

Making Every Lamb Count



Hybu Cig Cymru / Meat Promotion Wales
Tŷ Rheidol, Parc Merlin, Aberystwyth SY23 3FF
Tel: 01970 625050 Fax: 01970 615148
Email: info@hccmpw.org.uk

www.hccmpw.org.uk

November 2011

Design: Hybu Cig Cymru
Technical content: Innovis Ltd

This project has received funding through the Rural Development Plan for Wales 2007 – 2013
which is funded by the Welsh Government and the European Union.

No part of this publication may be reproduced or transmitted in any form by any means without the prior written consent of the company. Whilst all reasonable care has been taken in its preparation, no warranty is given as to its accuracy, no liability accepted for any loss or damage caused by reliance upon any statement in or omission from this publication.

Reducing lamb losses to improve flock profitability



The number of lambs reared per ewe is still one of the most important single factors affecting the productivity of sheep flocks. Therefore any measure that can increase the number of lambs has a major impact on the profitability and viability of sheep farms in Wales.

Some loss of lambs is unavoidable in any flock and losses on lowland farms in the UK have previously been estimated to be around 15% between scanning and marketing. However, an improvement in lamb numbers reared of as little as 1% can make a significant difference to the profitability of any sheep enterprise.

Improving conception rates and lamb survival can have a major impact on flock potential. Recording is key to identifying when any losses occur and what the causes are so that they can be avoided in future. This booklet provides technical information on the main causes of lamb losses and recommendations that can help to reduce these.

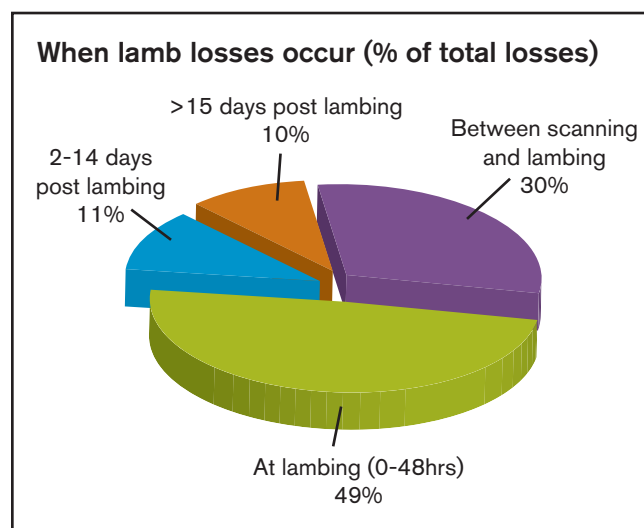
Contents

When are losses likely to occur?	2
Main causes of lamb losses in Wales	3
Problems that occur before lambing	4
Common causes of infectious abortion	5-6
Improving flock potential before lambing	7-8
Ewe management during pregnancy	9-10
Problems that occur at lambing	11-12
Managing newborn lambs	13
Common infections at lambing	14
Maximising potential post-lambing	15
Recording losses	16
Maximising potential in indoor and outdoor lambing systems	17
Simple ways to help improve lamb numbers	18

When are losses likely to occur?

Industry standards suggest that the level of annual lamb losses on lowland farms in the UK is in the region of 15%. Losses in hill flocks are estimated to be lower than this as lowland and upland flocks tend to produce larger litters.

Most losses tend to occur during pregnancy or in the first few weeks of life. This was seen in a HCC survey conducted on 70 flocks in Wales during the 2010/11 breeding season, where farmers were asked to record every loss. The levels seen during that season were less than industry standards and the majority of losses were incurred either before lambing or in the period during and immediately after lambing (0-48 hrs).



Source: HCC lambing project 2010/11

The impact of barren rates on flock performance

There are a number of reasons why ewes may be barren.

Barren rates can reflect underlying problems with nutrition, infectious abortion or other health issues. There may be infertility issues within the flock, either with the ewes or the rams. Prolonged periods of stress (including severe temperatures or poor grazing conditions) can also have a significant impact on barren rates.

Any barren rates above 5% should be investigated.

