Thawing of pork loin

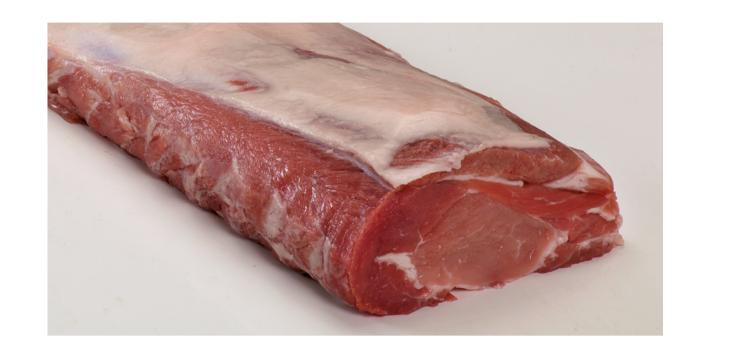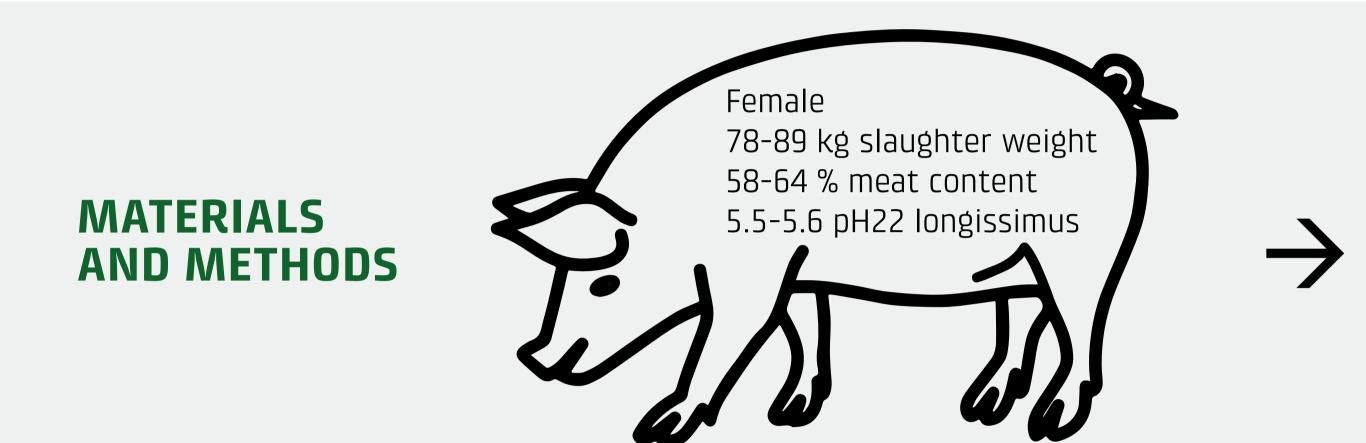Marchen Hviid, Mianne Darré and Jens Würtz

AIM

To investigate the influence of freezing time, thawing time and storage conditions after thawing for pork loins' technological quality.

