



Johne's Disease More Common in Beef Cattle than Previously Thought

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The study objective was to report rates of *Mycobacterium avium* ssp. *paratuberculosis* (MAP) infection in beef cattle based on submissions to the Johne's Testing Center (JTC) in 2017. Clients submit samples for a variety of reasons: to test clinical suspects, perform pre-purchase testing, or in attempt to achieve herd classification in the voluntary USDA program based on certainty of MAP infection freedom. A list of samples tested at the JTC was generated from the lab's accession program and sorted by state. Samples tested by direct real-time PCR for *IS900* (feces) were used to determine infection rates as they indicate the animal is currently shedding the organism. Fecal samples are either tested individually or pooled by animal age into groups of up to five animals.



For fecal samples, 18.1% (105/578) were PCR-positive, this includes all pools and individuals. Of the 941 fecal samples grouped into 195 pools, 49 (25.1%) were PCR-positive. Individuals comprising 27 pools were tested identifying 27 PCR-positive animals. The other pools were not tested individually, per client decision. Certain states accounted for a larger portion of samples received and positive results. For example, Missouri, Montana, Nebraska, and Texas accounted for 63% (63/100) of PCR-positive samples.

These data suggest that the rate of MAP-infected beef cattle may be higher than previously reported. While this analysis is not designed to reflect an estimated true prevalence, it reflects samples from herds in 20 states, many of which are top cow-calf production states. Also, many of these herds were registered breeders with significant potential for spread to other herds through sale of breeding animals. Biosecurity, achieved by rigorous herd-level pre-purchase testing, is vital for infection prevention. Fecal sample pooling reduces herd testing costs substantially (~\$8/head): applicable in low-prevalence situations. Identification of infected animals, removal from the herd or isolation before calving season is necessary for beef cattle to avoid this incurable infection becoming endemic in herds. The image at the right shows a 5 year-old Angus cow with clinical Johne's disease.