Barren rates 2010/11

	Ewes scanned	Ewes barren	Barren rate
Hill	20,782	927	4%
Upland	13,316	492	4%
Lowland	4,189	344	8%

Source: HCC lambing project 2010/11

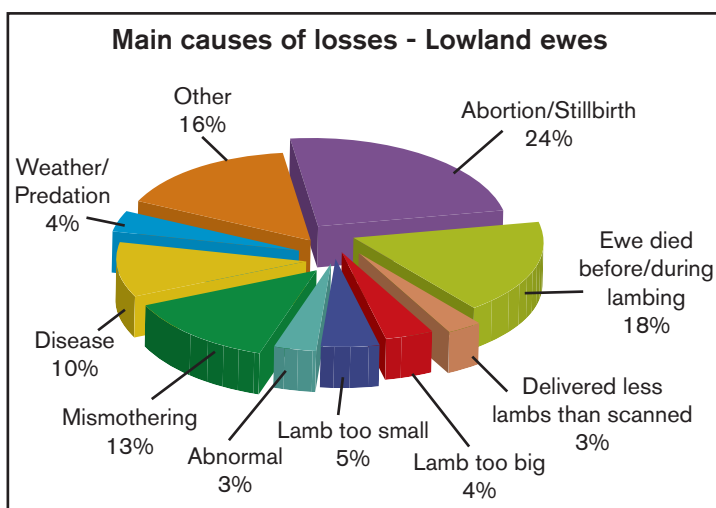
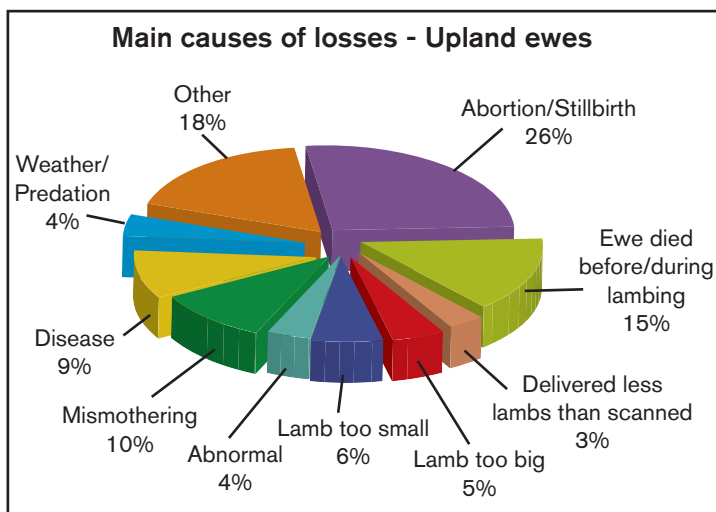
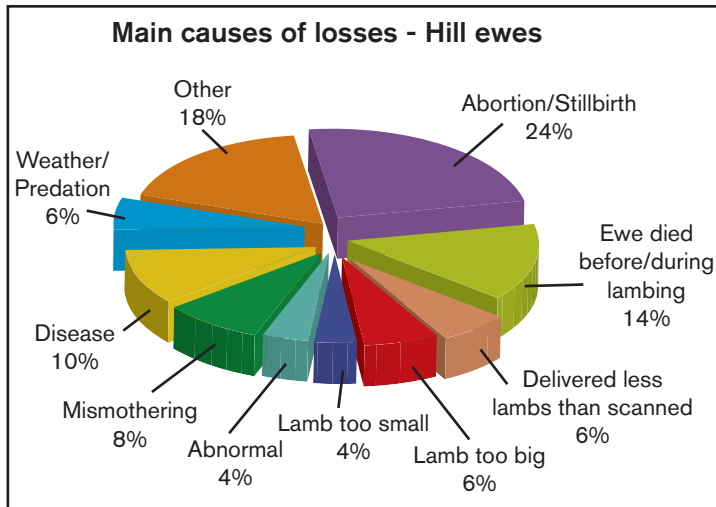
Season and seasonality

Most flocks in Wales lamb during March and April when weather conditions are usually more favourable, particularly for those lambing in hill and upland terrain.

Survival rates in any given breeding year are influenced by the climate and environmental factors which can vary considerably from one year to another. Weather can also have a major impact on conception rates and embryo mortality as well as influencing other factors such as susceptibility to disease and mismothering.

Main causes of lamb losses in Wales

A HCC survey of the main causes of lamb losses in Wales during the 2010/11 breeding season showed a very similar pattern on hill, upland and lowland flocks.



Source: HCC lambing project 2010/11

- **Abortions and stillbirths** accounted for almost a quarter of the total losses recorded.
- However, a significant proportion of pre-lambing losses (14-16% of the total losses) were due to the **ewes dying either before or during lambing**. Prolapse featured in many of these reported cases.
- On some farms **disease** affected lamb survival post-lambing including outbreaks of listeriosis, border disease, pasteurella, coccidiosis, watery mouth and joint ill.
- Around 8-13% of losses were attributed to **mismothering** and these included lambs still within the birth sac.
- The **size of the lamb at lambing** – be it too big or too small – accounted for around 10-12% of losses.
- Those reported in the “**Other**” category included a range of comments from misadventure to simply unknown causes.

