



# **Ensuring the survival of newborn lambs**

## Lamb Losses

- Average scanning percentage more than 200%
- Average weaning percentage around 155%
- Average perinatal lamb mortality around 10-25%
- Achievable perinatal lamb mortality around 5%

Lamb deaths from birth to three day old mortality in the majority of UK flocks ranges from 10 to 25 per cent which represents 2 to 6 million dead lambs annually.

Perinatal lamb mortality rate (%) in relation to dam nutritional plane

	LOW	MEDIUM	HIGH
SINGLES	0	7.1	0
TWINS	18	13.8	0
TRIPLETS	41.6	27	22.2

Typical lowland UK Flocks

- Singles approximately 15 per cent
- Twins approximately 65 per cent
- Triplets approximately 20 per cent

Optimum lamb birthweights using a Suffolk or other terminal meat breed sire crossed onto a F1 hybrid female (eg Greyface, or Scottish Halfbred) are:

- Single 5.5 to 7.0 kg
- Twins 5.0 to 6.0 kg
- Triplets greater than 4.0 kg

- Lamb birthweights more than 1.0 kg lighter than those quoted above are strongly suggestive of chronic ewe undernutrition during late gestation.

### **Getting the Best Start**

- The lamb must ingest sufficient colostrum (200mls / kg) during the first 24 hours of life, and 50mls / kg within the first 2 hours, if not sooner.
- The navel must fully immersed in strong veterinary iodine BP within the first 15 minutes of life.
- Antibiotic aerosol sprays are not as effective as iodine when treating lambs' navels, and are much more expensive.

### **Treating the comatose lamb**

- Treatment of comatose lambs less than 6 hour-old
- Coma should not arise in lambs less than 6 hour-old unless the lambing flock has been subjected to adverse weather conditions. This situation occurs most commonly in the UK when ewes lamb outdoors during severe weather conditions, and in hill flocks which lamb outdoors where there is no supervision during the 10-11 hours of darkness.
- The lamb is placed in a warming box with the thermostat set at 45°C.
- Colostrum should be stomach-tubed at a rate of 50mls / kg once the lamb has been warmed and can maintain sternal recumbency.
- If there is insufficient ewe colostrum, it is possible to use cow colostrum pooled in advance from more than four dairy cows previously vaccinated with a multicomponent sheep clostridial vaccine preparation 3, 6 and 10 weeks prior to calving.
- Artificial milk replacers should not be used for the first feed, but can be used after the first feed to save colostrum stores. Electrolyte solutions contain very little energy (as little as 15% of the lamb's daily requirements) and should be used for treating neonatal diarrhoea only.
- This metabolic crisis can be corrected by intraperitoneal injection of 25mls of 20 per cent glucose solution followed by placing the lamb in a warming box with the thermostat set at 45°C. It is essential that the intraperitoneal injection is administered before the lamb is placed in the warming box. The lamb must be regularly checked if the box does not have a thermostat to prevent overheating.
- The warm 20 per cent glucose (dextrose) solution is made up by adding 12mls of recently-boiled water from the kettle to an equal volume of 40 per cent glucose solution.

## ***Intraperitoneal injection***

- The lamb is suspended vertically by the front legs. The 19 gauge 25mm long needle is introduced through the body wall 2 to 3cm to the side of the navel and 2 to 3cm caudal. The needle point is directed towards the lamb's tail head. The solution is slowly injected in to the body cavity once the needle has been introduced up to the hub. The recovery of hypothermic and hypoglycaemic lambs takes 30 to 60 minutes.



## **Watery mouth disease**

Watery mouth disease is a colloquial expression used to describe a collection of clinical signs in neonatal lambs which includes lethargy, unwillingness to search for the teat and suck, profuse salivation, and increasing abdominal distension and retained meconium. The condition is caused by colonisation of the small intestine by *E. coli* with rapid multiplication, followed by death of the bacteria and release of toxin.

