Report on the Welfare of Sheep

April 1994
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Chairman's letter to Agriculture Ministers

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I have pleasure in submitting the Farm Animal Welfare Council's Report on the Welfare of Sheep. We paid particular attention to the extensive aspects of the industry but our Report considers sheep production as a whole, from the birth of the sheep to the point when it leaves the farm to be taken to market or to the abattoir.

We have reviewed the husbandry practices throughout the cycle of sheep production. Several of our recommendations relate to castration and tail docking, consideration of which was one of the major tasks undertaken in the study. This reflects the level of interest expressed by many of those consulted, and the Council's concern about the present position regarding these mutilations. The Council believes that, without anaesthesia, both operations inflict a significant degree of pain on sheep but that more research is required into its severity and duration. The Report recommends changes where they can be justified in the light of robust evidence. It is proposed to review tail docking and castration when the outcome of further research on pain and the potential for anaesthesia is known.

The Report also recommends that the Government's Sheep Welfare Code should be reviewed, taking account of the findings set out in the Report and I trust that this can be put in hand as soon as possible.

Recognising that there are economic considerations for the industry and that, ideally, improvements to animal welfare should be applied across the European Community, we look to the Government to urge its Community partners to adopt welfare standards similar to ours. I shall be sending copies of the published Report to the European Commission and to the Council of Europe.

I hope that the Government will consider these proposals and carry out its usual consultation at an early date; and that when unilateral action is required it will be carried out quickly.

Professor Sir Colin Spedding
Chairman
Farm Animal Welfare Council
INTRODUCTION AND BACKGROUND

INTRODUCTION

1. The Farm Animal Welfare Council (FAWC) was established in 1979. Its terms of reference are to keep under review the welfare of farm animals on agricultural land, at markets, in transit and at the place of slaughter, and to advise Agriculture Ministers of any legislative or other changes that may be necessary. The Council has the freedom to consider any topic falling within this remit.

2. Sheep farming is a major industry in this country yet we found very little detailed analysis of the animal welfare implications. Certainly, FAWC had not previously considered the welfare of sheep to any great extent and in March 1992 we agreed to commence a detailed study. Some farmers took the view that the review was unnecessary, as the industry was already welfare-conscious. On the other hand, representatives from animal welfare organisations said that sheep welfare had been overlooked for too long. The Council concluded that it would be appropriate to conduct a review, to give advice to Agriculture Ministers and to publish a Report which would offer a balanced assessment of the present situation and, where necessary, make recommendations for change.

3. We started by setting up a working group of members (See Appendix A) charged to examine sheep production in Britain. The group was to review the welfare of sheep from birth to the point when they left the farm for market or to be slaughtered. Initially, it was also to look at transport but this complicated and detailed area was later removed from the remit, partly because the Council had only recently (1991) published advice on transport and partly because further changes in European Community transport controls were expected.

4. Our Report is largely concerned with extensification in the sheep industry but in our study we found it necessary to consider all systems. Some systems of sheep production are extensive for parts of the year (particularly the summer months) and then very intensive at other times (in winter when ewes are housed). We paid particular attention to the extensive aspects of the industry but our Report does consider sheep production as a whole.

PHILOSOPHY OF APPROACH

5. The welfare of an animal includes its physical and mental state and we consider that good animal welfare implies both fitness and a sense of well-being.

6. The Council believes that the welfare of an animal, whether on farm, in transit, at market or at the place of slaughter should be considered with reference to "five freedoms". These define ideal states rather than standards for acceptable welfare. Nevertheless, they form a logical and comprehensive framework for analysis of welfare within any system together with the steps and compromises necessary to safeguard and improve welfare within the proper constraints of an efficient livestock industry. Our Report has taken full account of this framework.
(i) Freedom from thirst, hunger and malnutrition
   - by ready access to fresh water and a diet to maintain full health and vigour.

(ii) Freedom from discomfort
   - by providing an appropriate environment including shelter and a comfortable resting area.

(iii) Freedom from pain, injury and disease
   - by prevention, or rapid diagnosis and treatment.

(iv) Freedom to express normal behaviour
   - by providing sufficient space, proper facilities and company of the animal’s own kind.

(v) Freedom from fear and distress
   - by ensuring conditions and treatment which avoid mental suffering.

In acknowledging these freedoms those who have care of livestock should practise:

- caring and responsible planning and management
- skilled, knowledgeable and conscientious stockmanship
- appropriate environmental design
- considerate handling and transport
- humane slaughter.

METHOD OF INVESTIGATION

8. Beginning in March 1992 we undertook an extensive consultation exercise and throughout the study we received a substantial amount of oral and written evidence, together with scientific data. However, the working group was not desk bound and members made many visits to sheep farms in England, Scotland and Wales. They also held meetings with industry, veterinary and animal welfare society representatives to take views and to explain how the study was progressing.

9. The organisations which gave evidence and information are listed at Appendix B and we extend our thanks to them all. In particular, we are extremely grateful to Mr Colin Slade of ADAS, who attended most of our meetings and provided expert advice; and to the farmers (who are too many to list) across the country who hosted visits from FAWC.
PART II

THE INDUSTRY

THE UNITED KINGDOM SHEEP INDUSTRY IN 1993

Sheep numbers

10. Sheep numbers have increased considerably in the UK in recent years from almost 15 million ewes in 1980 to over 20 million in 1992. This increase was mainly the result of the introduction of the Common Agricultural Policy Sheep Meat Regime. With subsidy support, a decline in New Zealand imports and a growing export market to Europe, the profitability of sheep was good. This led to investment in the sheep sector in breeding stock, buildings and equipment. The UK flock appears to have peaked in the early 1990s and the introduction of a sheep quota in 1993 should curb further expansion. In 1993 there were just over 90,000 flocks of sheep in the UK.