There was no clear relationship between the level or the main cause of lamb losses and the size or type of farm.

Problems that occur before lambing

Pre-natal losses occur anytime before the predicted lambing date. Whilst abortion is often regarded as the most common cause of pre-natal losses, the number of ewes that are lost at or before lambing has a significant impact on flock performance and is a loss of lambs which is often under-estimated.

Abortion

An abortion storm is fairly easy to recognise and can be devastating. However, chronic cases of abortion are often masked by numbers of stillborn or weakly lambs. Whilst these may be put down to bad luck, chronic losses can lead to steady and persistent financial losses.

There are many causes of abortion in sheep and appropriate treatment can prevent further problems. Diagnosis often requires veterinary expertise and early diagnosis is often cost-effective.

Any abortion level above 2% requires investigation. Since the cause of the abortion can only be determined by analysis of the dead lambs, afterbirth or by blood tests, it is essential that advice is sought and that any aborted ewes are isolated. It is also important that hygiene standards remain high in the lambing shed.

Remember

Enzootic abortion (EAE) and toxoplasma are the most common types of abortion but are not the only cause. Other infectious organisms can also cause abortion as can poor nutrition and rough handling of ewes during pregnancy.

Identify the causes of abortion to prevent spread

- Isolate and mark the affected ewe.
- Wear gloves when handling any aborted materials.
- Dispose of bedding and contaminated gloves/clothing to prevent the spread of infection to the rest of the flock.
- Examine the placenta - white spots or unusual thickenings may indicate abortion caused by Toxoplasmosis or EAE.
- Send samples of the foetus and placenta of the first abortions to your nearest AHVLA centre.
- Consult with your vet and implement appropriate measures to protect the rest of the flock.



Image: NADIS

Samples of the foetus and placenta are important to identify the cause of abortions

Common causes of infectious abortion

Enzootic abortion (EAE)

Cause

- Infection by bacterium *Chlamydophila abortus*
- Causes up to 52% of infectious abortions and remains the single largest cause of prenatal losses in sheep

Signs

- Abortions tend to occur in last weeks of gestation
- Can cause dead or very weak lambs - infected ewes may produce a dead lamb alongside a live healthy or weak lamb
- Afterbirth is visibly diseased and ewe produces a fluid discharge
- Aborted materials and discharge are highly infectious providing a potential source of transmission to the rest of the flock

Transmission

- Sheep to sheep via contaminated bedding/pasture at lambing
- Bought-in replacements are often the source of infection

Action and prevention

- Minimise the spread of infection by isolating any aborted ewes for 7-10 days until discharge has dried up
- Carefully dispose of dead lambs, placenta and infected bedding as soon as possible
- Antibiotic treatment may be needed to reduce the severity of infection in other in-lamb ewes during an outbreak
- Live vaccines are available but must be administered at least 4 weeks before tupping
- Do not keep infected sheep or their lambs as replacements
- Buy replacement stock from flocks which are known to be EAE-free

Toxoplasmosis

Cause

- Infection by protozoan parasite *Toxoplasma gondii*
- Causes up to 25% of infectious abortions in sheep

Signs

- Abortions tend to occur in last weeks of gestation
- Can cause dead or very weak lambs - infected ewes may produce a dead lamb alongside a live healthy or weak lamb

Transmission

- The definitive host for toxoplasma is the cat which sheds the eggs in its faeces
- Transmission occurs via contamination of feed, water or pasture with cat faeces
- Toxoplasma eggs can survive in the environment for up to 18 months

Action and prevention

- Keep aborted sheep away from pregnant sheep until after lambing
- Retain ewes that may have had toxoplasma infection as they will now be immune
- Keep cats away from feed
- Vaccinate sheep at least 4 weeks before tupping



A mummified foetus may be a sign of abortion caused by *Toxoplasma gondii*

Image: NADIS

Remember

These organisms can also infect pregnant women or people with a compromised immune system. Likewise, the live vaccines should not be handled by pregnant women or people with a compromised immune system.