CONCLUSION

The rate of the freezing process is very important for the meat colour and exudate quality after thawing, whereas the rate of thawing has less influence on the amount of exudate after thawing. The thawed meat can be stored after thawing. This study shows that after 4 days, the colour will be lighter, and the amount of exudate will be higher, resulting in a lower yield and a risk of faster bacterial growth during storage.
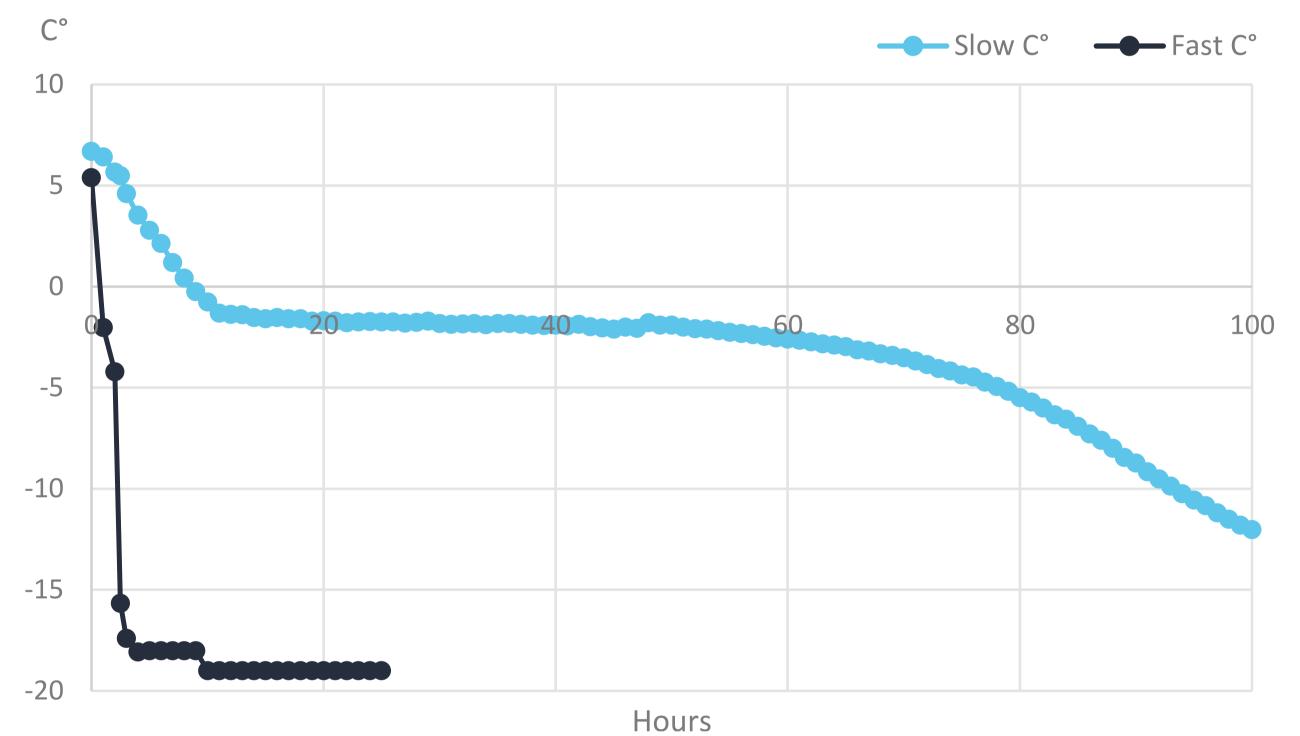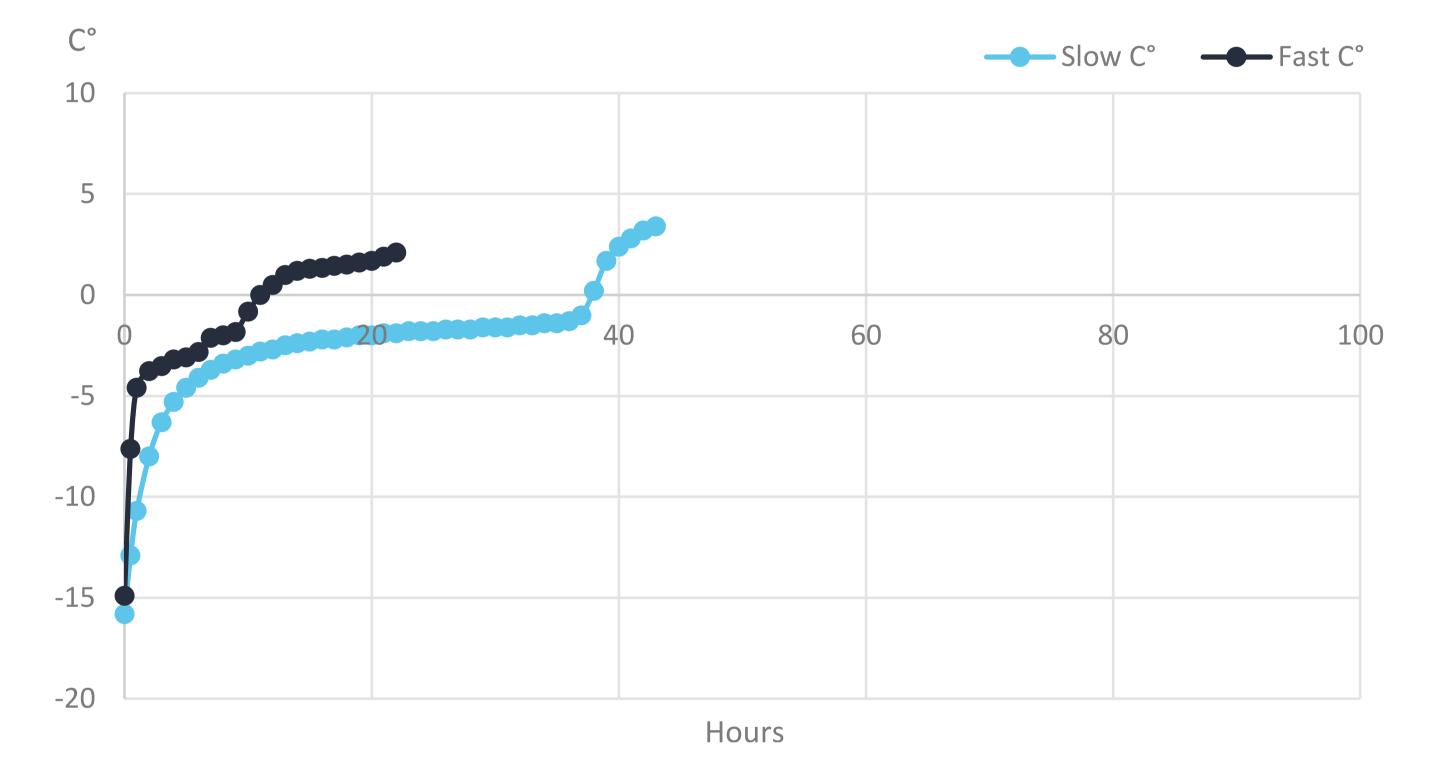
MATERIALS AND METHODS

