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Agroscope

Meat quality of Dexter cattle kept on alpine pastures compared to Charolais crossbred calves

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Introduction

Remarks

- ✓ Increasing meat production on alpine pastures (SAV, 2010)
- ✓ BUT decreasing land use and increasing shrub encroachment

Important

- ✓ Need for robust and well adapted breeds for these conditions
- ✓ Breeds with high-grade meat quality

Problems

- ✓ Dexter have high potential
- ✓ BUT have never been scientifically studied

Study of carcass and meat quality of Dexter cattle compared to suckling calves and weaned calves grazing on alpine pastures

Aims and Hypotheses

Aims

(I) Scientific and precise examination of meat quality traits of Dexter cattle

(II) Pre-Study to asess the potential of Dexter cattle on shrub encroached pastures

Hypotheses

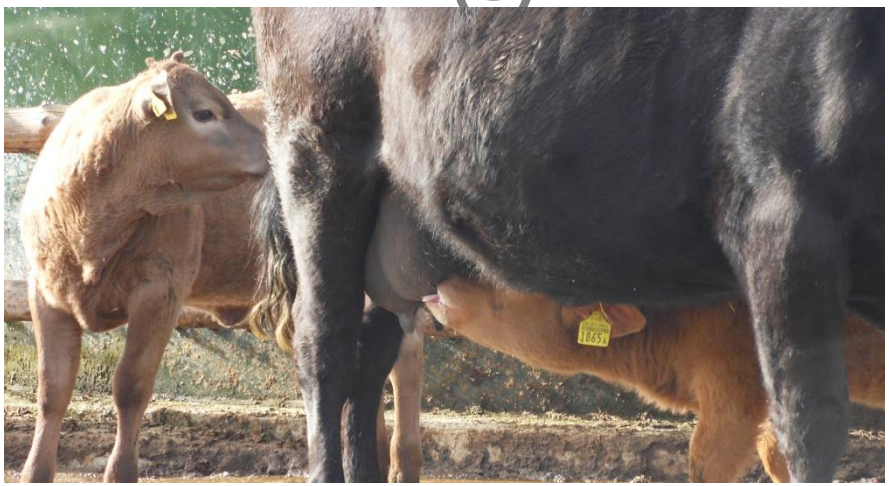
(I) Due to the specific genetic Potential and physical activity Dexter have particular meat quality characteristics

(II) The meat quality of Dexter is comparable to suckling calves and weaned calves if kept in the same conditions (alpine pastures)

The Study

Weaned Calves (W)

Suckling Calves (S)



Dexter (D)

The site

ALP WEISSENSTEIN

2026 m.s.l

11 Weeks

PIZ ELA 3180 m

Steep pastures

(± 40%

Inc[illegible]ation

Material and methods

- **8 Suckling calves** „Charolais“
- **8 Weaned calves** „Charolais“
- **8 Dexter**

Animals slaughtered after 11 weeks on alpine pastures:

Suckling calves and **Dexter**
with similar **fat taxation**

Weaned calves and **Dexter**
with similar **weight**

Slaughtered at SBAG St. Gallen

Meat quality analysis after 21 days of aging

Two muscles: biceps femoris, longissimus thoracis

Meat and muscle analysis

Carcass:

- Average daily gain
- Haemoglobin content
- Carcass quality (CH-TAX)
- Dressing percentage
- pH (3h and 24h *pm*)
- Organ weights

Meat quality:

- Water, protein, ash and intramuscular fat content
- Water holding capacity
- Meat colour (Hue, Red, Yellow)
- Tenderness (Warner-Bratzler)
- Sensory analysis
- Fatty acid analysis

Muscle physiology:

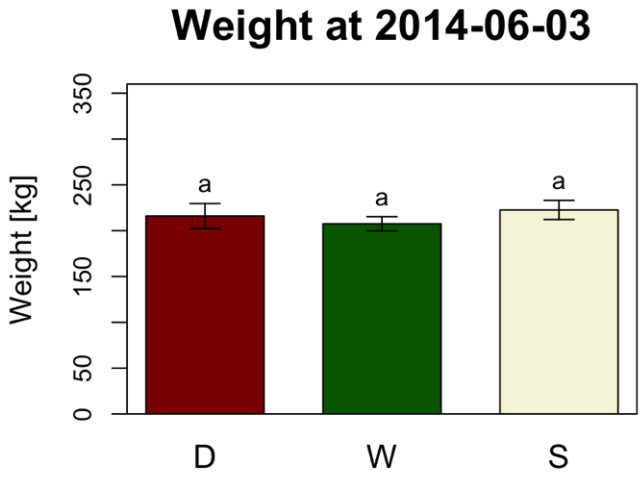
- Histology: Muscle fibre typing
- Specific protein degradationen and enzymatic activity

