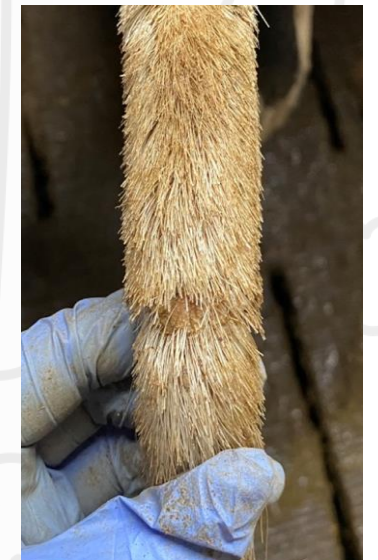


Band-shaped tail lesions in Holstein cows

Henrik Elvang Jensen
Professor

KØBENHAVNS UNIVERSITET



Band-shaped tail (BST) lesions in Holstein cows

- Cow tails are subjected to several types of lesions including, e.g.:
- Dermatophilosis
- Tail tip necrosis
- Tail thread
- Rat-tail syndrome
- Tail rot
- Tail fractures/dislocations
- Band-shaped tail (BST) lesions





Band-shaped tail (BST) lesions in Holstein cows

- Unknown: prevalence, pathogenesis, etiology, pathoanatomical characterization, and impact
- No focus on BST lesions in cattle
- One abstract on "ring-like" tail lesions from Germany in 2022
- Farmers and veterinarians in northern Jutland have been aware of BST lesions for years

Band-shaped tail (BST) lesions in Holstein cows

Master project (September 2023- January 2024):

Students: Cecilie Kirstine Nielsen, Ditte Marie Schjermer, Natascha Schou Jensen

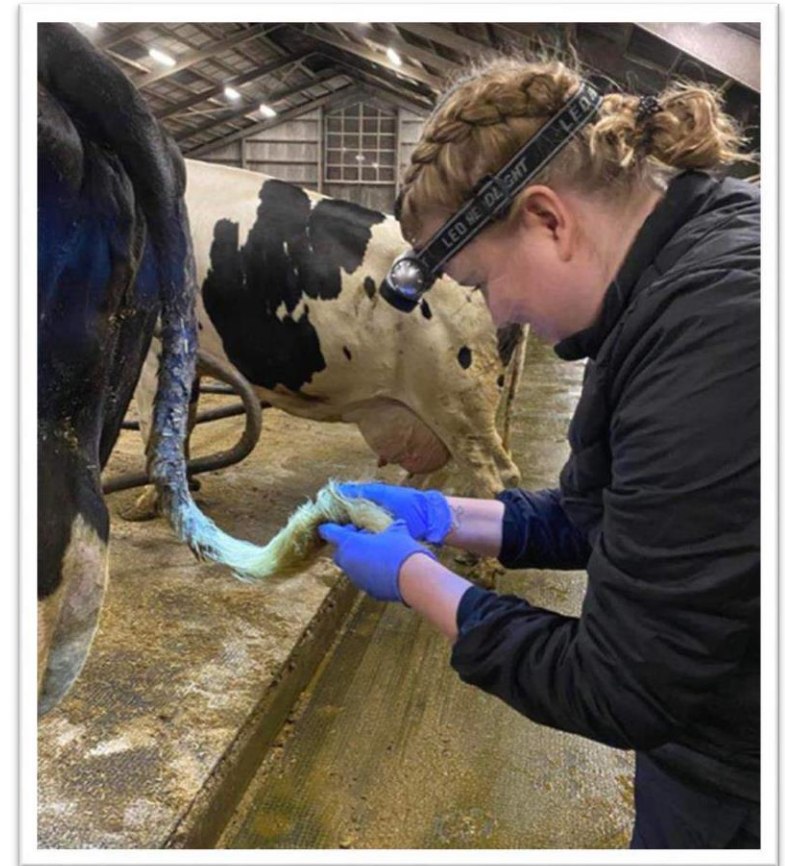
Aim: Prevalence, disposing factors (herd and cow) and characterize gross and histological manifestations of BST lesions

Supervisors:

Tobias Volhøj, Benjamin Meyer Jørgensen, Søren Saxmose Nielsen, Henrik Elvang Jensen

Band-shaped tail (BST) lesions in Holstein cows

- 2099 cow tails
- 16 herds
- Characterized lesions
- Housing and management
- Cow ID



Band-shaped tail (BST) lesions in Holstein cows

- Danish Crown Beef, Aalborg
- 458 cow tails from 55 herds
- Characterized lesions
- Sampled for histology
- Cow ID