Female
78-89 kg slaughter weight
58-64 % meat content
5.5-5.6 pH22 longissimus

→

TREATMENT

Freezing	Thawing	Trail
Slow	Fast	A/B
Slow	Fast	A/B
Fast	Slow	A
Fast	Fast	A

MEASUREMENT

Temperature C°
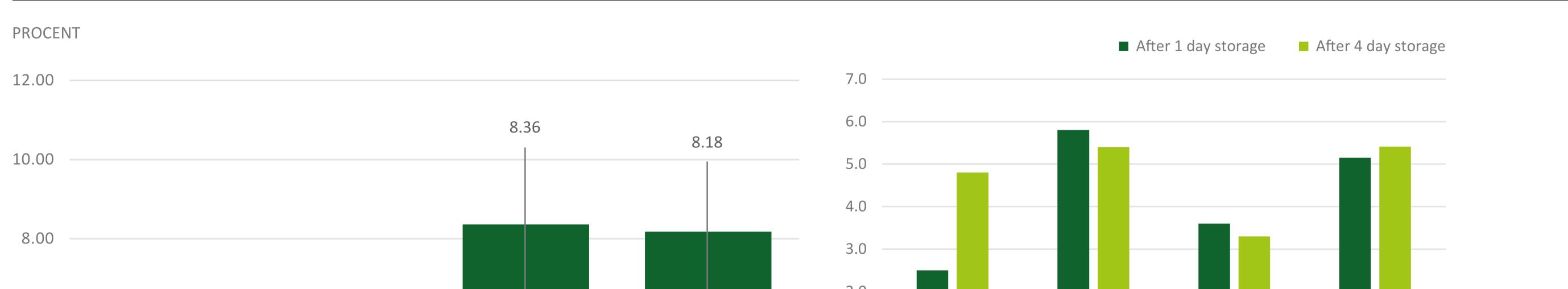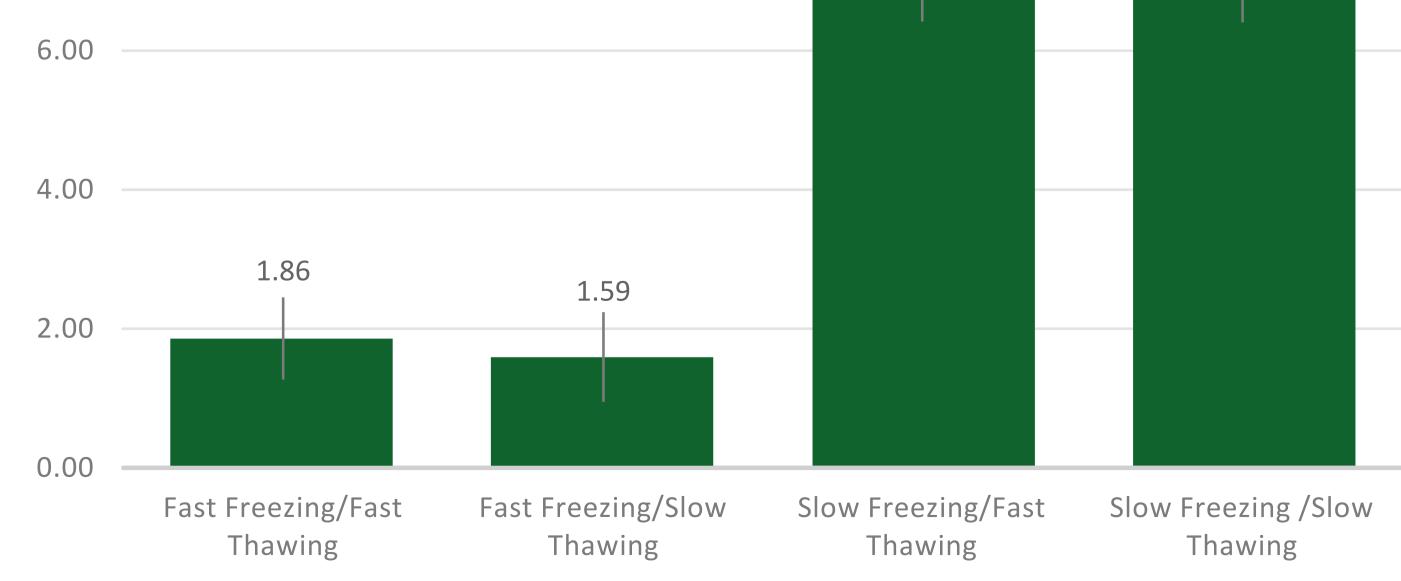Exudate %
Minolta L*,a*,b*
JPCS (1-6)