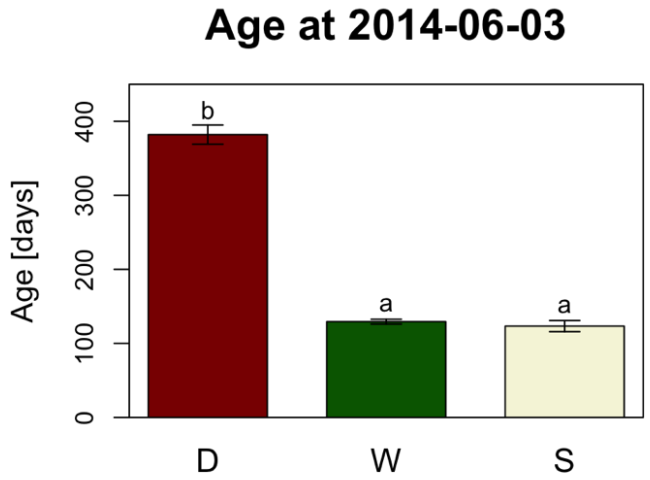
Perirenal fat:

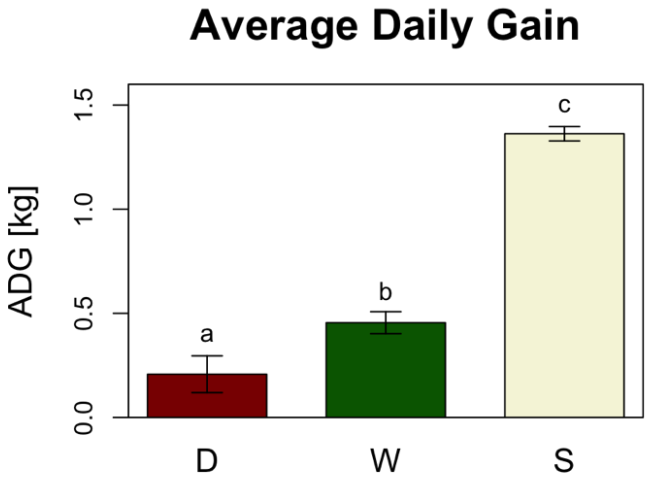
- Oxidative stability *Ranzimat*
- Fatty acid analysis (geplant)