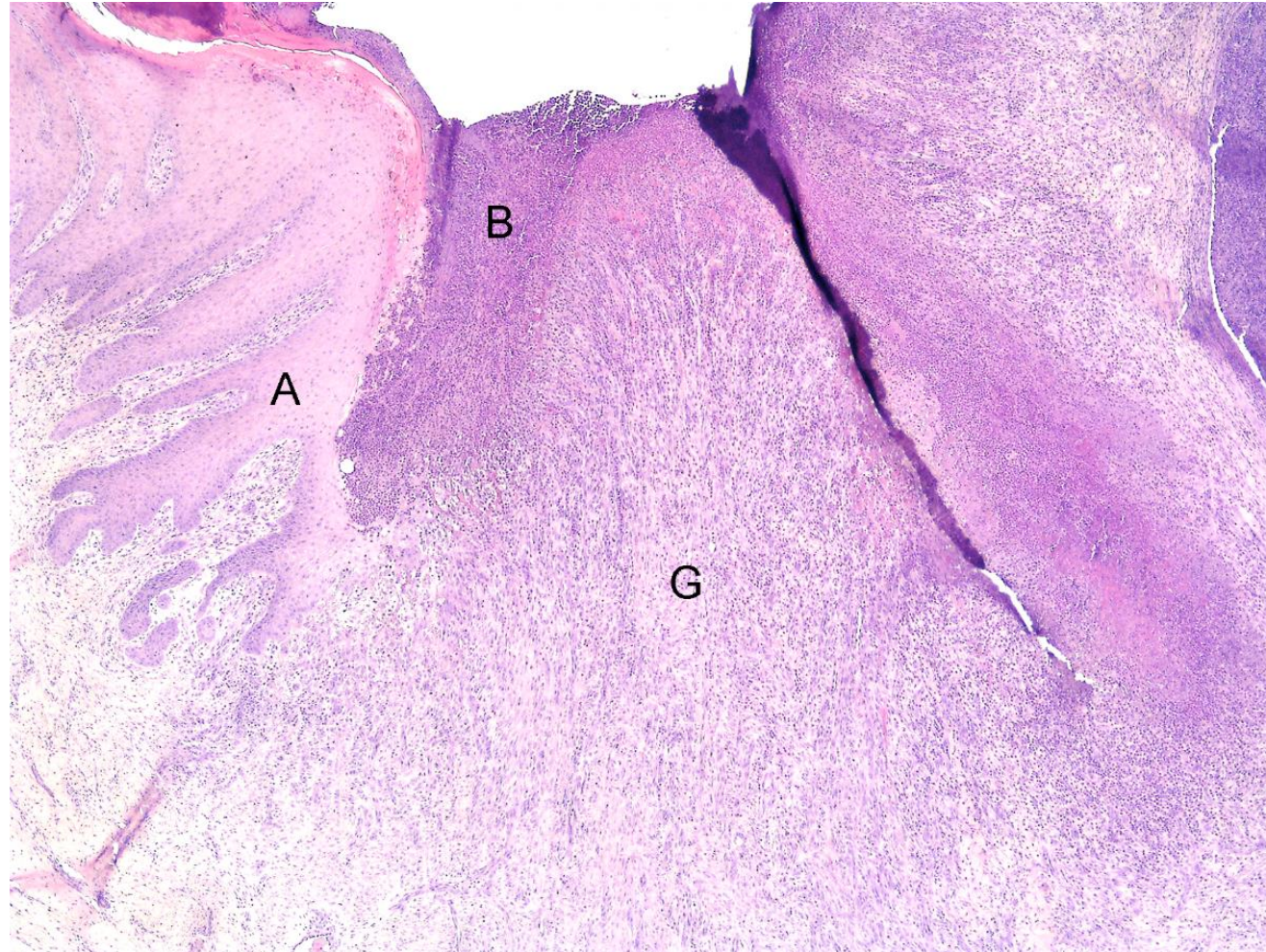
Band-shaped tail (BST) lesions in Holstein cows

