Zengqi Peng, J Food Process Technol 2016, 7:8(Suppl)
http://dx.doi.org/10.4172/2157-7110.C1.041

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Advanced green manufacture technology for processed meats

This report reviews the development of green chemistry and green manufacturing around the globe. The risks of hazardous chemicals like polycyclic aromatic hydrocarbon (PAHs), heterocyclic aromatic amines (HAAs), trans fatty acids (TFAs), nitrites/ nitrates, formaldehyde, and PM2.5 produced by traditional meat cooking methods which are usually heated at high temperature such as grilling, frying, smoking and boiling to human body and environment are discussed. In view of modern science and technology as well as the sustainable development of food industry, the concept of meat green manufacturing technology is defined, meat green manufacturing technology is a modern manufacturing pattern that employs the concepts and principles of green chemistry and green engineering, turning high-quality raw meat into healthy meat products by green formula design, green processing, green packaging, green transport and green sell so as to minimize the risks of hazardous chemicals to human body and the environment, through which both economic benefits and social benefits can be obtained and coordinated. By use of the meat green manufacturing technology, a series of healthy meat products has been developed at temperatures below 120°C-130°C, which are characterized by attractive color, pleasant flavor and favorable texture. In addition to that, the final content of hazardous chemicals such as PHAs, HAAs, TFAs, formaldehyde and PM2.5 are remarkably reduced. Finally, the opportunity and challenges facing meat industry are summarized.

Biography

Zengqi Peng is the Professor of Nanjing Agricultural University, National Center of Meat Quality and Safety Control and also Meat Scientist at National Beef Cattle Industrial Technology System. His research interest is Meat Science. His research projects include National Natural Science Foundation; National Basic Research Program (973 Program); National High Technology Research and Development Program (863 Program); National Key Technologies Research and Development Program (2010-2012). He has received many research honors and awards such as National Science and Technology Progress Award; Science and Technology Contribution Award of Chinese Association of Animal Products Processing. He has published more than 20 papers in reputed journals in the research area of Green Manufacturing Technology for Processed Meats.

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