



Ketosis or Pregnancy Toxemia in the Ewe

By Jackie Nix

Pregnancy toxemia, also known as ketosis, is a metabolic disease that occurs in late pregnancy. It is most prevalent in ewes carrying two or more lambs or in very fat ewes. Ketosis is caused by a disturbance in carbohydrate usage in the animal. As a ewe's pregnancy progresses, the energy demands of her body increase. At the same time, the capacity of her rumen shrinks since her growing lambs in the uterus take up more and more space inside leaving less space for the rumen. This combination can result in the ewe not receiving enough carbohydrates (energy) through her diet. As a result she will have to resort to breaking down her own body tissues (usually fat) in order to provide energy for her growing lambs, thus releasing ketones (a toxic by-product of fat breakdown) into her bloodstream. When this occurs too rapidly, the ewe's body cannot detoxify the ketones fast enough and ketosis or pregnancy toxemia results. Ketosis can also occur when a ewe is too fat since fat also takes up room inside of the sheep resulting a less space for the rumen to hold feed. Additionally, conditions that interrupt feed intake, such as storms, hauling or other diseases, can also induce this metabolic disease.

Symptoms:

Ewes with ketosis are lethargic and have a poor appetite for one to two weeks, generally within the last one to two weeks of pregnancy. They also tend to have poor muscle control and balance. A classic symptom is sweet-smelling (ketotic) breath. Sheep may also grind their teeth. Eventually they lie down and are unable to rise. Death usually follows within a few days.

Treatment:

Treatment of ketosis is relatively simple – administer a readily usable form of energy (usually glucose) and get the ewe eating on her own again (usually with the help of anabolic steroids). Once she is eating, add an energy supplement like a **Sweetlix® 16% Roughage Converter poured molasses tub** or other suitable supplement to her ration to increase energy intake. Cesarean section or induced abortion will usually lead to the ewe's recovery if the ketosis is caught early enough. If the lambs are near term they may also be saved. Unfortunately, response to treatment is usually not very good; however, it is worth the effort of trying especially if the affected ewe is valuable. Once pregnancy toxemia is in advanced stages (ewe lying down unable to rise), no treatment is highly effective.

Prevention:

Since treatment is not generally effective, avoiding conditions that lead to ketosis is best. First, avoid over conditioning sheep in early pregnancy. This includes preventing ewes from becoming too fat and also slimming down ewes that are already fat. Next be sure to feed high-quality forages and/or supplements, such as the **Sweetlix® 16% Sheep Tub (41532)** or the **Sweetlix® 16% Roughage Converter tub (1708)** that are very palatable during the last two months of

pregnancy. This allows sheep to receive adequate energy even though rumen volume is decreased. If adequate and suitable feed is not available for the whole flock during late pregnancy, gentle driving can identify early cases of ketosis. Ketotic does can be recognized by the symptoms outlined above. These ewes can then be separated from the herd and given special care.

In summary, pregnancy toxemia or ketosis is a metabolic disease found mainly in overly fat ewes and ewes carrying twins or larger numbers of multiples. Symptoms include lethargy and loss of appetite, eventually leading to coma and death. Unfortunately, treatment is not usually very effective; therefore, prevention is the best way of dealing with ketosis. Avoid over conditioning ewes during pregnancy and be sure to feed high quality forages and supplements in the last trimester of pregnancy.

The **Sweetlix® 16% Sheep Tub (41532)** or the **Sweetlix® 16% Roughage Converter tub for Sheep and Goats** are good supplement options for ewes in late pregnancy. These highly palatable tubs provide additional energy and protein as well as recommended levels of essential minerals and vitamins in one convenient supplement. These 100-lb. tubs do not contain urea and are safe for all classes of sheep (including lambs) and are excellent for ewes at high risk for ketosis. For additional information about these and other Sweetlix® supplement products for sheep, contact your local Sweetlix® dealer, visit www.sweetlix.com or call 1-87SWEETLIX.

Jackie Nix is a nutritionist with Sweetlix (<http://www.sweetlix.com>). You can contact her at jnix@sweetlix.com or 1-800-325-1486 for questions or to learn more about the Sweetlix line of mineral and protein supplements for sheep, goats, cattle, horses and wildlife.

August 2004