

Trans Fatty Acids in Dairy and Meat Products from 14 European Countries: The TRANSFAIR Study

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Abstract: The fatty acid composition of dairy products and meat from 14 European countries was analyzed with particular emphasis on trans fatty acids. In cow's milk, butter, and cheese the proportions of trans fatty acids ranged between 3.2 and 6.2% of fatty acids. C18:1 isomers comprised about 60% and C16:1 and C18:2 isomers about 15% each of total trans fatty acids. Goat's and sheep's milk and cheese contained between 2.7 and 7.1% trans fatty acids. Summer milk contained up to 57% more trans fatty acids, both C18:1 and C18:2 isomers, more cis-unsaturated and less saturated fatty acids than winter milk. Ice-cream with partially hydrogenated vegetable oils contained between 21 and 31% trans fatty acids and low-trans modified-fat ice-cream between 0.2 and 0.9%. The high-trans ice-cream samples contained more cis-unsaturated and less saturated fatty acids than most dairy-fat and low-trans products. Beef contained 2.8-9.5% and lamb meat 4.3-9.2% trans fatty acids whereas pork (0.2-2.2%) and chicken (0.2-1.7%) and meat from other nonruminants were lower in trans fatty acids. With very few exceptions, sausages contained pork and showed low trans fatty acid levels. In conclusion, ruminant fats contained moderate amounts of trans fatty acids, mainly C18:1 isomers. There were considerable differences both between and within the countries, probably due to seasonal factors and differences in feeding practices and the age of the animals.

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