SILENT LAMBS

A REPORT ON SHEEP WELFARE IN SCOTLAND
for Advocates for Animals

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Scotland is proud of its tradition of farming sheep and cattle in conditions that are more natural and environmentally-friendly than in much of the rest of animal farming, whose image has been damaged by the squalor of factory farming and by animal diseases such as BSE, FMD, swine fever and avian ‘flu. Many also believe that sheep farming is essential in the maintenance of hill and upland areas where other forms of farming or commercial activity are not practical. Sheep are seen a part of the natural landscape, of local communities and of Scotland’s international image. But how well do we really treat them? This report asks the question: how good is animal welfare in the Scottish sheep industry?

Sheep in Scotland have the freedom to roam, but too many of them also have the freedom to suffer and sometimes die from a wide range of conditions that could have been prevented or treated. Despite the work of good sheep farmers, there are serious animal welfare problems that must be addressed. The report will show that, beneath the image, the sheep industry as a whole presides over an endemic low level of neglect and a failure to tackle issues of health and welfare that leads to suffering for millions of animals every year.

1.1 Sheep flocks and sheepmeat production

The Scottish sheep industry is a meat-producing industry. Wool from sheep is only a minor trade. Scotland produces around 3.6 million lambs and older sheep for slaughter in a year¹, around 23% of the total output from the UK as a whole (15.8 million)² and around 5% of the output of the EU-25 (66.5 million, of which less than 1 million is from the 10 new EU members).³ The two EU countries with the biggest sheep industries are the UK and Spain (where 20.9 million sheep and lambs were slaughtered in 2003).³

Globally, New Zealand and Australia each produce around 30.5 million lambs and sheep a year.³ In 2002 the UK imported 89,000 tonnes of sheepmeat from New Zealand and Australia⁴, approximately 29% as much as the quantity of sheepmeat actually produced in the UK². The main sheepmeat exports from the UK are to France (41,000 tonnes in 2002).⁴

Farming as a whole employs relatively few people, as in other industrialised countries. Of a total resident population of 5.0 million, 68,000 people (1.4%) are employed in farming, just under 28,000 full-time (0.6%). This is around 10% fewer people than 20 years ago⁵. In 2002 and 2003, the sheep industry accounted for between 10% and 12% of the total gross agricultural output of around £1.9 billion.¹,⁶ This makes sheep farming more important in Scotland than in many other countries; in England it accounts for only 3.0% of agricultural output and in the EU-15 as a whole it accounts for only 2.3% (although in Wales sheep account for nearly 24% of agricultural output).⁶ 83% of Scottish agricultural land is designated a Less Favoured Area.⁶

At the time of the yearly agricultural census in June 2003, there were just over 8 million sheep in Scotland, including 3.2 million breeding ewes, 100,000 rams (also used for breeding) and 3.9 million lambs under a year old.⁷

These sheep are kept on around 16,000 farms or holdings, which vary very much in size, and keep from a few dozen to over 1000 sheep. Output is, however, dominated by the larger farms; 20% of the sheep farmers produce 70% of the output.⁸ Although only 15% of farms keep 1000 or more sheep, these account for 64% of all the sheep.⁹ Of all sheep kept for breeding, 63% live in flocks of 500 or more and 37% in flocks of 1000 or more⁹.
The majority of the ewes who produce lambs in any one breeding season live in the larger flocks which tend to be in the southern half of Scotland; for the country as a whole, approximately 27% of the ewes live in flocks of 1000 or more and 58% of them live in flocks of 500 or more.10 (See Figure 1) There are also some very large flocks in the Highlands and Islands. (See Table 1)

![Figure 1.](image)

In 2003, there were fewer sheep in Scotland than at any time during the previous 20 years, although the numbers are close to those in 1983. But the 1980s and 1990s were a time of continuous growth in sheep numbers to a peak in 1990 – 1992, when there were nearly 2 million (24%) more sheep and lambs than there are now and 800,000 more breeding ewes5. Some believe that the sheep boom of the 1980s and 1990s was artificially encouraged by subsidies, since farmers are paid a fixed sum for every ewe that they keep. (See Section 1.3)

### 1.2 The structure of the sheep industry

Unlike the pig and poultry industries where large producers and retailers control and organise most of the output, sheep farming is still very individual, local and traditional.

<table>
<thead>
<tr>
<th>Table 1. Average stocking density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowland (Britain) (1)</td>
</tr>
<tr>
<td>Av. stocking rate (ewes/hectare)</td>
</tr>
</tbody>
</table>


(1) Flockplan 54 lowland spring lambing flocks selling lambs off grass 2001
(2) Flockplan 67 upland spring lambing flocks selling lambs off grass 2001

Nearly all the sheep in Scotland are kept extensively at a stocking density (the number of sheep per hectare) that is often lower than much of England and Wales and most of the breeding flocks are in the hills and uplands (Table 1). Hill breeds of sheep, such as the Scottish Blackface, the North Country Cheviot and the Shetland are often used because they are hardy enough to live in areas with a tough climate and more limited food supply (Table 2). Because these hardy sheep are less muscular (meaty) and produce fewer young than other breeds, they are also crossed with meatier and more prolific breeds to produce lambs for slaughter.
Scotland’s sheep industry is based on historical patterns of moving sheep between different grazing areas, for feeding, breeding and sale. The industry is ‘stratified’ into the following main sections.

1. Hill flocks consisting of breeding ewes of the hill breeds. The majority of the hill ewes produce only one lamb a year. Many of the female lambs (ewe lambs) may be kept as replacements for older ewes. Older ewes may be sold for slaughter, being of no further use for breeding (‘cull’ or ‘cast’ ewes), or moved on to farms at lower ground with better grazing and climate to continue breeding for a year or two (‘draft’ ewes), before they are culled. There are not enough feedstuffs to rear and fatten all the lambs in higher hill areas and the male lambs will be sold to be reared and fattened (‘finished’) for slaughter on better grass or arable fields on lower ground. Hill ewes typically are sold on after producing up to 4 ‘lamb crops’.

2. Upland flocks consisting of ewes of either hill and upland breeds, which are mated with rams of more prolific breeds. The ewe lambs (‘mules’) they produce are then used by lowland breeders to produce meat breeds of lamb (see 3 below).

3. Lowland flocks consisting of mule ewes that are crossed with pedigree rams (‘terminal sires’) to produce high value lamb meat. Because of breed, better climate and better grazing, these ewes produce around 2 lambs each (sometimes more) and the lambs grow to slaughter weight more quickly.

Table 2. Range of flock sizes for the most common sheep breeds in the Highlands & Islands.

<table>
<thead>
<tr>
<th>Breed</th>
<th>Range in flock size (number of sheep)</th>
<th>Average flock size (number of sheep)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scottish Blackface</td>
<td>4 – 3000</td>
<td>322</td>
</tr>
<tr>
<td>North Country Cheviot</td>
<td>4 – 5050</td>
<td>227</td>
</tr>
<tr>
<td>Shetland</td>
<td>2 – 500</td>
<td>113</td>
</tr>
</tbody>
</table>


Figure 2. Diagram showing the stratification of the Scottish sheep industry.
1.3 Subsidies

Sheep farming is highly subsidised by the taxpayer through Europe’s Common Agricultural Policy (CAP). More than this, the industry is dependent on subsidies for its survival in its present form. In 2003, subsidies to Scottish sheep farmers were £72.3 million.\(^1\) For all sheep farms taken as a whole, subsidies represent 30% of farm output.\(^{13}\)

In addition to the Sheep Annual Premium, which is a subsidy for breeding ewes available to all sheep breeders, 91% of Scottish sheep are in Less Favoured Areas, making the farms eligible for LFA financial support.\(^6\) The sheep Premium is currently worth around £14 per ewe for lowland farms in Scotland and £19 per ewe in Less Favoured Areas.\(^{14}\) The Scottish Executive forecasts for 2003/4 that, for Less Favoured Area sheep farms, the average direct subsidy of £25,500 per farm is likely to be 2.6 times the value of the net farm income from sheep.\(^{13}\) There are additional payments payable to farms that are part of a farm quality assurance scheme.\(^1\)

At present, subsidies are granted with almost no conditions attached. This misses the opportunity to use subsidies, if they are to be paid, as financial incentives to raise standards of animal welfare. In 1994, the Farm Animal Welfare Council (FAWC), a government advisory body comprising experts from animal science and the sheep industry, recommended that payment of the subsidy for ewes should be dependent on the farmer maintaining good welfare.\(^{15}\) Nearly 10 years later, in 2003, only a small fraction (1.6%) of the total subsidy for Scottish sheep farmers was linked to quality assured produce.\(^1\)

Advocates for Animals believes that in supporting sheep farming financially, the public is unknowingly supporting a great deal of animal suffering. If society wishes to subsidise the sheep industry, the payment should be used to improve the welfare of the sheep as well as support the livelihood of farmers. The Single Farm Payment Scheme, agreed as part of the reform of the CAP in 2003, will replace the existing sheep subsidies from January 2005. The SFPS makes a step, albeit a limited one, towards linking subsidies with animal welfare by requiring farmers to comply with existing regulations on the environment and animal welfare (‘cross-compliance’).

A leading farm animal welfare scientist has commented on the sheep subsidy system. "The present subsidy requires little more than that the ewes are alive and that is a worry.\(^{16}\)

1.4 Farm assurance

90% of Scottish sheep farmers are members of the Specially Selected Scotch Farm Assurance Certification Scheme for Cattle and Sheep, operated by Quality Meat Scotland (QMS).\(^ {17}\) Apart from use of the QMS mark, membership may entitle farmers to additional subsidy payments for quality assured produce.

Most of the requirements of the standards refer to general farm management rather than specifically to animal welfare. The farm must "adhere to the provisions of current farm animal welfare legislation and also the Code of Recommendations for the Welfare of Cattle and/or Sheep". In addition, there is a requirement for the farm’s animal health and biosecurity plan to show how the farm prevents sheep scab infection in their flocks.\(^{18}\)
Consumers and the public would reasonably assume that the QMS mark assures better-than-average standards of animal health and welfare. However, the standards as at present go little beyond what is already the legal minimum of welfare. An analysis of the standards in terms of 15 key animal welfare determinants found that the scheme scored 9 out of a possible 15 points. For example, the standards allow the painful mutilations of castration and tail-docking.\textsuperscript{19} It is also crucial how effectively the farms are inspected and assessed, and whether the scheme is prepared to take disciplinary action against farmers who do not keep to the standards, and this is also not clear to the public.

The level of success of the animal health and biosecurity plan depends very much on how it is implemented. We believe that the QMS standards have missed an opportunity in not including specific requirements on sheep health. They could, for example, specify acceptable levels and reduction targets for the main causes of poor condition and disease, including lameness, and publish statistical results for sheep health and welfare across their membership.

1.5 Profit margins and animal welfare

“...interest in the welfare of an animal is usually in direct proportion to its individual value. Of the three major red meat species, sheep and lambs are the least valuable.” \textit{Veterinary Record,} 1998.\textsuperscript{20}

For many people, sheep farming in Scotland is not looked on as an industry, but more as a natural part of the rural way of life. But in reality it is an export industry – even if one based on long traditions – and the economics of sheep farming have a great impact, not only on the farmers, but also on the quality of life and welfare of their sheep.

Sheep farming is often not a profitable industry. Sheepmeat is not as popular with consumers as beef, pigmeat or poultrymeat. In 1999, it was only 7\% of the tonnage of red meat produced globally and less than one-fifth of the tonnage of poultrymeat.\textsuperscript{8} In addition, Scotland is 400\% self-sufficient in sheepmeat\textsuperscript{21} and the rest needs to be exported. Much of it goes to the main consumption centres in South East England, putting it in competition with English sheep farmers and meat processors.

Every sheep is an individual sentient being with an awareness of what is happening to it and the capacity to suffer. But the market value of an individual sheep or lamb is very low. A lamb ready for slaughter (weighing say 40 kg) may be sold for around £50. An older ewe no longer able to produce lambs profitably may be sold for £30 or much less – she may even be sold for ‘pennies’.\textsuperscript{22} This low market value is crucial from the point of view of the animals’ welfare because it affects how they are valued and, hence, how they are treated.
Although we do not question that many farmers are doing their best for their animals, there is clear evidence that too many sheep are subjected to suffering that is often due to the need to cut costs or to inadequacy in resources.

