THE ROLE OF ANIMAL FEEDING IN OBTAINING ANIMAL PRODUCTS RICH IN HEALTH PROMOTING AGENTS

Summary

Modulating dietary composition can change the rumen microbial ecosystem, and as the consequence, enrich milk of ruminants in potentially health promoting agents. Number of components in milk is being recognised as conferring health benefits. These include, among others, lipid components (vaccenic acid, *trans* 11 C18:1 and conjugated isomers of linoleic acid, e.g. CLA). The processes in which mentioned components are produced include: rumen biohydrogenation of unsaturated fatty acids and *de novo* synthesis of fatty acids in mammary gland. Simplistic nutrition messages suggest that saturated fat in the milk may contribute to certain 'Western' diseases. This information has damaged the image of milk and dairy products as popular, basic, almost obligatory food items. Such messages ignore the presence of biologically active components, which in fact may act as chemopreventive agents for many 'Western' diseases. Changes of dietary components e.g. supplementing the ruminant diets with oil plant seeds, plant oils, algae and fish oil allow to obtain enriched products that may lower the risk of obesity, cancer, diabetes, and cardiovascular diseases in humans.