Common causes of infectious abortion

Campylobacter

Cause

- Infection by bacterium *Campylobacter fetus*
- Causes around 9% of infectious abortions in sheep

Signs

- Lambs stillborn at full term or ewes deliver weak lambs

Transmission

- Sheep to sheep
- Infection can be carried by birds

Action and prevention

- Keep aborted sheep away from pregnant sheep until after lambing
- Keep aborted sheep with lambed ewes to encourage the spread of infection and development of immunity

Listeriosis

- Listeria infection can also occasionally cause abortion in sheep
- Abortion can occur from 12 weeks of pregnancy onwards and may occasionally cause deaths in ewes

Salmonellosis

Cause

- Infection by bacterium *Salmonella enterica* and *Salmonella dublin*

Signs

- Abortions occurring in the second half of pregnancy may only be detected by hollow-flanked ewes showing a red vaginal discharge
- Foetuses aborted during mid pregnancy are often fresh in appearance but the placentas appear inflamed
- Abortions occurring during late pregnancy often result in rotten lambs
- *S. dublin* infection often results in systemic illness and can cause severe diarrhoea as well as abortion
- Pregnant ewes may die from systemic disease before aborting or be found dead with rotten lambs inside them

Transmission

- Sources of infection include contaminated feed, carrier animals (including cattle), wild birds, contaminated watercourses and man

Action and prevention

- Keep aborted sheep away from pregnant sheep until after lambing
- Keep aborted sheep with lambed ewes to encourage the spread of infection and development of immunity
- Treatment of the whole flock with a long acting antibiotic is often recommended and can reduce the severity of most outbreaks

Remember

- Barren ewes may well have conceived but reabsorbed or aborted their foetuses during the early part of gestation. If barren rates are above 5%, consult your vet.
- Seek veterinary advice to investigate the cause of unusually high numbers of abortions
- Vaccinate stock if the appropriate vaccine is available
- Consider buying maiden stock (older ewes present a higher degree of disease risk) or stock from disease-free sources
- Beware - many of the infections which cause sheep abortion are also infectious to humans and may cause abortions in pregnant women

Improving flock potential before lambing

Not all losses before lambing are caused by infection and some of these can be prevented by careful management of ewes at tupping and during pregnancy. Appropriate levels of nutrition can play a significant role in helping to improve both ewe and lamb survival.

There will inevitably be variations in the litter size that is delivered against the litter size that was identified by ultrasound scanning. Early stage pregnancies (less than 45 days) are hard to detect.

Stress

Stress can be caused by rough handling, prolonged periods of cold weather (10 days) or severe grazing conditions. All of which can increase the levels of post scanning losses. Adverse weather occurring during early/mid stages of pregnancy affects implantation and early placental development, also the restricted diets of ewes during periods of extreme weather can cause more embryos to be lost.



Adverse weather can affect implantation and embryo survival

Twin-lamb disease

Twin-lamb disease (pregnancy toxaemia) is a metabolic disorder that occurs in the last 4-6 weeks of pregnancy. It can affect any age or breed of ewe but over-fat or over-thin ewes and those carrying multiple lambs are most at risk.

Twin lamb disease is the result of a lack of food (energy) intake at a time when the animal's energy demands will have increased due to a higher maintenance requirement.

Inadequate intakes of food lead to a decline in maternal blood glucose levels. Twin lamb disease develops when these levels fall below the level required for brain function.

Signs: Ewes isolating themselves from the rest of the flock, 'star gazing', drowsiness, muscle tremors, appear blind.

Treatment: Affected ewe should be given glucose until she recovers. However, for treatment to be successful it must be given early.



Ewe showing signs of toxaemia through blindness, early treatment is essential if losses due to twin lamb disease are to be avoided

Improving flock potential before lambing

Prolapse

The incidence of vaginal prolapse in ewes during late gestation is an increasing problem with significant losses of ewes and their litters.

- Vaginal prolapse occurs before lambing and ranges from relatively mild to traumatic damage of the cervix. In severe cases prolapse of the intestines through tears in the vaginal wall may occur.
- Prolapse is a significant cause of ewe mortality
- Vaginal prolapse occurs in about 1% of ewes although some flocks experience incidences as high as 7%
- Prolapsed ewes also have increased risk of abortion, dystocia, stillbirth and post-lambing mortality

Prolapses often require veterinary treatment to return the tissue without incurring further damage or introducing infection. Sutures or a harness may be needed to help prevent further prolapse before lambing. These sutures must be removed once the ewe starts labour to allow the lambs to be delivered successfully.

Triplet bearing ewes are often more prone to prolapse.

There are many possible causes of prolapse although overfeeding during late gestation seems to be a strong contributory factor. Calcium deficiency has also been implicated.

Both of these causes can be minimised by careful nutritional management during pregnancy.

