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MEETING FUTURE FOOD DEMANDS: SECURITY & SUSTAINABILITY

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CONFERENCE PROCEEDINGS

POSTER PRESENTATIONS - PART 2

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FSA-P 9.28
Determination of Acrylamide in Potato Chips, French Fries and Frying Oil
Dr Viduranga Waisundara, Goh Wanning Sheena

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Mrs Marleen Sunyoto, Indonesian Food Technologist Association, Indonesia

FPR-P 10.2
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Mrs Rosniyana Ahmad, Malaysian Agricultural Research Development Institute, Malaysia

FPR-P 10.3
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Ms Rowena Grace Rumbaoa, University of The Philippines, Philippines

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Muffins and Cookies made From Garbanzos Flour
Dr Ines Gonzales, Benguet State University, Philippines

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Dr Ines Gonzales, Benguet State University, Philippines

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Ms Oshini Perera, Institute of Fundamental Studies, Sri Lanka

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Ms Hathaitip Rongkom, Chiang Mai University, Thailand

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Mr Tan Soon Ann, Singapore Polytechnic, Singapore

Track 9 - Food Safety

FSA-P 9.28
Determination of Acrylamide in Potato Chips, French Fries and Frying Oil

Dr Viduranga Waisundara, Goh Wanning Sheena

Introduction: Acrylamide is a neurotoxin and probable carcinogen which was first identified in starch-based food products prepared at high temperatures. Given its toxicity, consumers need to be aware of its quantity present in regularly consumed starch-based food products such as potato chips and French fries, as well as the oil which is commonly reused in their preparation. The objective of this project was to quantify the acrylamide present in French fries and potato chips, and the Canola oil used for their preparation.

Methods: Thirty batches of 100 g of French fries were prepared in Canola oil which was reused and maintained at 170 0C for 4 hours. The oil and fries were analyzed for acrylamide using HPLC. Analyses were also carried out in commercial brands of potato chips as well as ready-made French fries obtained from food-stalls in the vicinity of Temasek Polytechnic.

Results: Acrylamide was not detected in any of the batches of French fries as well as the Canola oil which was reused in their preparation. The commercial brands of potato chips and French fries obtained from food-stalls also did not contain any trace of acrylamide.

Conclusion: Since acrylamide was not detected to be present at hazardous levels, it may be concluded that the potential risks imposed by acrylamide is non-existent during the consumption of these food products.