

Organization LUND UNIVERSITY Dept. of Food Chemistry Chemical Center P.O. Box 740, S-220 07 Lund Sweden		Document name DOCTORAL DISSERTATION	
		Date of issue May 1984	
		CODEN: LUTKDH/TKLK-1001/1-67/(1984)	
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Title and subtitle NUTRITIONAL PROPERTIES OF WHEAT PRODUCTS PROCESSED BY HTST EXTRUSION COOKING			
<p>Abstract The purpose of the present work was to evaluate some nutritional properties of wheat products processed by HTST extrusion cooking. Comparisons were made with the corresponding raw material and with materials that were processed by relevant alternative processes such as boiling, drum-drying and baking. Under mild extrusion conditions, wheat products of high protein nutritional value can be obtained. The lysine retention was found to be highly dependent on process conditions. An increase in extrusion temperature or screw speed increased lysine damage, whereas an increase in feed rate or moisture content had the opposite effect. Extrusion cooking of wheat products rendered the starch more susceptible to salivary α-amylase <i>in-vitro</i> than did boiling or drum-drying. Consequently, the pH drop in human dental plaque was slightly more pronounced after a mouth rinse with suspensions of extruded products. The rate of starch absorption <i>in-vitro</i>, as judged by the glucose and insulin responses in rats, was similar with boiled wheat products and products extruded under mild conditions. However, under more severe extrusion conditions, there was a significant increase in plasma glucose response, indicating a higher rate of digestion and absorption. In contrast, the plasma glucose and insulin responses to suspensions of drum-dried wheat flour were significantly lower than with a boiled control. The post-prandial glucose and insulin responses in non-insulin-dependent diabetics were followed after a composite breakfast containing extruded or baked bread. Extruded whole-grain crispbread gave significantly larger areas under the glucose and insulin curves compared with the corresponding baked bread. There was a small increase in dietary fibre content during extrusion cooking of whole-grain wheat flour, and in wheat flour at severe extrusion conditions. In extruded wheat flours a significant increase in the proportion of soluble dietary fibre was observed. Studies also showed that extrusion cooking of wheat flour increased the fermentability of fibre in the rat colon.</p>			
Key words HTST extrusion cooking, protein nutritional value, available lysine, starch availability, glycaemic response, plaque pH, dietary fibre			
Classification system and/or index terms (if any)			
Supplementary bibliographical information		Language English	
ISSN and key title		ISBN	
Recipient's notes		Number of pages 67	Price
Security classification			

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Signature Inger Björck Date April 5th, 1984

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