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Pregnancy Disease of Sheep

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For many years sheep breeders thruout Kentucky have had severe losses of pregnant ewes, caused by pregnancy disease. This disease usually occurs during the months of January and February, a few days to several weeks before lambing. Of one hundred and six cases on which autopsies were held, 4 occurred in December, 59 in January, 38 in February, and 5 in March. The loss varies from five to twenty-five percent of the ewes in the flock. This disease probably ranks second to parasites as a cause of loss to the sheep industry in Kentucky.

CAUSE

Pregnancy disease is not infectious or contagious, as repeated attempts have failed to transmit the disease or to isolate a causative microbe. A study to determine the cause of the disease brought out the fact that it was an acidosis. Acidosis develops as a result of improper nutrition. In many flocks of sheep some individuals are on the border line between health and ill health. Many ewes are in a low state of nutrition at breeding time. If such ewes are not fed so as to gain in weight, especially in the latter months of pregnancy, when the drain on the system is at its maximum and the requirement for essential nutritive elements is greatest, they may become so out of balance nutritionally that sickness develops.

Studies in nutrition have shown that in addition to protein, carbohydrates, fat and fiber, the animal body requires a certain amount of a number of mineral elements and of those substances known as vitamins. All the essential elements used by the animal body are best obtained by the animal direct from the feed. In those sections of the country where certain minerals are not present in the soil and thus not present in the feed it is necessary to supply them from some other source. Some minerals may be supplied effectively by adding them to the grain mixture or by mixing them with the salt; however, it is generally believed that minerals fed to animals as such are not so readily made use of by the animal body as the same minerals present in the hay and grain. Therefore, in feeding sheep, particularly breeding ewes, it is best to feed a liberal supply of roughage and a small amount of grain. It is also best to feed a variety of roughage and a mixture of grains. If ewes are fed a sufficient quantity and variety of roughage and grain it usually means that they are supplied with all the essential nutritive elements that animals need to maintain health and to produce young. The non-pregnant ewe may survive and appear to be healthy on a quantity and quality of feed that would not be sufficient to maintain the health of the pregnant ewe. As the ewe approaches the time of lambing the need for proper nourishment increases; therefore, in a flock of ewes poorly nourished in one or more of the elements essential for balanced nutrition, there is danger that some of them may develop pregnancy disease or acidosis during the last weeks of pregnancy.

Parasites and the popular belief that sheep need not be fed and watered regularly are predisposing causes of pregnancy disease. Parasites affect sheep of all ages, but are particularly severe on lambs. This results in a large number of cull lambs of low market value. Ewe lambs not in marketable condition frequently are retained as breeders. Such animals usually have a large number of parasites. The parasites interfere with nutrition and as a result the ewe does not have a reserve supply of food elements in the body.

SYMPTOMS

Ewes in the first stages of pregnancy disease lag behind the rest of the flock and refuse to eat or drink. There may be a tendency to walk in a circle or to stand with the head pressed against some hard object. The sick ewes do not have good use of their legs and are unable to get over small obstructions. Breathing is rapid and difficult. The temperature varies but is usually normal. Sick ewes are apt to be constipated altho they may have a diarrhea.

As the condition progresses the sick animals are found lying down more or less constantly, grinding the teeth, trembling, and gradually becoming indifferent to their surroundings. At first the sick ewes may rest on the breast, with the head turned toward the body; later they lie on the side with the head and legs extended and are unable to stand even with assistance. Finally the sick animals become almost unconscious but may live for several days in this condition.

LESIONS

The majority of ewes that die of pregnancy disease have twin lambs in the womb. This is not thought to be a primary factor in causing the disease because the majority of ewes produce twins. The lambs are always found alive in ewes killed in an advanced stage of the disease. Examination shows that the womb is closed, sealed normally and there is no tendency to dilate and thus facilitate the delivery of the lambs.

The liver and kidneys are the only organs in which pathological changes were observed with any degree of regularity. These organs, as a whole, were soft, sometimes to the point of being pulpy and gorged with blood. The kidneys are usually very dark in color while the liver is most often of a grayish or slightly yellowish color, more or less mottled.

