Atresia Coli Inherited in Holstein Cattle

Submitted by Dan Van Arsdall on Fri, Jun 3 @ 9am

A mating plan was designed to test the genetic hypothesis that atresia coli is inherited as an autosomal recessive at a single locus with two alleles. Matings between 8 putative carrier sires and 56 putative carrier dams resulted in 59 normal and 8 atresia coli calves, which was not different from the expected number of 8.1 affected calves. One case of atresia coli was observed among 628 calves born concurrently in the herd. All of the affected calves born from planned and contemporary matings were inbred, and their dominance relationships with each other were greater than zero, which is complementary evidence of pairs of alleles in common among affected calves. In planned matings, 7 of the 39 pregnancies diagnosed during the first 40 d of gestation of putative carriers produced affected calves. In contemporary matings, 10 of 40 pregnancies diagnosed before d 41 of gestation, there were 1 affected and 295 normal calves. Atresia coli in Holstein calves was associated with putative carrier parents. Retrospective analysis of early pregnancy diagnosis in dams was inconclusive in evaluating the role of palpation on atresia coli in genetically predisposed calves.

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