Exports

11. An export trade in live lambs developed during the 1980s, mainly because of the growing demand in France for fresh home-killed meat. Furthermore the decline in value of the pound following the UK withdrawal from the Exchange Rate Mechanism saw a sharp boost to the export trade in the latter half of 1992. The trade has aroused considerable publicity on welfare grounds, because of length of journey and apparent inadequate enforcement of welfare regulations after the animals leave our shores. When lambs have not been readily available from this country, the French have fulfilled their demand by importing live lambs from other countries including Eastern Europe. In 1993, a total of about 7.6 million lambs from the UK entered the export trade, of which about 18% were live and the balance carcases or meat.

12. The export of small lambs and carcases to the Mediterranean countries of Europe has grown in the early 1990s. This trade has proved beneficial to hill areas in the UK where small lambs are usually regarded as of less value for the home market.

Marketing in the United Kingdom

13. Much movement of sheep takes place within the UK. Most breeding stock are found in the Northern and Western areas. Large numbers of store lambs are sold in the major sheep sales of the autumn, as the hill and upland areas run short of food supplies. These lambs are then finished on mixed and arable farms further South where there are greater food supplies in the autumn and winter.

14. There has been a steady decline in recent years in the number of slaughterhouses in this country due to commercial pressure and the imposition of new hygiene regulations. There is still overcapacity in the industry but in some areas there is concern about the long distances stock may have to be transported prior to slaughter. The supermarkets are major purchasers of red meat and are exerting a growing pressure on the type of lamb that is produced and the way it is processed. In future, quality assurance schemes for farm livestock may well improve both animal welfare and product prices for the farmer.
Breed structure

15. The UK flock is dominated by the hill breeds of sheep which make up by far the most numerous pure-bred stocks (see Appendix C). They are also important as the mothers of the crossbred type of ewe found widely throughout the lowlands and better uplands. The crossbred type of sheep combines the mothering and foraging ability of the hill ewe with the greater size and prolificacy of crossing sires such as the Bluefaced Leicester or Border Leicester. This crossbreeding structure is unique to the UK and provides a ewe that is ideal for heavy stocking on lowland grass pastures. As a result, the hill areas are bound up in the overall structure of the sheep industry as providers of breeding stock. However, the crossbred structure means that large numbers of sheep are bought, sold and transported in the autumn which heightens the risk of disease spread.

Wool

16. Wool ceased to receive Government subsidy in 1993. Wool prices are very depressed as the two major purchasers in the international trade, China and Russia are at present buying little. It seems almost certain for the foreseeable future that the value of wool to the farmer will fall. There is the potential risk that sheep will be shorn by unskilled shearers or, for small breeds, the value of the wool will be less than the cost of shearing.

Common Agricultural Policy reform and effect of Government policy

17. From 1980 until 1991 the main form of European subsidy support paid in the UK was a Variable Premium (VP). This was paid on each lamb that reached a certain quality standard based on conformation and fat levels. In effect, this system of support tended to encourage good husbandry standards by rewarding a quality end-product. It also stimulated good husbandry in the hills and uplands because of the demand for quality breeding stock in an expanding sector.

18. All other European countries paid support by means of an Annual Ewe Premium (AEP). In 1989, the UK decided to phase out the VP and adopt the same method of support as the rest of Europe. Many other European countries argued, with some justification, that our system kept market prices low and drew an unfair level of subsidy. This, coupled with the threat of the introduction of quotas as Europe attempted to rein back the level of sheep support and also increasing competition from Irish lamb exports, led to a period of considerable uncertainty. Profitability fell and the value of breeding stock dropped.

19. This period of uncertainty and rapid fluctuations in profitability has not been conducive to sensible planning or to positive welfare. In some cases, farmers have chosen to cut costs by reducing expenditure on preventive medicine or by reducing shepherding. Because of very low values, potential cull ewes have sometimes been retained for extra lamb crops. This has tended to lead to an increase in age of the national flock and to speculation in ewe ownership.

20. It is to be hoped that the introduction of sheep quotas in 1993 will stabilise the situation and improve profitability. The fact that virtually all ewe lambs are now eligible for the AEP should lead to an overall reduction in the age of the national flock with consequent benefit to welfare.
21. A Hill Livestock Compensatory Allowance (HLCA) is paid to farmers keeping sheep in Less Favoured Areas. About 60% of the UK flock is eligible for some level of hill subsidy payment depending on type of sheep kept and the harshness of the land conditions.

22. A very large part of the income for a sheep farmer now comes in the form of the annual premium payment per ewe (estimated at over £19 per ewe in the lowlands or over £24 per ewe in the LFAs in 1993) together with HLCA payments. In the most severely disadvantaged areas, this may mean a maximum support payment of over £29 per ewe depending on the size of the flock and quota allocation. These annual payments, particularly on the hill, are now so great that most hill farmers and many lowland sheep keepers would be incapable of financial survival if they were withdrawn.

23. We are aware that the HLCA payment is under Government control and is constrained by a need for inspectors to satisfy themselves that the farmer is maintaining adequate standards of husbandry and not overgrazing. Unfortunately, from the welfare point of view, there is no such condition attached to the AEP.

Recommendations

24. We recommend that the payment of the Annual Ewe Premium (AEP) be conditional upon the maintenance of good husbandry and welfare standards based upon the principles of the Government’s Sheep Welfare Code, as revised.

25. We welcome the industry initiatives in promoting farm assurance schemes in which animal welfare is an important element in building customer confidence in sheep meat. Nonetheless, we believe the farming community should place greater emphasis upon providing factual information about agricultural practices. This would benefit the relationship with the general public. Farmers require a revised Welfare Code for sheep which is acceptable to all. The Code must be practical in terms of sheep farmers’ daily tasks and also set standards which can be readily explained to, and accepted by, the general public. We therefore recommend that the Government’s Sheep Welfare Code should be revised taking into account the findings set out in this Report.

