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Analysis of antibodies against *Mycoplasma bovis* in bulk tank milk

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**BACKGROUND**
The Danish cattle industry have had increased focus on *Mycoplasma bovis* infections since 2011 due to an increasing number of cattle herd outbreaks of *Mycoplasma bovis*-associated disease, including some with serious and atypical clinical presentations. Antibody measurements on bulk tank milk have been used as a diagnostic tool for other infections, because it is easy and cheap to use. However, the relevance and limitations for *Mycoplasma bovis* diagnosis on herd level has not been investigated.

**OBJECTIVE**
To analyse factors that influence the variation in bulk tank milk ELISA ODC% against *Mycoplasma bovis* in Danish dairy herds.

**METHODS**
39 Danish dairy herds

Selected based on
- Recent or previous presence of clinical signs
- High bulk tank milk serology
- Absence of clinical signs associated with *Mycoplasma bovis*

Each herd visited 4 times and sampled as shown to the right

**RESULTS**
Good correlation between bulk tank milk ELISA values (ODC%) and the prevalence of antibody positive lactating cows

No correlation between bulk tank milk ELISA values (ODC%) and the prevalence of antibody positive young stock

Generalised linear mixed model with herd as a random effect

**VARIABLES**
**Outcome:** Bulk tank milk (BTM) ODC%

**Explanatory:** Prevalence of antibody positive young stock (≥37 ODC%)

Prevalence of antibody positive lactating cows (≥37 ODC%)

Clinical disease at sample time or not

Number of lactating cows (herd size)

**CONCLUSION**
Prevalence of antibody lactating cows and presence of clinical signs was associated with higher BTM ODC%. Increasing herd size was negatively associated with BTM ODC%. *Mycoplasma bovis* status in young stock is not reflected in BTM.