

Livestock Health Series

White Muscle Disease in Lambs and Kids

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White Muscle Disease (WMD) is an ailment of young sheep and goats as a result of selenium and/or vitamin E deficiency. There are several areas in Arkansas that are selenium deficient and therefore cause concern for WMD. WMD occurs in lambs and kids under 6 months of age but is most frequently seen in newborns.



Lamb exhibiting signs of stiffness and difficulty standing.

Signs and Symptoms

Adult ewes and does that consume a diet inadequate in selenium and/or vitamin E may have stillborns or newborns that die within a few days of birth. The heart muscle or skeletal muscles can be affected by WMD. If the heart muscle is affected, symptoms include weakness, respiratory distress, and rapid heart rate. If the skeletal muscles are affected, signs include stiffness, difficulty standing, and an overall unwillingness to move. Research shows that selenium and vitamin E are important factors in the overall immune response of an animal. If a lamb or kid has WMD that affects its respiratory system, the development of secondary bacterial pneumonia is of concern.

Treatment and Prevention

Consult with a veterinarian for disease diagnosis and treatment. WMD may be treated with injectable or oral selenium and vitamin E. BO-SE is a commonly used injectable. Caution should be given to selenium treatments as it is possible to give too much and cause selenium toxicity or death. While injectable and oral selenium and vitamin E treatments are available, they should not be used routinely as a diet supplementation.

Prevention of WMD depends on sufficient levels of both selenium and vitamin E in the diet. Poor quality hay typically has low levels of vitamin E. Soils deficient in selenium result in selenium-deficient forages. Producers are encouraged to work with their

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local County Extension Agent to conduct hay and soil tests to accurately determine vitamin E and selenium levels on their operation. Selenium can be supplemented in the diet through feed, trace mineral mixes, or salt at 0.1-0.3 ppm not to exceed 0.7 milligrams per head per day in adults. As long as good to high quality forages and/or hay are available, vitamin E levels may be adequate.

References

Meat Goat Production Handbook, edited by R.C. Merkel, T.A. Gipson, and T. Sahlu. Available from E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK 73050.

Merck Veterinary Manual, Merck & Co., Inc., Rahway, New Jersey 07065.

Sheep Production Handbook, 2015 Edition, Vol 8, American Sheep Industry Association, Inc. Available from American Sheep Industry, Inc., Englewood, CO 80112.

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