# **GROWTH PERFORMANCE, CARCASS CHARACTERISTICS, AND MEAT QUALITY OF HEREFORD BULLS OVER TWO CONSECUTIVE YEARS ON AN ORGANIC FARM**



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Keywords: beef, semitendinosus muscle, wet ageing, technological properties

#### **FARM and ANIMALS**

Beef cattle were grazed on coastal grasslands during summer and fed silage from cultivated pastures in winter. Grain was excluded from the feed ration. In winter, the animals were housed in a barn with access to an outdoor area.

## **THE AIM**

The study investigated the effects of slaughter year on the growth performance of bull offspring and the meat quality of the musculus semitendinosus during 28 days of wet ageing.













# **STATISTICS**

Data were analysed in R using a linear model (LSM ±SD).

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### **CONCLUSION**

Slaughter year significantly influenced key compositional and colour traits, with bulls slaughtered in 2024 showing higher protein, fat, and redness values. Ageing primarily affected traits related to exudate loss and colour stability. These findings highlight the combined impact of production year and post-slaughter handling on meat quality.







Figures 2 a-j. Growth performance of bulls slaughtered in 2023 (n = 19) and 2024 (n = 21) (ADG - average daily gain).Light blue asterisks indicate LSMs, grey dots represent individual observations, and green triangles denote extreme values in the boxplots (a-i). Different lowercase letters indicate statistically significant differences between slaughter years (P < 0.05).









+3.30	+2 68	+2 49	+2.61	+3.38	+2.44	+2.45	+2.88			
aA	aA	aA	aA	aA	aA	aA	aA			
Ż	14	21	28	7	14	21	28			
Ageing period, days										

Slaughter year

2023

15.0

010.0 0HM 7.5 7.5

		Aç	leing be	eriod, da	ys			
7	14	21	28	7	14	21	28	
aA	aA	aA	aA	aA	aA	aA	aA	
±5.45	±5.57	±4.64	±6.74	±4.71	±4.17	±5.28	±5.96	
22.00	22.12	20.00	22.02	24.21	24.04	24.44	21.04	



Figures 3a-e. Meat quality of bulls slaughtered in 2023 (n = 16) and 2024 (n = 12). WBSF -Warner-Bratzler shear force; WHC - water-holding capacity;  $L^*$ ,  $a^*$ ,  $b^*$  - colour parameters (CIE Lab). Light blue asterisks indicate LSMs, grey dots show observations, and green triangles denote extreme values in the boxplots (a-d). Lowercase letters indicate differences between slaughter years (P < 0.05); uppercase letters indicate differences across ageing days. Green and red represent 2023 and 2024, respectively, in a 3D chart (e); shading from dark to light indicates 7, 14, 21, and 28 days of ageing.





**REPUBLIC OF ESTONIA MINISTRY OF REGIONAL AFFAIRS** AND AGRICULTURE



Funding statement. The implementation of the SAAREVEIS project is supported by the Estonian Rural Development Plan (MAK) 2014-2020 measure 16.2 "Cooperation", Support for the development of new products, practices, processes, and technologies.



18<sup>™</sup> BALTIC CONFERENCE ON FOOD SCIENCE AND TECHNOLOGY "BALTICS R&D FOR FUTURE FOOD" (FOODBALT2025) May 22-23, 2025, Kaunas, Lithuania