproduction and metabolism (serum profile and concentration of FAs and adipokines, number and size of the ovarian follicles). The 71-day experiment included 16 HF heifers (11-12 months old) divided into control (8) and experimental groups (8). Animals received a standard diet, but the experimental group's diet was supplemented with the *Camelina sativa L* cake (1 kg per day). The blood samples were collected 3 times whereas the USG examination was performed 7 times during the experiment.

The serum of experimental heifers contained more total unsaturated n-3 FAs, and α-linoleic acid (C18:3n-3) on days 46 and 48 whereas no difference was observed for PUFAs and n-6 FAs. The n6:n3 ratio was reduced (40 and 46 d). Regarding adipokines, only the concentration of apelin was decreased in the experimental group on day 20. However, interactions were noticed for 5 out of 7 adipokines (adropin, apelin, chemerin, leptin, and visfatin). The number and size of the ovarian follicles did not differ between the groups. We found linear interactions between the treatment effect and experiment duration for total n-3 FAs and α-linoleic acid concentrations as well as n6:n3 ratio.

Our results indicated the impact of the *Camelina sativa L* cake on the levels of the analyzed parameters, indicating that the addition of n-3 FAs to the diet, could also affect adipokine concentrations.

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