AARHUS
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EATING QUALITY OF MEAT FROM GRAZING HOLSTEIN BULLS AND LIMOUSINE X HOLSTEIN BULLS AND HEIFERS

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BACKGROUND

- In Denmark there are about 60,000 organic dairy cows.
- Potentially, 25,000 bull calves are available for beef production
- However less than 4,000 organic bulls or steers are slaughtered each year
- The rest is 'exported' to conventional veal/beef production

BACKGROUND

- Organic beef production requires outdoor production at least 6 mo/year
- Feeding with a minimum of 60% roughage
- This causes low daily gain and poor classification on the EUROP scale for traditional purebred dairy breeds

BACKGROUND

Crossbreeding between dairy cows and a beef breed is expected to contribute with

- better growth rate
- higher carcass weight
- better EUROP conformation

AIM

To test a concept for production of organic beef based on crossbred animals from dairy cows sired with a beef breed.

DESIGN - ANIMALS

Holstein x Limousine	Bulls	15	CB
Holstein x Limousine	Heifers	15	CH
Holstein x Holstein	Bulls	15	HB

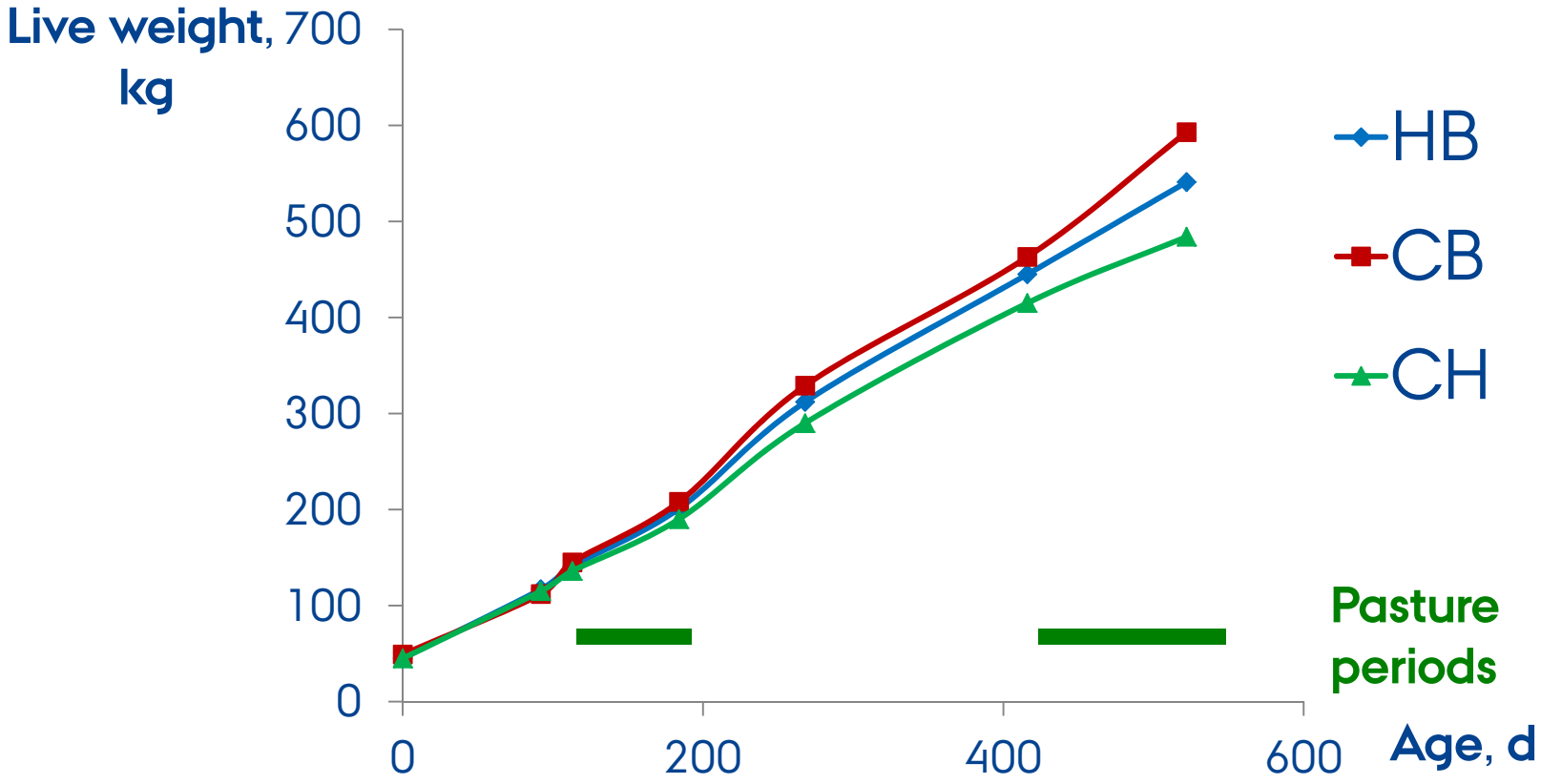
DESIGN - PRODUCTION

- Spring born calves
- Weaned 3 months old
- Raised on pasture 1st summer (2½ mo)
- Raised indoor on low-energy grass-haylage ration during winter (7½ mo)
- Raised on pasture 2nd summer (3½ mo)
- Slaughterd 16.9 mo old

SLAUGHTER AND ANALYSES

- Slaughtered at Danish Crown and classified according to EUROP
- 24 h post mortem pH was measured in filet (LD) and round (SM)
- Muscles removed and aged for 14 d, before frozen storage
- Sensory evaluation of aroma, taste and texture by trained panel

