Capture and Survival of Neonatal Bighorn Sheep Lambs in a Colorado Herd using Vaginal Implant Transmitters

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ABSTRACT We captured, radio-collared, performed ultrasounds on and inserted vaginal implant transmitters (VITs) into 15 pregnant ewes from a Rocky Mountain bighorn sheep (*Ovis canadensis)* herd in Colorado that was experiencing poor lamb recruitment. Previous sampling from this herd demonstrated presence of respiratory pathogens, including *Mycoplasma ovipneumonia*e (by polymerase chain reaction, culture, and serology) and leukotoxigenic *Pasteurellaceae*, including a *Bibersteinia trehalosi* strain previously associated with bighorn pneumonia in Colorado herds. Use of the VITs allowed us to detect, capture and radio collar 15 neonate lambs within 48 hours of parturition and monitor their survival daily throughout their first months of life. Fourteen of the 15 VITs were successful (VITs shed during parturition); one VIT was shed in early April and was not located at a birth site. We were able to collar a neonate lamb from each of the 14 successful VITs and collared a fifteenth lamb opportunistically from a non-transmitted ewe. Recovered carcasses were submitted for necropsy and laboratory assessment. Of the lambs captured, all 15 were dead by 130 days of age: 10 died of apparent pneumonia (all within 8–10 weeks of age), 1 died from trauma after being kicked or trampled, 1 was killed by a mountain lion, and 3 died of starvation likely caused by abandonment after capture. VITs may be a viable option for capturing neonate lambs in herds where VITs can be monitored daily during the lambing season and where the terrain allows for safe access to lambing sites. However, we recommend exercising care in lamb handling and monitoring to minimize abandonment and we urge caution in ascribing starvation-related deaths within the first week after lamb capture to anything other than capture-related loss.

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