Economic Value of Early Cytogenetic Testing of Potential Cattle Breeding Stock

Alvin F. Weber, DVM, PhD; Lance Buoen, BS
Department of Veterinary Diagnostic Medicine
College of Veterinary Medicine, University of Minnesota, St. Paul, MN 55108

© Copyright American Association of Bovine Practitioners; open access distribution.

Summary

Structural and numerical flaws develop periodically in chromosomes in animals during the complicated meiotic and mitotic processes involved in sperm and egg formation. These result in lowered fertility as well as other body problems. In contrast to the United States, it has been a long-established custom in Europe and other foreign countries to test young stock early on for these cytogenetic flaws. In light of continued shrinkage of the cattle genetic pool and an increase in pre-sale cytogenetic certification requests, it is important for those engaged in the cattle industry to be aware of the need for selective early cytogenetic testing.

In over 35 years of cytogenetic testing of bovine samples, we have encountered numerous cases where early cytogenetic testing would have saved owners considerable money and time. In our poster presentation, we will show color-enhanced diagrams of the main cytogenetic flaws that occur; many individual cases we diagnosed that resulted in avoidable economic losses to owners; and results of some of the national surveillance testing we engaged in following our diagnosis of genetic flaws in samples submitted from breeding stock. This will include primarily Simmental, Charolais, and Holstein-Friesian breeds.

Also included will be results of our study of vaginal length vs cytogenetic diagnosis in freemartinism, using a probe we developed for on-farm diagnosis of this condition.

Differential Diagnosis of Colic in Calves

H. Wendel; G. Rademacher; W. Klee
II. Medical Animal Clinic, University of Munich, Munich, Germany

Introduction

The objective of this prospective study was a quantification of the diagnostic validity of age, gender, selected clinical signs, intensity of colic, selected laboratory parameters, and duration of illness, with respect to different disease categories. The ultimate aim was to produce information that can help in the diagnostic work-up of colic in calves.

Materials and Methods

The study included 110 calves up to the age of six months that were referred to the clinic with a history of colic or which exhibited colic following admission. Confirmation of clinical diagnosis was by surgical intervention or postmortem examination.

Disease conditions involving the gastrointestinal tracts in 83 calves were grouped according to patho-