

Effect of dietary medium-chain fatty acids on *Campylobacter jejuni* in broiler chickens

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Abstract: The inhibitory properties of a commercial product containing medium-chain fatty acids on *Campylobacter jejuni* were determined. The product is a mixture of C_{6:0}-C_{14:0} fatty acids. After testing the antibacterial properties towards *C. jejuni* in *in vitro* conditions, an experimental infection on broiler chickens was performed to confirm the results. The product was admixed with feed (final concentrations 0, 0.25, and 0.5%) and broiler chickens were artificially infected with *C. jejuni* VFU 612. The chickens were infected on day 16 of age, while the aforementioned feed mixtures were used during the entire fattening period (days 0–35). After the infection, the dynamics of *C. jejuni* shedding was evaluated among treated groups and the control. Reduction of the number of campylobacters by the product with medium-chain fatty acids was not confirmed *in vivo*. It is assumed that the final amount of potentially active fatty acids in the digestive tract was not sufficient. The product, however, had a clear beneficial impact on mortality of infected chickens.

Key words: inhibition; campylobacteriosis; poultry; pathogen