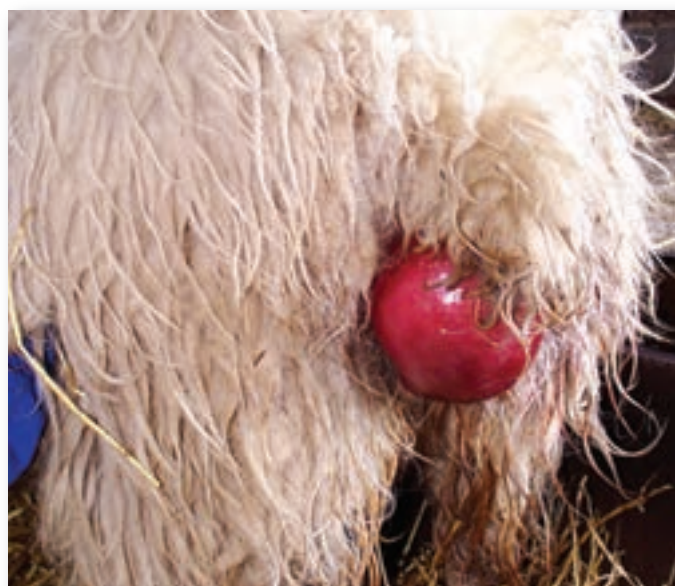


Image: NADIS

Record which ewes prolapse and cull from flock. Ewes which prolapse are likely to experience prolapse again.



Careful management of feed and nutrition intake can lower cases of prolapse

Ewe management during pregnancy

Simple ways to improve the number of lambs born

Correct ewe management during pregnancy can considerably improve the numbers of lambs born. Excessive handling, transport, excessive use of dogs and disease can all increase stress on pregnant ewes – this can affect fertility in the early stages of pregnancy and also cause ewes to abort their foetuses in later stages.

Ewes need increased levels of energy and protein in the last 8 weeks of pregnancy. Good energy and protein supplies lead to high yields of high quality colostrum and help to produce vigorous lambs with a good birth weight. However, it is essential that ewes are fed according to their needs.

Underfed ewes will direct their energy to trying to maintain their own body condition.

Consequently they will produce small lambs and will not have enough colostrum available for the new born lamb.

Thin ewes are more likely to have difficulty delivering their lambs through exhaustion and may also show poor maternal behaviour. Their lambs are more likely to be light and weak at birth and slow to stand and suck.

However it is essential that ewes are not overfed.

Overfed ewes are more prone to vaginal prolapses and tend to produce larger lambs. They also lay down fat around the pelvic area, making the birth canal much narrower. This will compound any lambing difficulties.



Ewe management during pregnancy

Ensure that ewes are fit for lambing

- Pregnancy scan ewes between 45-90 days of gestation so that barren ewes can be removed and litter sizes identified.
- Split ewes into management groups after scanning and then feed and manage according to litter size.
- Assess the quality of the feed and forage to ensure that ewes receive adequate levels of protein and energy as well as essential vitamins and minerals. A 60kg twin-bearing ewe at lambing needs the ration to contain 12.9MJ per kg DM to meet her daily energy requirement.
- Monitor the body condition of the ewes. Ewes should ideally be in condition score 3 two months before lambing. Identify ewes which are undernourished or becoming over-nourished. Check whether there might be any other underlying cause of ewes being in poor condition (condition score 2 or below). Problems such as liver fluke can cause ewes to be in poor condition and this is made worse if the ewes are carrying large litters.
- Avoid underfeeding twin and triplet bearing ewes. Mortality rates tend to be higher in prolific or triplet bearing ewes particularly if they are underfed.
- Avoid overfeeding single/twin bearing ewes. Apart from prolapses, overfat ewes are also more prone to being found stranded on their backs.
- Avoid any stresses due to worms, feet problems, mouth problems, yarding and transport.
- Avoid twin lamb disease by ensuring that late pregnant ewes are not without feed for longer than 4 hours.
- Avoid any rapid changes to the diet - this may happen in response to changes in weather conditions.
- Only use concentrates as a supplement and not as a substitute for good quality grass/forage. Given the high cost of cereals and supplementary feeds, reducing their use through good quality forage not only avoids lambing problems but can have a significant bearing on profits.



When feeding ewes pre-lambing monitor to ensure they are in the correct condition

Problems that occur at lambing

Stillbirths represent the biggest losses that are recorded at lambing. However, the size of the lamb is one of the key factors which affects lamb survival. In a recent survey lambs born that were either too big or too small, represented one of the major problems experienced at lambing.

