

ues (option OUTPRED) were plotted against breed group of cow by ELISA score using procedure GPLOT.

## Results

Regression estimates of cow and calf traits on ELISA scores indicate that cows with greater ELISA scores tended to have: a) longer times open, suggesting that these cows had diminished fertility; b) larger weight losses from December (pre-calving) to September (weaning), suggesting poorer weight maintenance ability; and c) calves with smaller birth and weaning weights, suggesting that they provided a lower level of nutrition to their calves than cows with lower levels of antibodies. Regression estimates for gestation length and calving interval on ELISA scores were non-significant but in the expected direction.

Despite the small dataset available, predicted breed group means were generally as expected given

the overall regression estimates, i.e., predicted breed group means for cows with greater ELISA scores tended to be larger for positive regressions and smaller for negative regressions than cows with lesser ELISA scores.

## Significance

Insofar as ELISA scores are an indicator of sub-clinical paratuberculosis, results here suggest that ELISA scores could be used to account for effects of this disease on cow and calf traits. Inclusion of ELISA scores in genetic evaluation models would help eliminate biases due to subclinical paratuberculosis effects on cow and calf traits. In areas where paratuberculosis is endemic, tests for paratuberculosis, such as ELISA, should be routinely applied and become integral components of the record of an animal. This would permit their values to be included as indicators in populational genetic evaluation models.

# Environmental Sampling for the Detection of *Mycobacterium Avium* subspecies *Paratuberculosis* in Dairies in Texas

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## Introduction

Johne's disease (JD) is a chronic debilitating intestinal disease of ruminants, caused by the infectious agent *Mycobacterium avium* subspecies *paratuberculosis* (MAP). JD is widely disseminated in dairy farms and known to cause considerable economic loss. Recently, interest in the detection of clinical and subclinical manifestations of the disease and MAP has created interest in developing cost efficient methods for its detection. The culture of soil samples contaminated with MAP (called environmental samples) offers an economic, easily performed, detection technique on dairy farms. The objective of this investigation was to conduct environmental testing on two dairies (E and W; n=>2500) in Texas known to have clinical cases of JD and previous isolations of MAP from fecal cultures.

## Materials and Methods

We collected a series of environmental samples

during 2004-2005 (summer and winter) from holding pens, alleyways, sedimentation ponds and water from washing the milking parlor. To evaluate the repeatability of our findings, we conducted serial sampling of water from washing the milking parlor (slurry) from five different pens (A, B, C, D and E) after milking (Dairy E)

## Results

The cultures of soil samples (40) were detected positive in only one case (Dairy E). Contrary, samples collected from water from washing the milking parlor were detected positive to MAP 80% of the time (n=20; both dairies). Samples from only two different pens (C and D) were detected positive.

## Significance

Our results indicate variation in MAP dissemination in wash water, independent of age, lactation, milk production and seroprevalence of the cattle sampled.