Related to the low value of sheep there is a lack of commitment on the part of industry, as well as regulators and policymakers, to tackle and solve some of the most serious welfare problems for sheep, including:

- Insufficient skilled labour to inspect and care for every sheep in the flock
- Failure to identify and treat illness and injury
- Failure to reduce the death rate of lambs between birth and weaning
- Failure to reduce the death rate of ewes around lambing time
- Failure to reduce the prevalence of preventable diseases that cause suffering
- Failure to obtain veterinary advice and treatment that would alleviate suffering
- Long and stressful journeys to market and slaughter

The legal standards for the welfare of sheep on farms are set out in the Scottish Executive’s Code of Recommendations for the welfare of sheep and in the Welfare of Farmed Animals (Scotland) Regulations. The Code is not legally binding in itself, but non-compliance can be used as evidence in prosecutions under the Agriculture (Miscellaneous Provisions) Act 1968, under which it is an offence to cause unnecessary pain or unnecessary suffering to livestock on agricultural land. The Regulations require that farmers and farm workers are familiar with the Code. The Code reproduces relevant sections of the Regulations to make it clear which recommendations refer to legal requirements.

It is an astonishing fact that no training or licensing is currently required for a person to become a sheep farmer and take on the burden of being responsible for the health and well-being of hundreds or even thousands of sheep.

In Ross-shire, live sheep are forced to share the same pens as dead ones.
The majority of people today have no doubt that animals feel pain, fear, affection, hunger, thirst and many other sensations and emotions. The enormous increase in scientific knowledge about animals’ behaviour has also increased our awareness of the complexities of their interactions, communication and social lives, and the range of problem-solving that they are capable of, often coming close to the kinds of intelligent activity that once were thought to be the monopoly of human beings. The EU’s basic law now includes the recognition that animals are ‘sentient beings’.25

In many ways, this improved understanding has not rubbed off on our view of farm animals. This may be particularly true of sheep. The faces of sheep are relatively inexpressive. They do not protest loudly, like pigs, or in any event their communication sounds monotonous. Their changes in bodily posture in different situations – for example, when they are afraid – are quite subtle and sometimes the sheep may seem to us not to be reacting at all. Much of this apparent passivity is likely to be because sheep have evolved as prey animals and avoid showing distress or weakness. Their important strategies for survival are vigilance and the cohesion of the flock, for collective defence or flight.

The behaviour of domestic sheep is remarkably like that of their wild ancestors.26 They are animals that evolved to live in rocky and difficult terrains, covering sometimes very large areas, with many predators. Far from being unaware, they needed a complex understanding and memory of the landscape and food sources, and of their relationships with other sheep in the flock, in order to survive.

2.1 Social lives

In natural conditions, sheep always live in social groups, except for some rams. Wild or feral sheep that have been studied, including the Soay sheep of St Kilda27, usually range in separate groups of females and males, with the ewe groups consisting of mothers and daughters over several generations. 80% of Soay females stay in the same group all their lives. Yearling or even older rams may stay with the female group until they leave to join a ram group and young females who stay with the group show a preference for grazing quite close to their mothers for as long as 2 years.27 The size of the ewe groups can be up to around 50, while rams groups are much smaller. A group of 4-5 animals is believed to be the minimum size; this is also seen among Scottish Blackface sheep, which tend to spread out in small groups, a useful strategy when food resources are more limited.28

Sheep can recognise their own group and neighbouring social groups and identify ‘foreign’ animals. There is evidence from aerial photographs of flocks that they like to keep two other sheep in their range of vision. All sheep are severely stressed by social isolation, unless they have been reared as companion animals.28

The emotional bond between the mother and lamb is vital for the lamb’s survival. In natural conditions, ewes will separate themselves from the flock to give birth and for a period afterwards (for several days, in the case of wild ewes). During this time the ewe learns to recognise and bond with the lamb.28 Smell and hearing are important, as well as sight, in enabling the ewe and lamb to recognise and find each other. When they rejoin the flock, the lamb follows the ewe within a few metres at first, frequently returning to suckle. Suckling has a social as well as a nutritional function. When the lamb starts to move further away, the ewe and lamb search for each other and keep contact by bleating.28 Scottish Blackface ewes prefer to have their own lamb as their nearest grazing neighbour for as much as 70% of the time.29
Bands of older lambs form in the ewes’ home range for play, exploration, grazing or resting. The lambs’ play consists mainly of running, jumping and chasing, activities that would have enabled them to evade predators. Scientists believe that play develops “cognitive skills necessary for behavioural adaptability, flexibility, inventiveness, or versatility” and the ability to “cope emotionally with unexpectedly stressful situations”.30,31

When sheep are kept in small numbers in situations similar to companion animals, individuals show marked differences in character and problem-solving ability. Some sheep show behaviour we would class as very intelligent. Sheep are capable of forming attachments both to people, who they can remember for years, and to other animals. Sheep have been known to call their human companions to rescue another sheep in danger.32

Wild-living Soay sheep, slightly smaller than the Scottish Blackface, are recorded to have a maximum lifespan of 16 years for females and 11 years for males.27 Breeding ewes in commercial farming are mated when they are between 1½ and 2½ years old and kept for typically 4–6 breeding years before being sent for slaughter. Although ewes can continue to breed into their teen years, the vast majority are culled by the age of six. Their lambs are slaughtered over a range of ages, typically between 4 months and 10 months old, depending on breed and the type of farm.

2.2 Learning and memory

We tend to underestimate sheep’s abilities to understand their environment, to solve problems and to learn, but in natural conditions these skills are essential for survival. Wild sheep need learning and memory to live on their large ranges – up to 2800 hectares for Bighorn sheep in Canada. They may travel large distances between winter and summer ranges, and both sexes use several different seasonal ranges, for wintering, for breeding, in spring, for lambing and in summer. In the same way, the knowledge of the range is passed down the generations in domestic sheep flocks. Flocks from different farms can be kept on the same open ground as the animals naturally stay in their separate groups or ‘hefts’.28
Experiments have shown that sheep can remember the location of different food sources and learn to distinguish those with nutritious or unpalatable sources of food. Lambs also need to learn about suitable foods by following their mothers. It has been found that when they start to graze, lambs stay closer to their mothers than they have done before, presumably in order to learn what to eat.28

Recognition of other flock members is essential for sheep. Experiments have shown that they are very good at distinguishing between other sheep and have excellent memories. They seem to have a mental concept of familiar individuals, since they can recognise another sheep’s face from the side view if they have only been shown the front view. Sheep are better than primates at this task. Experiments using both observation of behaviour and measurement of brain activity have shown that sheep can remember the faces of 50 other sheep for two years. Their brains react in anticipation of seeing a sheep that they expect to be in a particular location, showing that they can form mental images.33,34,35

Their perception of others is also influenced by the emotional significance of what they see – and they react differently depending on whether it is a familiar sheep, a human or a dog (a potential threat). They can distinguish between different facial expressions of both sheep and humans. Ewes prefer the faces of other ewes unless they are in oestrus, when they prefer ram faces. According to the researchers, sheep have a "highly developed requirement for social interaction and therefore a sophisticated sense of social awareness". They can "remember and respond emotionally to individuals in their absence".33,34,35

2.3 Fear, distress and pain

Sheep do not show pain very clearly, even when subjected to procedures that are expected, from scientific knowledge of pain receptors and the responses of other animals, to be extremely painful.36 This is probably because sheep have evolved not to show outward signs of distress that could attract predators in the wild, so they often have a passive response to pain or distress. This may deceive us into thinking they are not in pain when in fact they are suffering considerably.

Similarly, sheep do not show fear in obvious ways. Isolation and potential predators are known to cause them fear. The heart rate of a sheep increases by 20 beats a minute when she is unable to see the rest of her flock. Sheep confronted by a sheep dog, the descendant of a wolf, stand still together in a tight flock, facing outwards. Although they look passive, the heart rate of a sheep increases by 84 beats a minute when a man and a dog approaches.36

Many normal farming practices cause stress, fear and pain to sheep. Because they have little daily interaction with people, they find handling very frightening. Procedures such as gathering, shearing and being moved to the unfamiliar conditions of markets, new farms, dealers’ lairages and slaughterhouses cause them stress and fear. In normal farming practice, hundreds of thousands of sheep experience either pain or distress from conditions such as lameness, and also from the procedures used to treat and control disease, such as dipping and foot-trimming.

Some aspects of farming practice seem strangely indifferent to the pain and distress caused to sheep. In the case of the tail-docking and castration of lambs, which are carried out without anaesthetic, it is known in advance that pain will be caused. The pain can be partly assessed by chemical measurements as well as by studying the lambs’ behaviour in detail. The level of cortisol (a stress hormone) in the lamb’s blood increases by 60% after tail-docking and 97% after castration.37 In Australia, Merino sheep are subjected to ‘mulesing’ (when the wool and skin around the sheep’s rear are cut off to reduce fly attack) without anaesthetic or pain relief. The levels of cortisol in the sheep’s blood are still high 24 hours later.36 (See Section 6.0 below)
Unlike intensively farmed pigs and poultry kept indoors all their lives, sheep have the freedom to move around their grazing areas. Grazing in fields or on hills, from a distance they look the picture of quiet contentment. But while this may often be true, many sheep are required to be productive in very harsh conditions.

Domestic sheep are not free to choose their environment, and therefore society has a responsibility to make sure that it is an appropriate one. Wild sheep would be able to choose where to graze and where to go for shelter. Domestic sheep have to make do with the environment and grazing conditions we put them in. Wild sheep would live in smaller groups (typically 10 to a few tens of animals) and would vary the ground they lived on. This would enable them to avoid long periods on wet ground or mud (too often their condition in commercial sheep farming) and would reduce their contact with debilitating parasitic and infectious pathogens that survive on contaminated ground. (See Section 4.2 below)

3.1 Shepherding

The rules that exist on the level of supervision and inspection of sheep flocks are clear in intention but not very specific in detail. The Code of Recommendations for the welfare of sheep states: "Shepherds should carry out inspections of the flock at intervals appropriate to the circumstances..." (Para 25) The Regulations require that animals are inspected "at intervals sufficient to avoid any suffering" (Schedule 1(2)) and that any animals that appear to be ill or injured "must be cared for appropriately without delay" and that veterinary advice must be obtained if they do not respond to the care given. (Schedule 1(5))

No specific maximum intervals between inspections are stated, even for sheep kept in relatively small areas of enclosed lowland. Hill flocks in remoter areas are usually inspected only infrequently and they may be gathered only two or three times a year. During the intervals it is very possible that injury or illness will be missed and some sheep will be left to suffer and even die unattended.

In practice, there may be only a small number of people responsible for caring for large numbers of sheep. The Farm Animal Welfare Council noted in 1994 that, when sheep are the sole source of a farmer's income, there may be a tendency to increase the number of animals kept. The report noted that whereas in 1980 there would be on average 350 ewes per shepherd, the ratio of sheep to shepherd had increased so much in the previous 10-15 years that it was common in some areas to have one person caring for 1000 sheep. The FAWC report commented: "We have noticed that, with very large sheep/shepherd ratios, there may be a high incidence of foot problems and dirty wool around the tails. These are, in our experience, the first signs of developing problems associated with understaffing." (Para 57-58)

The FAWC report recommends that "no shepherd should have sole responsibility for the routine husbandry and management of more than around 1000 ewes". (Recommendation 18) Other sheep experts believe that the number of sheep that one person can care for effectively depends very much on the breed of sheep and the circumstances of the farm, so that no general limits can be set. However, it is likely that in some cases farmers are taking on more sheep than they can care for adequately. In these cases, it is the sheep that will pay the price if there is inadequate supervision and care. There is no recommended or legal limit to the number of sheep that one worker can be responsible for.
3.2 Pregnant hill ewes

Sheep in upland and hilly areas can be at risk from lack of food and water. Picturesque on the hills, some of them may be struggling to find enough to eat. Some ewes may be chronically undernourished, for example, if the land is overgrazed in summer so that they enter the winter period in poor condition. Some of them may have lost teeth and be unable to graze efficiently (they are referred to as 'broken mouthed'). 60-70% of breeding ewes sent to slaughter at the end of their working lives (known as 'cull ewes') have loose or missing incisor teeth, according to abattoir surveys in Britain as a whole. They lose their teeth between 3 and 8 years of age. A sheep specialist at the Moredun Research Institute in Edinburgh comments: "On hill and upland farms where grazing is poor, broken-mouthed ewes are culled at a young age because they may be unable to maintain body condition", because of not being able to graze well enough. Sheep that are left to graze bare rough areas can suffer damage to their mouths as well, resulting in open wounds and abscesses that must make eating very painful.

Pregnant hill ewes have to survive the winter, sometimes in the harshest weather conditions, by grazing what vegetation they can find. In spite of being well-adapted to outside life, some of them need additional feeding in order to keep their bodies in good condition and to feel fit and well, if the grass is inadequate. Feeding them is also in the farmer’s interest, because numerous experts point out the need to maintain the body condition of a pregnant ewe and prevent her from getting too thin, not so much for the sake of the ewe, but to enable her to rear healthy lambs.

