PERSPECTIVES ON THE INFLUENCE OF PUMPKIN SEED MEAL AND PUMPKIN SEED CAKE AS ALTERNATIVE SOURCES FOR ENHANCING THE NUTRITIONAL VALUE OF MILK

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Abstract

The growing interest in functional dairy products and the need to reduce dependence on conventional feeds have led to increased research on alternative feed sources for dairy cows. Among these, pumpkin seed meal and pumpkin seed cake (Cucurbita pepo L.) stand out due to their high protein content, balanced essential amino acids, and richness in unsaturated fatty acids, carotenoids, and natural antioxidants. This article explores the impact of using pumpkin seed meal and cake as alternative feeds in dairy cow diets, focusing on their chemical composition, nutritional differences, and effects on milk yield, composition, and fatty acid profile. Studies show that adding pumpkin seed meal or cake does not affect milk production, digestibility, or rumen fermentation. Moreover, high-oil pumpkin seed cake can improve the antioxidant status of cows and slightly change the milk fatty acid profile, increasing unsaturated fatty acids. These results highlight the nutritional, economic, and sustainable value of pumpkin seed meal and cake in dairy cow diets. Including these by-products in modern feeding strategies can help produce value-added milk that meets consumer demand for healthier and functional products.

Key words: *dairy cows, fatty acids, functional milk, pumpkin seed cake, pumpkin seed meal*