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Michigan State University

Mycobacterium avium subsp. *paratuberculosis* and its survival in recycled Sand

Joshua Gehrke BS, Daniel Grooms DVM, PhD
Michigan State University, Department of Large Animal Clinical Sciences

Johne's disease (JD), caused by the bacterium *Mycobacterium avium* subsp. *paratuberculosis* (MAP), is a chronic untreatable disease of ruminants. It primarily affects the intestinal tract resulting in chronic diarrhea and weight loss. JD is transmitted to young stock thru the ingestion of colostrum, milk or feedstuffs contaminated with MAP or through exposure to MAP contaminated environments. Many dairy farms use sand as a bedding material and new technology has been developed to recycle sand and reuse it. This study was conducted to determine if MAP could survive in recycled sand, thus serving as a source of environmental exposure to susceptible animals. A single dairy farm was used in this study and samples were taken weekly for 4 weeks. Two samples were taken from the each of the following sites: Pre-separation pit, newly separated sand pile, lagoon of organic material after separation, stockpiled separated sand pile, recycled sand in heifer barns, solid organic material from organic-material separator, and organic liquid from organic-material separator. Samples were sent to the Michigan State University Diagnostic Center for Population and Animal Health where they were cultured for MAP using a liquid culture system (TREK). Preliminary culture results have found MAP in all samples except recycled sand in heifer barns at multiple time points. Complete culture results are pending and will be reported. Results from this study will provide the dairy industry with important information about the risk of recycled sand serving as a reservoir for MAP exposure to susceptible cattle.