Wounds



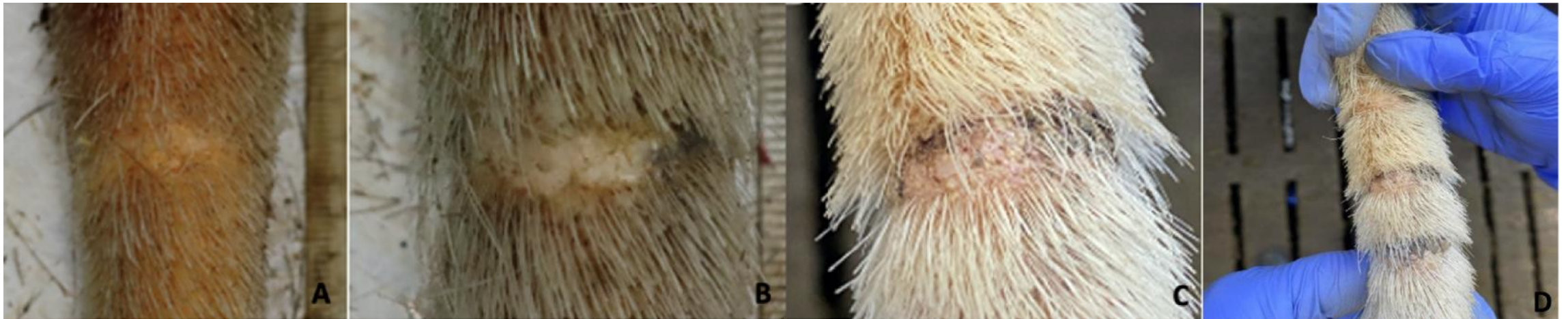
Band-shaped tail (BST) lesions in Holstein cows

Wounds



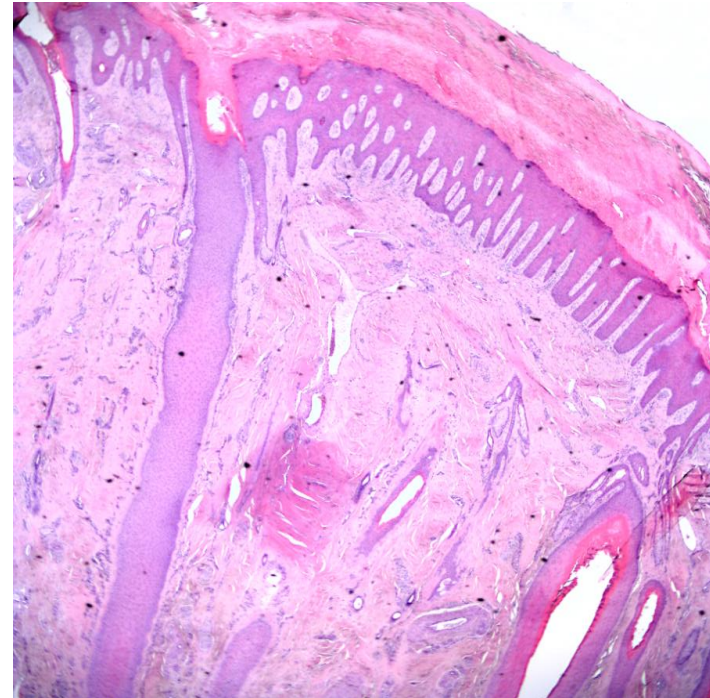
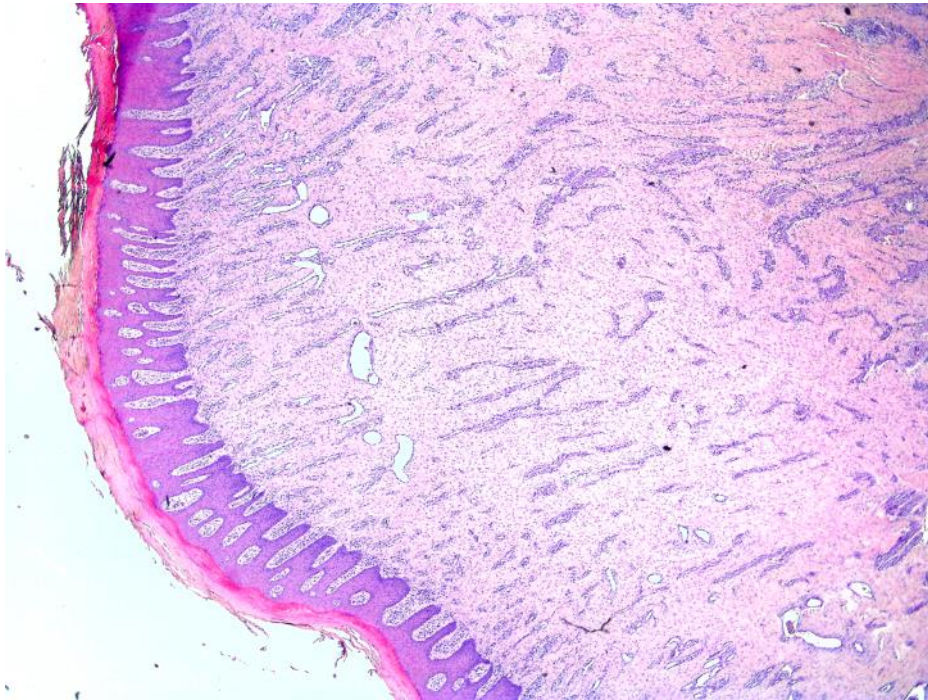
Band-shaped tail (BST) lesions in Holstein cows