26. Notwithstanding the fact that this Report does not address the welfare of sheep in transit we wish to register our concern about aspects of the trade in live animals, particularly where young lambs travel long distances.
PART III
WELFARE ON-FARM

SHEPHERDING AND PEOPLE CARING FOR SHEEP

27. We identify five broad categories of people who have responsibility for the health and welfare of sheep. There have been considerable changes in the industry over the last 25 years and increasing levels of technical expertise are now required. We believe that all those in our five categories have a need for this technical knowledge and also for sufficient time to perform the essential husbandry tasks. In each case, the farmer or shepherd is dealing with a given area of land, a farming entity. There are other situations where problems may arise when sheep are sent to land some distance away, either for overwintering or for summer grazing, where there may be some doubt about the allocation of responsibility for their health and welfare. All sheep are clearly the responsibility of the owner, unless a formal contract shows otherwise.

Recommendation

28. We recommend that the owner of any sheep, wherever located, is responsible for their health and welfare unless a contract is drawn up to state otherwise.

29. Our five categories of farmers/shepherds are:-

(i) Specialist sheep farmers whose living is primarily from sheep enterprises.

Farmers and shepherds in this category may look after hill, marginal or lowland flocks, sometimes with cattle or other enterprises but the primary source of income is sheep. We have visited many such farms and have been impressed by the professionalism of people caring for sheep in this category.

If sheep are the primary source of income, we believe that the numbers of ewes per unit will tend to become relatively high (800–1000) in order to support a farmer or an employed shepherd. There will inevitably be periods of the year when pressures of workload are very high on those caring for the sheep.

(ii) Full-time farmers where sheep production is a secondary enterprise to other forms of farm business e.g. cereals, beef or dairying.

It is common on such farms to have no full-time shepherd and there could well be no one person with responsibility for the sheep enterprise throughout the year. With these mixed farms, major conflicts of interest may occur at specific busy periods e.g. if lambing coincides with the spring cereal sowing period. This is when we consider it possible for the sheep enterprise to be potentially at a welfare risk from reduced supervision, both in terms of staff available and the training and experience of staff. On a mixed farm, where there is competition between priorities, a sheep enterprise tends to be relatively low down the list. However, sheep are often kept on lowland farms as an integral part of a rotation and can make a valuable contribution to income. The persons responsible for the sheep must be competent in all the techniques of their husbandry and welfare.
(iii) Part-time farmers

These are defined as people who have an off-farm employment, which may well be demanding in that they cannot be available for farm work for substantial periods each day.

Part-time farmers may or may not have experience in sheep husbandry. We visited farms where the part-time farmers were not of a farming background but who were very well organised and used their limited time spent on the farm most effectively. It appeared that many part-time farmers commonly undertook training and had considered very carefully the important issues upon which they should concentrate in caring for sheep. They were also able to provide extra shepherding to coincide with critical periods. However, we are concerned that not all part-time farmers can provide the necessary continuing good stockmanship required for the welfare of sheep throughout the year.

(iv) Hobby farmers

This category includes people with little experience of animal husbandry, who have often moved out from a city to a rural environment. Sheep are seen as the least demanding, in comparison with other livestock enterprises, and are a popular choice for hobby farmers. In most cases, flock sizes are small and the hobby farmer is unlikely to be dependent on the income from the sheep.

Hobby farmers may well employ no labour and the animals are dependent upon the amount of time which is available in the early morning or evening and at weekends. This is inadequate for good husbandry even for the small (e.g. less than 50) sheep flocks at times of peak labour demand.

(v) Contractors

Over recent years, there has been an expansion in numbers of contractors offering specialist services to sheep farmers. For a long time, shearing and dipping have been tasks commonly done by contractors; more recently, scanning for single and multiple bearing ewes has also become a contractor's task. There is developing potential for contractors to take over more routine major tasks such as foot-care, vaccination and dosing. There is also potential for contractors to assist with gathering of flocks under hill conditions and also with castration and tailing of lambs when a large flock is dealt with all at one time.

TRAINING

30. The Agricultural Training Board provided excellent Government-aided practical courses in sheep husbandry, generally for people concerned with the day-to-day tasks. Welfare matters have been an integral part of these courses, which have been based upon the increased use of the Government's Sheep Welfare Code. Hands-on training in small groups is most effective for practical stock workers and farmers.

31. We therefore deplore the recent drastic reduction in Government financial support for the Agricultural Training Board, (now ATB-Landbase) in particular where this impinges on courses dealing with the routine husbandry and welfare of farm animals. We consider that support should be provided for courses in livestock tasks with a
particular relevance to animal welfare. We see this is essential to prepare any inexperienced person, in particular those who are newcomers, for caring for sheep.

Recommendations

32. We recommend, to both Government and the farming industry, that training in the skills and techniques of sheep husbandry, particularly relating to welfare of the animals, should be readily available for all farmers and shepherds; and that satisfactory completion of training should be recognised by the issue of a certificate.

33. We are concerned that the age structure of shepherds, particularly on specialist sheep farms, is showing a marked upward trend. There appears to be a lack of young entrants to the industry. We believe that there is a need for training schemes, both short-term courses and also the longer traditional apprenticeship-type schemes, where a young person is shadowing an experienced shepherd. We recommend that the Government explores with the industry the possibility of financial support for such training.

34. For sheep contractors, we recommend that demonstration of competence should be required and that persons providing a contract service for sheep husbandry tasks should join an appropriate organisation which issues a certificate of competence. We welcome the development of organisations providing a trained and competent service.

AIDS TO SHEPHERDING

35. With increasing numbers of sheep, or with inadequate time for shepherds to spend on routine tasks, it is important that all modern techniques are understood and used where appropriate. Over the last 20 years, there have been a number of particularly helpful developments which can be added to the time-honoured methods of efficient sheep management. We set out below the important aids available to make shepherds with limited availability of time more effective.

