Can antibodies be used for diagnosing *Mycoplasma bovis* in dairy calves?

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Aim

To investigate the dynamics of antibodies against *Mycoplasma bovis* measured by two different ELISAs over time in dairy calves with different clinical signs

How?

- 4 dairy herds with acute *Mycoplasma bovis* outbreaks were visited 5 times at 3 week intervals
- 20 calves: blood samples and clinical examinations
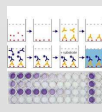
- Analyzed for *M. bovis* antibodies with the commercial ELISA kit **BioX** Bio K 302 and the in-house ELISA test **MilA**
- Linear mixed models with calf-ID as random effect
- Predictors: time from disease onset, age of the calf and disease
- Outcome: antibody response

Why?

- *Mycoplasma bovis* causes severe disease in calves
- Diagnostic materials for bacterial culture or PCR are cumbersome to obtain and handle
- ELISA testing on blood samples is a convenient and cost-effective alternative
- But how well does it work for *Mycoplasma bovis*?

What we found
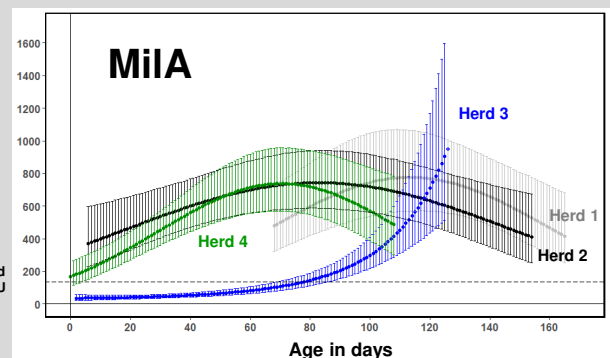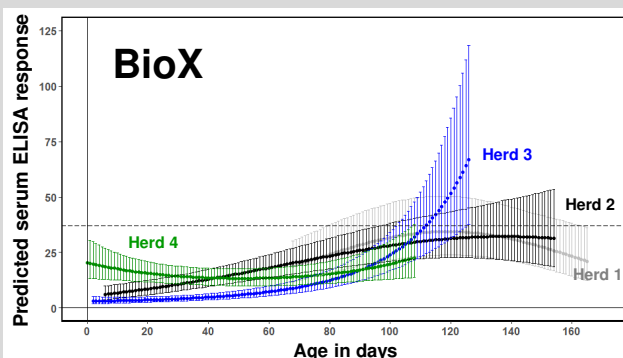
BioX	Characteristics of the two ELISAs	MilA
No	Differentiates between different clinical signs?	No
No	Able to detect antibodies (IgG1) in young calves (<3 months old)?	Yes
Yes	Very dynamic antibody response in individual calves?	Yes
?	Long lasting antibodies?	?
No	Useful on individual level?	Purpose-dependent
Yes, at high prevalence	Useful on group level?	Yes