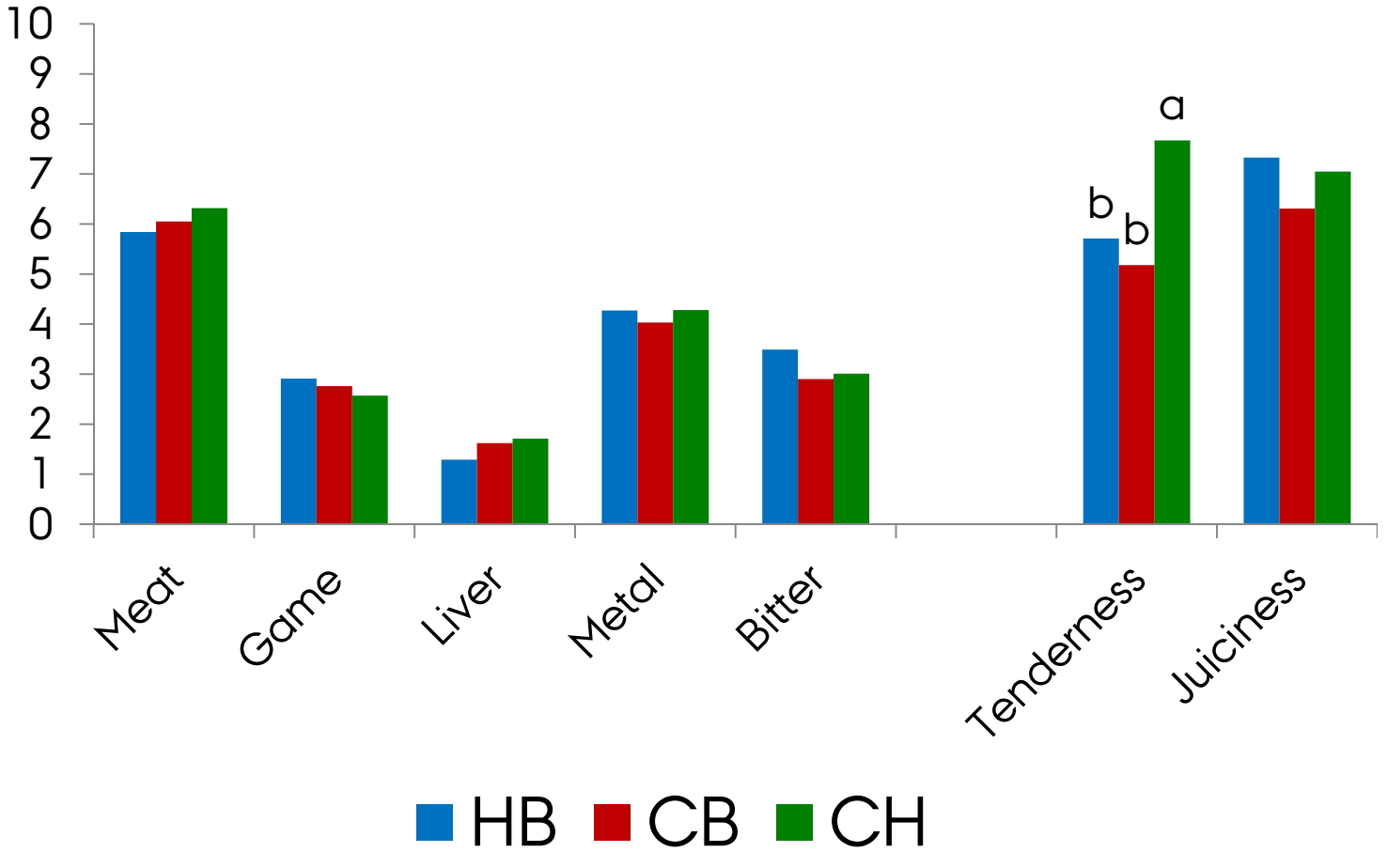
PRODUCTION RESULTS



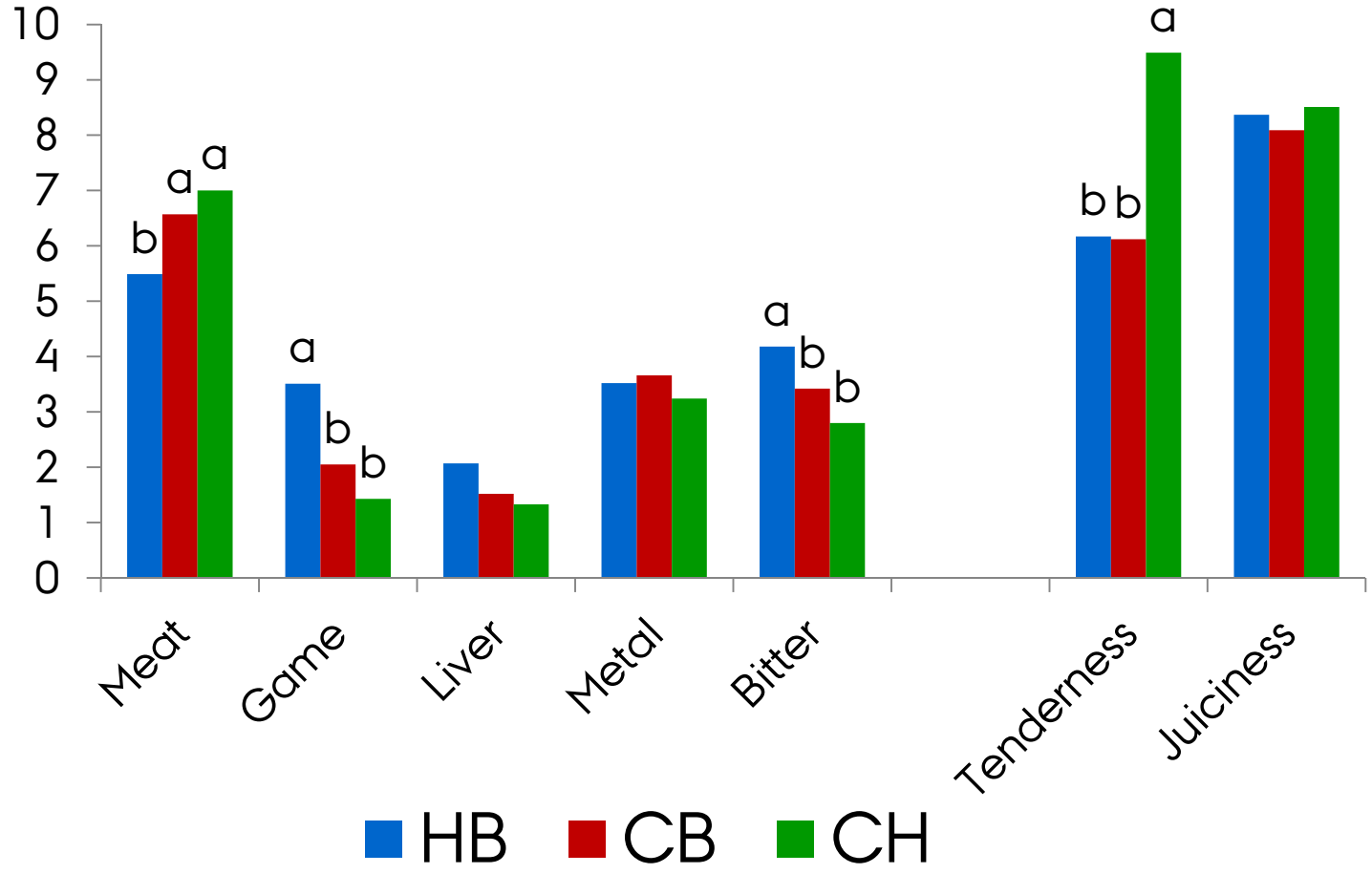
PRODUCTION AND CARCASS TRAITS

	HB	CB	CH
Average daily gain 2nd summer, g/d	1081^{b}	1357^{a}	847^{c}
Carcass weight, kg	272^{b}	315^{a}	249^{c}
EUROP conformation	3.0^{c}	7.0^{a}	5.3^{b}
EUROP fatness	1.0^{b}	1.2^{b}	2.9^{a}
pH_{24} LD	5.88	5.61	5.55
pH_{24} SM	5.62	5.56	5.59

