

High pressure treated turkey sausages made from MDM (outline proposal)

Summarized:

From these first preliminary results it could be summarized that high pressure treatment has a positive effects on structure formation of turkey sausage. High pressure treatment resulted in a softer and less rubber-like structure. In addition to that a better water holding capacity upon cooking (WHC) was achieved.

No heat treatment of the sausages, High Pressure Processing only

Production of Frankfurter type sausage using HPP has been tested. The following recipe has been used (Table 1):

Ingredients	Weight
<i>Raw materials:</i>	
Turkey MDM meat	6.0 kg
Ice	2.0 kg
<i>Extenders:</i>	
Wheat fibre	160 g
<i>Additives:</i>	
Nitrite curing salt	120 g
Phosphate	18 g
Ascorbic acid	30 g
<i>Seasonings</i>	
Monosodium glutamate (E-621)	30 g



Table 1: Sausages according to DIL developed recipe

Samples were treated at 600 MPa and 40 °C starting temperature for 5 min holding time in NC-Hyperbaric equipment (Wave55). Pressure processed sausages have been compared to conventionally processed sausages (25 min at 80 °C) with regard to cutting force and firmness.

Comparison of thermal and high pressure treated

Thermal and high pressure treated sausages are shown in Fig.2. Thermal treated sausages were firmer than the HP-treated. The structure of HP-treated sausage was found to be more homogeneous (Fig.2-b). Purge loss of thermal treated sausages was higher than the HP-treated (Fig 2-c)

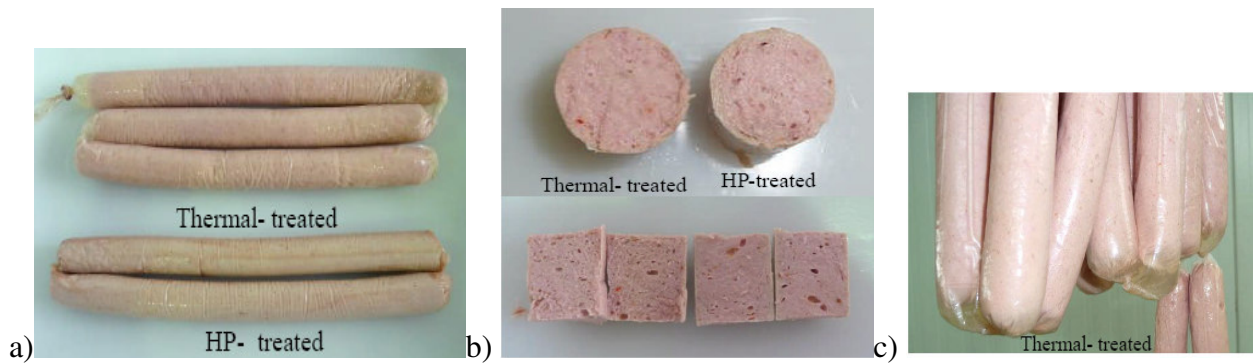


Figure 2: a) Thermal and high pressure treated sausages;
 Figure 2: b) Thermal and high pressure treated sausages structure;
 Figure 2: c) Purge loss after cooking.

Texture measurements

Results of texture measurements: cutting force and firmness are presented in Fig. 3. As shown, the firmness of thermal treated samples was twice as high as HP-treated samples (Fig.3- a). No significant difference by the cutting force parameter of thermal and HP- treated samples was found.

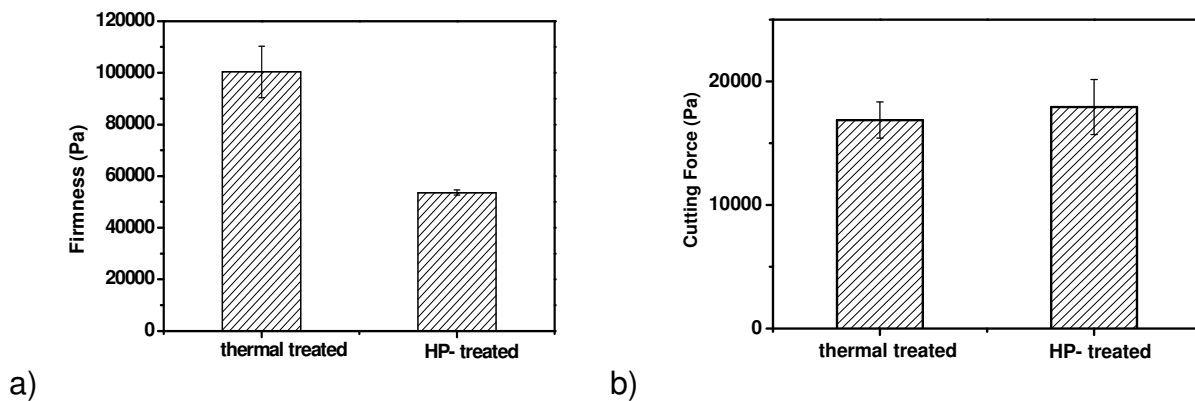


Figure 3: a) Firmness of thermal and HP-treated sausages; b) Cutting force of thermal and HP-treated sausages

From these first preliminary results it could be summarized that high pressure treatment has a positive effects on structure formation of turkey sausage. High pressure treatment resulted in a softer and less rubber-like structure. In addition to that a better water holding capacity upon cooking (WHC) was achieved. Contactperson of DIL German Institute of Food Technologies is Stefan Töpfl s.toepfl@dil-ev.de Contactperson of TRITON is Fritz Kortschack triton@kortschack.eu

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