



# Impact of fresh vs. thawed liver on the quality of Danish liver pâté



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## AIM

This study assessed the impact of using frozen/thawed pork liver versus fresh liver on the quality of Danish liver pâté, evaluating cooking and cooling losses, colour stability and firmness.

## METHOD

Pork livers were collected from a commercial slaughterhouse. Six fresh livers and six frozen/thawed livers were used to prepare a total of 30 Danish liver pâtés according to a standard recipe. Cooking and cooling losses were determined by the weight difference before and after baking and cooling. Colour stability (at 519, 572 and 625 nm) and firmness (shear force) were assessed on days 1, 8 and 22 during storage at 4°C. Data were analysed using linear mixed-effects models and Tukey post hoc tests in RStudio.

## CONCLUSION

Freezing and thawing pork liver did not significantly affect cooking loss, cooling loss, colour stability or firmness of Danish liver pâté. Frozen/thawed liver can therefore be used as an alternative to fresh liver without compromising the product quality.

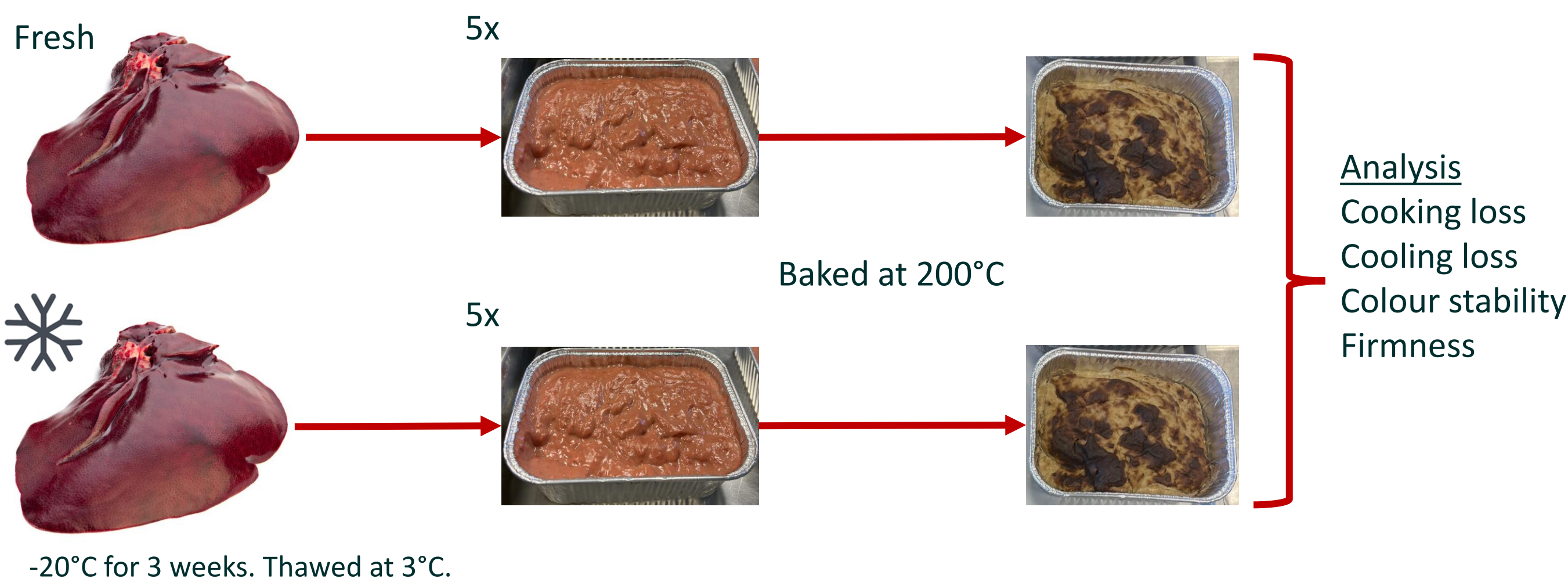


Figure 1. Flow diagram illustrating the preparation of Danish liver pâté from fresh or frozen/thawed liver and subsequent analyses.

## RESULTS

No significant differences were found between pâtés made from fresh and frozen/thawed pork liver in terms of cooking or cooling loss (Table 1).

Colour stability showed only minimal changes over 22 days of storage at 4°C in both groups (Figure 2A).

Firmness increased slightly in all pâtés over the storage period but did not differ significantly between treatments on days 1, 8 or 22 (Figure 2B and Table 1).