‘Condition scoring’ on a scale of 0 to 5 is a manual method of assessing the amount of body reserves of fat and protein (muscle) on a ewe. A score of 0 indicates that the ewe is emaciated and near death and a score of 5 indicates that the ewe is too fat. A score of 1 indicates that the spine is sharp and prominent, the muscles of the back are wasted and there is no fat cover on the loin. A score of 1 is classified as ‘extremely poor’ and a score of 2 as ‘slightly thin’ – this is the recommended condition for hill ewes 2 months before lambing.

According to official advice on condition targets: "Hill ewes should not be returned to the open hill at a score of less than two at the start of the winter. Their condition is unlikely to improve once winter becomes established and they will have inadequate reserves to survive the winter and bear a viable lamb. Some will simply die. Mismanagement of sheep in this way is unacceptable." If the target of score 2 at the end of pregnancy is not achieved by extra feeding, "problems with thin ewes, weakly lambs and pregnancy toxaemia ['twin lamb disease'] are likely. This is also unacceptable".

Expert opinion is clear that pregnant ewes, especially those bearing twins (or even triplets, though this is very rare in hill breeds) need supplementary feeding if they are becoming too thin. Farmers are also recommended to scan their ewes to find out which ones are carrying more than one lamb and so need to be given extra feed or to be removed from the higher ground. But there is no way of enforcing the practice, although it may be crucial for the welfare of the ewes. The Code of Recommendation simply states, "a condition score in a significant number of the flock of less than 2 for lowland sheep, and of 1.5 for those on the hill, can indicate inadequate management and the need for positive steps to rectify the situation". (Para 26)

Probably the majority of farmers do provide some supplementary winter food and around half of hill farmers will scan their flocks. Farmers who do not provide supplementary feed when it is needed may not be able to afford to do so, or they may decide to spend their limited resources on some other part of animal husbandry, for example on veterinary medicines. Whatever the reason, if society allows those who have not sufficient resources to have care of farm animals, it is the animals that pay the price in ill health and low welfare.
After the lambs have been weaned during the summer, farmers are recommended to inspect all their ewes before mating them for another breeding cycle, to make sure that they are fit enough to take the physiological stress of pregnancy and lactation, and to look after themselves in the uplands and hills. Hill ewes that are unfit (being in poorer body condition, being ill, having damaged teeth, etc.) are either sold on to continue to produce more lambs in an area with better climate and grazing, or they are sent for slaughter if they can no longer produce lambs profitably. It is clearly cruel to keep a pregnant ewe out to struggle through the winter in a harsh environment if she is no longer up to it.

But FAWC’s comment from 1994 may still be relevant in some cases: "In recent years, culling has not always been carried out sufficiently rigorously, possibly with a view to maximising numbers for the anticipated ewe quota [i.e. to obtain maximum subsidy]. This has resulted in a problem of ageing ewes unable to survive a further pregnancy in harsh conditions." (Para 92)

3.3 Starvation

It is difficult to assess how many sheep routinely suffer from lack of food and care, and to what extent. As with other welfare problems to be discussed in this report, no effective monitoring system seems to exist. But some individual cases of extreme and large-scale neglect reach the media.

In November 1999, the News of the World reported that more than 1100 sheep were abandoned and left to starve to death on a frozen hill near Dingwall in the Highlands. Just yards from where they were confined there was grass that they could not reach. One local resident told the paper: "The sheep were dumped on land where there was no grass for them and they simply waited to die. It was pathetic to hear them, bleating for food. The ministry were made aware of this but did nothing until the fact that dead bodies were littering the field forced them into action."
One hundred sheep died before any action was taken. In this case the ewes’ market value had sunk lower than the cost of bringing in feed for them. The National Farmers’ Union of Scotland spokesperson explained that ewes were currently worth less than "a packet of crisps". In April 2002, the Ayrshire Post reported a rise in farm animal neglect cases – again put down to economic reasons – as a farmer was convicted after leaving a flock of sheep to starve and die in a field. Some of these incidents were also reported to the Cross-Party Animal Welfare Group of the Scottish Parliament in 2002.

### 3.4 Sheep fattened in turnip fields

Sheep in natural conditions choose appropriate parts of their range for grazing, lying and sheltering from the weather. They choose different areas, shelters and shade depending on their temperature. When they are confined to a field they must by law be provided with shelter and dry land. The Welfare of Farmed Animals (Scotland) Regulations state: "Animals not kept in buildings must, where necessary and possible, be given protection from adverse weather conditions, predators and risks to their health and, at all times, have access to a well-drained lying area." (Schedule 1(17))

The government Code for the welfare of sheep states specifically: "When sheep are outdoors in winter, and particularly when fed on root crops, they should be allowed either to run back to pasture or to a straw bedded area which gives a more comfortable lying area as well as limiting the build-up of mud or dung on the fleece. Where there is no natural shelter for the sheep, artificial shelter, such as the placement of straw bales, should be provided." (Para 43)

Many sheep born in the highlands are fattened to their slaughter weight over winter by being put to forage in fields of root crops, such as turnips, in the lowlands. If no shelter or dry area is provided, the sheep are forced to live in wet mud, leading to painful lameness.

Although failing to provide a dry area is contrary to the Code, an investigation by the BBC Landward programme, shown in March 2002, made at random across Scottish turnip fields, found "widespread evasion of the rules". The programme showed harrowing footage of mud-caked sheep wading and limping in mud and rain in the turnip fields where they were confined, with no pasture or dry area they could move to. The programme found "lame lambs are widespread in fields where they’ve nowhere dry to lie". In addition, without a dry area, sheep will not lie and ruminate, an essential part of their digestive process. A Scottish Agricultural College expert consulted by the programme confirmed that the lameness "is bound to be painful" and an animal welfare expert from Bristol University, who was shown the footage, commented on the conditions in the fields, "I believe it is cruel and that it constitutes unnecessary cruelty."
In some cases no drinking water had been provided in the field, which is also an infringement of the Code. In addition, some of the fields used electric mesh fencing, although the Code states that this should not be used for horned sheep.23 (Para 51) Horned sheep, such as the Scottish Blackface, can get caught on electric mesh fencing by their horns. Electric fencing is intended to give animals only a momentary shock, since they move away immediately.

Three of the five farms that were found to be breaking the rules were said to be members of the Quality Meat Scotland (QMS) farm assurance scheme. The QMS standards for Cattle and Sheep state that "stock out at grazing/in corrals must be provided with the opportunity to shelter and have access to a well-drained lying area" and that fresh, clean drinking water must be provided.47 QMS requires its members to comply with the government Code and has stated that farmers can be, and are, suspended for failures to comply with the standards.21 It is not known what specific action, if any, QMS took against the farmers concerned in the Landward investigation. This incident must raise doubts about the effectiveness of inspections under the assurance scheme and the confidence consumers can have in its animal welfare standards.

These lambs were being marketed by QMS as 'fresh air lamb' and 'Highland lamb'. The Landward programme concluded: "QMS need to be cautious of misleading consumers, whether it is over methods of production or an animal's provenance."

According to the presenters of the Landward programme, some farmers, by taking shortcuts and flouting animal welfare guidelines "are gambling with the reputation of the whole industry".46
Scotland should be in a better position to achieve a high standard of health for its sheep than either England or Wales because the average stocking density of sheep is lower in Scotland, and in some cases also because of the higher altitude of many farms and the cooler climate. These factors often reduce the likelihood of infection or of infestation by parasites. But the prevalence of distressing but preventable diseases is much too high and the industry has so far appeared to lack the commitment to reduce it. In some cases there is evidence that farmers are failing even to diagnose and treat individual sick sheep.

Sheep may be among the least supervised of farm animals, but, as the following sections show, they can suffer from a wide range of diseases that cause discomfort, pain and suffering.

4.1 Lameness

Lameness is recognised as a major cause of suffering for sheep. Lame sheep can be in extreme pain, find difficulty standing or walking to graze or drink, and they lose weight and condition. Lame ewes are less likely to conceive (and so more likely to be sold on or culled). Their milk production is affected so that their lambs suffer. Lameness very often affects young lambs, as it is usually an infectious condition.

The prevalence of lameness is generally recognised to be unacceptably high. The Animal Health and Welfare Strategy adopted by Defra, the Scottish Executive and the Welsh Assembly Government in 2003 states that "92% of sheep flocks in Great Britain have a problem with lameness (between 6 and 11% of the national flock in total numbers)". A survey in Britain as a whole in 1994, funded by Defra, found that 3 million sheep became lame every year. This included over 1 million cases of footrot.

A survey of the Scottish Borders in 2000 suggested a 10% incidence of lameness over a year. If on average just 6% of Scottish sheep suffer from lameness in a year, this would represent nearly half a million lame sheep or lambs. In particular, there is a danger that lame hill sheep may not be noticed by the farmer and may be left to suffer without treatment.

Experts are clear that much of the lameness that sheep suffer from could be prevented. Most lameness is caused by infections of the foot (although diseases such as arthritis and mastitis also make sheep go lame). Sheep evolved to live near rocky or desert environments and their feet are not so well adapted to the wet grass, mud or straw that domestic sheep are often kept on. The commonest causes of lameness are three diseases known as scald, footrot and contagious ovine digital dermatitis (CODD).

Lamb suffering from lameness © Animal Aid
### 4.1.1 Scald

‘Scald’ is interdigital dermatitis, a reddening and moistening of the skin between the two claws of the foot that leads to severe pain and limping. Scald is caused by a bacterium (*Fusobacterium necrophorum*) which is commonly found in the guts and faeces of sheep, and so is always likely to be in the environment. It can be treated successfully by antibiotic sprays and footbathing.

The British survey of lameness mentioned above found that scald was the commonest cause of lameness, making up 44% of all cases. It particularly affects lambs, especially if they are walking in long wet grass or in mud or are on dirty bedding. In a postal survey carried out in 2000 in England and Wales, 77% of 209 farmers questioned said they had cases of the disease in the last year. On average 9% of their ewes and 16.6% of the lambs were affected during the time of highest prevalence in spring and summer. In the worst cases 50% of the ewes and 90% of the lambs could have the disease during a month. In May, on average 20% of all the lambs were infected with the disease. These statistics do not include Scotland, but if even half as many Scottish lambs suffer from scald as in England and Wales, this represents hundreds of thousands of painfully lame lambs.51

![Sheep suffering from scald](image)

### 4.1.2 Footrot

Footrot arises when a second bacterium (*Dichelobacter nodosus*) invades the sheep’s hoof when it is already infected with *F. necrophorum* and sets off a major infection. The infection spreads under the sole and the hoof, inflames the very sensitive tissues underneath, and in severe cases the whole sole and the horn separates off from the soft tissue of the foot. The infection is accompanied by a foul smell from the dead tissue and fluids oozing from the foot, which is almost liquefied. Footrot is highly contagious between sheep using the same pasture or bedding and in some infected flocks over 9% of the sheep are suffering from the disease.52,53,54

Footrot is very widespread in Scotland, according to the Scottish Agricultural College. In 2003 the SAC’s Veterinary Science Division published the result of a survey conducted at Scotsheep 2002 and the Royal Highland Show, where 91% of farmers interviewed had experienced a case of footrot among their sheep in the previous year and 40% regarded it as a ‘medium’ or ‘large’ problem. Between January and March, one third of the flocks had 6% or more sheep lame with the disease In spite of their concern, only 6% of them used vaccination against footrot.55,56

There is continuing discussion among experts about the most efficient methods to prevent and treat footrot, but it is certain that the disease can be largely prevented. The methods involve a combination of foot-trimming, footbathing, antibiotic injections, vaccination and culling sheep that have persistent footrot.49,52,57,58 Footrot can be eradicated from a farm with a combination of treatment of infected animals, preventive treatment and quarantining of any sheep arriving from outside, because the bacterium *D. nodosus* cannot survive long in pasture, earth or in the environment. Some farmers have achieved this and maintained it over decades.58 Reducing or eradicating footrot in the sheep industry as a whole would demand time-consuming and sustained work. The evidence is that the commitment to this work is not yet strong enough throughout the industry.
Astonishingly, sheep with footrot are often caused further avoidable suffering by unskilled attempts to treat the disease by footbathing and foot trimming. Formalin is the cheapest chemical to use in footbaths, but it is highly irritant and painful at too high a concentration or if it is used at all on sheep with such severe footrot that the sensitive foot tissues are exposed. Foot trimming should involve cutting back diseased or overgrown hoof while avoiding living tissue. But the hoof is often trimmed excessively so that the foot bleeds and a granuloma of inflamed tissue forms that makes the sheep chronically lame. According to sheep veterinary scientists, "the widely-held belief that feet affected with footrot should be pared back 'until they bleed' causes a great deal of unnecessary suffering".

