Effect of Pasture Species Composition and Fatty Acid Content on Milk Fat Composition of Grazing Dairy Cattle. (C06-seconi164209-Oral)

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Abstract:

Conjugated linoleic acid (CLA) and omega-3 are healthy fats that are elevated in food products of ruminants that have grazed fresh pasture. Fresh pasture plants are a source of linoleic (C18:2) and linolenic (C18:3) acids, which are precursors of CLA and omega-3 fats. Our objective was to assess how 3 different pasture species mixtures that differ in C18:2 and C18:3 content would affect CLA and omega-3 content in cow milk. In July 2001, lactating Holstein dairy cows were grazed on 3 different pasture treatments: i) mixed grass species, ii) alfalfa and grass, and iii) red and white clover, and grass. Three groups of 5 cows grazed each of the pasture treatments for three 10-day periods. Milk and forage samples were collected on 3 dates during each 10-day period. Milk samples were analyzed for CLA and omega-3 content, total fat, and protein. The forage sample was frozen in liquid N in the field, then freeze-dried, finely ground, and stored at -80C. Forage fatty acids were then extracted, methylated, and analyzed using gas chromatography to determine C18:2 and C18:3 content. Results will be presented.

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