

Meat and Meat Products as Functional Foods

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Research on the disease-preventing, health-promoting benefits of meat and meat products makes them a viable contender in the functional food arena. Enriching meats with fiber, probiotics and omega-3 fatty acids may help consumers to associate meat with a healthy lifestyle.

"Meat contains many important nutrients, including bioactive compounds such as taurine, L-carnitine, creatine, conjugated linoleic acid (CLA) and endogenous antioxidants," said Yeonhwa Park, Ph.D., and Secretary for Institute of Food Technologists (IFT) Food Chemistry Division. Studies show CLA may reduce cancer incidence, although this has not yet been shown with human studies.

Meat also contains unique endogenous antioxidants including carosine, anserine and others, along with iron and zinc, nutrients often lacking in the average diet. "Meat also contains a significant source of vitamin B-12," said Dr. Park.

Meat and meat products may be made more functional with some modifications, said Frederic Leroy, Ph.D., professor in nutrition, meat technology and quantitative and predictive microbiology at the Vrije Universiteit Brussel. "Modification of fatty acid and cholesterol levels in meat may be influenced by selection of breeds and genetic lines, changes in animal feeding practices and additional ingredients added during meat processing," said Dr. Leroy.

Adding probiotics to fermented meat products (i.e. sausage) may lead to health benefits, although this application is still marginal. "Several

disadvantages exist when using fermented meats as a probiotic carrier," said Leroy. "For one, fermented meats are not generally considered 'health food' by consumers. Plus technical issues exist. It requires careful selection of probiotic strains since, for example, they would need to have a resistance to bile salts." Fiber-enriched meat products may also offer health advantages, although they can elicit a grainy texture and have a restrictive digestive tolerance. Further studies are needed in this area. Omega-3 enriched meats (currently marketed in Canada) may also soon compete with salmon and other traditional omega-3 rich fish.

Educating consumers about meat creates a challenge for meat marketers, said Shalene McNeill, Ph.D., executive director of nutrition research for the National Cattlemen's Beef Association. "Fifteen to twenty of the most popular retail cuts—including filet mignon—are considered 'lean' choices," said Dr. McNeill. "But many misconceptions about fat content in meat exist. For example, while meat's saturated fat content is widely publicized, it's also the number one source of monounsaturated fat in the diet."

Marketing meat and meat products as functional foods requires focusing on benefits of the nutrients, particularly meat's high protein content. "Weight control is a major consumer concern," said McNeill. "New advertising helps overcome misconceptions about beef, calling it 'a smart choice.'"

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