4.1.3 CODD

Contagious ovine digital dermatitis (C Dodd) is a disease that has been identified only quite recently. It has some of the same features as footrot but does not respond to the usual footrot treatment methods. The infection begins at the top of the hoof, known as the coronary band, and spreads downwards inside the wall of the hoof. CODD causes severe inflammation and the horn of the hoof comes off. The infection can be treated successfully with antibiotics. According to the Scottish Agricultural College Veterinary Services unit, it is not known how prevalent CODD is in the UK (as it has often been confused with severe footrot), although it is believed to be on the increase.

4.1.4 Diagnosis and treatment of lame sheep

There is cause for concern about the attitude of the sheep industry to lameness. Some experts even suspect that "many farmers accept that footrot is an inevitable part of sheep farming". Such an attitude fails the millions of sheep in their care.

In some cases, individual sheep that are lame are not even examined to find out the cause. A survey of sheep farmers in England and Wales on their attitude to scald (digital dermatitis) found that 33% of...
those questioned only ‘sometimes’ or ‘never’ caught individual lame sheep for diagnosis and treatment. (The remaining 67% said that they always caught and attended to sheep that were lame.) Unsurprisingly, the farmers who did not treat individual lame sheep had higher levels of scald in their flocks. For farmers who did not examine or treat individual lame sheep, nearly 23% of the lambs had scald, compared to 13% for the farmers who examined all lame sheep.  

Table 3. Percentage of farmers examining individual lame sheep and prevalence of scald in their flocks (England and Wales).

<table>
<thead>
<tr>
<th>Do farmers catch lame sheep (for diagnosis and treatment)</th>
<th>% of farmers</th>
<th>Prevalence of scald in ewes (%)</th>
<th>Prevalence of scald in lambs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sometimes/never</td>
<td>33</td>
<td>10.2</td>
<td>22.9</td>
</tr>
<tr>
<td>Always</td>
<td>67</td>
<td>7.8</td>
<td>12.6</td>
</tr>
</tbody>
</table>

Source: Wassink et al, 2004

At an expert workshop in Aberdeen on the welfare of extensively managed sheep in 2003, 71% of those taking part in a study of stakeholders’ attitudes to footrot thought that a shepherd should take action as soon as any lame sheep were noticed. But, worryingly, another 21% of the group thought that action was only needed when some lame sheep were noticed. Others thought that action need only be taken when the number of lame sheep reached or exceeded the ‘regional norm’.

Even more worryingly, a questionnaire survey in 2000 of farms accounting for 145,000 sheep in the Scottish Borders, conducted by Glasgow University Veterinary School, indicated that farmers are slow to get veterinary attention for lame sheep, even though quite a high proportion of their sheep are affected. The farmers said they had a total of 14417 cases of lameness in ewes, rams and lambs (equivalent to nearly 10% of the total number of sheep) during 1999. They referred only 320 of the 14417 cases of lameness to a vet (2.2% of the total number of cases). Over 90% of the farmers said they kept antibiotics on the farm for treating lameness themselves.

The researchers concluded: "There remains great potential for the occurrence of preventable or incorrectly treated cases [of lameness] among sheep in the study area" and continued, "the information also suggests the need for a structured, state-sponsored scheme of animal health visits by veterinary surgeons to monitor welfare and the potential for outbreaks of notifiable diseases".

Table 4 Number of cases of lameness reported by 134 farmers covering 145,000 sheep in the Borders and number of cases referred to vets

<table>
<thead>
<tr>
<th>Cases of lameness when veterinary assistance sought</th>
<th>Cases of lameness when veterinary assistance not sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rams</td>
<td>9</td>
</tr>
<tr>
<td>Ewes</td>
<td>189</td>
</tr>
<tr>
<td>Lambs</td>
<td>122</td>
</tr>
<tr>
<td>All sheep</td>
<td>320</td>
</tr>
</tbody>
</table>

Source: Clements et al, 2002

As long ago as 1994, the Farm Animal Welfare Council stated: "We recommend to Government and the industry the need for a continuing campaign to tackle the high incidence of lameness and to raise farmers’ awareness of the welfare and production implications of lameness in sheep". (Para 74). There is no good evidence that the prevalence of lameness has been reduced since then. It is notable that there is not even systematic monitoring and independent data collection on the incidence of lameness of different types in different regions and farms.
Most of the existing evidence comes from voluntary responses to questionnaires or small-scale surveys. The lack of government or industry strategy to reduce sheep lameness underlines yet again the low priority given to sheep welfare. No farmer wants his or her sheep to be lame and to suffer, but so far too little is being done to stop it.

4.2 Parasitic diseases

Domestic sheep have probably always been at risk from unpleasant diseases caused by parasites in the environment, such as lice, mites, flies and ticks that attack them from the outside (ectoparasites) and various types of worms that attack them internally (endoparasites). The worms are known collectively as helminths (roundworms and flatworms, such as flukes and tapeworms). In the distant past, neglect and suffering were certainly massive. 18th century writers noted that in wet, undrained areas, liver fluke (‘the rot’) killed many sheep and "the dead bodies of rotten sheep were so numerous in roads, lanes and fields that their carrion stench and smell proved extremely offensive to the neighbouring parts and the passant travellers"; ‘scab’ and ‘rot’ killed more sheep than were taken off the pasture for slaughter.61

But modern veterinary knowledge and medicines, together with an understanding of pasture management, should mean that sheep are protected to a greater extent today. The fact that they are still suffering from preventable parasitic diseases points again to the need for a strategy and commitment on the part of both farmers and policymakers to make sure that surveillance, prevention and treatment programmes are carried through on an industry-wide basis.

Mass treatment of farm animals with pesticides raises problems for environmental protection and human health and is now leading to resistance to some pesticides. Non-chemical methods of prevention, such as required in organic farming, need to be researched and pursued as an alternative strategy. This illustrates one of the dilemmas of modern farming methods – what is needed to protect the welfare of the sheep may damage the environment and the welfare of other animals and humans living in it.

4.2.1 Sheep scab

Sheep scab is a type of mange caused by the sheep mite (*psoroptes ovis*). The sheep develop an allergic skin reaction to the mites, probably to the mites’ faeces. At the start of the disease, the sheep’s skin develops very small raised blisters filled with fluid, which leaks out and forms a yellow scab, sometimes with greenish edges. The mites move out from the edge of the lesion to feed on fresh skin and the number of mites and scabs increase rapidly. Mites can just be seen with the naked eye crawling around the edges of the scabs. The skin becomes moist and reddened and intensely irritated and the sheep scratch or bite themselves and rub against fences, posts or other sheep.

Sheep with extensive wool loss with crusting of skin © John Williamson

Sheep with wool loss, crusting of skin and erosion of spine, possible sheep scab with self inflicted skin damage due to rubbing © John Williamson

The Sheep Mite (*psoroptes ovis*) which causes sheep scab © Moredun Foundation
The sheep also toss their heads, even to the extent that their ears swell, and they can have severe self-inflicted wounds on the skin. Large areas of fleece come off. Eventually the mites can extend over the whole sheep, including head, face and tail, and its bare skin is covered with scabs overlying thousands of active mites. At this stage the sheep or lambs can have open, bleeding wounds, have fits and even die.62,63,64

Sheep suffering from scab can be treated successfully with insecticide in the form of injections or dips. It is shocking that any sheep should be allowed to reach an advanced stage of this disease without being treated.

The mites are spread by close contact between infested sheep and often introduced to a farm by newly arriving sheep, so that markets, sale and transport of animals contribute to the spread of sheep scab. The mites can survive in the environment, vehicles, equipment or clothing for up to 16 days.65

Experts agree that the disease causes great suffering to the sheep. According to the Scottish Executive Rural Affairs Department (SEERAD), it causes "intense reaction and distress."63. "Scab mites cause misery to many thousands of sheep", according to the scientific director of the Moredun Research Institute66, where research is ongoing to find a vaccine against the disease.

Sheep scab is a preventable disease but at the moment it is by no means being prevented. Up until 1992, sheep scab was a notifiable animal disease in Britain, meaning that all cases had to be reported by law. Dipping sheep in organophosphate insecticide was compulsory as a prevention and control measure. Since deregulation in 1992, farmers alone are responsible for controlling sheep scab. Since then there are no official figures on its incidence but animal scientists believe it has greatly increased and is now widespread among both hill and lowland sheep.64,67,68 The Leather Confederation estimates that 14% of sheepskins are damaged as a result of parasitic disease such as sheep scab and lice.133

Scottish Agricultural College scientists writing to the Veterinary Record in 2003 estimated that at any one time at least 10% of the flocks in the British Isles, some 6000 farms, have sheep scab and that probably the recorded cases are only the tip of the iceberg.69 A postal survey of 173 diverse farms in Scotland in 2000 found that 30% of the farmers regarded sheep scab as a problem, especially those in the North West and Western Isles. Sheep from these regions are traded all over Scotland, "producing ample opportunity for widespread dissemination of the disease", according to the researchers.69

Up until now there have been worrying signs of complacency. The National Sheep Association estimates that only 30% of sheep farmers in Scotland are dipping their sheep67, leaving other sheep at high risk. A survey by the Scottish Agricultural College in 2000 of farmer’s awareness of sheep scab concluded that many farmers were attempting to treat sheep scab and other external parasites (ectoparasites) incorrectly and that, "lack of knowledge of the epidemiology and efficacy of veterinary medicines for the control of sheep scab is therefore likely to be impacting on its prevalence".69 Under the Sheep Scab Order 1997, it is illegal for farmers not to treat sheep scab as soon as they have seen it in the flock, and visibly infested sheep cannot be moved on or off farms except for treatment or immediate slaughter.65 This regulation, though better than nothing, clearly leaves much leeway for sheep to be left to suffer unnoticed.

The recommended treatment and prevention methods involve using pesticides (either in dips or by injection) that can damage human health and the environment. Organophosphate (OP) dips are generally thought to be the most effective but are believed to have caused irreversible damage to some farmers and others using them. The alternative Synthetic Pyrethroids (SPs) are considered less harmful to humans but usually need 2 dips and also may be environmentally more damaging. Injectable pesticides licensed for sheep use are ivermectin, which has been associated with birth defects in animals and is highly toxic to marine life, moxidectin and doramectin.
There is evidence that some farmers are still not aware of the environmental and human health risks of SP dips.69

Sheep scab can be eradicated. It was eradicated from Australia in 1896, from the USA in 1973 and from Scandinavia in 1927.70 In Scotland, the situation is now seen as so serious that the NFU of Scotland and the National Sheep Association (Scottish Region) launched the Scottish Sheep Scab Initiative, supported by the Scottish Agricultural College, which is providing information on control and treatment methods and free tests.68 On the islands of Barra, Benbecula and North and South Uist, the objective is to eradicate sheep scab with a co-ordinated sheep-dipping programme.71

Unless industry schemes such as the Scottish Sheep Scab Initiative are successful, the case for re-instating sheep scab as a notifiable disease seems strong, as recommended by FAWC in 199415 (Rec.2), possibly along with compulsory regular dipping until better methods of prevention can be developed. Protecting sheep from the suffering caused by scab requires not only chemicals, but also changes to sheep farming methods, including reduction of sheep movements, quarantining and frequent inspection of all sheep.

4.2.2 Worms

Worm (helminth) infestation should be a major concern to the sheep industry, since worm control depends almost entirely on chemical pesticides (anthelmintics) – and these are becoming less effective because of routine, frequent use which is causing drug resistance to develop.

Several types of roundworms (nematodes) can infest sheep. The worms invade the sheep’s digestive system and cause illness both to young lambs (with nematodirosis) and to older lambs and ewes (with parasitic gastroenteritis). The animals suffer from diarrhoea, loss of appetite, anaemia, dehydration, rapid weight loss and sometimes damage to the gastrointestinal tract. If young lambs with nematodirosis are not treated promptly they can be permanently damaged or die. It is likely that the lambs and sheep will feel very unwell and be in pain.

