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Study of Potential Synergistic Effect of Probiotic Formulas in Food Toxin Reduction

Siu Mei, Emily Choi
Faculty of Science and Technology, Technological and Higher Education Institute of Hong Kong, Vocational Training Council, dremilychoi@thei.edu.hk

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Dr. Emily Siu Mei Choi

Faculty of Science and Technology, Technological and Higher Education Institute of Hong Kong, Hong Kong, dremilychoi@thei.edu.hk

Abstract: Short Description of what will be discussed during the presentation (about 250 - 500 words)
In this study, the potential synergistic effects of probiotic formulas to reduce ethyl carbamate (EC), a common process-induced toxicant, was investigated. Five selected *Lactobacillus, Bifidobacterium,* and *Streptococcus strains were* incubated with EC chemical solution and those with higher efficacy to reduce EC were selected for probiotic formulation. The probiotic formulas were incubated with (i) standard chemical solutions, (ii) wine samples including yellow wine, sake and plum wine as well as (iii) in-vitro digestion model to evaluate the reduction of of EC. LC-MS was used to analyse levels of EC of samples. Synergistic effect of the probiotic formula was only observed in some selected wine samples and the reduction percentage of EC by a combination of *Lactobacillus bulgaricus* and *Lactobacillus plantarum* is significantly higher ($p<0.05$) than that by single strain of *Lactobacillus plantarum* and *Lactobacillus paracasei*. Overall, the synergistic effect of probiotics formulas to reduce EC and its reduction mechanism required further studies in the future.

Biography of presenting author (should not exceed 100 words)

Dr Emily Siu Mei Choi Assistant Professor of Faculty of Science and Technology, Technological and Higher Education Institute of Hong Kong (THEi), Hong Kong. She received her Bachelor's degree in Food Science and Nutrition from the University of Hong Kong. She obtained Master of Food Safety and Toxicology as well as PhD in Food Science from the University of Hong Kong. She had conducted research in various areas such as plant food protein, process-induced food toxicants and the potential application of probiotics in food safety.

Details of presenting author to be mentioned in certificate:

Name: Dr CHOI SIU MEI
Affiliation: Technological and Higher Education Institute of Hong Kong (THEi)
Country: Hong Kong

Other Details:

Presentation Category: (Oral/~~Poster~~ Presentation)
Session Name: **Probiotic and Prebiotic Nutrition**
Email: dremilychoi@thei.edu.hk
Alternative email: emily@hku.hk
Contact Number: (852) 2176 1495
Twitter/Facebook/LinkedIn: NA
Suggestion of speakers to be invited: Names and email address of your colleagues or friends interested to attend.