Initial contamination of the lambs' gut results from a high environmental bacterial challenge from dirty wet conditions in the lambing shed and pens, and from ewes with faecal staining of the wool of the tail and surrounding the perineum. Colonisation of the gut and rapid bacterial proliferation is facilitated by inadequate and/or delayed colostrum ingestion especially in small weakly triplets, and poorly fed ewes in low body condition with insufficient colostrum accumulation.

## Treatment

During the early stages soapy water enemas can be used to aid expulsion of meconium. Washing-up liquid is diluted in warm water and 10mls slowly introduced into the rectum - meconium is often expelled immediately.

Oral antibiotics are effective during the early phase of the disease. Up to 40 per cent of advanced cases of watery mouth disease have bacteria in their bloodstream and should be treated with amoxicillin or similar drug injected intramuscularly as prescribed by the veterinary practitioner.

Despite abomasal distension in lambs with watery mouth disease, oral electrolyte therapy at a rate of 50mls / kg four times daily is essential to maintain normal hydration. Preparations used for calves can also be used for lambs.

## Management/Prevention/Control measures

Problems with watery mouth disease are almost invariably encountered in housed flocks towards the end of the lambing period caused by a build up of infection. All attempts must be made to improve hygiene standards in the lambing shed.

Dry bedding is essential

Whilst not the primary factor in the disease process, it is still important to ensure adequate colostrum ingestion.

Lambs born after prolonged second stage labour must be given special attention and stomach tubed where necessary (within two hours).

When watery mouth becomes a problem the single most effective means of control is the administration of an oral antibiotic preparation within the first 15 minutes after birth to limit bacterial colonisation of the gut.

On most farms it should be possible to delay the prophylactic use of oral antibiotics in lambs until the second half of the lambing period.

### Control measures for watery mouth should include:

- Cleaning and disinfection of individual pens between lambing ewes.
- Abundant clean, dry straw bedding
- Use of paraformaldehyde powder on straw bedding.
- Collection and disposal of placentae (afterbirths).

- Clean ewes (dagged if dirty)
- Ensure that lambs suck colostrum as soon as possible following birth

## **Umbilical infection (Navel ill)**

Navel ill is common in young lambs born into unsanitary conditions where there is inadequate navel treatment. Umbilical infection with *Fusobacterium necrophorum* with subsequent spread to the liver causes the specific condition of hepatic necrobacillosis. Typically, affected lambs are first noted from 10 to 14 day-old when they appear dull and depressed, and in much poorer condition than their co-twin. Treatment is not successful and affected lambs die within several days.

## **Septic peritonitis**

These lambs do not suck but develop a distended abdomen due to gut stasis and fluid accumulation. The distended abdomen contrasts with the lamb's gaunt appearance and expression. Affected lambs rapidly become dehydrated and die within a few days.

## **Infectious polyarthritis (Joint ill)**

Localisation of bacteria within joint(s) to cause an infectious arthritis with moderate to severe lameness is a major economic problem and welfare concern. The problem is greatly increased when lambs are born indoors under unsanitary conditions.

*Streptococcus dysgalactiae* infections are acquired during the first few days of life with lameness visible from five to 10 days-old.

The number of infected joints is highly variable; typically only one joint is affected in approximately 50 per cent of lambs with 2 to 4 joints in the remainder. The joints most commonly affected, with decreasing frequency, are the carpal joints, hock, fetlock, and stifle joints.

The affected joint(s) are swollen, hot, and painful. Infection causes considerable muscle wastage. After only a few days, lambs with polyarthritis are smaller than their co-twin and in poor body condition.

In lambs less than one month-old all swollen joints should be considered septic until proven otherwise. Injuries caused by knocks from ewes at feeding time are uncommon compared to joint ill - catch the lame lamb and treat it immediately with antibiotics!

Procaine penicillin is the drug of choice for polyarthritis where *S dysgalactiae* and *E rhusiopathiae* are the most common joint pathogens accounting for over 90 per cent of positive joint fluid cultures. Penicillin once daily for at least five consecutive days administered during the early stages of lameness effects a good cure rate in many *S dysgalactiae* infections.

Lambs with polyarthritis that continue to show moderate to severe lameness after two courses of antibiotic therapy do not grow well and represent a major welfare concern.