RESULTS

TEMPERATURE CURVES FOR SLOW AND FAST FREEZING

The loins for the slow freezing process were packed in boxes and placed in a blast freezing tunnel, giving a more differentiated process, while the loins used for fast freezing were processed individually in the impingement freezer, resulting in a more equal process.

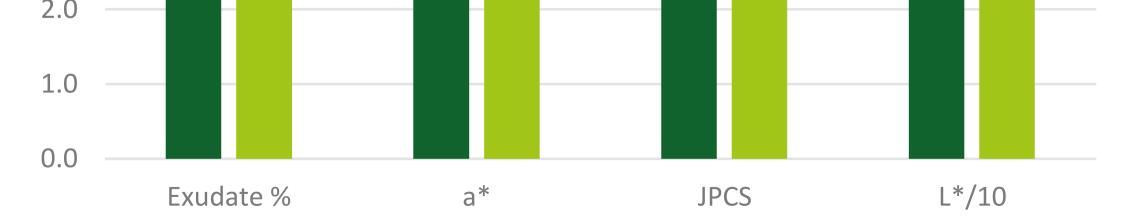**TEMPERATURE CURVES FOR SLOW AND FAST THAWING**

Thawing time was faster, due to the loins were removed from the boxes and only wrapped during the process, to ensure that all loins were thawed more equally.

PROCENT

8.36   8.18

1.86   1.59

Fast Freezing/Fast Thawing | Fast Freezing/Slow Thawing | Slow Freezing/Fast Thawing | Slow Freezing /Slow Thawing

AVERAGE THAWING LOSS, FOR THE 4 TREATMENTS

The freezing time was the most important for thawing loss (p<0.001), and fast freezing reduced the thawing loss.

After 1 day storage   After 4 day storage

Exudate % | a* | JPCS | L*/10

STORAGE AFTER THAWING – PRODUCT QUALITY

The exudate increased during time (p<0.01), and longer storage time led to more exudate from the loins (p<0.001). The level of the loss is at the same level as for fresh meat. Longer storage time after thawing led to lighter meat, while the L-value increased significantly (p<0.001), and JPCS decreased significantly (p<0.05) after the loins had been stored for four days, with no changes in redness (a*).

CONTACT
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