Stillbirths

Whilst stillbirths have been associated with infections that can also cause abortions (see page 5&6), there are a number of reasons why lambs are born dead at full term.

Stillbirths are frequently a result of a difficult lambing with lambs dying from birth injuries, trauma or from oxygen deprivation (anoxia) caused by dystocia. These are often due to the nutritional management of the pregnant ewe – overfat ewes not only produce large foetuses but lay down fat in the pelvic girdle. Conversely, malnourished ewes may be too weak to give birth quickly and the lamb dies in the meantime.

Careful ewe management during pregnancy is key to helping reduce the incidence of stillborn lambs as a result of lambing difficulties.



Underfeeding can result in small lambs that are too weak to stand and suckle

Birthweight

Birthweight is often a major factor affecting survivability of lambs and this in turn is influenced by the litter size and the nutrition of the ewe at the end of gestation. Undernourished ewes will direct all energy reserves towards maintaining her own condition and give rise to smaller lambs. In contrast single lambs from overfed ewes may be too big.

Small lambs often have poor brown fat reserves and so have insufficient fat/energy reserves to stand and suckle quickly. As a result they will quickly suffer from hypothermia. Small lambs are often too weak to suckle and so don't get enough colostrum during those crucial first few hours after birth.

Hungry lambs appear lethargic and may make poor attempts to suckle. They appear hunched up and, without assistance, may become comatose and die. Since the newborn lamb has an empty abomasum, gentle palpation will enable any ingested colostrum to be detected.

In contrast, large lambs are more prone to difficult births, birth injuries and trauma. Lambs that have had a difficult birth may appear with swollen heads, meconium staining on their fleece and may even have broken ribs.

Remember

- Manage ewes in relation to the litter size
- Condition score ewes whenever the opportunity arises and separate out thin ewes for feeding or to investigate any other underlying cause (eg liver fluke)
- Avoid underfeeding twin and triplet bearing ewes. Lamb mortality rates tend to be higher in underfed ewes.
- Avoid overfeeding single bearing ewes. Overfat ewes are more prone to lambing difficulties especially when trying to deliver large lambs.

Problems that occur at lambing

Mismothering

Ewes that are in good condition and well fed are usually good mothers but not all ewes have the same degree of mothering instinct for their lamb(s). Whilst genetics can play a role in influencing mothering ability, the age and the condition of the ewe and disturbance of the ewe during and immediately following lambing also have a significant effect.

Ewes which are disturbed or alarmed during or immediately after lambing will often leave their lambs and may not return. Hungry ewes may also abandon their lambs when feed is offered.

Ewe lambs and yearlings lambing for the first time also react differently than older ewes. Sometimes

penning ewe lambs or yearlings with their lambs will help the bonding process and lambs may need help to suck until the ewes become accustomed to them.

The birth-sac should rupture naturally as the lamb is born. If not, the ewe will usually lick the bag from the mouth first. The inability to clean the membranes from around the mouth of the lamb is considered to be a criterion for mismothering although sometimes birth membranes appear particularly tough. If a ewe is old or exhausted after a difficult or multiple birth she may neglect the last lamb born and the lamb will suffocate in an unlicked membrane.

There are several management aspects that can be considered to help ewes and lambs bond in the very early hours following birth.

- Consider the size of group and individual pens to enable ewes to bond with their lambs, larger pens will avoid ewes lying on lambs.
- Aim for 1.1m² /ewe in group pens and individual pens that are at least 3m². Provide 1 individual pen for every 8-10 ewes.
- If possible, it is a good management practice to put ewes in a lambing area a few days before the ewes are actually due to come in. This will reduce stress to the ewes, especially first time lambers.
- Avoid disturbing ewes (especially young ewes) during the birth process.
- Lower milk yields and poor let-down of milk are often found in stressed ewes.
- Give ewes and lambs enough time to mother up. If lambing outdoors give them long enough undisturbed and only move with care so that early bonds are not broken.
- Make mothering ability a selection criterion when breeding female replacements and use EBVs to identify suitable rams for breeding replacements. To improve the overall mothering ability of a flock, select daughters out of good mothering ewes.
- Some ewes are simply not good mothers and these should be identified and removed from the flock.

Managing newborn lambs

Preparation for lambing is key to optimising lamb survival, particularly if lambing indoors. Newborn lambs are vulnerable and some tasks can help to improve the potential for lambs to survive.