Healed lesions

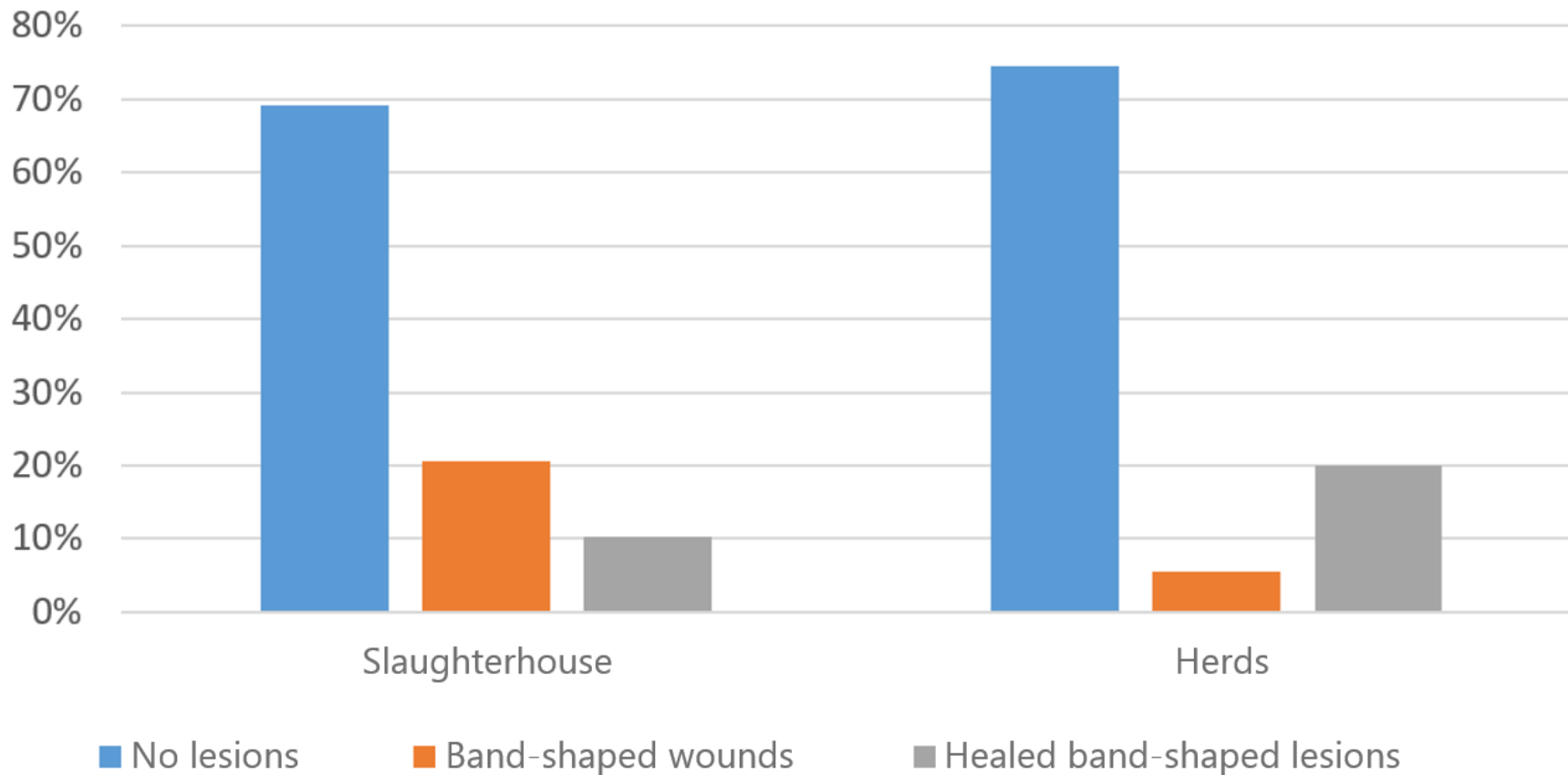


Band-shaped tail (BST) lesions in Holstein cows

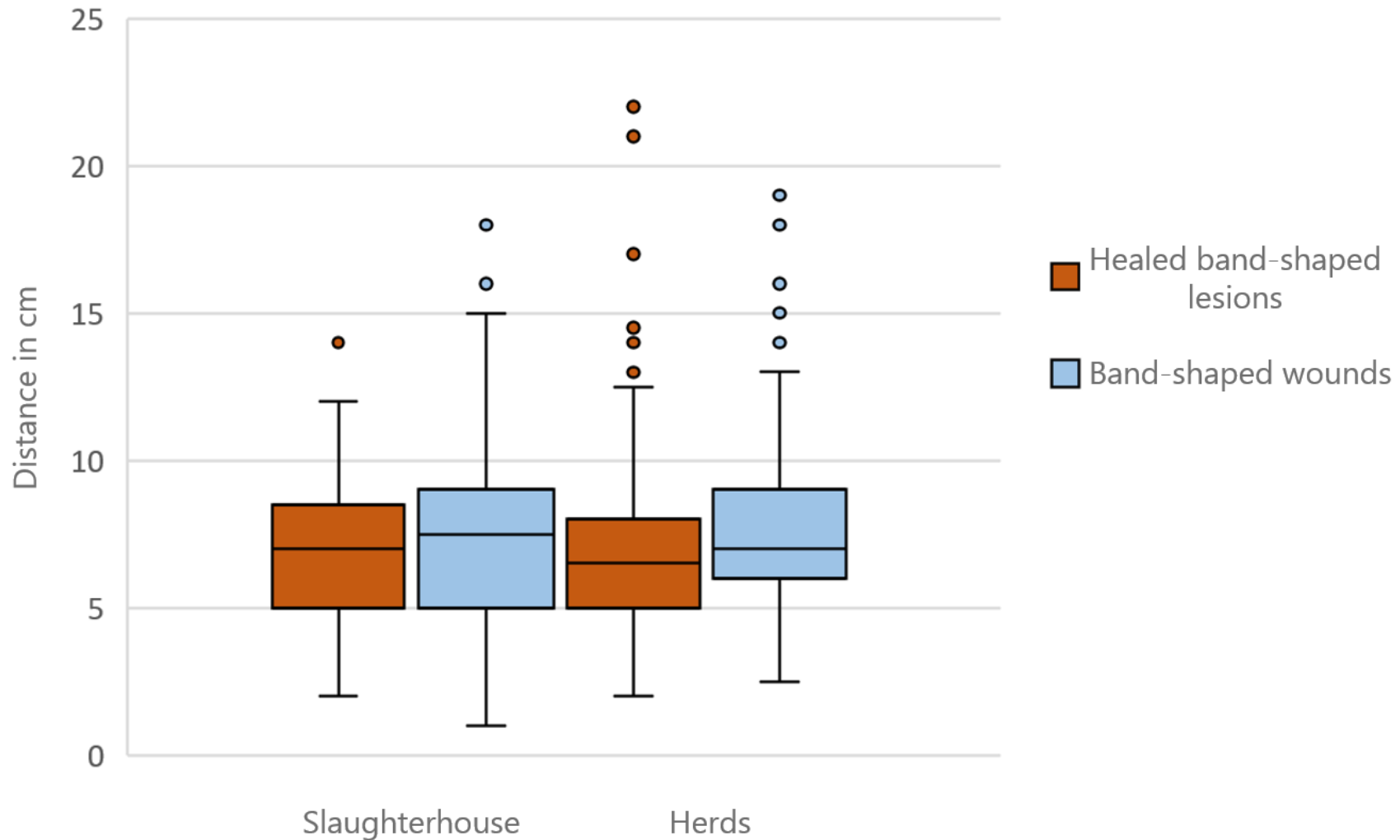
Healed lesions

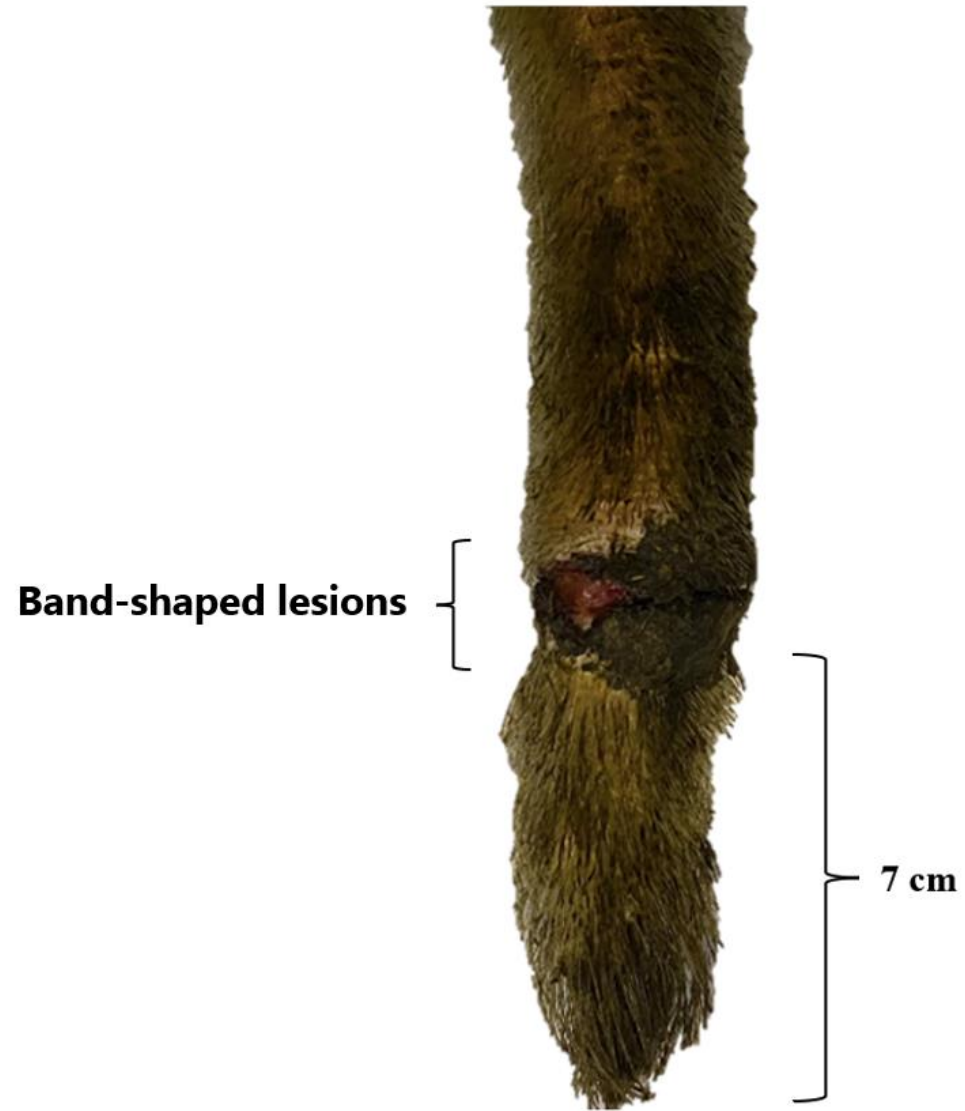


Observations expressed in percentages