Flock handling facilities

36. For any system of sheep production, the arrangements for handling of the flock can make a major impact on the way in which routine husbandry measures are carried out. A well-designed and well-maintained set of sheep handling pens will greatly facilitate the sequence of routine tasks which have to be carried out through the year, with minimum labour input. Poor handling pens may adversely affect welfare.

Recommendations

37. We recommend that all sheep farmers should have available appropriate facilities for routine handling and management of the flock which should be suitable for the number of sheep kept.

38. We recommend that the Government considers the restoration of grant-aid to assist construction and repair of handling pens, in the interests of improving sheep welfare.

39. We also recommend that the design of sheep handling facilities receives further research and development, particularly with regard to operation by one person.
All-terrain vehicles (ATVs)

40. We have noted how the tasks of a shepherd have been made easier, particularly on hills and uplands, by the provision of good transport, either by motorcycle, horse or modern ATV. Traditionally much of the shepherd's time was spent in the travelling involved in the inspection of flocks in outlying areas. On hill farms, including regional and national parks, good transport means more time available to the shepherd for the important husbandry tasks.

Recommendation

41. The use of ATVs by shepherds should be encouraged. Any future control from Government which might apply to certain public access for leisure use of ATVs should not restrict use by shepherds going about their duties.

Sheep-dogs

42. Well trained sheep-dogs are of great value, particularly on the larger farms on hill or upland. We observed hill farms where the gathering of sheep for the various routine jobs (which vary in number from 4 to 8 gatherings per year) would be impossible without such dogs. Badly trained dogs can cause stress in the sheep, and in extreme cases can injure sheep; well trained dogs can greatly facilitate gathering and handling, particularly under extensive conditions.

43. We believe that farmers, in continuing to make use of properly trained dogs, should ensure that the dogs are well cared for with suitable housing, feeding and proper attention to their health and welfare needs.

Sheep housing

44. There has been a recognition in the sheep industry over the last 20-25 years that the short-term housing of ewes in winter and during lambing, can greatly facilitate their care. Indeed, there are many benefits to be derived for both sheep and shepherd. However, if sheep are housed they are totally dependent upon the shepherd for food, water and basic comforts and, if housing is badly managed, there is the potential for serious health and welfare problems.

45. Short-term sheep housing can be very beneficial but standards of husbandry have to be high. Particular attention must be paid to the following features:

1) Good air movement, since poor ventilation can lead to respiratory problems.
2) Dry, clean, comfortable conditions underfoot, as wet and dirty floors predispose sheep to foot rot and hygiene problems at lambing.
3) Appropriate stocking densities, so that sheep can lie down comfortably and move around freely.
4) Sufficient feeding spaces, so that all sheep can have access to food.
5) Clean water, available at all times.
6) Sufficient small pens for ewes and lambs to achieve bonding and prevent mismothering.
7) Sufficient light to be able to inspect all animals at all times.

46. We found no evidence of permanent housing of commercial sheep flocks in the UK and we consider permanent housing to be unnecessary.
Recommendation

47. We recommend that when sheep are housed temporarily, proper attention is paid to the detailed aspects of care set out in paragraph 45.

Condition scoring

48. Condition scoring is a practical method of appraising the fatness of sheep objectively. The technique has been generally accepted throughout the sheep industry as a valuable aid to management.

49. Optimum condition score varies between different breeds and systems of production but in general, sheep should not be allowed to fall below condition score 2.0 except for a possible brief period in heavy lactation. The use of the technique allows individual sheep which require improved nutrition to be grouped together for extra feeding or specialist attention. This encourages the efficient use of food to the benefit of poorer sheep within the flock.

Recommendations

50. We recommend that all shepherds and sheep farmers should be familiar with the technique of condition scoring of sheep and should be aware of the benefits to be gained from the use of condition scoring to identify thin animals which must be given special care.

51. We further recommend that any flock with a significant number of sheep at a condition score of less than 1.5 must be regarded as demonstrating inadequate care and welfare.

Scanning

52. Forewarning of foetal numbers in the pregnant ewe has become available in the last 10 years. The use of ultra-sound scanners has now become widespread throughout the sheep industry. This is a contractor's service, performed by specialists on the farm for a moderate charge.

53. The use of the technique is to be encouraged, in that it provides accurate information about foetal numbers between 50–80 days of gestation. This allows sheep to be grouped according to lamb numbers for late pregnancy feeding and management, thus improving potential for optimum husbandry for groups of animals within the flock. When ewes are grouped for feeding according to numbers of foetuses, we believe that condition-scoring should also be used to monitor progress, with grouping of ewes and feed levels being adjusted as necessary.

Recommendation

54. We recommend that scanning should be carried out whenever possible for ewes where it is important to have forewarning of lamb numbers, and that appropriate adjustments be made to the diet.

Handling of individual sheep

55. We are concerned that the description of acceptable handling procedures in the current Sheep Welfare Code is too restrictive.
Recommendation

56. We believe that improved wording would be:

Sheep should not be caught by the fleece alone. They should be handled or restrained by means of a hand or an arm under the neck (holding the neck wool, if necessary) with the other arm placed on or around the rear. Lifting or dragging sheep by the fleece or tail is not acceptable and horns can break off if sheep are roughly handled by them.

SHEEP-TO-SHEPHERD RATIO AND FREQUENCY OF INSPECTION

57. We have found that over the last 10–15 years the sheep-to-shepherd ratio has changed markedly from, to take one specific example, 350 ewes/shepherd in 1980 to 700 ewes/shepherd in 1992. In some areas, up to 1000 ewes/shepherd is now common. It is difficult to be precise about how many sheep can be adequately cared for by one person, because this depends upon the type of terrain, breed of sheep and the presence or absence of all the aids to shepherding (see above). We believe that it is difficult for one person to cope adequately with over 1000 ewes and, even where less than 1000, extra help will be required at peak times, most especially at lambing time.

