



Does cutting of pork carcasses before rigor mortis affect the shape of products and the meat quality?

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AIM

To analyse the influence of time for cutting and deboning before rigor mortis on the shape and dimension of the product as well as the meat quality, focussing on the middles.

METHODS

16 carcasses were used in the investigation, and the time of killing was used as the starting point for all calculations of time. One side was cut into the three main parts after 24 hours, while the other side was cut after either 3.5 or 5.5 hours. pH was measured with a glass electrode, and the shape and weight of the products cut after 3.5 and 5.5 hours were measured just after deboning and again after 24 hours to calculate loss and changes. The control was only measured at deboning 24 hours after killing.

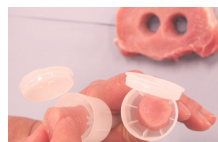
CONCLUSION

Cutting and deboning of the middles before rigor mortis led to poorer meat quality especially in the M. longissimus and M. psoas major. There was no difference in quality between cutting at 3.5 hours and 5.5 hours, even though the core temperature in the middles cut after 5.5 hours was below 7°C.

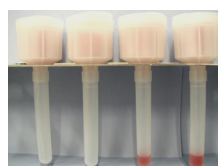
The M. longissimus samples cut after 3.5 and 5.5 hours were less tender than the control, probably due to shrinkage after deboning as seen in the M. psoas major.



The split carcasses in the chiller. The difference in quality between the two sides was the result of the treatment. The core temperature in the middles and ham was measured with Testo 134T.



EZ-DripLoss in loin.



Warner Bratzler shear force. All samples were aged for 72 hours at 5°C before freezing.

RESULTS

Table 1. Minutes to a core temperature of 10°C, difference from the control

	Cutting after 3.5 hours	Cutting after 5.5 hours
M. longissimus	-33	-5
M. semitendinosus	-89	-25

The core temperature in the middles cut after 5.5 hours were almost identical to the control, but early cutting increased the time to reach 10°C, especially for the ham.

Table 2. Quality in the middles depending on the time of cutting, difference from the control

	Cutting after 3.5 hours	Cutting after 5.5 hours
EZ-DripLoss	-1.4	-1.8
Colour based on JPCS	-0.6	-0.6
WB shear force Newton	-32	-30
Length of the belly	-5	-3

EZ-DripLoss in M. longissimus from both 3.5 and 5.5 hours after killing was higher, and the meat was darker than the control, shear force was 30 N higher in the deboned M. longissimus after 3.5 and 5.5 hours.

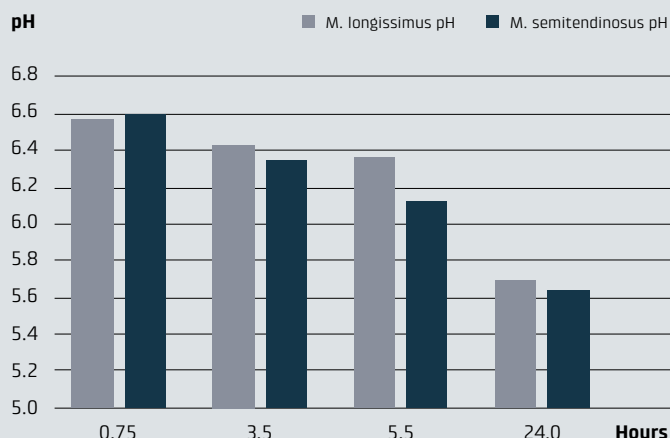


Figure 1. pH in cuts from hot to cold carcass

There was no difference in ultimate pH in M. semitendinosus or M. longissimus for the control and the cuts after 3.5 and 5.5 hours.

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