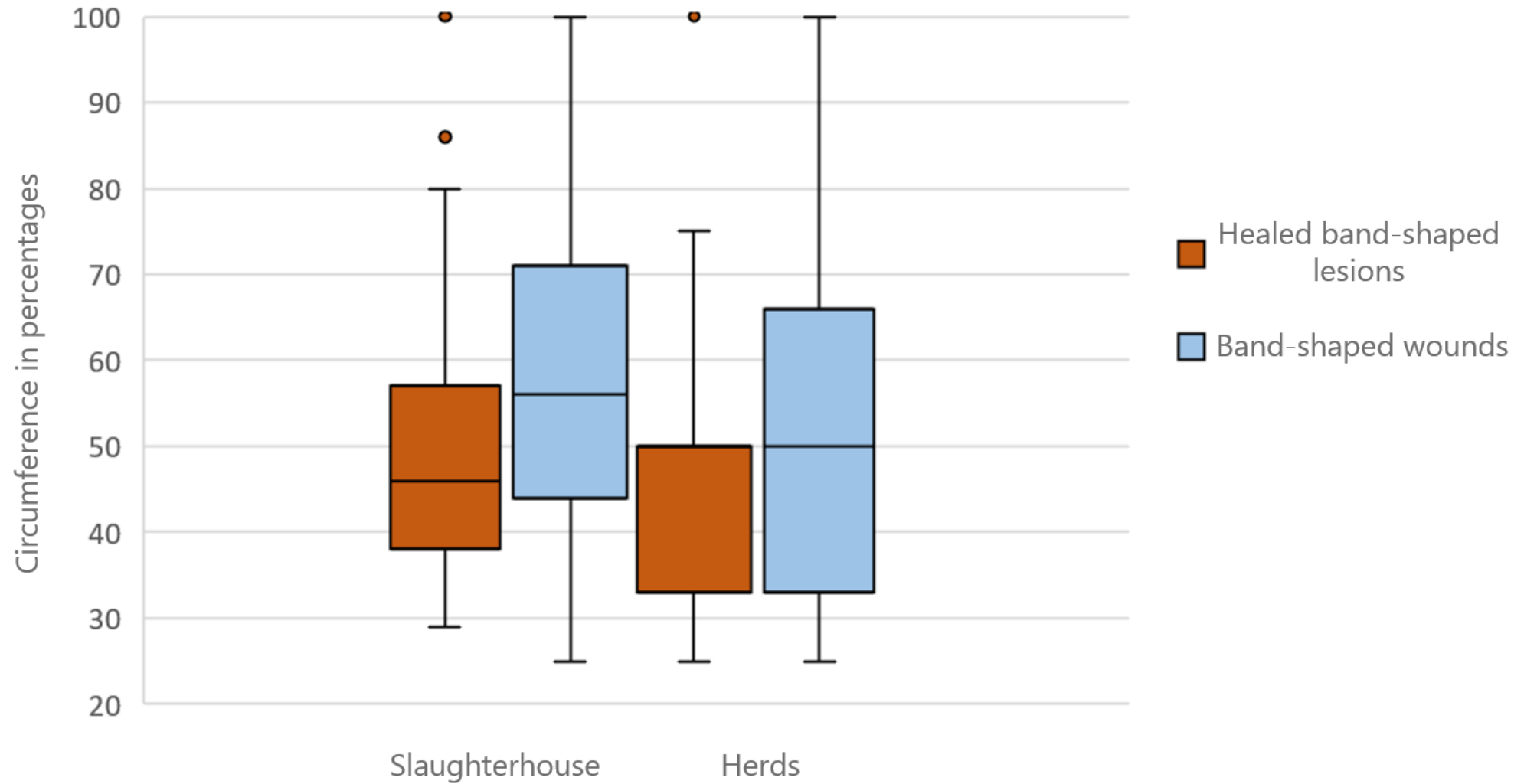


Band-shaped lesions (distance from the tip of the tail)





Circumference of the area with band-shaped lesions (tail)



Band-shaped tail (BST) lesions in Holstein cows

Herd factors		With lesions		Without lesions	
		No	%	No	%
Housing	Tie-stall	85	29%	207	71%
	Free range	450	25%	1357	75%
Cow cubicle	Mattress	312	28%	792	72%
	Sand	223	22%	772	78%
Cow cubicle, high	0-19	85	29%	207	71%
	20-29	274	25%	819	75%
	30-39	176	25%	538	75%
Milking system	Tie-stall	100	29%	247	71%
	Carousel	120	20%	476	80%
	Parlour	183	26%	530	74%
	Robot	132	30%	311	70%
Manure removal	Scraper	219	25%	658	75%
	Manual	176	26%	504	74%
	Robot	140	26%	402	74%
Floor type	Tie-stall	85	29%	207	71%
	Concrete	285	24%	910	76%
	Slatted	165	27%	447	73%