58. The more widespread use of contractors or co-operation between neighbouring sheep farmers will assist with major flock management tasks. We have noted 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.

Recommendation

59. We recommend that sheep-to-shepherd ratios should be related to the achievement of good husbandry standards, and that, even with all the aids to shepherding, no shepherd should have sole responsibility for the routine husbandry and management of more than around 1000 ewes.

60. In the case of all other farmed species of livestock, it is recommended that daily inspection of individual animals shall be carried out. We recognise that in the case of mature sheep of well-adapted breeds grazing extensive, unenclosed land, individual daily inspection is not necessary nor is it possible because of physical limitations.

Recommendations

61. We recommend that all flocks on in-bye land should be inspected once per day throughout the year. During the lambing period, all individual sheep on in-bye land or in houses must be seen at least once per day, or more frequently, as necessary.

62. We recommend that shepherds on extensive farms should make every effort to inspect the flock as frequently as is necessary, most particularly in summer at the time of fly strike danger and, in winter, under adverse weather conditions.

63. Whilst we do not approve of unsupervised lambing, many farms keeping sheep extensively may have no alternative but to allow ewes to lamb unsupervised. Few problems appear to arise if the animals are mature, experienced mothers bearing normal size lambs.
64. We believe that flocks which will not have day-by-day supervision at lambing time should be scanned so that the shepherd's time can be devoted towards the supervision of those ewes which may require special attention.

**Recommendation**

65. We recommend that on hill farms, under extensive conditions, where there is the potential for twin-lamb production, sheep should be scanned and condition scored and twin-bearing and thin ewes separated out for special feeding and supervision at relevant times (see paragraphs 48 to 54).

**SHEEP HEALTH AND DISEASE**

**General health and welfare**

66. The presence of sheep which are not healthy within a flock clearly has welfare implications for those animals. A large range of drugs is available to sheep keepers including vaccines, anthelmintics, dips etc and many millions of pounds are spent on these each year. Prevention of disease must be better than cure.

67. The amount spent by farmers is often dependent upon the prevailing economic state of the industry. In recent years when margins have been squeezed, it is clear that some farmers have cut back by deliberately omitting treatments which others would see as essential, for example, vaccination against clostridial diseases. We are concerned that this trend may continue. We are also aware that there are many cases of incorrect or inappropriate treatments being applied, for example, wormers or flukicides being given at inappropriate times or to unsuitable groups of stock.

68. In our visits to both hill and lowland flocks we noted that one clear factor which minimised potential health and welfare problems and contributed to the success of flocks, particularly under conditions where increased numbers of sheep were being cared for by one person, was the use of a stated welfare and husbandry policy.

**Recommendation**

69. We recommend that each flock should have a written welfare programme, produced with expert advice where necessary, setting out health and husbandry activities covering the whole of the yearly cycle of production. This should help to ensure that routine prophylactic measures which are required are given at the correct time and at the correct dose, and to the appropriate animals. The programme should be reviewed and updated annually.

70. Correct use of equipment, especially the maintenance of sterile conditions for syringes and needles, proper use of dosing guns and correct methods of foot trimming are of great importance in the application of preventive measures against disease. These procedures, if incorrectly carried out, have the potential to cause injury and thus prejudice welfare of sheep (e.g. abscesses after vaccination, dosing gun injuries, foot damage).
Recommendation

71. We recommend that attention be paid to, and where necessary training given in, the correct use of equipment, including maintenance and calibration.

Diseases and conditions of particular concern

Lameness

72. Lameness is a common welfare problem. Sheep-keepers must give appropriate treatment to lame animals as soon as is practically possible. We are firmly of the opinion that more must be done to reduce the incidence of lameness, in particular that due to foot rot which is an infectious disease and for which there are well-recognised control methods available. In considering the welfare of a flock with a number of lame sheep an assessment should be made of the type and duration of the lameness, and whether appropriate action has been taken, before a decision is made as to whether an unsatisfactory welfare situation exists.

Recommendations

73. We recommend that farmers and inspectors consider the existence within a flock of a significant percentage of sheep with chronic foot lameness as an indicator of poor welfare standards within that flock.

74. 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.

75. We further recommend that research be undertaken in the relative seriousness of various forms of lameness in sheep and into control measures.

External parasites

76. Since sheep scab ceased to be a notifiable disease no centralised statistics on the number of outbreaks have been available. The consensus is that outbreaks are increasing rapidly in number and confirmation comes from the leather industry which has reported a 70% increase in damaged sheep skins. We believe that tighter controls should be maintained over infected flocks to reduce the spread and to address the inevitable welfare implications.

77. We are aware of the debate over the safety of dips and the welfare aspects of dipping itself. However, we consider that at the present time, plunge dipping is the best method of controlling sheep scab and blowflies, providing it is carried out in a correct manner. However, other methods for controlling fly strike including showers and pour-ons can be satisfactory.

Recommendations

78. Since we are unaware of any alternative effective control, we recommend that sheep scab should be re-instated as a notifiable disease with compulsory, supervised dipping/treatment of infected flocks and that movement restrictions should be imposed until treatment has been completed satisfactorily. Tracing of movements in and out of infected flocks should be carried out and neighbours notified and required to take action.
79. We recommend that tighter controls are introduced over chemicals used in dips and the dipping procedure, and that a training programme should be developed to ensure their correct use.

80. We recommend further research into alternative control measures for sheep scab, particularly with a view to licensing effective products applied by methods other than dipping e.g. by injection.

81. We ask the Government to conduct a campaign to make farmers aware of the potential danger of resurgence of blow fly, lice and ked infections, if routine sheep dipping or other control measures are discontinued.

