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FORMATION AND INHIBITION OF HETEROCYCLIC AMINES IN FRIED PORK FIBER

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Heterocyclic amines (HAs) are a class of compounds containing unsaturated double bonds with their ring structure composed of carbon, hydrogen and nitrogen. The HAs are usually formed during high temperature processing of protein rich foods. The objective of this study is to evaluate different processing methods for reduction of HAs in fried pork fiber. A quick and simultaneous analysis method which coupled with QuEChERS and LC-MS-MS also be developed for determining 20 types of HAs in fried pork fiber. Results showed that HAs contents in fried pork fiber increased along with increasing cooking time and temperature. Moreover, fried pork fiber show high levels of harman with the amount of total HAs ranging from 103.19-661.38 ng/g and their levels decreasing in the following order: nor Harman >8-MeIQx>IQx>PhIP>Trp-P-2>Phe-P-1>IFP>MeAaC>MeIQ. However, DMIP, Glu-P-2, Iso-IQ, IQ, Glu-P-1, IQ [4, 5^b], 7, 8-DiMeIQx, 4,8-DiMeIQx, Trp-P-1 and AaC

were not detected. Half proportion of soy sauce in fried pork fiber effectively reduced the amount of HAs, while reducing sugar to half and increased the formation of HAs, with reducing of both sugar and soy sauce proportion to half showing no significant effects.

Biography

Tsai-Hua Kao received her PhD in Food Science and Nutrition from Fu Jen University, Taipei, Taiwan and is now an Associate Professor in the Department of Food Science at Fu Jen University, with formal responsibilities in research and teaching. Her research efforts are in the area of Food Analysis, Food Toxicity and Functional Food Development. She teaches instrumental analysis, food processing and management and utilization of food processing by-products courses. She has published more than 35 journal articles, five book chapters and has also been an Expert Reviewer for several peer-reviewed journals.

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