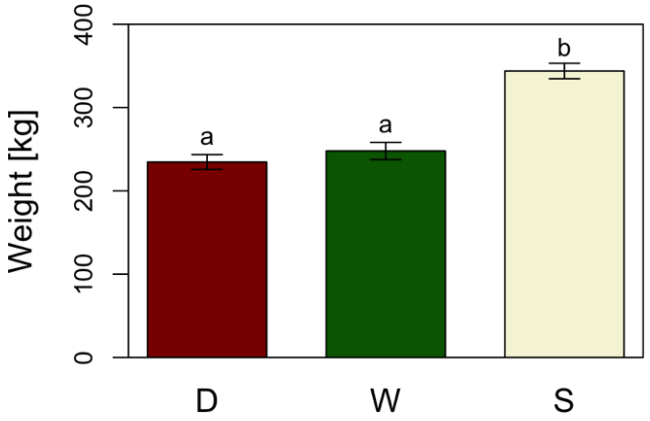
Results Growth and Carcass quality I

Age and weight



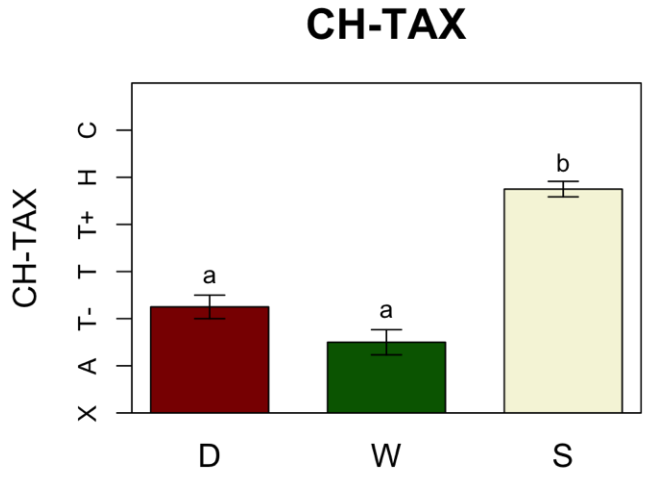


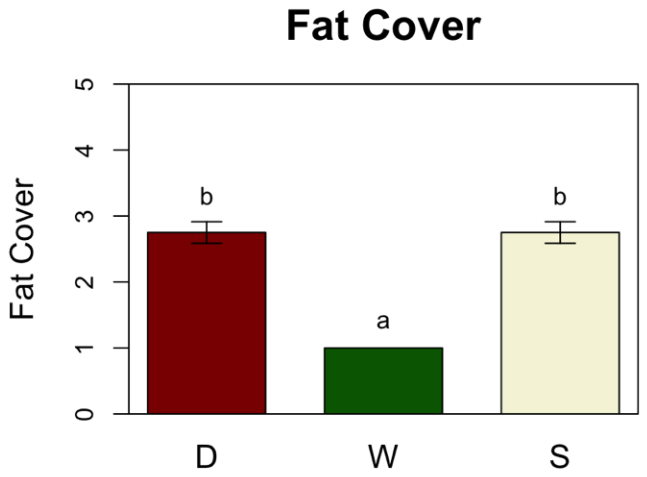


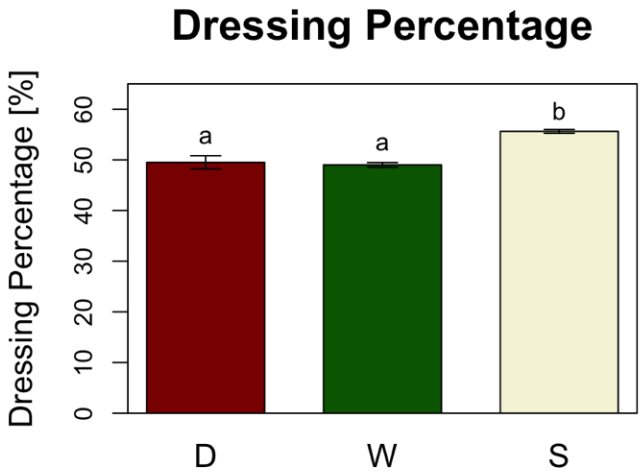


Results Growth and carcass quality II

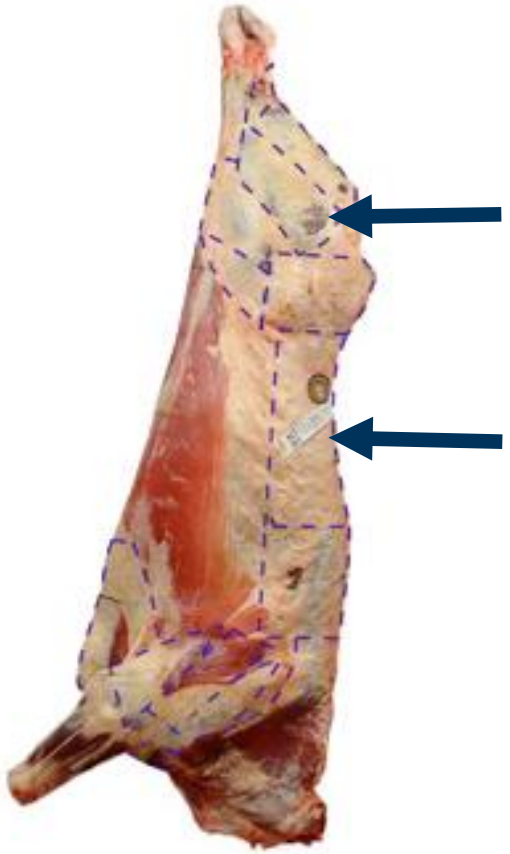
Carcass taxation and Dressing Percentage