Internal parasites

82. We are concerned at the welfare implications for the UK sheep flocks if parasite resistance to anthelmintics becomes widespread. The possible further extensification of sheep keeping should assist in this matter as anthelmintic use is not needed so often on such systems.

Recommendation

83. We recommend that the Government introduces an advisory campaign to guard against excessive or inappropriate use of anthelmintics. This should recommend the use, where possible, of rotational grassland management techniques to provide clean or safe grazing systems and alternation of types of anthelmintics.

Other disease conditions with particular welfare concerns

84. There are several conditions which have particular welfare implications and continue to be or are becoming of concern in many flocks. These include vaginal/cervical prolapse, mastitis, orf, entropion and disease of the incisor and molar teeth.

Recommendation

85. We recommend that more research should be carried out into the causes and prevention of each of the problems specified in paragraph 84. Both Government and the farming industry have roles to play.

Organic farming

86. Of all the major food-producing animals kept in this country, sheep are most likely to be reared extensively in a method closest to the ideals of organic farming. Provided the welfare issues which are highlighted in this document are addressed, this can only be to the good and maintain the image of lamb as a ‘green’ product.

87. Recognised organic standards (e.g. UKROFS and the Soil Association) require high levels of stockmanship and exacting attention to animal welfare to ensure healthy stock while avoiding routine drug use. Organic standards-setting authorities allow conventional veterinary treatments where their uses are indicated, with extended withdrawal periods before animals or products are marketed under an organic label.
88. We welcome this flexible attitude but are concerned that some organic farmers are reluctant to use conventional drugs, including vaccines and anthelmintics, until animals show signs of disease. This does leave groups of animals open to potential welfare problems if some diseases have to be manifest before treatment or preventive measures are taken.

Recommendations

89. We recommend that all those using organic systems recognise the potential for adverse welfare conditions developing and adopt a flexible attitude to the use of preventive vaccines.

90. We recommend that those who farm organically recognise the need for even higher levels of stockmanship than normal and the need for special training.

WELFARE AND THE SHEEP PRODUCTION CYCLE

91. Although we accept that individual events in the whole annual cycle of sheep production cannot be viewed in isolation, we believe that there are various key times or events of particular importance which deserve special mention.

Culling

92. This is a key area of management, particularly in extensively-kept flocks. In recent years, culling has not always been carried out sufficiently rigorously, possibly with a view to maximising numbers for the anticipated ewe quota. This has resulted in a problem of ageing ewes unable to survive a further pregnancy in harsh conditions (see paragraphs 19 and 20).

93. In less harsh environments, culling is still an important management activity, although animals with eating difficulties e.g. draft ewes from the hills, can still be healthy and productive if special care is given to provide a suitable diet.

Recommendation

94. We recommend that the removal of less fit animals from flocks in harsh environments should be encouraged and that any financial support should be given in such a way that young and vigorous flocks are maintained.

Ram care

95. Although rams are an important part of the flock, they are often neglected at times other than in the mating period. Rams are particularly prone to abscesses and other foot disorders and may suffer from congenital defects which may be passed on to the offspring. We are concerned that health and husbandry needs are not always attended to throughout the year.

Recommendation

96. We recommend that any planned health and welfare programme must include rams.
Choice of breed

97. Traditional breed structures have been under change in recent years in response to the demand for 'improved' leaner carcase conformation. We are concerned that such changes are not at the expense of the welfare of the sheep involved, particularly in extensive environments.

Recommendations

98. We recommend that if any change in breed or type is contemplated in difficult extensive conditions, replacement must only be with a breed or type which is sufficiently hardy. Account must also be taken of the effect of introducing breeds which are unfamiliar with the area.

99. We recommend that within breed improvement selection programmes, monitoring is carried out for problems associated with selection for greater muscularity.

Flushing and mating

100. The body condition of the ewe and nutritional management around mating time are well proven to have a marked effect on the ovulation rate and thus litter size. In addition, there are other methods of manipulating time of lambing and litter size. This is an obvious opportunity for the use of the scanning technique (see paragraphs 52-54). The use of artificial melatonin treatment of the ewe may be used to induce reproductive activity about 6 weeks earlier than normal.

Recommendations

101. We recommend that if any procedure to increase litter size is instituted, account must be taken of the extra requirements in welfare, feed, labour and other inputs before and at lambing time.

102. We also recommend that appropriate housing or shelter should be available if lambing is to take place outside the normally recognised breeding period in adverse weather conditions.

Artificial insemination (A.I.) and Embryo Transfer

103. Many sheep farmers use cervical artificial insemination as an aid to genetic improvement. There has, however, been a recent development whereby semen is deposited directly into the uterus beyond the cervix. We believe that the difficulties associated with the technique of transcervical A.I. mean that it should not be carried out by anyone other than a veterinary surgeon. Embryo transfer is a technique only for use by approved teams led by a veterinary surgeon.

Recommendation

104. We recommend that only a qualified veterinary surgeon trained in the technique should perform transcervical A.I. in sheep.
Management during pregnancy

105. This is a period requiring particular care in nutritional management and there is ample evidence of the benefits of condition scoring and scanning. Ewes can be grouped according to their dietary requirements and managed so as to produce vigorous lambs together with adequate milk supplies.

Lambing time

Supervision of lambing ewes

106. Mention has already been made of the frequency of inspection which is necessary during the lambing period (see paragraph 61) and there is a need to supply competent assistance. It is estimated that 75% of ewe mortalities occur during the time around lambing. At no time is skill and expertise required more than at lambing, when severe damage can be caused by inexperience when assisting a ewe in difficulties.

