

**Fecal shedding of *Mycobacterium avium* subsp. *paratuberculosis* in calves: Implications for disease control and management.**

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It is widely accepted that most infections caused by *Mycobacterium avium* subsp. *paratuberculosis* (MAP) occur in utero or in the neonatal animal. The challenge, however, has been to demonstrate this infection in young stock as the onset of clinical signs often takes several years. The purpose of this study was to attempt to detect MAP in dairy calves using a recently developed, more sensitive liquid culture method which may allow earlier, more prudent animal management decisions. This is a longitudinal, prospective study of two years duration with more than 1,600 individual calf fecal samples. The project looked at dairy heifers of four age groups from seven herds in Lower Michigan with varied MAP prevalence that were involved in the USDA Johnne's demonstration project. Individual fecal samples and pooled fecal samples (5 per pool) were obtained. Calves from positive dams (fecal or ELISA) were targeted to increase sensitivity. The TREK®ESPII liquid culture system was used for fecal culture and positive cultures were confirmed with acid fast staining and IS900 real time PCR. Results are in the preliminary stages (583 samples), but we have detected shedding in 12(2%) of the samples and they represent all four age groups. Where pooled samples of 5 calves were used we detected MAP as well. The preliminary results are promising and the use of pooled fecal culturing in calves along with environmental sampling may provide an inexpensive vehicle for obtaining an earlier "report card" following management changes. A shorter feedback loop is critically needed in controlling this disease.