Material and methods Two muscles



Rump:

Biceps femoris (**BF**)

Locomotion

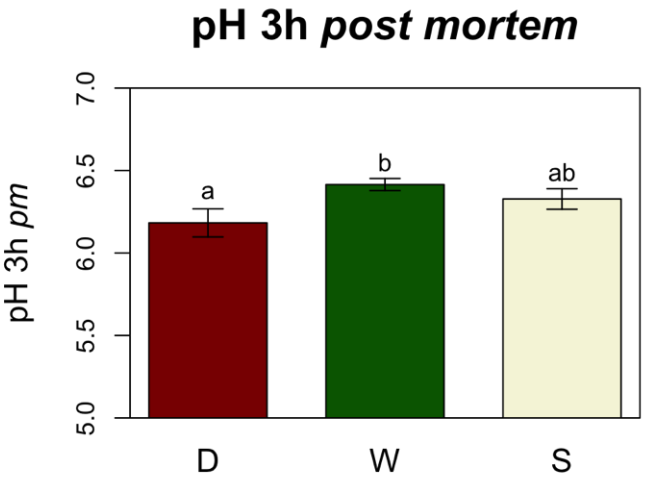
Sirloin:

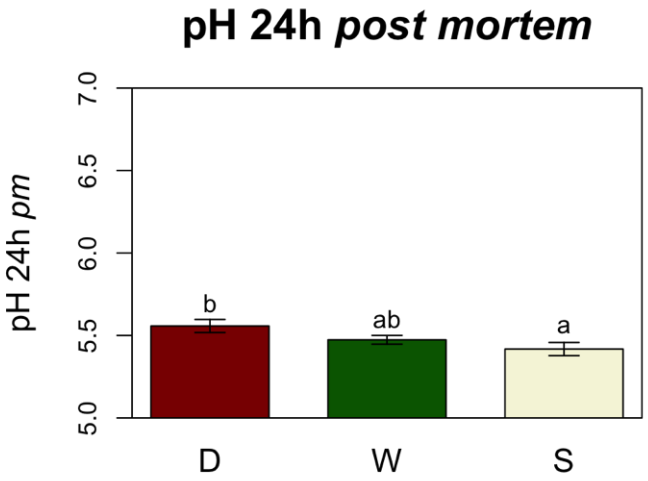
Longissimus thoracis (**LT**)

