Breeding management in a reindeer (Rangifer tarandus) with a history of reproduction failure

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Artificial insemination is commonly used in domestic ruminants, but less commonly used in farmed cervids. Estrous synchronization timing and artificial insemination is particularly challenging in reindeer because there has been so little research in this area. This case report describes timed artificial insemination and two methods of pregnancy diagnosis in a reindeer with a history of reproductive failure.

In October 2012, an 8-year-old reindeer cow was artificially inseminated following estrous synchronization. Based on her body score and antler condition, she was in good general and nutritional health. In January 2013, she was diagnosed pregnant using a serologic test for pregnancy specific protein B (PSPB; BioPRYN® wild, BioTracking, LLC, Moscow, ID) with an optical density (OD) result of 0.3098 (pregnancy at OD > 0.21).1 Pregnancy was reconfirmed in April 2013 by the same serologic test with an OD of 0.2554. However, she failed to calve at the expected due date in May and pregnancy loss was suspected just prior to the April PSPB serologic test since the OD was decreasing.2

In October 2013, the reindeer cow was administered a controlled internal drug release (CIDR) insert (Eazi-Breed™ CIDR®, Zoetis, Florham Park, NJ) and 50 µg of gonadotropin releasing hormone (GnRH; Cystorelin®, Merial LLC, Duluth, GA) intramuscularly. One week later, the CIDR was removed and 250 µg cloprostenol (Estrumate™, Schering-Plough Animal Health Corp., Summit, NJ) was administered intramuscularly. Forty-five hours later, frozen semen from a collection that had resulted in previous pregnancies was thawed and transcervically inseminated using a flexible endoscope. At the time of insemination, 50 µg GnRH was given intramuscularly. Artificial insemination was repeated ten hours later at the time of each insemination, estrous signs were observed.

At 6, 14, and 20 weeks after insemination, transrectal ultrasonography was performed to determine and reconfirm pregnancy. The cow is expected to calve in May 2014 (term gestation 225-235 days).3

References