BEEF HEALTH

Liver Flukes in Beef Cattle

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Liver Flukes-just the image of these parasitic worms can make any producer uneasy. The idea of a little microscopic creature on vegetation that can migrate from the intestine to the liver of your cattle is unsettling. These little creatures have a bizarre life cycle. The type of liver fluke endemic to our area is called *Fascioloides magna.* These flukes are flat, elongated, oval, and look like "leeches". They are purple-gray in color and are found while cutting open the liver either in the packing plant or by a post-mortem examination. In the northern and northwestern regions of Minnesota the natural host of this fluke is the white-tailed deer making exposure control to this parasite difficult. Deer will pass the fluke eggs in feces. Since the eggs need moisture for development, shallow water and marshy areas are ideal for fluke development. When the eggs hatch, they enter snails, which then become an intermediate host. Further development of the larvae (young flukes) occurs in vegetation until ingested by cattle. The larvae then migrate from the intestine to the liver. This migration pattern can sometimes cause massive hemorrhage or blood loss in cattle. Producers need to understand the cycle of the fluke so the productivity, beef quality and economic impact of the beef herd are not compromised.

The 2000 National Beef Quality Audit, conducted by Colorado State University , Oklahoma State University and Texas A & M University, found that in U.S. packing plants liver-fluke infestations were one of the top-10 beef quality issues. The audit found 24.1% of U.S. cows and bulls had liver flukes at slaughter. Condemnation of the liver at the packing plant can be caused by just one liver fluke. One would expect that most economic losses would be due to liver condemnation at slaughter. However, there are greater hidden financial losses experienced by beef producers once their cattle become infected with liver flukes. Reduced average daily gain, lower feed conversion, reduced milk production, and lower weaning weights are the most common productivity losses. In addition, several feedlot studies in feeder cattle infected with even low levels of liver flukes indicate that rate of gain can be significantly reduced. The financial bottom line is that liver flukes can be responsible for hidden economic losses in the beef cattle industry.

Routine fecal examinations usually do not reflect a liver fluke problem. Negative results are common in cattle parasitized with flukes. Fecal sedimentation or using Fluke Finder techniques can be useful. Producers are often surprised to find out that their cattle are infected with flukes since clinical signs are usually not apparent. However, cattle may experience sudden death or lose body condition over time due to liver fluke infestation. A diagnosis of liver fluke infestation is usually identified during a post-mortem examination or as feedback

from the packing plant. Therefore, producers should look at post-mortem examination or carcass information from the packing plant as an essential diagnostic tool for veterinarians and producers.

Prevention is one of the first priorities in reducing the impact of liver fluke. This can be done by reducing exposure to wet, marshy areas and snails. Next, look at deworming programs with your veterinarian. Unfortunately, most dewormers are not effective in treating liver fluke infestations. Only two oral dewormers are available that are effective against liver flukes: Curatrem (clorsulon) and Valbazen (albendazole). One injectable dewormer, Ivomec Plus (ivermectin and clorsulon), is available. Research has shown that treatment of liver fluke problems can expect a return on investment of $1.25 to $1.50 spent on treatment. All the drugs have advantages and disadvantages in terms of cost, ease of administration, withdrawal times, and effectiveness. Consult your veterinarian to be certain which product will work best for your operation.