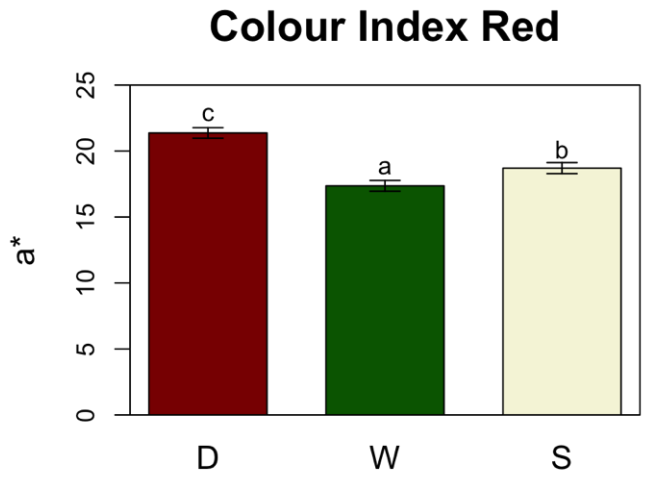
Posture

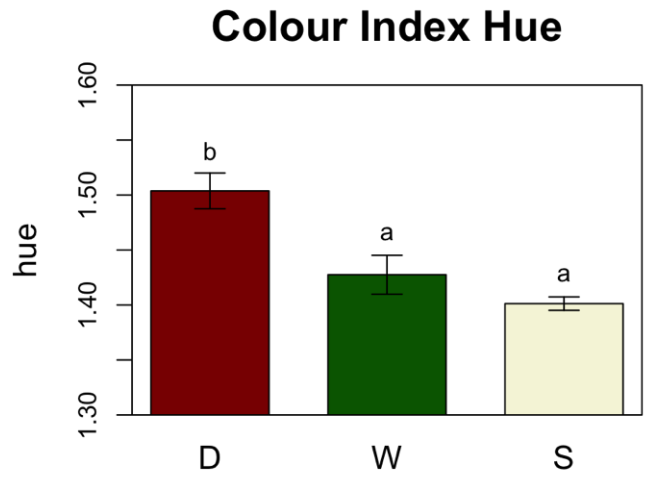
Results Meat quality LT I

pH and Colour



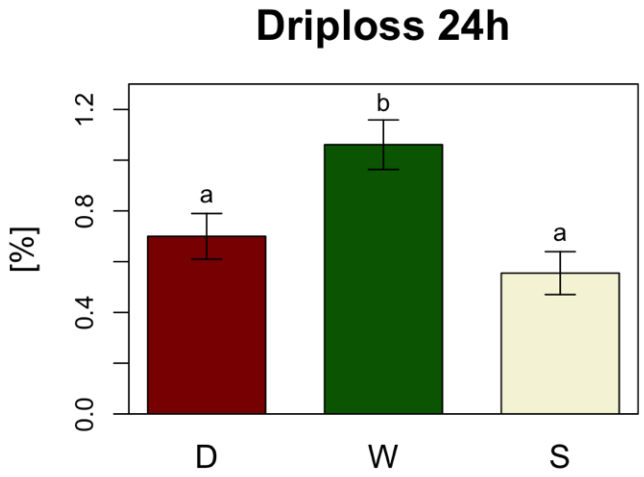


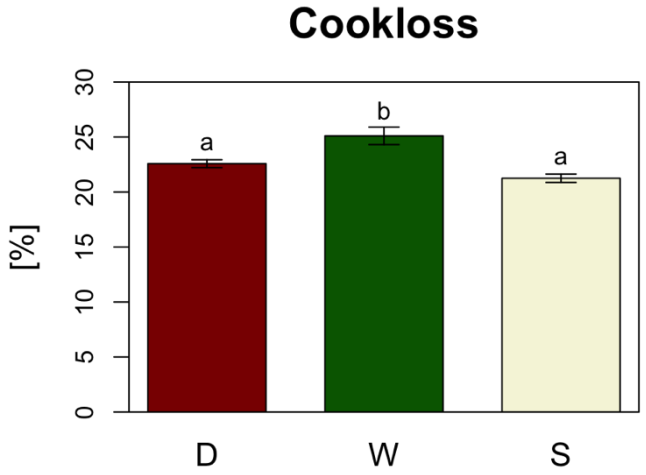


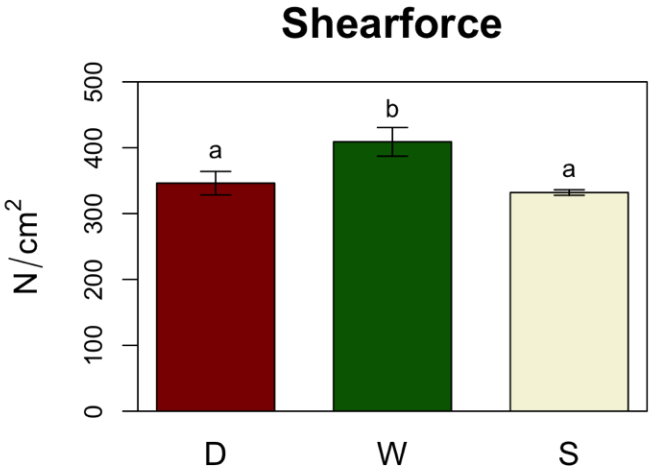


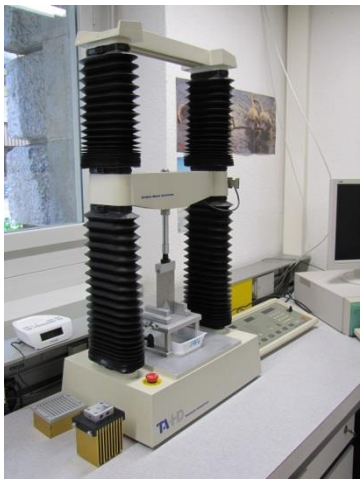
Results Meat quality LT II

Water holding capacity and tenderness



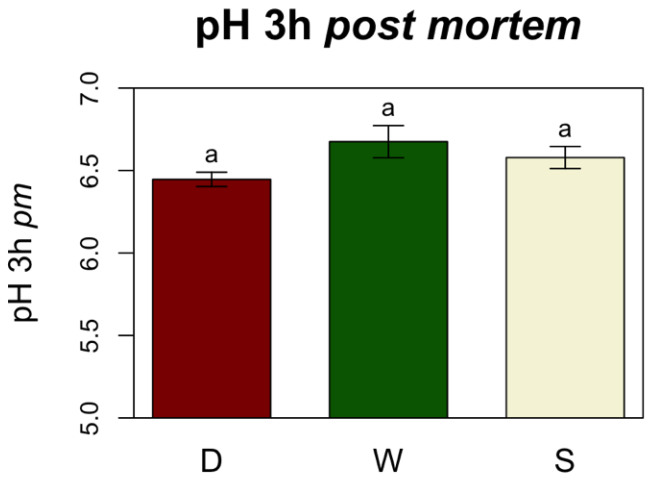


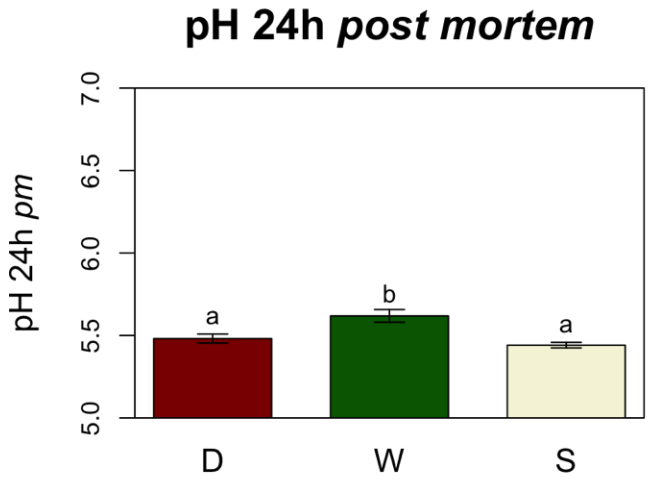


