Accepted Manuscript

Effects of meat addition on pasta structure, nutrition and in vitro digestibility

Tingting Liu, Nazimah Hamid, Kevin Kantono, Loveena Pereira, Mustafa M. Farouk, Scott O. Knowles

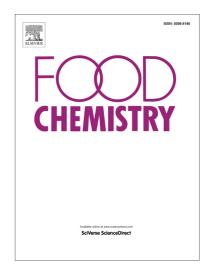
PII: S0308-8146(16)30951-7

DOI: http://dx.doi.org/10.1016/j.foodchem.2016.06.058

Reference: FOCH 19399

To appear in: Food Chemistry

Received Date: 16 June 2015 Revised Date: 15 June 2016 Accepted Date: 18 June 2016



Please cite this article as: Liu, T., Hamid, N., Kantono, K., Pereira, L., Farouk, M.M., Knowles, S.O., Effects of meat addition on pasta structure, nutrition and *in vitro* digestibility, *Food Chemistry* (2016), doi: http://dx.doi.org/10.1016/j.foodchem.2016.06.058

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Effects of meat addition on pasta structure, nutrition and in vitro digestibility

Tingting Liu^a, Nazimah Hamid^{a*}, Kevin Kantono^a, Loveena Pereira^a, Mustafa M. Farouk^b, Scott O. Knowles^c,

^a School of Applied Sciences, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand

^b AgResearch Ltd. Ruakura, Hamilton, New Zealand

^c AgResearch Ltd. Palmerston North, New Zealand

*Corresponding author:

Nazimah Hamid

Faculty of Health and Environmental Science

AUT University, Private Bag 92006, Auckland 1142, New Zealand

Tel.: +64 921 9999 x 6453;

Email: nazimah.hamid@aut.ac.nz

Abstract

In our study, semolina flour was substituted with beef emulsion (EM) at three different levels of 15, 30 and 45% (w/w) to develop a pasta with enhanced nutritional profile. The protein, fat, and water content significantly increased with addition of meat. The addition of meat enhanced the pasta gluten network. The redness and yellowness of cooked pasta increased with meat addition. Tensile strength increased from 0.018 N/mm² in the control sample to 0.046 N/mm² in 45EM sample. All meat-containing samples had significantly higher elasticity than control (0.039 N/mm²). GI significantly decreased and IVPD value increased in 45EM sample. Five essential amino acids (leucine, lysine, methionine, threonine, tryptophan) in pasta digesta increased significantly with increasing meat addition.

Download English Version:

https://daneshyari.com/en/article/7587176

Download Persian Version:

https://daneshyari.com/article/7587176

<u>Daneshyari.com</u>