Nematode eggs and larvae can survive on pasture or soil for up to 2 years and thus infect new lambs from year to year. Lambs can become infected from their mothers. Some experts recommend a move towards non-chemical methods of breaking the life-cycle of the parasite by grassland management, such as grazing sheep and cattle in rotation, combined with attempts to develop the animals’ natural immunity and breeding animals that are resilient to parasites. Hill sheep farms, although they cannot rotate grazing, may be less at risk of nematode contamination because of having a lower stocking density. In practice, anthelmintic drugs are used to greater or lesser extent in all types of sheep farm.72,73,74

Worms that are resistant to the broad spectrum anthelmintics known as BZ or ‘white drench’ (benzimidazoles), are now very prevalent in Scotland, according to tests on sheep faecal samples from 89 farms carried out by the Moredun Research Institute. In Scotland as a whole, 60.8% of the farms had resistant worms. Fife had the highest prevalence (100% of the farms), followed by the Borders (93.8%). The lowest prevalence was found in the Highlands and Islands (40%), still a high percentage.75 At present it is believed that resistance is rising rapidly in the UK as a whole and a few cases of multiple resistance to different classes of anthelmintics have been reported.73,76

The collapse of the effectiveness of chemical anti-worm treatments without any alternative method of control would cause immense suffering to sheep. A recent expert meeting on strategies to slow the growth of resistance concluded: “Unchecked, anthelmintic resistance could prove to be one of the biggest challenges to sheep production and welfare ever seen in the UK.”77
The liver fluke parasite (a flat worm), lives in environments where there are snails, which it uses as an intermediate host, often in high-rainfall areas. Liver fluke can kill sheep by causing severe liver damage. Sheep can eat large numbers of the immature flukes on vegetation, resulting in invasion of the liver by up to 1000 flukes simultaneously. Some sheep die suddenly, while the rest of the flock are lethargic, with enlarged livers that are clearly painful and can rupture if the sheep are handled roughly. Effective treatment of the sheep is possible if their condition is noticed in time and flukicidal drugs can be used as a control measure. There are indications that liver fluke is becoming an increasing problem for sheep in Scotland, possibly because of climate change, emphasising the need for regular inspection of sheep flocks.

4.2.3 Flystrike

Blowfly strike means that a sheep becomes infested with maggots and flies, and is at risk of being eaten alive or dying from bacterial infection caused by the wounds. Flystrike is less common in Scotland than in other parts of Britain, because of the higher altitude of many farms, but the consequences of any sheep being struck are very severe.

The population of flies increases rapidly from late spring into mid-summer. The flies usually attack sheep with long fleeces rather than shorn sheep or lambs. Unshorn hill sheep are attacked early in the season and at the end of the summer. Flystrike happens when certain types of fly lay eggs on dirty areas of the sheep’s fleece – often at the tail end where the sheep may be soiled with faeces – or in wounds. If sheep have diarrhoea caused by worms, or open sores caused by footrot, this will encourage flystrike. The emerging larvae tear the sheep’s skin with their hooks and digest living tissue. Other types of fly are then attracted to the wounds. Sheep infested with maggots can be treated with insecticide and the whole flock can be protected by chemical dips or pour-on products. If sheep that have flystrike are not noticed and treated they may die.

A 1992 survey in England and Wales found that 80% of the farmers questioned reported at least one case of flystrike in 1989, with an estimated half a million sheep struck annually. The risk of flystrike was found to increase with the number of sheep in the flock and the stocking density. The relative risk for a flock of 1000+ sheep was three times that for a flock of 50 sheep.
Worryingly, the results of that survey suggested that farmers may be less likely to notice sheep that have been struck if the flock is large. The authors comment: "The larger the number of animals at risk [i.e. in larger flocks] the more likely that one of them will be struck. As flock size increases, farmers may be more likely to underestimate the numbers of sheep struck or fail to notice struck animals that later die." This emphasises the need for sheep farmers to have the labour resources to inspect their flocks frequently at all times of year. If farmers are financially other otherwise unable to do this, then the sheep pay the price of neglect.

4.3 A new disease spreading

A new and infectious bacterial disease, known as caseous lymphadenitis (CLA), has appeared in UK sheep flocks and is spreading rapidly. It already affects sheep in Australia, New Zealand and North America. CLA causes abscesses in the animals' lymph glands and internal organs, particularly the lungs. When the glands are near the skin the abscesses can be seen as swellings full of pus, for example on the face or neck. The sheep do not usually die, but become thin, distressed and weak. There is no good treatment and the animals are usually put down, although UK sheep breeders are reported to be using illegal vaccines imported from Australia. The carcases of the diseased animals are often condemned at the slaughterhouse as wholly or partly unsuitable for human consumption, causing financial loss to farmers.

Since it was first noticed in the UK around 1990, CLA has spread widely among ‘terminal sire’ flocks (pedigree rams used for breeding lambs for meat). A sample-testing study of 745 terminal sire breed flocks by the Scottish Agricultural College estimated that 18% of the flocks and nearly 10% of all the rams were infected in 2000-2001, but the scientists fear that many more are infected. 60% of the sheep in some Scottish flocks are showing signs of the disease but up to a quarter of infected animals show no clear signs of it because their abscesses are internal.

A meeting of Scottish sheep vets and scientists in March 2004 were told that the risk of CLA now spreading from the pedigree flocks to the main commercial flocks was "very great" and a matter of "extreme concern", according to the *Scottish Farmer*. Both these experts and the Meat and Livestock Commission were worried that farmers were not yet facing up to the situation and being stringent about biosecurity and checking their sheep. According to the *Scottish Farmer*, the "sheep industry is shooting itself in the foot by continuing to ignore animal health precautions."
4.4 Treatment versus neglect

"Because of the nature of stock supervision in the sheep industry – at best twice daily in the lowland unit and infrequently in the high hill unit – what appears to be sudden death is usually simply death since the last inspection. It should, therefore, be more accurately described as ‘found dead’…few deaths will be as asymptomatic as presented by the owner, who may not wish to admit that he has not examined the stock as often or as thoroughly as he should." Manual of Sheep Diseases, 2002.87

There are individual instances of appalling neglect of sheep in Scotland. The Cross-Party Animal Welfare Group in the Scottish Parliament was told by a farmer in 2002 of a case of a young sheep dealer who had collected thousands of ‘cast ewes’, worth very little, from markets in the Highlands and Islands and then neglected them near Dingwall late in 1999. Many of them were found starving and lice and scab-ridden. This dealer eventually was charged and convicted.

A similar case in 2000 concerned a teenager in charge of 240 lambing ewes and sheep leaving them to die horribly from sheep-scab.45 In the spring of 2001, again in the Highlands, sheep that had been brought to a field in November 2000 were noticed to be very poor condition by January 2001, thin, coughing, scratching and without food. By March, they had started to die. In April, photographs were taken of some of these emaciated sheep that had lost most of their fleece and had bleeding, open wounds, blisters and seeping scabs on their mouths and festering sores on their feet, or were infested with maggots.88 In April 2001, the Inverness Courier reported the case of 500 hill sheep from Lewis that were stranded by the movement restrictions imposed during the Foot-and-Mouth disease outbreak of 2001 and were left starving to death.88 There appears to be no official mechanism in place that has the capacity to prevent such cases occurring, even when the situation develops over several months and is well known locally.

These may be extreme examples, but there are also wider questions about whether Scottish sheep are routinely getting the attention that they should, especially at times of low prices and economic stress for farmers. A survey of sheep farms in the Scottish Borders in 2000 found that only 27.6% reported having a written flock health plan,50 although this is recommended in the government Code (Para 21). The average number of visits by vets to the farm in the previous year, for any reason, was only 1.8 (the average time between veterinary visits was therefore 6.7 months).50 This raises the possibility that in too many cases sheep may not be getting the skilled treatment they need and that preventive programmes are not always in place.
In the worst cases, sheep may be left to suffer and possibly die without any attempt to help them, or even to put them down as humanely as possible, where necessary. FAWC in 1994 stated: "We strongly condemn the practice of leaving [sick or injured] sheep to die on the farm and recommend that the Government and the industry remind farmers that it is an offence to cause unnecessary pain and unnecessary distress to an animal on agricultural premises." (Para 155)

4.5 Scrapie

Scrapie is an old, incurable, infectious disease of sheep, which has never been found to be harmful to humans who eat sheepmeat. In the past, it was probably not considered very important by farmers. Scrapie belongs to a group of brain diseases known as Transmissible Spongiform Encephalopathies (TSEs) which includes BSE in cattle (bovine spongiform encephalopathy). Sheep with scrapie rub and scratch themselves, nibble at themselves, become more nervous, tremble and are unco-ordinated, lose weight and die. The disease is likely to be extremely distressing to sheep, although relatively few of them become infected with it.

Scrapie is a notifiable disease and at the moment a sheep suspected to have it would be compulsorily destroyed by lethal injection on the farm or at a laboratory, with compensation to the farmer.

Scrapie has now come to the top of the official animal health agenda worldwide because animals with scrapie and animals with BSE have the same symptoms, and so it is possible that some sheep we think have scrapie in fact have BSE. In this case, they would be dangerous to eat. Sheep could have been infected with BSE through contaminated feed containing the remains of other ruminants in meat and bone meal, in the same way as happened to cattle. It is also known that sheep can be infected and become ill with BSE in experiments. In addition, the official testing programme of British sheep has found one case of a type of scrapie not previously seen in the UK that had some similarities to experimental BSE in sheep.

Some sheep are genetically resistant to scrapie and others are very susceptible to it. The National Scrapie Plan for Great Britain is designed to eradicate the disease over time by genotyping all sheep and only breeding from the resistant ones (the most resistant sheep carrying the ARR/ARR genotype – i.e. they carry two copies of the resistance gene). Testing of rams is voluntary under the NSP, in advance of compulsory ram testing being brought in under EU rules in 2005. The eventual aim is that only sheep with at least one copy of the resistance gene will be allowed to be used for human consumption.

At the moment there is a voluntary scheme (Voluntary Scrapie Flocks Scheme) open to all farmers who have had a case of scrapie confirmed since mid-1998, which includes reasonably generous compensation for farmers if their non-resistant animals are slaughtered and disposed of – currently £90 per sheep, £50 per lamb and £30 for a ‘cull’ sheep at the end of its working life. Up to £500 may be granted for the farmer to buy a new highly resistant ram. From summer 2004, the Compulsory Scrapie Flocks Scheme, required by EU law, comes into force. This will mean that any flock with a confirmed case will have all their sheep genotyped and in some cases the whole flock could be killed. The farm might be unable to trade again until all of the sheep were confirmed to be highly resistant to scrapie. These regulations are designed to protect the industry in the domestic and international markets, perhaps more than to protect the welfare of the sheep.
The schemes to eradicate scrapie are at present partly dependent on farmers being willing to report suspected cases and, as we know from the history of BSE, they are unlikely to do so in every case. There is concern that farmers may be turning a blind eye or not reporting it. The Scottish Executive’s Environment and Rural Affairs Department believes that 10 times as many farms may have scrapie than the number that have reported a case. One reason is that sick animals may not be noticed. Hill farmers may be “totally unaware that the ewe that has died on the hill had the disease”, according to the Scottish Farmer.94 In addition, hill breeds often have little resistance to scrapie, with 46% of Scottish Blackface sheep not carrying the ARR type of gene (allele).95 This could make some farmers reluctant to report cases.

The government estimates from the testing programme that about 3 in 1000 sheep in Great Britain are infected with scrapie.96 1% of farmers in a postal survey in 2002 said they had a case of scrapie in their flocks in the previous 12 months; 0.8% in Wales and 1.1% in Scotland and England.97 This contrasts with the situation in 1998 when nearly 3% of farmers said that they had a case; the reasons for the change in reporting rate are not certain. Scotland has 90 flocks that have had a confirmed case since 1998, 70 of them in Shetland. This is probably because Shetland has an active surveillance and eradication policy and all cases are reported.98

Scrapie eradication will clearly be very expensive in both manpower and compensation costs. It is striking that these resources can be mobilised in order to protect the trading status of the sheep farming industry, but not in many other cases where regulatory action and resources are essential to protect the health and welfare of the sheep. This report has shown that there are high levels of avoidable suffering in the sheep industry, from health problems such as lameness and parasites and a high mortality of lambs and ewes to a lack of food, shelter and supervision. These are serious problems that need to be addressed by government-backed and enforced programmes, supervised and inspected by an expanded State Veterinary Service.
5.0 Care of ewes and lambs

The ewes are usually mated in the autumn and give birth 5 months later around March/April. Ewes with their young lambs are a popular, even idyllic scene in spring and early summer. But the reality can be rather different. For too many ewes and lambs, pregnancy, birth and lactation also bring disease and high mortality.

5.1 Deaths of ewes and lambs

Between 2% and 6% of ewes die during pregnancy and lambing, according to statistics on selected hill, upland and lowland flocks in 1998 and 2001 published by the Meat and Livestock Commission. Some experts believe the number may be up to 7.5% in hill farms. Three quarters of all deaths of ewes on the farm occur at or near lambing.

It is generally estimated that 10-15% of lambs die from birth to weaning or sale, including those born dead, although in particular circumstances many more may die. Some believe death rates to be up to 20 or 26%. Lambs are most at risk of dying in their first week of life when they are prey to hypothermia, starvation and infections.

There is little evidence that Britain’s lamb mortality rate has come down over the last 50 years and studies from various other countries suggest that 10-35% of lambs die by 6 months old. It seems to be accepted by the sheep industry around the world that a large number of lambs are doomed not to survive their first days or weeks. In Scotland, a 10% mortality rate would mean that around 400,000 young lambs die every year.