Lamb mortality

107. Many surveys have been carried out on lamb mortality rates in this country and it is generally found that a lamb loss of around 10–15% occurs, although severe weather may lead to sporadic extremely high losses. We consider that this national average loss rate is too high. In more intensive conditions, compressing the lambing period may put an extra strain on the labour force and there may be insufficient labour available to supervise the flock properly. Such manipulations are counterproductive if welfare and lamb survival are adversely affected. Information and training in lambing techniques and reducing lamb losses by provision of adequate care, colostrum and shelter should minimise losses from hypothermia.

Recommendation

108. Training of the shepherd and adequate supervision are the most important factors in reducing mortality and other welfare problems at lambing time and we recommend that ATB-Landbase or similar organisations be supported to provide suitable courses (see paragraph 31).

Lamb embryotomy

109. Embryotomy involving the removal of head or limbs is a valuable technique carried out mainly by veterinary surgeons when dead or putrefying lambs remain within the ewe and a caesarean operation would be neither economic nor in the best interests of the animal. Recently, concern has been expressed in the media about the procedure being carried out on live lambs in order to save the cost of a caesarean operation. We believe this procedure to be very rare but that the concern should be addressed.

Recommendations

110. Embryotomy must be carried out on dead lambs only.

111. When a farmer experiences difficulty in delivering a live lamb, skilled assistance should be sought immediately.
Surplus lambs

112. We endorse the recommendation made in the Council’s Report on the Welfare of Livestock at Markets (and reflected in the Government’s livestock markets Code of Practice) that, where possible, unaccompanied lambs should be sold directly rather than through auction markets. If lambs are taken to market they must be strong, fit and healthy, with dry navel cords and be sold from their pens and not the auction ring.

113. We recommend that the industry introduces a system to support the setting up and running of lamb banks which reduce the need for young lambs to go to market. The ultimate welfare aim should be to have such lambs transferred directly from farm to farm.

Lactation

114. The major welfare concern during lactation is the development of udder or teat diseases. These may threaten the lives of the lambs because of starvation, or the lives of the ewes in the case of acute mastitis. The factors predisposing sheep to these problems remain unclear.

Recommendation

115. We recommend that the Government and the industry fund further research into the factors which trigger mastitis and teat diseases and into preventive measures.

Shearing

116. The wool industry has undergone a severe recession and, with the removal of the wool price guarantee, wool prices have fallen to extremely low levels, sometimes below the cost of shearing, although there are signs of a recovery. This has led to fears that some farmers may fail to shear their sheep. With regard to the increasing practice of winter shearing, this should only be carried out if housing is available to accommodate the sheep until sufficient wool has regrown for protection against cold, which normally takes 7-8 weeks. Training in shearing is essential.

Recommendations

117. We recommend that every mature sheep must have its fleece removed at least once every year. Full use must also be made of advance weather forecasts to avoid excessive cold stress to newly-shorn sheep at whatever time of year shearing is carried out. Shelter should be provided, where necessary.

118. We recommend that shearers disinfect their shearing equipment between flocks to minimise the risk of spreading the disease caseous lymphadenitis.

Weaning

119. The practice of placing newly-weaned ewes on minimal rations and restricted water supplies to dry off milk production has been carried out for many years, supposedly to reduce both discomfort and the potential development of mastitis, though we know of no scientific basis for this.
Recommendation

120. We recommend research should be carried out to examine whether depriving newly-weaned ewes of water for a short period has any effect on subsequent incidence of mastitis. Evidence would then be available upon which future recommendations could be based.

Folding of sheep on roots in autumn/winter

121. Ewes and lambs in their first winter are commonly folded on root crops in autumn and winter. Under conditions of high rainfall, heavy soil and poor drainage, the animals can become very wet and coated with mud. We believe that it is necessary to provide the sheep with both (i) a clean area to lie, either by access to adjacent pasture or by use of a straw bedded area, and (ii) access to shelter, either natural or by means of straw bales.

Recommendation

122. We recommend that all sheep folded on roots should have access to a clean area to lie down and shelter should be provided.

MUTILATIONS

123. Consideration of this subject has been one of the major tasks undertaken in our study. It is also the area about which most concern has been expressed by many of those consulted. The procedures which need to be considered in this section are castration, tail docking and individual identification by ear notching or tagging. We are concerned about the present position regarding tail docking and castration. We consider that both, without anaesthesia, inflict pain on the lamb. It is difficult to give general approval to any system of husbandry that relies on painful mutilations to sustain the system but we see no alternative until the results of research provide further guidance.

124. At the outset, we wish to state that all farmers should consider carefully the necessity for performing any mutilation on sheep and we hope that as many as possible will choose to avoid tail docking and castration. With the production of early finished lambs, the increasing demand for small lamb carcases by parts of the European Community and the emphasis on production of leaner carcases, it is likely that many lambs which would normally be routinely castrated and docked need not be subjected to these procedures. We hope, therefore, that as many farmers as possible will choose to avoid tail docking and castration. However, we recognise that there will be farms on which these procedures are considered essential for the reasons set out below. Information about the law relating to mutilations is contained in the MAFF booklet ‘Operations on Farm Animals – A Guide to Legislation’ 1991 PB 0492.

CASTRATION AND TAILING

125. A. Reasons given for castration include:

(i) To prevent indiscriminate breeding,
(ii) To aid fattening of lambs of slower growing and maturing breeds.
(iii) To avoid downgrowing of carcases for excessive ram characteristics.
(iv) To avoid an increasing risk of injury through fighting as a dominance hierarchy is established.

B. Reasons given for tail docking include:

(i) To prevent the accumulation of faeces on the wool around the tail and breech area which leads to a risk of fly strike.
(ii) Ease of management at mating and lambing.

