



PHOTO COURTESY OF AMERICAN ANGUS ASSOCIATION

Left: Ben Abbey (left), Dillon, Mont., veterinarian, and Hannah Garrett, territory manager for Neogen Geneseek Operations, discussed the finer points of brisket disease and demonstrated how PAP testing is done.

“I always tell the cowboys they need to have the chute as tight as your cinch, with enough room to slide your hand in by their neck and on their side,” Abbey said as he tied a heifer’s head around to the left side of the chute.

It’s important for PAP testing to occur at the elevation closest to the altitude where the animals will be expected to survive and thrive. Since a needle is inserted directly into the heart, sanitation during this process is of the utmost importance.

“We use a 3-inch, 12-gauge needle so our catheter can flow into it,” Abbey explained of the process that took less than 5 minutes to perform. “This is about the same as a cardiac catheterization in people.”

Abbey inserts the needle into the jugular vein, feeding the catheter back through the right atrium and right ventricle to get into the pulmonary artery. The catheter is connected to a pressure transducer to measure PAP. The PAP score is derived from the mean of the systolic and diastolic pressure.

“The test has about a 75%-95% repeatability when done at the proper elevation,” Abbey said. “Though you do have to take the age of the animal into consideration. I usually tell producers to test at or after sexual maturity.”

The average cost of a PAP test is less than \$30 per animal, plus the farm-call charge. With cooperative cattle and an expert hand like Abbey’s, a PAP test is a quick way to save cattlemen a lot of trouble. ■

Editor’s note: Lindsay King is assistant editor for the *Angus Journal*. The 2018 Angus Convention was hosted Nov. 3-5 in Columbus, Ohio. For more information, visit the Newsroom at www.angusconvention.com. The 2019 convention will be hosted at the Reno-Sparks Convention Center in Reno, Nev., Nov. 1-4.

PAP SCORING

Convention attendees get ringside seat to measuring an animal’s ability to physically withstand high altitude.

by Lindsay King, Angus Journal assistant editor

The heart is a muscle, and when it has to work harder, the organ will eventually remodel itself. This is the case in cattle suffering from what’s been known as high-altitude disease (HAD), brisket disease or bovine high-mountain disease (BHMD).

This topic was covered in the second innovation workshop sponsored by Neogen Geneseek Operations at the 2018 Angus Convention hosted in Columbus, Ohio, Nov. 3-5. Hannah Garrett, Neogen territory manager based out of Wyoming, explained the finer details of HAD and its effect on the herd.

“From a physiological standpoint, this disease is a result of a progressive increase in arterial vasoconstriction due to vascular smooth muscle hypertrophy and a somewhat fixed obstruction of the pulmonary arteries,” Garrett explained.

The heart works harder and builds muscle, obstructing blood

flow by making the vein smaller to push the blood through.

No one breed is more susceptible than any other. Risk factors include age, environment in which the animal was raised and previous health issues. Animals with a high incidence of bovine respiratory disease (BRD) historically showed increased risk for the disease when tested in a high-altitude environment.

“PAP [pulmonary arterial pressure] testing is an indicator of resistance to blood flow through the lungs and, when measured at a high altitude, is a reliable predictor of susceptibility of an animal for brisket disease,” Garrett said.

Research by Colorado State

University’s (CSU) Tim Holt, associate professor of clinical sciences in the College of Veterinary Medicine and Biomedical Sciences, revealed the heritability of a PAP score is 0.34.

“The best way to manage risk is to use proven bloodlines, purchase PAP-tested bulls, PAP-tested females and immediately haul at-risk animals to lower elevations,” Garrett said.

“Producers send animals up to the mountains to graze, and some of them never come back. They figure this into their death loss every year.”

PAP demonstration

The procedure for obtaining a PAP score seemed simple during the live demonstration by Dillon, Mont., veterinarian Ben Abbey. The small number of veterinarians performing PAP tests around the country, including Abbey, either have ties to or were trained by Holt.