A preliminary look at what drives individual and herd response to *Mycoplasma ovipneumoniae*: Integrating information from focal herds and wider-scale monitoring

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ABSTRACT: The mechanisms that generate variation in severity of *Mycoplasma ovipneumoniae*-associated pneumonia in bighorn sheep (*Ovis canadensis*) remain poorly understood. Here, we present preliminary evidence associated with several plausible factors, including age, strain type, and herd substructuring, that might help determine outbreak severity. We combine data from a captive disease event, intermediate-term monitoring of more- and less-severe events, and wider-scale statewide monitoring efforts. Our findings suggest roles for age and condition in shaping immunological dynamics, and a key role for strain type in shaping longer-term outbreak severity. Additinally, this preliminary assessment underscores some important data requirements for understanding drivers of variation in outbreak severity more fully going forward.

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