CONDITIONS THAT RESEMBLE PREGNANCY DISEASE

Pregnancy disease has been mistaken for hemorrhagic septicemia, grub in the head, nodular disease, botulism, pneumonia and poisoning. Many farmers report that the disease appears

a day or two after salting. Sheep should have access to salt at all times. Salt poisoning is apt to occur in flocks that have not had salt for some time and are then given a liberal supply. Salt should never be left outside where it gets wet, as salt and water form a brine which is poisonous to animals if taken in any quantity.

TREATMENT

As soon as pregnancy disease is noticed in the flock, methods of management, feeding and watering, as suggested under prevention, should be begun with the idea of preventing the development of the disease in the remainder of the flock. Usually treatment of the sick ewe is useless. Constipated animals may be benefited by giving them one-fourth pound of Epsom salt. Blackstrap molasses is a good feed, a laxative, and appears to have some value if given early in the course of the disease. Molasses feed may be purchased or the molasses may be added to the grain mixture at the rate of four ounces per animal per day. Sick ewes may be treated by drenching them with a mixture of two ounces of molasses and four ounces of warm water, repeated twice daily.

PREVENTION

Prevention of pregnancy disease depends on the selection of good, vigorous ewes as breeders, good feeding and the control of parasites, especially stomach worms. Prevention should thus begin with the selection of the animals that are to be used as breeders. Early ewe lambs, that are well developed, well nourished, and have been kept comparatively free of parasites should be selected. Such animals have a larger reserve of nutrients in the body and are more able to withstand the drain of pregnancy and lactation. The majority of breeding ewes are in rather poor physical condition at the time the lambs are weaned. Restricted feeding at this time aids in drying up the ewes and also helps to prevent the development of udder trouble.

Beginning two to three weeks before breeding, the ewes should be fed so that they gain in weight. It is imperative

after they become pregnant that they retain this weight and at the same time continue to gain so that they will be in the best of condition at lambing time. To do this it is necessary that the ewes, from the beginning of breeding, have a liberal supply of water always available, receive succulent pasture, from one to two pounds of hay per day, and from one-fourth to one-half pound of a grain mixture per day. The exact amount of hay and grain depends on the physical condition of the ewes. A part of the hay should consist of a legume, as alfalfa, lespedeza, red clover, soybean, cowpea, clover mixed with timothy, or any good mixed hay.

The following grain mixtures are suggested:

Mixture 1. (Experiment Station Farm)

Oats	300 lbs.
Wheat Bran	100 lbs.
Linseed Oil Meal	50 lbs.
Gradually increase oil meal to 100 lbs.	

Mixture 2.

Corn	300 lbs.
Oats	200 lbs.
Wheat Bran	200 lbs.
Linseed Oil Meal	100 lbs.

Mixture 3.

Corn	300 lbs.
Wheat Bran	150 lbs.
Linseed Oil Meal	50 lbs.

Perhaps the best grain mixture is equal parts of corn, bran and oats, with linseed oil meal in the proportion of 1 to 7. However, where a grain grown on the farm is available, a larger quantity of it may be used. Ewes in poor condition should be fed a grain mixture containing a larger quantity of corn.

While feeding as above indicated is the most natural and satisfactory method of maintaining proper nutrition of pregnant ewes, it might be advisable to feed a suitable mineral mixture. A mixture of one part of ground limestone, one part of sulfur and ten parts of common salt may be used instead of salt alone. Minerals should be fed to livestock only as supplements

to rations that have been properly balanced. The proper use of linseed oil meal improves the ration and at the same time reduces the need for minerals as such.

SUMMARY

The disease of pregnant ewes known as pregnancy disease or acidosis is due to a nutritional unbalance. Pregnancy disease is caused by improper feeding, poor care and management and irregular watering. Many persons are of the opinion that sheep can go for several days without water. Sheep can go without feed longer than they can without water, without suffering ill effects.

The majority of cases of pregnancy disease occur directly following a sudden drop in the temperature, a cold rain, or a snowstorm. At such times the ewes may be temporarily cut off from free access to the water supply, green feed may become unavailable and shelter may or may not be provided. This sudden change in methods of feeding and management, together with exposure and a restricted water supply, may upset poorly nourished ewes that otherwise would not have developed pregnancy disease.