

# SHEEP HEALTH

Fact Sheet . . . No. 10



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## Lamb Pneumonia

Lamb pneumonia is an infectious disease of young lambs caused primarily by the bacterial organism *Pasteurella hemolytica* and characterized by fever, increased respiratory rate, failure to nurse, and death in untreated cases. It is a significant cause of mortality, especially in lambs born and reared in confinement.

### Cause

*Pasteurella hemolytica* is a bacterial organism carried in the respiratory and digestive tract of many normal lambs and ewes. Most newborn lambs are exposed, but do not develop the disease because of antibodies in colostrum that help control the infection. Viral agents such as parainfluenza-3 (PI-3) are common in sheep and can increase susceptibility to infection by causing inflammation of the respiratory tract, reducing the efficiency of normal mechanisms of destroying *Pasteurella hemolytica*. Other organisms, including a group called *Mycoplasma*, also may play a role. Lambs that recover are susceptible to relapse during the feeding period and are more likely to suffer from heat stress and chronic cough. Coughing, in turn, can lead to serious problems with rectal prolapse in feeder lambs.

Although the specific cause of pneumonia is *P. hemolytica*, inappropriate environment is the precipitating cause. High humidity, dust, damp bedding, and irritating gases such as ammonia compromise disease resistance and natural defense mechanisms, allowing pneumonia to develop. Excessive heat, tight

buildings with inadequate ventilation, weakness from difficult birth, inadequate intake of colostrum, and other stresses all contribute to the incidence of pneumonia in nursing lambs.

### Symptoms

Young nursing lambs that develop pneumonia commonly lose weight, become gaunt and lethargic, fail to nurse, and usually have a moderate fever. Even in lambs with severe lung damage, labored breathing is not easily observed. If it remains undetected, serious lung damage will result and treatment will not be effective.

### Diagnosis

Because lethargy and fever in young lambs may have several causes, a careful physical examination is required. In many cases definitive diagnosis is made by post mortem examination. Laboratory pathologic examination and culturing should be done in serious cases in order to be sure of the infectious organism involved, and to identify antibiotic sensitivity patterns of those organisms.

### Treatment

Treatment must be based on early identification of affected individuals. The prognosis for infected individuals is guarded, even with intensive treatment. Antibiotics such as penicillin, tetracyclines, and others are those most commonly used. Fluid therapy, if practical, often helps the recovery rate. Shepherds should be sure that sick lambs are nursing, or that they are provided supplemental milk via stomach tube. In serious outbreaks, it is often advisable to treat all

exposed lambs with a therapeutic dosage of antibiotics for several days.

### **Prevention and control**

Producers with lamb pneumonia have ventilation problems in the lambing and nursing quarters. Most commonly the quarters are too tightly closed, resulting in high humidity and noxious gases — such as ammonia. In such conditions, the concentration of infectious organisms also rises. Well-ventilated (but cold) housing is probably ideal. Newborn lambs should be dried off, and then provided adequate colostrum intake. Lambs should receive 4 per cent of body weight in colostrum the first two hours of life, and another 4 per cent within 8 hours. Weaker lambs that fail to nurse should be provided colostrum via stomach tube. Keep the bedding dry, or lambs will chill and develop pneumonia. Do not skimp on bedding during the early nursing period.

Newborn lambs should be provided supplemental heat only until they are dry and have nursed. Do not keep the lambing quarters tightly closed and warm. Other

than exposure to heavy drafts, healthy lambs can tolerate cold very well. If electric fans are used, lambing quarters should have at least four air changes per hour. Avoid overcrowding the lambing facilities.

Parainfluenza-3 virus is a mild but common infection of young lambs. Vaccination of young lambs (in problem flocks) with nasal IBR-PI-3 vaccine at two or three days of age has helped reduce problems in some cases. Treatment of the ewe flock with sulfonamides prior to lambing also has helped in problem flocks, although correction of housing and ventilation problems provides the most reliable control. Routine treatment of all lambs with a long-acting antibiotic (such as benzathine penicillin) when an outbreak occurs has been helpful in some cases.

Where lamb pneumonia occurs, careful diagnostic efforts and intensive treatment regimes are needed, but the longer term solution must include attention to housing and the environment.

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