Table 1. Cooking and cooling losses and firmness results ( $\alpha = 0.05$ )

Analysis		Fresh liver	Frozen/thawed liver	p-value	n
Cooking loss (%)		5.5 ± 1.4	5.9 ± 1.0	0.543	30
Cooling loss (%)		5.9 ± 1.2	6.3 ± 0.9	0.518	30
Firmness (N)	Day 1	4.2 ± 1.1	3.8 ± 0.9	0.589	12
	Day 8	4.8 ± 1.2	4.2 ± 1.0	0.381	12
	Day 22	5.1 ± 1.2	4.8 ± 1.3	0.659	12

## ACKNOWLEDGEMENTS

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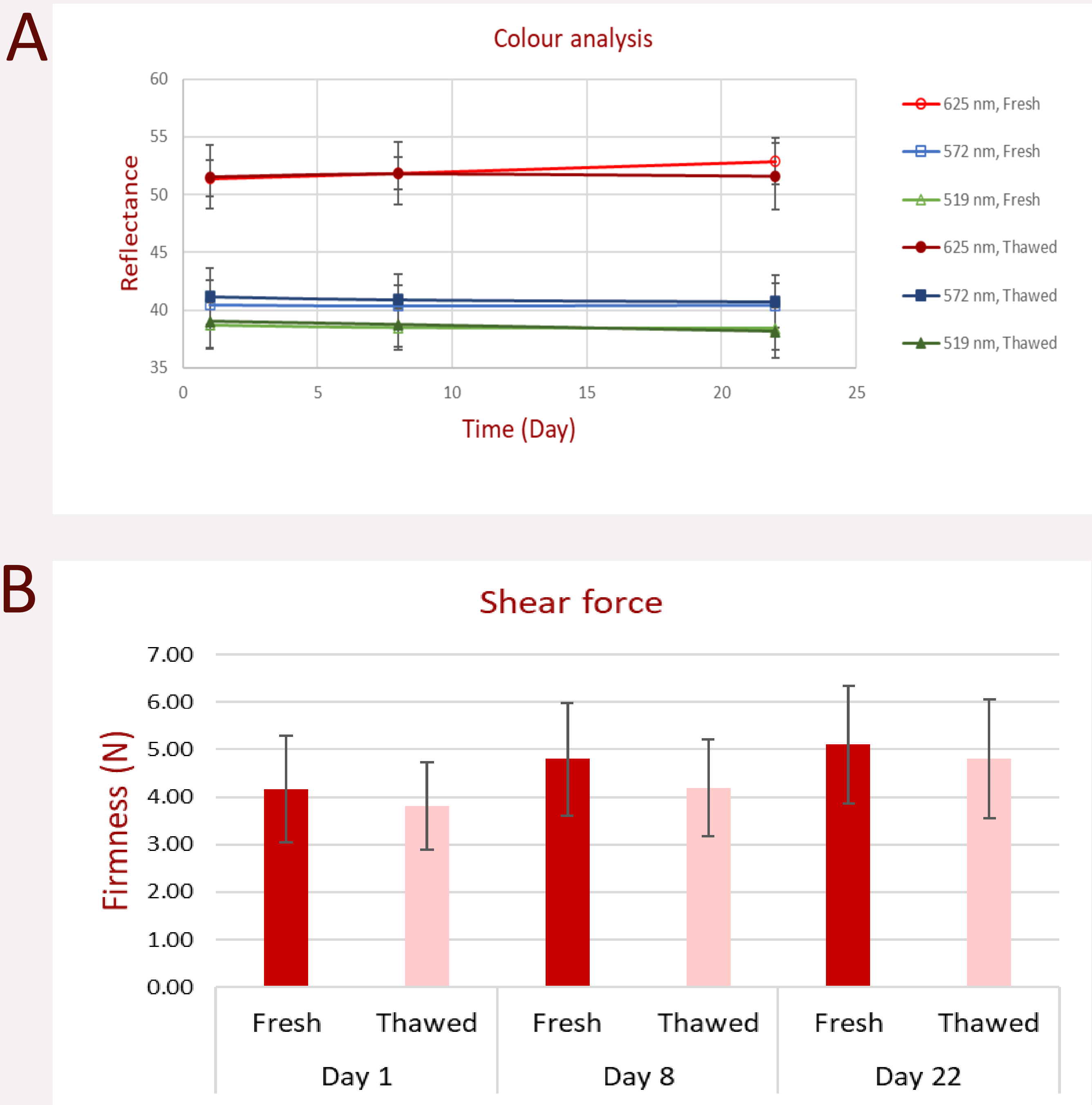


Figure 2. Results from the colour analysis (A) and shear force (B). Means are based on 12 pâtés measured in duplicate; error bars represent the standard deviation. “Fresh” refers to pâtés from fresh livers, and “Thawed” to those from frozen/thawed livers.



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