White Muscle disease

Nutritional muscular dystrophy | Stiff lamb disease

White muscle disease (WMD) is a degenerative disease of the heart (cardiac) or skeletal muscles of large animals. It is caused by a dietary deficiency of selenium (Se) and/or vitamin E. It occurs mostly in lambs/kids under six of months of age and is commonly seen in newborns (congenital) or fast-growing animals. The disease owes its name to the paleness of the muscles observed at necropsy.

Risk factors

- Soils deficient in selenium
- Feedstuffs deficient in selenium
- Diets insufficient in selenium
- Rapidly growing lambs/kids
- Sudden exercise

Clinical signs - Heart

- Still births
- Sudden death (or 2 to 3 days)
- Weakness
- Respiratory distress
- Rapid heart rate

Clinical signs - Skeletal

- Stiffness, especially hind limbs
- Stiff joints
- Difficulty standing or moving
- Unwillingness to move
- Lethargy
- Pain to the touch
- Trembling
- Recumbency

Differential diagnoses

- Congenital heart defect
- Joint ill
- Tetanus
- Rickets
- Swayback
- Polyarthritis
- Tick-borne fever
- Toxicities (e.g., ionophore)
- Infectious pneumonia

Bo-Se ® is prescription (Rx) drug.

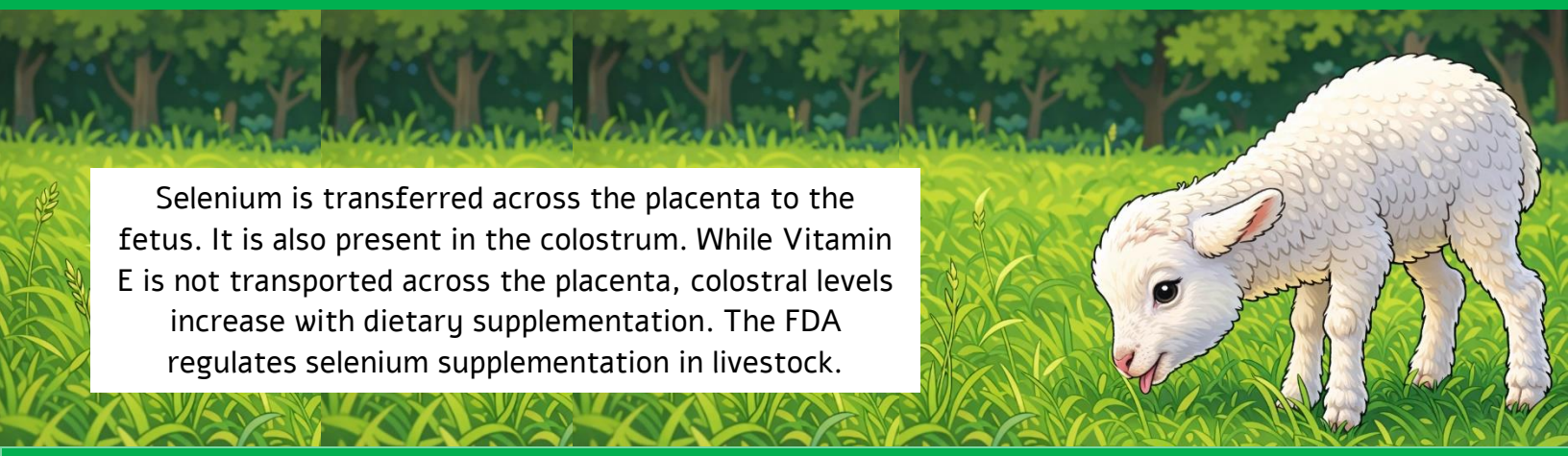
Treatment

- Treatment of heart form is rarely successful.
- The muscle form can be reversed with injections of selenium and/or vitamin E (early intervention).

Prevention

- Quality mineral/vitamin supplement year-round.
- Selenium/Vitamin E preparations
- Supplementation of dam's ration in late gestation
- Injectable selenium is a poor substitute for a proper diet.
- Injections (Rx) for high-risk animals.

In adult animals, selenium/vitamin E deficiencies cause reproductive disorders including abortion, retained placenta, poor conception rates, and chronic disease.



Selenium is transferred across the placenta to the fetus. It is also present in the colostrum. While Vitamin E is not transported across the placenta, colostral levels increase with dietary supplementation. The FDA regulates selenium supplementation in livestock.

Author: By Susan Schoenian, Sheep & Goat Specialist Emeritus, University of Maryland Extension | images by ChatGPT