LAMB PRODUCTIVE PERFORMANCE, CARCASS AND MEAT QUALITY RESPONSES TO ALPHA LINOLENIC ACID RICH VEGETABLE OIL SUPPLEMENTATION - A REVIEW

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ABSTRACT

The current review provides an overview ofomega-3 long chain polyunsaturated fatty acids (n-3 LC-PUFA) health benefits and the recent progress in using alpha linolenic acid (ALA) rich sources derived from oilseeds to enhance productive performance, n-3 PUFA profiles and sensorypropertiesof lamb for human consumption. In general, the supplementation of oilseeds and (or) their oils into low energy density diets can improve lamb growth, carcass traits and eating quality because of increase in metabolisable energy intake and intrmuscular fat level. In iso-energetic and iso-nitrogenous diets, supplementing with ALA rich sources at or below 6% (dry matter basis) to seems unlikely to affect lamb dry matterintake, growth, carcass and sensory properties. Moreover, the inclusion of ALA rich sources in lamb diet potentially increase ALA content and reduce the omega-6/omega-3 PUFA ratio in lamb meat. It is suggested that supplementing with ALA rich sources at or below 6% (dry matter basis) to ruminant diets might promote n-3 PUFA profiles in lamb meat and is unlikely to have negative effects on feed intake, growth, carcass and sensory properties.

Keywords: *alpha linolenic acid,lamb, meat quality, canola, flaxseed, dietary supplementation*