Preparation for lambing

- Ensure that there is enough skilled labour at lambing so that problems can be identified and dealt with quickly
- Ensure lambing sheds are clean, well ventilated and drained
- Set aside “hospital” facilities and areas (indoors or outdoors) where sick lambs or aborted ewes can be isolated and dealt with in a biosecure manner
- Check that lambing equipment is clean and accessible. Lubricants, markers/tags, iodine, colostrums or colostrums replacer, thermometers, glucose and electrolyte solutions are all useful items to have in place before lambing
- Plan well ahead – a compacted lambing period will reduce risk of disease. Whilst tiring, a busy week or two is more efficient and effective than being tired for 6-12 weeks

During lambing

- Aim to provide maximum supervision with minimum interference
- Intervention may be needed if ewes are straining for a long time without making any progress or if lambs are abnormally presented
- If intervention is needed, ensure that the ewe and lamb are handled gently using plenty of lubrication and inject the ewe with an antibiotic to prevent infections
- Immerse the navel in strong, veterinary grade iodine within the first 15 minutes and again 2-4 hours later to prevent infection through the navel
- Keep lambing pens clean and disinfected to reduce the risk of contamination and to prevent diseases such as Watery Mouth, Joint ill and Navel ill. All of which are caused by bacterial infections
- Ensure that lambs get adequate colostrum – lambs that fail to get enough colostrum are often more prone to disease



Images: NADIS

Be prepared, have clean lambing kit ready for lambing



Image: NADIS

Avoid intervention unless absolutely necessary

Colostrum – the fuel for life

Getting an adequate supply of good quality colostrum is key to preventing hypothermia and disease. Colostrum contains protective antibodies which can only be absorbed through the gut wall of the lamb during the first six hours of life. Lambs should receive around 250ml colostrum per kg body weight during the first 24 hours.

Well fed ewes with single lambs can produce enough colostrum to feed a second lamb, whereas underfed ewes seldom produce enough colostrum for twins.

A number of colostrum alternatives are available if additional colostrum needs to be administered.

Common infections at lambing

Bacterial infections can cause considerable losses at lambing time. These bacteria are often present in the environment but become a significant problem if numbers are allowed to build up. Infection can be easily prevented, but treatment after infection rarely has a successful outcome.

Good hygiene is crucial to prevent the incidence and spread of infections

Watery Mouth

Watery mouth disease is a term used to describe a collection of signs in newborn lambs (1-3 days old). The disease is seen under all management systems.

Signs: Lethargic lambs, profuse salivation, unwillingness to suck, abdominal distension, retained meconium

Cause: Colonisation of the lamb's intestine by *Escherichia coli*

Source of infection: Dirty wet conditions in lambing sheds and pens allowing bacteria to build up and contaminate the ewe's fleece and udder

Treatment: Prognosis is poor and treatment seldom justified economically

Navel ill

Navel ill (*omphalophlebitis*) is very common in young lambs that are born into dirty and wet conditions in lambing pens. It is more common during inclement weather when the bedding is difficult to keep dry.

Signs: The navel is moist, swollen, painful and may discharge pus. Abscesses around the navel and body wall. May lead to peritonitis, bladder infection or liver abscesses.

Cause: Bacterial infection of the umbilical cord

Source of infection: Dirty lambing conditions combined with inadequate navel treatment

Treatment: Usually requires antibiotic and anti-inflammatory treatment although success depends on the extent and duration of infection



Image: NADIS

Diseases such as joint ill, navel ill and watery mouth can all be avoided

Joint ill

Joint ill (infectious polyarthritis) in young lambs is a major welfare concern.

Signs: Lameness with pain, heat and swelling of one or more limb joint, leading to poor suckling behaviour and ill-thrift

Cause: Infection with *Streptococcus dysgalactiae*

Source of infection: Usually from bacteria on the dam's teats that enter via the gut

Treatment: Normally requires high doses of antibiotics if cases are recognised early. Treatment of advanced cases is seldom successful



Ensure that all pens are kept in dry and clean conditions during the lambing season

Maximising potential post-lambing

Once the first few days have passed post-lambing, the chance of lamb survival is significantly improved. Unless there are a substantial number of lambs dying, the causes of death post-lambing are sometimes much more difficult to determine.

The ability of lambs to survive post lambing can be affected by:

- Disease
- Weather
- Predation
- Accident/misadventure
- Abandonment/mismothering

In general, a fit healthy ewe should produce and rear her lambs without needing any intervention. Flock health therefore underpins lamb growth and survival.