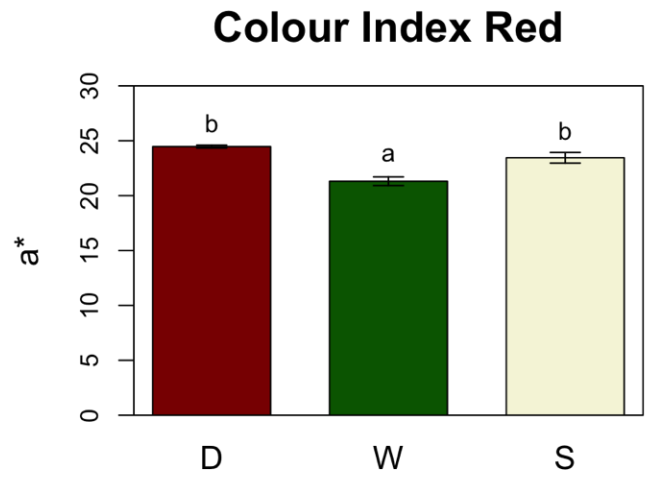


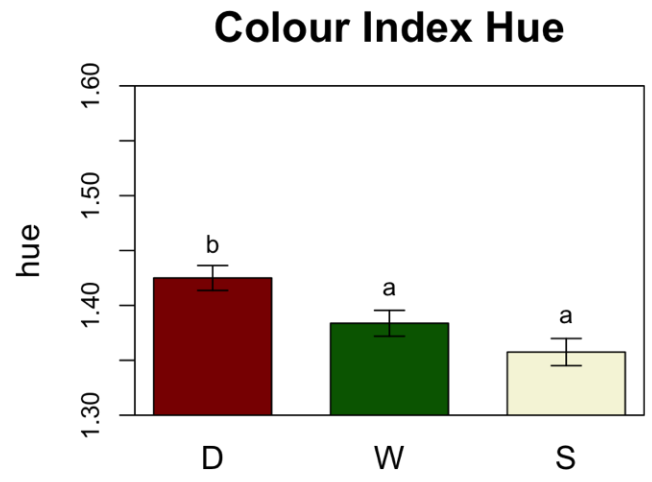
Results Meat quality BF I

pH and colour



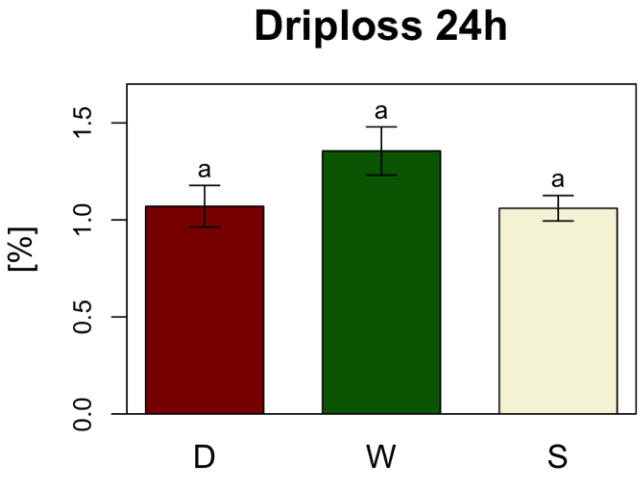


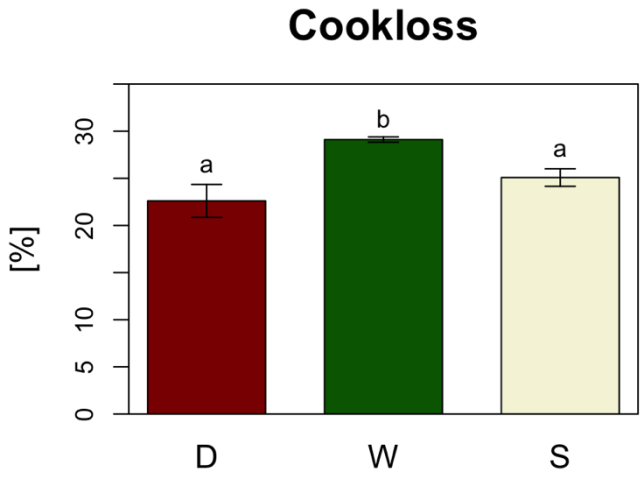


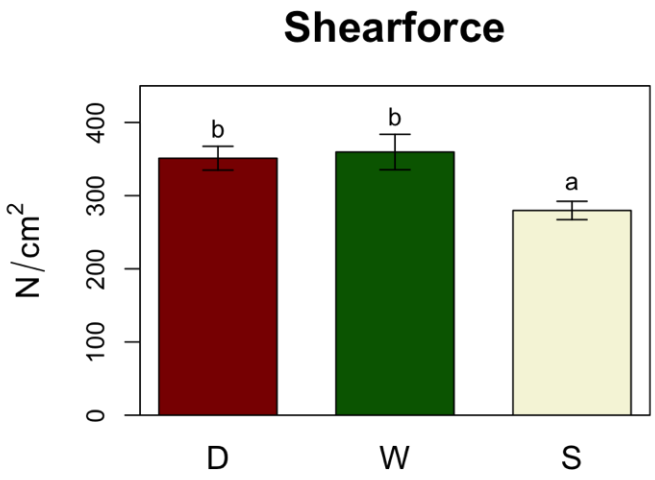


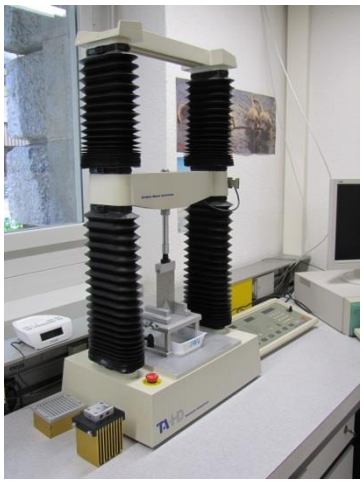
Results Meat quality BF II

Water holding capacity and tenderness









Schlussfolgerungen

Albeit the rough conditions (steep alpine pastures) and the big difference in age, meat quality traits of Dexter are similar to the high standard meat quality produced by suckling calves.

(I) We can produce high quality meat with Dexter comparable to calves.

(II) Dexter may pose a good breed to make use of marginal or shrub encroached grasslands

Thanks to the SwissDexters Breeders Association for their collaboration

especially Peter Falk and Markus Ackert

…and thanks for your attention

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