Some of this loss of life is caused by human management decisions and human error. The FAWC suggested that a likely reason for the high death rate of both ewes and lambs was that farmers did not have enough skilled labour to cope with the task of lambing, and pointed to the fact that farmers often try to have all the ewes lambing over a short time period, putting a strain on resources. FAWC recommended: “Training of the shepherd and adequate supervision are the most important factors in reducing mortality and other welfare problems at lambing time.” (Para 106-108)

It has been estimated that around 3% of ewes in Scottish hill flocks have difficult births. This represents 30 ewes in a flock of one thousand, a significant number. This is much lower, however, than for some of the more muscular breeds, such as the Texel, where the lamb’s average birthweight may be twice the weight that is typical for a Scottish Blackface lamb. 70% of young Texel ewes may need assistance with lambing.

In extensive conditions and upland areas, some ewes are brought into housing for lambing, especially those who are thought to have problems or who are carrying more than one lamb. Many other ewes give birth outside on the hills. There are differing views about whether it is better for the ewes to lamb indoors or outdoors on their own and there seems to be advantages and disadvantages to each. Fewer lambs die when they are born in housing but arguably this involves more interference with the natural behaviour of the ewe. It seems likely that many ewes and lambs are subjected to either too little or too much human interference at lambing time.

The ewe needs attention during her pregnancy to make sure that she is fed properly. This allows her to produce enough colostrum and milk, so it impacts on the welfare and health of the lamb. Poor body condition of the ewe has been identified as an important risk factor in determining whether the lamb dies or survives, in research published by scientists at Bristol and Glasgow Universities in 2001 and 2003.
The Scottish Agricultural College has shown that when a hill ewe is in good condition she is also much better at looking after the newborn lamb; she spends more time licking her lamb after birth (essential to dry it and reduce heat loss) and her lamb suckles better. The scientists conclude that, "even a moderate level of undernutrition impairs the attachment between ewes and lambs by affecting maternal behaviours at birth." If the ewe deserts her lamb, it is at high risk of starving. Poor condition also puts both the ewe and the lamb at greater risk of disease. Research at the Moredun Research Institute has shown that ewes whose body reserves of fat and muscle have been run down because of lack of food are also less able to resist worm infestation at the time of lambing and lactation than well-fed ewes. It is clearly unfair to both ewes and lambs if farmers are financially unable, or otherwise failing, to make sure that all their ewes are in the best condition for lambing.

A different reason for ewes being undernourished is the flock has been managed in order to get multiple births or larger, more muscular lambs. If there is not enough space left for food inside the ewe she is not able to eat enough even if it is offered to her. According to sheep veterinarians: "In prolific breeds output has outstripped the digestive ability to maintain such output. This is partly due to abdominal space limitations, but also to sheer nutrient demand (a ewe with triplets is equal to the demand of a sow with 30+ piglets)."

Mastitis and prolapse are two serious conditions of ewes that need to be noticed and treated. Mastitis is a very painful bacterial infection of the udder, which can be so severe in its acute form that the ewe dies within a short time and is ‘found dead’. In less severe cases the udder is swollen and painful, the skin red or purple and either hot or cold and clammy, with bloody pus oozing from the teat. The ewe’s limbs are stiff, she is lame and she has a high temperature. If she has been feeding a lamb, it will starve. If she has chronic mastitis, her udder is hard and develops abscesses and her teat is swollen.

The ewe’s udder is often permanently damaged. According to veterinary experts, this is likely to be because of "a failure to treat animals in the early stage of the disease because of the difficulty of detecting an affected ewe in a large flock". Hill sheep with mastitis are more likely not to be noticed and treated. It is completely unacceptable for any sheep with such a painful condition not to be treated promptly.

Prolapse is a condition where the vagina turns inside out and falls outside the ewe’s body. It is most likely to happen in the last three weeks of pregnancy. Typically, the vagina falls out when the ewe lies down and returns when she stands up, but in later stages it does not return, the mucous membrane of the vagina dries and gangrene may develop. Large litters increase the risk of prolapse, as there is less room inside the ewe for the lambs and her internal organs.
The risk is 5 times greater for the ewe carrying twin lambs than for the ewe carrying a single lamb and 12 times greater for the ewe carrying triplets, according to a Scottish Agriculture College sheep expert. Since Scottish hill sheep normally carry only one lamb, the prevalence is only 2 in 1000 ewes for pure-bred hill flocks, compared to 1% in the Borders, and 1.8% among highly prolific ewes, such as the 'greyface' or 'mule' used to produce slaughter lambs in the lowlands. Prolapse can also be caused by overfeeding the ewe with bulky food towards the end of her pregnancy.108

5.2 Problems during lambing

Human intervention and management are often contributory causes of the injuries and deaths that happen at lambing time. It has been estimated that lambs are 60% more likely to die if the birth is difficult or abnormal.103 According to veterinary experts, a common cause of difficult births is that the lamb or the litter is too large, so that there is not enough room inside the ewe for the foetus(es) to adopt an extended posture. Another common cause is that the ewe is disturbed at the beginning of the lambing process. During the delivery, the ewe can be injured by excessive and unskilful intervention, which can result in rupture of the uterus, tearing of the cervix during manual dilation and bruising or tearing of the vagina. The lambs can also be injured by being dragged out too forcefully, suffering ruptured liver and broken ribs. In crowded or badly designed housing, they are also in danger of suffering from broken limbs from being trodden on by the mother or by other sheep.99

If a lamb is believed to have died in the uterus, and is possibly putrid, it needs to be removed. Sometimes this is done by cutting it up while still inside the mother (embryotomy), in order to remove it more easily and avoid a caesarean operation.109 Following media reports that live lambs were also cut up, FAWC recommended in 1994 that it should be a legal requirement that "embryotomy must be carried out on dead lambs only".15 (Rec. 4)

In a short period after the lamb has been born it is crucial for the ewe to bond with the lamb and for the lamb to stand and start to suckle. Lambs have a large surface area compared to body weight and therefore lose heat quickly. They are born with no immunity. They need to drink enough of the ewe’s first milk, or colostrum, which is rich in energy and antibodies that the lamb needs to withstand the sudden drop in temperature from the 39°C in the womb, and to be able to resist infections. If the ewe and lamb are in housing or shelters, the lamb has some protection from the weather and can be helped by the farm workers. But housing can also cause problems.

The ewe and lamb need some privacy for the ewe to learn to recognise the lamb and bond with it. If the mother and lamb are disturbed by the farm workers, or too crowded by other sheep in housing, bonding and suckling may not happen. If the lamb’s body temperature drops just 2 or 3 degrees below normal, it stops trying to suckle and starves to death.42,109 When the mother has insufficient milk or dies, the farmer may try to make another ewe ‘foster’ the lamb. This is often unsuccessful and it can involve confining and immobilising the unwilling ewe, which must be distressing to her. Farms that use fostering more often also have a higher mortality rate of lambs.100
Lambs born outside have to cope with lower temperatures than lambs born in lambing sheds. But infections are spread more readily in crowded housing and in bedding, especially if hygiene is neglected. Apart from lameness and diarrhoea caused by infections in the lambing sheds, the lambs can suffer from an unpleasant highly contagious viral infection known as orf (contagious pustular dermatitis), which can survive for years in a dry environment in housing. The lambs get pustular, scabby sores outside and inside their mouths and on their noses. Because of the pain, they may stop sucking and starve to death. Ewes can get the infection on their udder or teats, causing painful mastitis, and pass it on to the lambs.

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5.3 The risks of higher productivity

It could well be seen as an indictment of modern sheep farming that, in spite of the enormous increases in biological and veterinary knowledge over the last decades, the death-rate of lambs has not been significantly reduced. This is probably at least partly because, in commercial farming, the objective is to get a ‘lamb crop’ that is as large and profitable as possible. This objective can be achieved by keeping more ewes, by managing the ewes to produce multiple lambs and by breeding and feeding so that the lambs are more muscular and meaty. But it is apparent that achievement of higher productivity and reduced costs often comes at the expense of the ewes and lambs.

There is recent evidence that large flocks (over 900 ewes lambing at once) put lambs more at risk of dying. For convenience, it is common to try to synchronise the oestrus of the ewes by putting a vasectomised (‘teaser’) ram with them, causing them to ovulate within a few days (followed by the fertile rams for mating). This means that most of the ewes will lamb at the same time, within a period of about a week. It is only common sense to conclude that this factory-style mass lambing will cause management problems.

The risk is also higher when the ewe has more than two lambs. One hundred Scottish hill farms using hill breeds of ewe do not generally aim for more than one lamb per ewe but farms at lower levels often expect to get two reared lambs per ewe. The mortality risk for triplets, quadruples and quintuplets can be 65% higher than for single and twin lambs. These increases in fertility have been brought about by selective breeding and by feeding the ewes to the best body condition (‘flushing’) to increase the number of eggs released at ovulation. Occasionally sheep farmers also resort to treating their sheep with hormones to increase ovulation rates, or synchronise the oestrus of the flock, or to bring forward the breeding season.

5.3.1 Sheep breeding and animal welfare

If the economics of sheep farming do not improve and subsidies for breeding flocks are phased out as the CAP is reformed, farmers may look to find ways of reducing production costs. It may become attractive to farmers to keep fewer ewes, but to try to get the same number of lambs from a smaller number of mothers. There are a number of potential dangers to this, some of which may already be appearing. Farmers may try to keep more prolific ewes in upland areas that the sheep are not hardy enough to cope with and where there is insufficient grazing to support a ewe carrying two or three foetuses.
There may be attempts to change the hill sheep by breeding them to produce more muscular lambs that are more marketable, without full consideration of the welfare implications.

Breeding programmes for sheep, up to now, have usually been concerned with production traits such as growth, litter size and carcase quality rather than the health and survival of the ewes and lambs. The objective of the Highlands and Islands Sheep Strategy, launched in 1998, was given as "improving the quality of lambs in line with market requirements". However, market requirements are not necessarily in the interests of the sheep. A veterinary review of birth problems in sheep has confirmed that, "manipulation of breeding, in the search for maximum output, increases the risk of dystocia [difficult births]". It would clearly be wrong for the Scottish industry to carry out breeding programmes that increased the risks at lambing.

An alternative approach to reducing costs would be to use sheep that have been bred to need only a low level of human attention and intervention, the so-called ‘easy care’ system. This would reduce labour costs in sheep farming. It could also have advantages for the welfare of the sheep, if they were less susceptible to disease or to difficulties at lambing, and were subjected to less human interference. For example, a breeding programme that aims to improve the survival of hill ewes and lambs is being carried out at the Scottish Agricultural College. However, a low-intervention system of sheep farming also has the potential to make welfare worse, if the breeds of sheep used were not suitable for it or if ‘easy care’ were to be used as an excuse for neglect. The aim should surely be to combine breeding programmes that emphasise health and longevity with the best skilled care and intervention where needed to ensure the optimum health and welfare for the sheep.

Biotechnology scientists in New Zealand have attempted to produce sheep carrying a mutation of the myostatin gene (which controls growth) in order to produce ‘double-muscled’ sheep. Double-muscling is already known to produce birth problems in beef cattle, requiring a high rate of caesarean births. It would clearly be wrong for the Scottish sheep industry to use ‘double-muscled’ breeds.

**5.4 Weaning and separation**

Among wild sheep, weaning is gradual over a period of a month or more, as the ewe increasingly walks away and refuses to allow the lamb to suckle. In commercial farming, lambs are usually weaned earlier (typically at 3-5 months) and abruptly, by being removed from their mothers, often for sale to another farm, or for slaughter.

Abrupt weaning can cause "some stress for lamb and ewe", according to scientists who study sheep behaviour. They bleat for two days after separation and the levels of cortisol (a stress hormone) in the lambs’ blood are raised for three days. Studies have shown that ewes and lambs are less distressed when they are allowed to get used to periods of separation gradually. Sudden separation from familiar flockmates must be distressing for the lambs.

Some very young lambs (often orphans) are sold. The government Code says that "wherever possible" young lambs should not be sold at market without their mothers – clearly markets can expose them to fear, hunger, exhaustion and infection – but that they should if possible be sold direct from farm to farm. It is illegal to transport or sell a lamb at market if it is so young that its navel is still unhealed.
Castration and tail-docking are common procedures carried out on lambs. They cause the lambs acute and chronic pain. Astonishingly, it is still legal to carry out these operations without anaesthetic or any other pain relief.