- Pay attention to fencing so that lambs cannot escape nor predators gain access.
- Veterinary advice should be sought for any significant numbers of losses post-lambing. Infectious disease is only one possible cause, underlying nutritional deficiencies and worm burdens can also compound losses.
- Ensure that ewes are vaccinated against clostridial diseases wherever possible and consider vaccination against *pasteurella* or *coccidiosis* if these have been found to be problems within the flock.
- Use faecal egg counts (FEC) to monitor worm burdens and check poor growing lambs for liver fluke.



Recording losses

The 2010/11 HCC lambing survey proved that recording losses was a valuable way to really get a feel for the number of lambs that are lost in a given season. In many cases the farmer's perception of the number of losses was lower than had actually occurred.

Simple check-sheets or a notebook to record losses can provide valuable information that can often be forgotten at the end of a busy day or once a lambing shift is over.

Nevertheless there are bound to be times when there is a difference between the number of lambs expected and number of lambs reared or finished. These additional losses are incurred without a clear understanding of where they had occurred or what had caused them. These can have a significant impact on both real and perceived flock performance.

Keeping records can help to track the scale and cause of any problems

It is sometimes difficult to maintain accurate records in situations where large numbers of lambs born within short space of time or with a number of farms sharing common grazing etc.

Recording needs discipline and practice. However if this can be achieved then continued recording can enable improvements to be made year on year.

The image shows two recording sheets for lamb losses, tilted at an angle. The top sheet is orange and tracks ewe incidents, while the bottom sheet is green and tracks individual lamb deaths.

Date	Breed of ewe	Age of ewe	Litter size scanned	Ewe incident recorded (see above)	Comments (please note any circumstance eg weather, location found (if dead), cause of death if known etc)

Date of Death	Age of lamb	Litter size (single, twin, triplet or quad)	Breed of Lamb	Breed of Dam	Age of Dam (if known)	Cause of death (select from lists above)	Comments (please note as much information as you can, eg weather, location, or any management change or activity up to 2 weeks before death)

Maximising potential in indoor and outdoor lambing situations

Whilst many hill flocks already lamb outdoors, increased numbers of flocks are looking to lamb outdoors to save on feed and labour costs. Depending on the weather, lamb mortality can be lower in outdoor lambing systems when compared to intensive indoor systems.

Considerations of indoor and outdoor lambing systems:

Indoor Lambing	Outdoor Lambing
Usually needs 1 shepherd to 250-300 ewes	Needs 1 shepherd to 600 – 1,000 ewes
Allows flexibility of season regardless of weather	Usually lambing later in season when weather tends to be milder
Allows close supervision and timely intervention when needed	Less supervision and intervention possible if problems do arise
Good hygiene essential to minimise disease risks	Less opportunity for large numbers of infectious organisms to build up
Increased risk of disease transmission through contact	Reduced risk of disease transmission
Provides shelter from adverse weather and extreme temperatures	Ewes and lambs exposed to weather and extreme temperatures unless sheltered paddocks are available
Provides access to feed as required	Extra provision may be needed for feed in extreme weather (eg snow)
Close contact with other ewes may make ewe to lamb bonding more problematic	Ewes can select natural birthing areas which improves ewe to lamb bonding
Requires optimum space in lambing pens to avoid ewes lying on lambs	Less chance of ewes lying on lambs
Weaker lambs less susceptible to predation	Weak lambs susceptible to attack by crows or other predators



Image: NAD/IS



Image: NAD/IS

Simple ways to help improve lamb numbers

Whilst some level of loss is unavoidable, many losses can be reduced by implementing careful management of ewes and ewe lambs before and during pregnancy.

Record all ewe losses before lambing

- Investigate cause of high barren rates. Is there an infertile ram or an underlying management or health issue in the ewes?
- Consider causes of any ewe deaths before lambing – if levels seem high seek management or veterinary advice

Record all losses

Despite best intentions it is easy to forget and under-estimate losses.

- Try to record all losses in a notebook, or with readers / smartphone
- If possible make a note of any circumstance which may have caused the loss i.e. management changes, weather
- Consider veterinary advice – vets may also find your records useful to determine full extent of problem

Take time to review losses and main causes

Look at the number of losses and when they occurred.

- Could any simple and cost effective management changes help to reduce losses?
- Seek advice from your vet or sheep adviser and include in your animal health plan



Compare lambs sold/retained against number of lambs expected

Identify any unaccounted losses since these also contribute to reduced productivity and profitability

Compare results against flock targets and compare them with previous year's performance

- Aim to reduce barren rates to < 2%
- Aim to reduce abortions to < 2%
- Aim to reduce overall losses to 5-10%

Further information on HCC's activities and other relevant publications can be found at www.hccmpw.org.uk