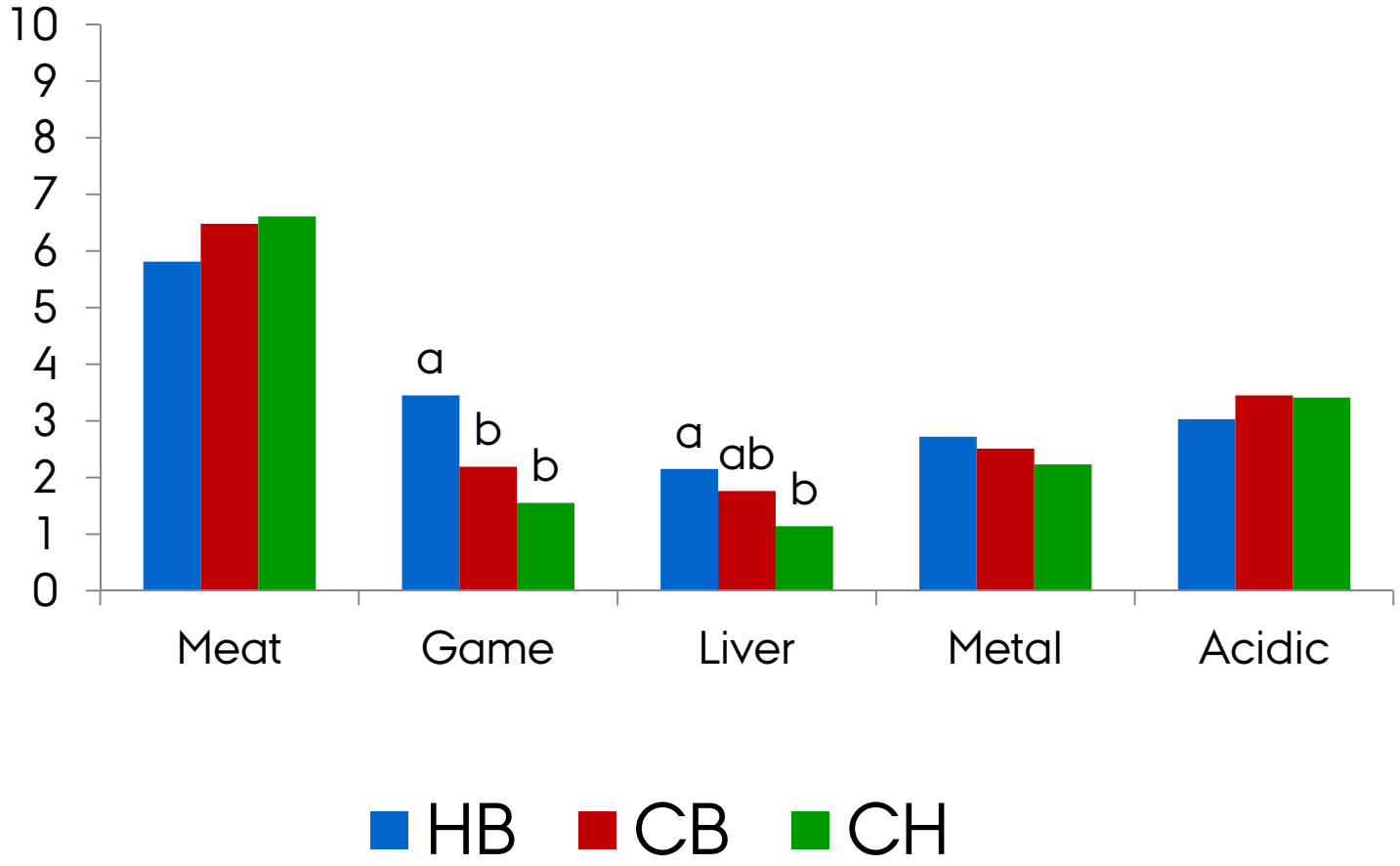
SENSORY EVALUATION – ROUND
TASTE AND TEXTURE



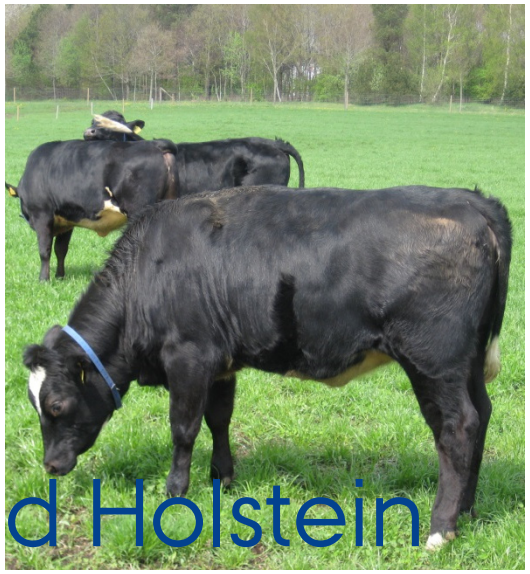
SENSORY EVALUATION – FILET
TASTE AND TEXTURE



SENSORY EVALUATION – FILET
AROMA



CONCLUSION



- Crossbreed Limousine and Holstein bulls and heifers are alternatives to purebred Holstein bulls when it comes to production, EUROP conformation, aroma and taste
- But tenderness and fatness of Crossbred bulls need to be improved to be attractive for consumers

PERSPECTIVE FOR PRODUCTION OF ORGANIC BEEF

- Slaughter of intact bulls directly from pasture is critical because of risk of fighting and stress
- A finishing feeding with high energy feed to improve fat cover, daily gain prior to slaughter and tenderness development post mortem
- This finishing feeding should be developed in order to keep the nutritional benefits in the organic meat from the pasture

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