Castration is carried out by three main methods. The first is surgery with a knife, to cut open the scrotum and pull out the testicles. Apart from the pain, this can lead to inflammation, infection and bleeding before the wound heals. The second is by crushing the spermatic cords, using a ‘bloodless castrator’ (such as the ‘Burdizzo’), which stops the blood supply to the testes and causes the testicular tissue to die over a few weeks. This method produces a burst of intense pain as it is applied, which is followed by considerable pain from tissues damaged at the line of the crush. The third is by applying a tight rubber ring which cuts off the blood supply to the testicles and scrotum, which shrivel and fall off in a few weeks. In this method, the lambs experience acute pain for up to 2 hours, followed by chronic inflammation, sepsis and pain until the affected parts fall off and healing occurs. This can take up to 6 weeks.

Tail-docking is done by similar methods, either by a tight rubber ring, which makes the tail shrivel and fall off later, or by a knife. A hot iron, to cut and cauterise the wound, may be used instead of a knife. The bloodless castrator is sometimes used just before either the rubber ring or the knife is applied to crush and desensitise the nerves, but this still involves "a brief shock of intense pain experienced by the lambs as the instrument is applied", according to a veterinary scientist at the Royal (Dick) School of Veterinary Studies in Edinburgh.

Scientists have established that these operations cause pain and distress no matter which method is used. Studies published in New Zealand in the late 1990s showed that the rubber ring method caused lambs to writhe on the ground and kick, and repeatedly stand up and lie down, up to 40 times more often than normal, in the first hour after the ring was applied. The knife method caused them to walk with splayed-out legs or stand completely still ('statue-standing'), seemingly unaware of their surroundings. They behaved abnormally for at least 4 hours. The operations caused the concentration of cortisol in the lambs’ blood to double.
Most male lambs intended for slaughter are castrated. Farmers say that this is done to stop unplanned mating and to make male lambs easier to handle and less aggressive. They also claim that castrated lambs gain weight faster, have better quality meat and that the meat has less smell. Some meat processors also say that it is easier to skin lambs if there is no scrotum and more fat under the skin. Many scientists dispute these arguments because many lambs today are so-fast growing that they are slaughtered before they reach puberty, making castration unnecessary. Others add that uncastrated lambs actually grow faster and produce tender and leaner meat without any smell. Many male hill lambs are fattened for slaughter on lower ground in fields of root crops, so in principle they could be grouped and managed in order to avoid aggression and unwanted mating.

In reality, the main reasons why farmers castrate lambs are that they have always done so, that they have a perception that uncastrated lambs will be worth less, and that the industry is resistant to change.

Many, but not all, lambs of both sexes are tail-docked, although hill sheep quite often are not. The main argument made for cutting off tails is that the lambs’ long tails and rear-ends get dirty with faeces, encouraging flystrike. Lambs with tails may also be perceived to be harder to sell. Again, these arguments are inadequate reasons for inflicting pain. Sheep should not be kept at all in geographical areas where the only method of protecting them from flystrike is to subject them to pain and suffering.

The government Code recommends that farmers “should consider carefully” whether castration and/or tail-docking are necessary for any flock and that lambs should not be castrated before the bond with their mother has been established. It says: "Account should be taken not only of the pain and distress caused by castration but also the stress imposed by gathering and handling and the potential risk of infection. For very young lambs gathered in large groups there is real risk of mismothering which may lead ultimately to starvation and death." It is illegal to use the rubber ring method after the first week of life, unless an anaesthetic is used. After 3 months of age, castration can only be done by a vet using anaesthetic. (Para 58-63) In fact lambs are probably capable of feeling pain just as much in their first week of life as they are later in their lives.

The practices of castrating and tail-docking lambs need to end. There is no case for deliberately causing suffering for the sake of tradition or management convenience. The change could be made either by education or by legislation. One possible route would be for the supermarket buyers to use their power and refuse to buy castrated or tail-docked lambs.

An expert at the Royal (Dick) School of Veterinary Studies, Edinburgh, has concluded: "The easiest, quickest and cheapest approach to this problem could be to adopt production aims and husbandry methods that do not require these procedures." Ending castration and tail-docking would also save unpleasant and time-consuming work for farmers.
7.1 Handling

Many standard procedures in sheep farming, including some intended for the sheep’s health, cause distress to the sheep. As animals that have relatively little contact with humans, sheep find gathering and handling frightening. They regard both humans and dogs, including sheepdogs, as predators. For this reason, sheepdog trials may be very stressful for the sheep involved.

Gathering and handling takes place on the farm for a number of procedures, such as for pregnancy scanning, injections, ‘drenches’ (liquids taken by mouth), dipping, footbathing, fitting eartags, shearing and loading for transport. Some involve prolonged individual handling for interventions that may be painful, such as for foot-paring when the sheep may be restrained on its back. Sheep can also be accidentally wounded during shearing, including partly or completely cutting off a ewe’s teat. Wounds from shearing and foot-paring can attract flies and lead to flystrike.

Compulsory eartagging was introduced with the intention of increasing traceability of sheep. However, fitting eartags to lambs or to older sheep is a painful procedure, causing bleeding and possibly infection of the punctured ear. Sheep can have up to 3 different eartags fitted and, if tags are lost, they need to be refitted, causing further stress and pain. In addition, the eartags can catch on fences or vegetation. Although traceability is likely to be beneficial for animal health and welfare, it seems that little thought has gone into the animal welfare aspects of tag design. Better alternatives are available and could be used, such as the microchips already in use for identification and tracing of companion dogs and cats.

Because of the large numbers of sheep in many flocks, and because time, money and labour are at a premium, it is feared that procedures involving handling the sheep are often carried out with the maximum haste. There is no independent assessment of the competence of people who handle sheep and carry out stressful and potentially injurious procedures on them, or of the suitability of the equipment and facilities available for the job.
7.2 Livestock markets

The Scottish sheep industry relies heavily on livestock auction markets for trading sheep. According to a report for the Scottish Executive, 95% of the sheep and lambs that are moved from the hills and high uplands to be fattened on lower ground are sold through auction markets, rather than being sold directly between farms. After fattening, 75% of ‘finished’ sheep are sold for slaughter through markets. Sheep may even be forced to make multiple trips to market and back to the farm if their owners are looking for a higher price for them. A ewe is likely to be sold on (often to a farm on lower ground) at least once before she is sold finally for slaughter. Some of the buyers and sellers are dealers, not farmers, whose business is buying and selling sheep around the country, and many of them probably give low priority to the sheep’s welfare.

There are inherent problems with markets, in particular the risk of spreading disease and the psychological and physical stress experienced by the sheep in the noisy, crowded and unfamiliar conditions where they may be confined for many hours. It will be remembered that markets and sheep dealers played the main role in the spread of foot-and-mouth disease in 2001. According to the Veterinary Record: “The largest local epidemics were in areas with dense sheep populations and livestock dealers who were active during the key period.” At that time some sheep were being moved several times in just a few days in and out of different markets, dealers’ premises and collection points.

The European Food Safety Authority has given its opinion that, “the practice of sending animals through markets on the way to slaughterhouses should be discouraged as this increases the length of the journey and possible exposure to infectious agents.”

These traditional buying and selling systems are bad for the health and welfare of sheep. They are not even economic for the industry as a whole. A Scottish Executive review of the industry concluded: “The movement of sheep through different hands and through different systems – only 25% of finished lambs are sold on a dead-weight basis – adds significant cost to the system. It cuts into the profit margin, and importantly, it masks market signals.” The report recommends the development of electronic auction methods and scanning, to reduce transaction and transportation costs, and to reduce livestock stress.
7.3 Transport for slaughter

Many of Scotland’s sheep have to be transported far too long a distance to reach slaughterhouses. Slaughterhouses are few and far between, especially in the north of the country. But fewer than half of the sheep are even slaughtered in Scotland. The rest are sold in Scotland and transported south of the border to be slaughtered, or fattened for slaughter. In 2003, only 1.4 million of the total of around 3.6 million sheep were slaughtered in Scottish abattoirs (39%). For the breeding ewes and rams, sold on or sent for slaughter at the end of their working lives, the figure was only 24%.1,121,122

One reason for this situation is that Scottish slaughterhouses do not have the capacity to meet the demand for slaughter at the peak period of the year (August to January). Also, the abattoirs used by the supermarkets that buy the lambs are often not in Scotland. Scotland produces far more sheep than it can consume and England is its major export market. In 1998, one third of Scottish ‘finished’ lambs were bought by abattoirs in England and Wales.8 According to the Scottish Region of the National Sheep Association, "large numbers of sheep frequently leave Scotland heading for slaughter in Anglesey and Cornwall". Sheep are transported for 9 hours or more to reach some of the abattoirs.123

Long-distance transport for slaughter causes much unnecessary suffering to sheep, from bruising, trampling, handling stress, and long periods without food and water. Bruising shows up in the sheep carcasses; in abattoir surveys, 71% of carcasses of lambs and 49% of carcasses of ewes have been found to be bruised, because of the sheep climbing over each other or because they were pulled by their wool.20 Loading is an unfamiliar and stressful procedure for sheep and it increases lambs’ heart rate by 100%. Research at Bristol University Veterinary Department in the 1990s showed that lambs are over four times more likely to die during transport or in lairage if they have been bought through markets than if they have been bought directly from farmers,20 presumably because of the extra journeys and stress they have been subjected to. Stress caused by transport is known to make animals more susceptible to infection. Blood tests on lambs that had been collected from the hills or from markets and then transported to France a week later indicated they were suffering from tiredness and food deprivation. Sheep take some time to recover from the stress of transport. Lambs lie down more than normal even 24 hours after a long journey, presumably because they are still tired. Full recovery from 14 hours of travel was found to take six days.20

The EU’s Scientific Committee on Animal Health and Animal Welfare believes that live animal transport should be avoided. The committee reported in 2002, after an exhaustive review of the scientific evidence that "some of the poorest welfare in transported animals is caused by bad treatment of animals during loading or unloading, by bad driving, or by lack of proper inspection" and concluded, "since loading and transport are stressful to animals unaccustomed to them, for these animals transport should be avoided wherever possible and journeys should be as short as possible".124
7.4 Live export to continental Europe

Some Scottish sheep are transported live all the way to continental Europe. In 2002, nearly 6000 live sheep were certified by the Scottish Executive for export directly to France for slaughter or fattening. It is difficult to estimate the total number of Scottish sheep exported live for slaughter, since many may be exported live after being sold to English and Welsh buyers. In 2003, over 60,000 live sheep were exported from Britain, mostly from Dover, but including 1700 shipped from Berwick-upon-Tweed, and it is likely that many of them were born in Scotland. Current regulations allow the sheep to be transported for 14 hours continuously, followed by one hour’s ‘rest’ on the lorry, followed by another 14 hours of transport, making a total of 29 hours on the road. After this they must be unloaded, fed, watered and rested for 24 hours before they can be transported on. Sheep transported to slaughterhouses in southern Europe, where regulation and enforcement may be lacking, have been known to die of heat stress on the lorries and suffer from illegal and cruel unloading and slaughter methods.

Because sheep tend to hide pain and fear, there may be few visible signs. A researcher has commented: "The behaviour of sheep is generally little changed under conditions of poor welfare such as injury or overcrowding. They tend not to show any outward vocal or behavioural display indicative of pain or distress and tend to ‘suffer in silence’." But cull ewes that were stressed by lack of food and water and by vehicle movements have been observed to grind their teeth and paw at the ground.

Many farmers may dislike long-distance transport for sheep in principle. Quality Meat Scotland does not support live exports. However, this does not prevent farmers who need to make a sale from selling their sheep without knowing whether or not they will be transported to southern England or even to continental Europe.
7.5 Slaughter

It is a legal requirement in the EU that ‘animals shall be spared any avoidable excitement, pain or suffering’ during slaughter and that they shall be ‘stunned before slaughter or killed instantaneously’.  

The Farm Animal Welfare Council reported in 2003 on welfare problems in the 367 red meat slaughterhouses in Great Britain, of which forty five were in Scotland. Some of their concerns were as follows. Animals sometimes have to wait up to five hours to be unloaded at the slaughterhouse, which is "clearly unacceptable", according to FAWC’s report. Some animals have to be unloaded down a ramp to the ground, which distresses them, and would clearly be painful for a sheep that arrived at the slaughterhouse lame or injured. There was concern that sick or injured animals are unloaded without veterinary supervision, and isolation pens and emergency slaughter procedures for are not ready for use. Animals may have to wait in the slaughterhouse lairage between 1 hour and 48 hours before they are slaughtered. Sheep need to drink if they have travelled a long distance, but FAWC found that if the lairage becomes overcrowded, some sheep have difficulty getting access to the water trough.

It is important for animal welfare that the route from the lairage to the point of slaughter is direct, with minimum handling required, and that the floors are not slippery and noise levels – for example from machinery, metal gates or animals calling – are kept down. FAWC states that "many of the systems we saw were either outdated or had overlooked one or more key animal handling principles" possibly because "lairage and handling facilities are usually last to attract investment". (Para. 93) Sheep are likely to slip and fall in badly designed facilities, especially if they are being driven along in a hurried manner.

