Accepted Manuscript

Protein recovered from meat co-products and processing streams as pork meat replacers in Irish breakfast sausages formulations

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PII: S0023-6438(18)30531-0

DOI: 10.1016/j.lwt.2018.06.020

Reference: YFSTL 7204

To appear in: LWT - Food Science and Technology

Received Date: 6 March 2018

Revised Date: 30 May 2018

Accepted Date: 8 June 2018

Please cite this article as: Álvarez, C., Drummond, L., Mullen, A.M., Protein recovered from meat coproducts and processing streams as pork meat replacers in Irish breakfast sausages formulations, *LWT* - *Food Science and Technology* (2018), doi: 10.1016/j.lwt.2018.06.020.

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ACCEPTED MANUSCRIPT

1	Protein recovered from meat co-products and processing streams as pork meat
2	replacers in Irish breakfast sausages formulations
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7	
8	Abstract
9	Meat industry co-products are sources of high quality proteins with excellent techno-
10	functional properties and nutritive value based on their amino acid profile. Proteins,
11	recovered from four different sources (blood plasma, exudates, brine solution and stick
12	water), were incorporated as meat protein replacers in a meat based product (Irish breakfast
13	type sausage) for demonstration purposes, at 10 or 20% levels of the total protein content.
14	Plasma proteins at both replacement levels had the most positive effect on the analysed
15	properties, compared to the control. Using plasma at 20% replacement level remarkably
16	improved water holding capacity (19% vs. 17%), cook loss (5% vs. 14%), emulsion stability
17	(9% vs. 14%), and essential amino acid content (48% vs. 47%). For other protein extracts
18	(brines, exudates and stick water) only 10% replacement levels were acceptable to maintain
19	the overall final product quality. A novel scoring system was developed to holistically
20	evaluate the effect of replacers in the final product.

1. Introduction

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