



Health impact of pasture-related heat stress in high-yielding dairy cows

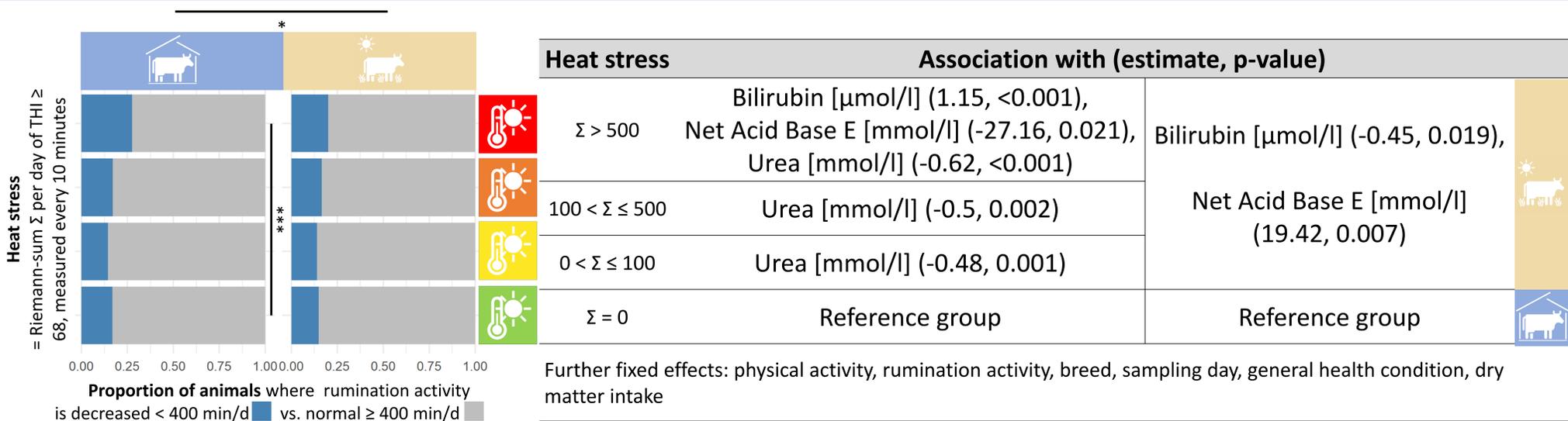
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Animal Health Data via rumen sensor



Metabolic Health Data via blood and urine analysis



Goal

Does **pasture-related heat stress** have an impact on the **metabolic stability** of dairy cows
-> energy and protein supply, liver function, acid-base status

Method

- Data collection from **251 cows** (17 Fleckvieh, 234 Holstein-Frisian)
-> continuously: smaXtec rumen bolus (Bolus SX.2) und climate data (temperature, humidity)
-> calculated THI (temperature-humidity-index)
-> selectively: blood and urine samples for metabolic analysis (3-4 weeks and 8-9 weeks post partum)
- **Random distribution** to pasture and stable group
- Statistical analysis via **Zero-inflated poisson model** and **linear regression model**

Results

- Dairy cattle **on pasture** show a **significantly lower risk** of reduced rumination, increased serum bilirubin concentration, and acidotic acid-base status.
- **Heat stress** leads to a **significantly higher risk** of reduced rumination, increased serum bilirubin concentration, and acidotic acid-base status.

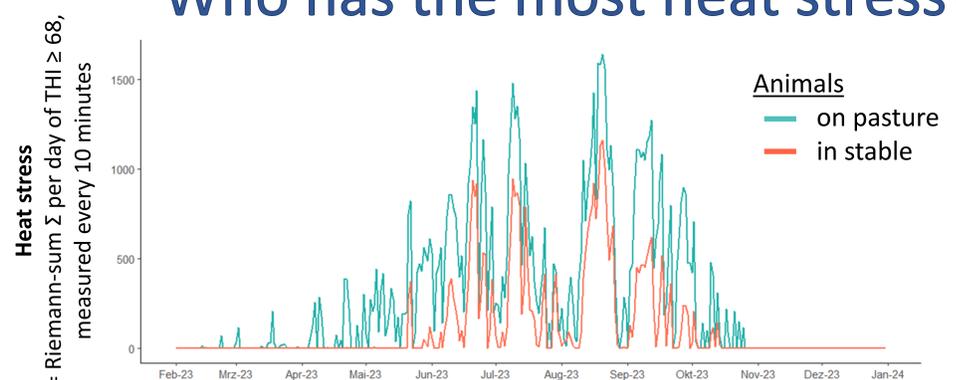
Conclusion

Cows grazing on pasture experience more heat stress than cows in barns, both in terms of total duration and intensity, yet they exhibit better rumination activity and metabolic stability.

Health risk < < <

Get the pdf!

Who has the most heat stress?



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