Slaughter is a two-stage process. First the sheep are stunned, usually electrically by applying tongs to both sides of the head. After being stunned, the sheep are hung upside down and their throats are cut so that they die from lack of oxygen to the brain as they bleed.

FAWC noted that if the sheep are stunned together in a pen that is too crowded, the workers may have difficulty moving around and stunning all the sheep accurately – in this case the sheep may get pre-stun shocks. (Para 124) If the stunning is inadequate or the time between stunning and throat-cutting (the ‘stun-to-stick’ or ‘stun-to-bleed’ interval) is too long, there is a danger that the sheep may be conscious when their throats are cut. FAWC states that the maximum time interval between stunning sheep and bleeding them should be 15 seconds, but that "some slaughterhouses are not always able to achieve this". (Para 205)

According to leading animal welfare experts, if an animal is not unconscious when its throat is cut, "there is a period of consciousness which may last from thirty seconds to several minutes during which the animal must be in great pain and distress". This would apply, for example, to slaughter according to religious traditions that require the animals not to be stunned before throat-cutting. FAWC stated: "Council considers that slaughter without pre-stunning is unacceptable and that the Government should repeal the current exemption" (which allows slaughter without stunning for religious reasons). (Para 201) In 2004, government rejected that recommendation.
The FAWC’s report recommended that animal welfare at slaughter should be "an integral part of the training of any individual working with live animals in the slaughterhouse" and that "a licence to slaughter should be granted by the MHS [Meat Hygiene Service] only to those who achieve an independently assessed and verified level of competence" which should be re-assessed every three years. (Para 274, 283)\textsuperscript{130} It is clearly totally unacceptable for sheep to be subjected to unnecessary suffering at slaughter because of inadequate buildings, equipment, staffing or training.
8.0 Summary and recommendations

• Animal welfare standards in the sheep industry

The evidence surveyed in this report indicates that many Scottish sheep are suffering unnecessarily from diseases or conditions that should be preventable, indicating a pervasive low level of neglect. This may well be due partly to economic reasons, where farmers are financially unable to maintain the highest standards, and have to make compromises that adversely affect the welfare of the sheep. But the evidence suggests that there may also be a widespread complacency in the industry and a view that current working practices and current levels of disease and mortality are inevitable. This is not an appropriate attitude for a modern industry and fails the millions of sheep in its care.

• The responsibility of society

As sheep live their lives entirely under human decision-making and control, all aspects of their health and welfare are the responsibility of farmers and of society as a whole. It is not acceptable for any sheep to be left to suffer, either for lack of financial or human resources or for reasons of convenience, when intervention could prevent or relieve suffering. Likewise, it is wrong for society to permit anyone to farm sheep who does not have the resources and the competence needed to ensure the sheep’s welfare.

• Effectiveness of regulation

It is likely that provisions in the government Code of Recommendations for the welfare of sheep are often ignored. No effective mechanism exists for regular, independent inspection of farms and for independent collection of data on the health and welfare of sheep. Most sheep farmers are members of the Quality Meat Scotland (QMS) assurance scheme but there is no evidence as yet that the scheme has improved animal welfare.

The State Veterinary Service was only able to investigate a total of 238 complaints about animal welfare over the whole farming industry in 2003. The SSPCA made 35 visits to sheep farms, over 12 months in 2002-03, as a result of complaints from the public about animal welfare, but SSPCA’s ability to take action is limited by the fact that it often has difficulty getting access to farms. These figures suggest that considerably more resources and powers are needed to monitor sheep farms and investigate complaints.

There are individual cases of appalling and criminal neglect of sheep by farmers and dealers. Again, there seems to be no effective mechanism for dealing with these situations sufficiently promptly to avoid mass suffering of the sheep involved. On occasions, extreme neglect has been allowed to continue for months without official action being taken.

8.1 Shepherding and supervision of sheep

• Sheep will suffer if there are not enough skilled people available to inspect them regularly and take appropriate action when required. Sheep flocks are tending to get larger (64% of sheep are in flocks of 1000 or more) and a single person may often be responsible for more sheep than he/she can look after. It is unacceptable for sheep to be left to suffer unnoticed from illness of lack of food because there is no-one available to inspect them. (3.2)
Pregnant ewes left out on the hills in winter can struggle to find food as the winter progresses, and suffer from harsh weather and the debilitating effects of a deteriorating body condition. Some ewes become so thin and weak that they die. There is no inspection or regulatory mechanism for ensuring that all farmers care for their ewes adequately.

Sheep are often kept in unsuitable environments, which cause suffering. Many sheep born in the hills and uplands are fattened over winter in lowland fields of brassicas, such as turnips. During wet weather these fields can turn into muddy quagmires. The sheep are often given no dry lying area and no shelter, contrary to the law. Many of these sheep spend their lives wading in wet mud and many suffer from painful lameness as a result.

Some Scottish sheep are abandoned to starve on ground with no suitable grazing, with no food being brought in to them, or left to die of diseases such as sheep scab. Often the authorities are very slow to take action and there is no effective mechanism for inspections that would prevent such a situation.

8.2 Health and disease

Painful lameness affects possibly 10% of all sheep, although most of this could have been prevented by good management. There is a lack of commitment on the part of the industry as a whole to reduce the prevalence of lameness. In some cases, individual lame sheep are left to suffer from lameness untreated. Unskilled attempts at treatment of footrot by farm workers can make the lameness worse.

Sheep scab is an extremely distressing disease for sheep, which has been on the increase since compulsory sheep-dipping was ended in 1992. Sheep scab can be prevented or even eradicated by good management. However, it is estimated that only about 30% of Scottish sheep farmers currently use sheep-dipping.

Many farmers are not sufficiently rigorous about animal health precautions. The new infectious disease, caseous lymphadenitis (CLA), is being allowed to spread and cause suffering to sheep. Parasitic worms that are resistant to routine pesticide treatments exist on over 60% of Scottish farms, but there is no alternative worm-control strategy in place. Worms are a common cause of illness and death among young lambs.

Veterinary advice is sought quite rarely, which means that many sheep are likely to be suffering unnecessarily or may be treated incorrectly. This may often be because farmers with economic constraints wish to avoid veterinary costs or the labour time (and costs) involved in treatment.

8.3 Survival of lambs and ewes

The death-rate of lambs at lambing time is too high (up to 15% of lambs) and has not been significantly reduced in spite of veterinary advances in the last decades. Much of this mortality is likely to be due to management factors, including shortage of skilled labour and attempts to cut costs and to increase productivity per ewe. The sheep industry as a whole appears to accept this high mortality rate.
• The death-rate of ewes around lambing is too high (possibly up to 7.5%). Some illness and deaths among ewes are probably caused by neglect or lack of proper feeding during pregnancy.

• Ewes on hills or other open ground may not be noticed or treated when they are suffering from mastitis or prolapse. Other ewes suffer internal injuries from unskilled and excessive intervention during lambing. Any ewe that is damaged so that she cannot breed again is likely to be culled. (5.1, 5.2)

• There is a danger that for economic reasons farmers may try to increase the number or profitability of lambs per ewe, for example by producing more muscular lambs or multiple births. These are almost certain to lead to higher mortality of lambs and ewes. (5.4)

8.4 Mutilations – castration and tail-docking

• Most male lambs are castrated early in life, without anaesthetic or other pain relief. It is known that the operation causes both acute and long-term pain. Castration of lambs is unnecessary with good management and is largely done for traditional reasons. (6.0)

• Many lambs of both sexes have their tails cut off without anaesthetic or pain relief. The main argument in favour of it is that long tails encourage flystrike. As with castration, the operation is known to be very painful and should be unnecessary with good management. (6.0)

8.5 Markets, transport and slaughter

• The industry relies heavily on livestock auction markets for trading sheep and lambs, although markets are known to stress the sheep and increase the chances of transmitting disease. Some sheep are subjected to multiple journeys to markets. (7.2)

• More than half of Scottish sheep are transported south of the border for slaughter, often being subjected to journeys of 9 hours or more. Loading, unloading and transport are known to cause suffering from stress, injury, exhaustion and lack of food and water. Some Scottish sheep are transported live to continental Europe. (7.3-7.4)

• Conditions at slaughterhouses and the slaughter process itself can cause great suffering if the premises, equipment or staff training are inadequate. (7.5)
8.6 Recommendations

Advocates for Animals believes that the following steps, as a minimum, are now urgently needed in order to raise standards of welfare in the Scottish sheep industry. In many cases, we believe that these will require a combination of government action and effective industry initiatives.

- The Single Farm Payment, which will be made under the CAP from 2005, should require compliance with standards of animal welfare substantially above those of the current government Code of Recommendations for the welfare of sheep.

- A licensing system should be introduced for sheep farmers, sheep dealers and all farm workers who have responsibility for sheep, with independent assessment of competence.

- Sheep farmers and workers should be required to undertake training in sheep health and welfare, behaviour and handling, leading to a recognised qualification.

- Guidance should be provided to farmers on the maximum number of sheep that one person should be responsible for, depending on competence, on the breed of sheep and on the circumstances of the farm.

- A requirement should be introduced for sheep to be inspected at specified intervals, as appropriate for sheep on enclosed ground or on open ground.

- Farmers should be required to ensure that sheep have sufficient feed to keep them properly nourished and in good health. This is particularly important in upland and hill flocks and in the winter.

- Pregnant ewes that are unfit and in poor condition should not be made to struggle through the winter in the demanding environment of the hills or uplands. Either they should not be made pregnant or they should be moved to an area with better climate and grazing.

- Sheep kept in turnip or other crop fields must have access to pasture and a well-drained dry area to avoid them being compelled to spend long periods in wet mud, which leads to painful lameness.

- The Scottish Executive must develop a strategy for dealing with 'emergency' cases where sheep are being totally neglected and, as a result, are at risk of dying of starvation or untreated disease. The Scottish Executive must ensure that mechanism exists for providing food and veterinary attention for such animals and for preventing their situation going from bad to worse.

- An expanded Scottish State Veterinary Service should be established, with a level of staffing and funding that would make possible (a) independent collection of data on sheep health; (b) provision of advice and support to farmers and (c) effective inspection to prevent neglect and abandonment of sheep.
• Independent research should be undertaken to assess the extent and causes of sheep lameness across the whole industry.

• A strategy to reduce sheep lameness should be introduced, using the methods considered to be the most effective by the current consensus of expert opinion. The strategy should pay particular attention to eradicating footrot.

• Unless the Scottish Sheep Scab Initiative is successful, a strategy should be introduced to reduce the prevalence of sheep scab, with a view to eradication. Depending on the current consensus of expert opinion, this might need to include re-instating sheep scab as a notifiable disease and the reintroduction of compulsory sheep-dipping as a prevention and control measure.

• A joint Scottish Executive and industry strategy should also be introduced to reduce the incidence of:
  • worm infestation that causes illness to sheep
  • flystrike
  • mastitis
  • prolapse

• Effective steps must be taken to reduce the incidence of ewe mortality around lambing time and lamb mortality between birth and weaning.

• The castration of lambs should be prohibited.

• The tail-docking of lambs should be prohibited. If, however, this mutilation continues to be performed the lamb must in all cases be given a local anaesthetic and analgesia.

• Breeding programmes should focus on the health, survival and welfare of the ewes and lambs, not on enhanced productivity.

• The production of 3 or more lambs per ewe should be discouraged.

• An important aspect of the above strategies for reducing health problems is that Regulations and Codes of Practice must be strengthened to ensure that farmers take effective action to achieve a high health status for their flock and in particular to substantially reduce the incidence of lameness, sheep scab, worms, flystrike, mastitis, prolapse, ewe mortality around lambing time and lamb mortality between birth and weaning. Codes should specify reduction targets for the main causes of poor condition and disease.

• The Farm Assurance Scheme aims for little more than minimum standards of health and welfare and its inspection regime has been inefficient in some cases. Both its standards and its inspections must be improved in order to address the health and welfare problems highlighted by this report.
In addition we believe that:

- The use of livestock markets for sheep should be reduced. Supermarkets and processors should be encouraged to buy slaughter sheep directly on contract or by electronic auction, rather than subjecting sheep to suffering caused by markets. Farmers selling sheep for fattening should be encouraged to make direct sales rather than using markets.

- No sheep should have to travel more than eight hours to slaughter, including all loading and unloading (except for special situations in the Highlands and Islands where a farmer cannot reach a slaughterhouse within eight hours).

- It is unacceptable that any sheep should be caused suffering at a slaughterhouse because of failures of design, equipment, staffing or training.
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“pleads for or speaks on
behalf of others or who
upholds or
defends a cause”