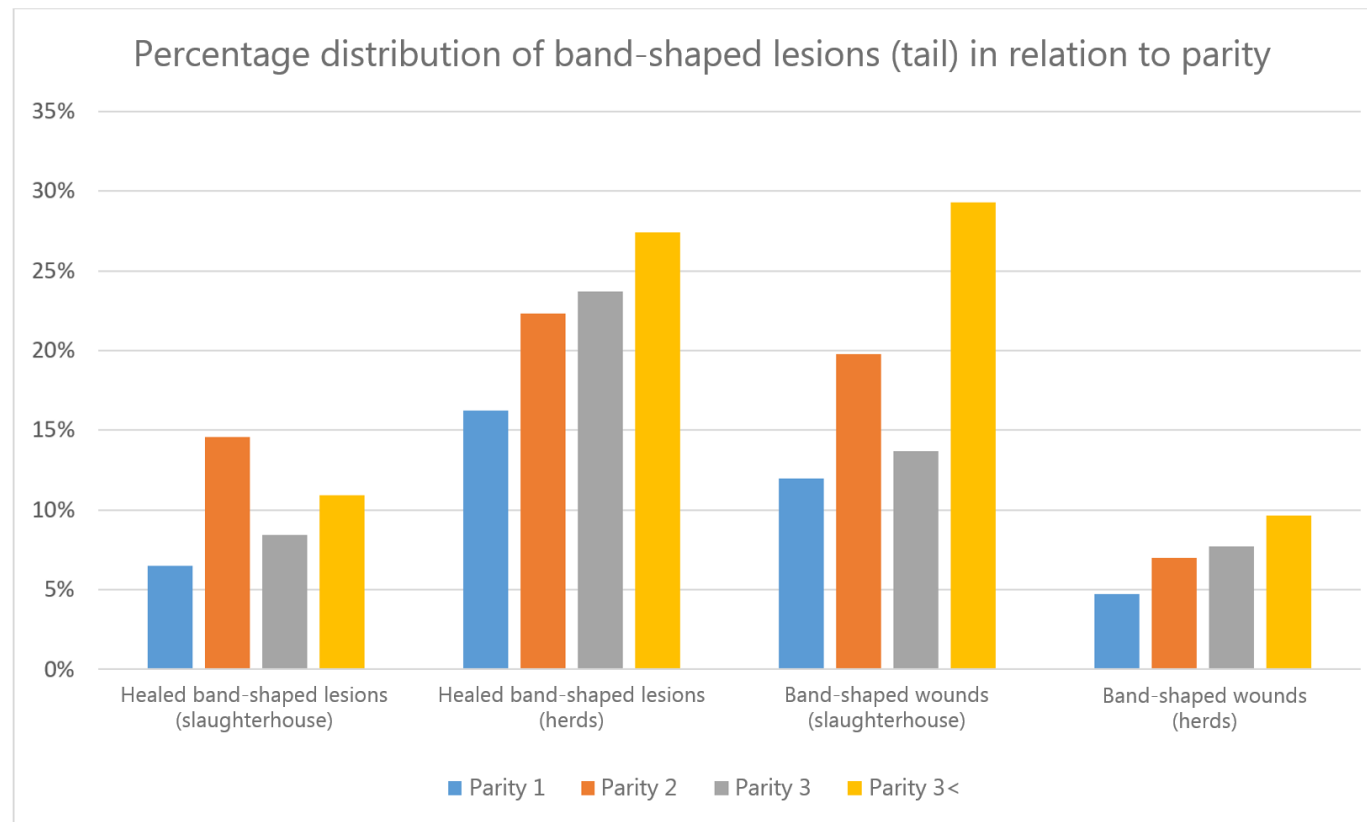
No significant correlations found

Band-shaped tail (BST) lesions in Holstein cows

Cow factors		With lesions		Without lesions		P-value
		No	%	No	%	
Tail fractures	Yes	42	19%	178	81%	0,0214
	No	493	26%	1386	74%	
Amputated tail tip	Yes	33	15%	183	85%	0,000277
	No	502	27%	1381	73%	
Tail-clipping	Yes	486	26%	1415	74%	0,8
	No	49	25%	149	75%	
Tail -cleanliness	0	77	21%	292	79%	0,12278
	1	276	26%	767	74%	
	2	182	27%	504	73%	
	3	0	0%	1	100%	
Cow-cleanliness	0	6	14%	38	86%	0,0495
	1	274	24%	853	76%	
	2	255	27%	673	73%	



Band-shaped tail (BST) lesions in Holstein cows



Band-shaped tail (BST) lesions in Holstein cows

Prevalence: Herds: 25% (18-40%)

Slaughter house: 23%

Lesions: Median location at 7 cm from the tail tip

Wounds # healed with granulation/scar tissue formation

Factors, herds: No significant correlations found

Factors, cow: Significant correlation to parity and lack of tail tip



Band-shaped tail (BST) lesions are also found in other breeds including beef cattle.

(Simmental)

Band-shaped tail (BST) lesions in Holstein cows

- Publications

- Volhøj T, Nielsen CK, Schjermer DM, Jensen NS, Jørgensen BM, Saxmose S, Jensen HE. Prevalence and characterisation of band-shaped tail lesions in Holstein cows. **Acta Veterinaria Scandinavica**. **66**, s. 1-5 5 s., **19**. **2024**. DOI: 10.1186/s13028-024-00742-0
- Volhøj T, Nielsen CK, Schjermer DM, Jensen NS, Jørgensen BM, Saxmose S, Jensen HE. Båndformede halelæsioner hos malkekøer. **Dansk Veterinærtidsskrift**, **107**, **22-26**, **2024**.
- Volhøj, T, Nielsen CK, Schjermer DM, Jensen NS, Jørgensen BM, Nielsen SS, Jensen HE. Båndformede halelæsioner hos malkekøer. **Dyrlæger & Ko, Meddelelse**, **2024**.
- Prisca V. Kremer-Rücker, Kathrin M. Abel, Lea M. Lorenz, Christine Schmidt, Mirjam Lechner, Kim F. Schubert, Amalie A. Köhler, Saskia Meier, and Armin M. Scholz. A pilot study: tail tip lesions in dairy cows – an unnoticed animal welfare issue? **Archives Animal Breeding**, **67**, **271–284**, **2024**

Thank you for your attention
Comments and questions are welcome

