Three to Watch

Herd Security/BVD Working Group addresses bovine health concerns.

by Troy Smith, field editor

It's no secret that for the U.S. cattle industry bovine viral diarrhea (BVD) is a major disease problem. Lesser known bovine leukemia virus (BLV) might be a more significant problem than we think. There is little doubt that foot-and-mouth disease (FMD) could be disastrous for multiple livestock industries if it were reintroduced to the United States.

PHOTO BY HANNAH TREMAINE FROM NJAA/*ANGUS JOURNAL* PHOTO CONTEST

Research projects designed to provide better understanding of these three infectious diseases were the topics addressed by scientists making presentations to the National Cattlemen's Beef Association (NCBA) Herd Security/BVD Working Group, which met during the 2018 Cattle Industry Convention Jan. 31-Feb. 2, in Phoenix, Ariz.

BVD

Shollie Falkenberg, a research microbiologist with the USDA Agricultural Research Service (ARS) National Animal Disease Center, described an ongoing study of pestivirus — the class or genus that includes the viral strains responsible for BVD.

According to Falkenberg, one in 10 animals reach breeding age with no protection against BVD. Her team's research seeks to learn more about BVD transmission, through acute infection and fetal infection (transmitted from dam to fetus during gestation and resulting in a persistently infected calf). The scientists are studying vaccines, vaccination practices and variations in cattle immunity to BVD, looking for paths to improved response and protection against BVD.

Leukosis

In his presentation on BLV, Michigan State University veterinarian Dan Grooms, said the virus affects the lymphatic system causing dysfunctional lymphocytes — white blood cells involved in immune response. Thus, BLV infection can lead to reduced response to vaccination and increased susceptibility to disease. Grooms said BLV can lead to leukemia and cancers of various organs.

"Bovine leukosis is chronic. Once infected, always infected," stated Grooms. "There is no vaccine for prevention."

Infection is spread through colostrum and through infected blood, via blood on common-use injection needles, palpation sleeves and instruments. Infection may also be transmitted by biting insects and from dam to fetus, *in utero.*

He explained that BLV causes production losses in dairy cows and significantly decreased longevity. Eighty-three percent of U.S. dairy herds are thought to be infected. However, less is known about BLV's impact on beef cattle production.

Grooms described a two-year study involving infected beef breeding herds, with infected animals. Results suggest lymphomas caused by BLV may be a major contributor to carcass condemnations among cull cows.

FMD

Kansas State University veterinarian Mike Sanderson discussed a feedyard FMD modeling project designed to simulate an FMD outbreak in some large cattle-feeding operation.

"A fair amount of modeling has been done to determine how FMD might spread through the breeding animal population, but not about how FMD might look in a feedyard," Sanderson explained.

He noted how such operations involve large cattle populations with frequent transport of animals in and out, and with numerous avenues for transmission, including across fence lines, exposure to contaminated bunks and waterers, spread by pen riders and hospital pen exposure. Sanderson said the project should help the industry prepare for detection and response, should an FMD outbreak occur. AJ

Editor's Note: This article was presented as part of Angus Media's coverage of the 2018 Cattle Industry Convention.