Current practice

126. Castration is usually carried out by :-

a) the application of a tight rubber ring which cuts off the blood supply to the testicles and scrotum which shrivel up and fall off after a few weeks leaving a scar. The technique is relatively straightforward and it is easy to check immediately that castration has been carried out effectively if the ring is correctly placed above both testicles.

b) the application of a bloodless castrator, such as the Burdizzo to both spermatic cords causing crushing without breaking the skin. This damages the blood supply to the testicles causing atrophy of the testicular tissue which takes several weeks to become fully apparent. The scrotum is not normally damaged and remains intact, although bruising is visible at the site of crushing. This technique requires more skill to perform and it is not possible to know whether it has been effectively carried out until several weeks later. Recently an improved form of bloodless castrator has become available which is likely to be easier to use and more efficient.

c) surgical (open) castration i.e. cutting of the scrotum with a sharp knife and exposure and removal by traction of the testicles. Hazards associated with this method include haemorrhage, prolapse of the intestines through the open scrotal wound and subsequent potential for infection of the wound.

127. Tailing is carried out by:-

a) the application of a rubber ring which cuts off the blood supply causing the lower part of the tail to shrivel up and fall off after a few weeks leaving a small scar. There do not appear to be any direct hazards associated with this procedure except that it is sometimes difficult to gauge precisely what length of tail stump will remain. The tail must be long enough to cover the anus and the vulva.

b) cutting off with a sharp knife which is immediately effective, but there is haemorrhage which very occasionally may be fatal and there is also a risk of infection of the exposed stump.

c) cutting off with a knife after application of a bloodless castrator which may reduce the danger of haemorrhage.

d) application of a hot iron which severs and cauterizes the tail, reducing the likelihood of haemorrhage and possibly infection.
Problems with timing of these procedures

128. Many farmers with lowland flocks find it convenient to castrate and tail soon after birth, when the lambs are confined to individual pens or are easy to catch. However, it may be counter-productive to do these jobs too early, i.e. within the first 24 hours, since the lambs may stop sucking for a few hours, and thus become more susceptible to hypothermia or watery mouth, both problems associated with insufficient colostrum intake. Bonding of ewe and lambs is not firmly established by this time, and there may also be increased risk of mismothering, particularly if ewes are in groups or outside, because lambs lie down from time to time for the duration of the pain response and may become separated from their mothers. This is particularly the case with twins when one lamb, usually the female, may recover faster and go off with the ewe leaving the other behind.

129. In hill flocks lambing outside, apart from checking that all is well with ewe and lambs, the normal practice is to handle as little as possible in the first weeks of life. Gathering ewes and lambs at this stage is undesirable, as the chances of mismothering are high, with lamb deaths ensuing. By 4-6 weeks, the lambs are considered to be strong enough and the bonding firm enough to stand gathering, and castration or tailing, plus various other procedures such as marking, vaccinating and protection against ticks. Lambs can then tolerate temporary separation from the ewe and pairing is usually quick following release.

Assessment of pain in association with castration and docking

130. There is no doubt that lambs feel pain and distress as a result of castration and tail docking but the type of distress and its duration vary according to the method used. Until recently, little work had been done on the relative amounts of distress caused by the different methods or on that exhibited by lambs of different ages. The current legislation which limits the use of the rubber ring to the first week of life appears to be based on the probably erroneous impression that lambs of this age feel less pain than older lambs. Although the results of recent research work are becoming known, a comprehensive comparison of all methods carried out with the same breed at the same location at different ages is not yet available. The conclusions of the Council in this Report are, therefore, based on the current available scientific evidence, together with personal and anecdotal evidence. We consider that, as a matter of urgency, further scientific evidence is required covering the whole of this subject.

131. Available evidence suggests that all methods of castration and tailing cause pain and distress which may be detected by alterations in behaviour such as posture and activity, and by alterations in cortisol concentrations in the blood. However, different lambs may show evidence of differing intensity and duration of pain even when the same technique is adopted. Particularly striking is the difference in behaviour of lambs castrated with a rubber ring or surgically, since those castrated with the ring exhibit abnormal postures or even rolling motions whilst those castrated with the knife appear to adopt a policy of sparing pain by a minimum of movement. It is not safe to assume that these behavioural differences indicate that the distress felt with one method is any the less. However, evidence is that surgical castration involving the tearing of tissue causes significantly more distress and for a longer period than the other methods. With the ring, after the initial period of distress which may last up to 3.5 hours, the pain appears greatly reduced with lambs sucking and behaving normally. With the bloodless castrators, the acute pain appears to be less intense and of a shorter duration than the rubber ring method but variation is seen with individual
lambs and some may show swelling of one or both testicles due to haemorrhage which persists for a few days and leads to stiffness in gait.

132. Recent research work has combined the application of a rubber ring, followed immediately by the use of a bloodless castrator. This appears to reduce the degree and duration of the pain observed after the application of a ring alone. Whether this combined method will be practical to apply on the farm is yet to be determined. We shall review the outcome of this work in due course.

133. There is little information on the distress caused by combined castration and tailing by whatever method is adopted, except that the use of rings for both operations causes additional distress in young but not older lambs. If castration and docking are considered to be necessary, the most humane, practical and certain way of carrying out castration and tailing would be with the rubber ring, providing that a practical method of producing analgesia with a duration of action of 2-3 hours could be found. With the bloodless castrator, there is a greater need for special skill and, therefore, training in its use. Furthermore, the success rate cannot be judged until quite some time after the procedure has been carried out. However, the recent development of an improved bloodless castrator is a welcome innovation and its use is to be encouraged subject to suitable training of the operator.

134. For tail docking alone, the available scientific evidence suggests that knife docking may cause more distress than the ring or a heated docking iron.

Use of anaesthetic

135. A major objection to these mutilations would be removed if effective pain relief could be provided. Whilst complete removal of pain for the whole of the period of distress would be the ideal, a reduction of pain would be a distinct advance. The use of general anaesthesia is hazardous and time-consuming, and requires skill to administer. Therefore, it is not considered appropriate in the farm situation. The administration of analgesics, other than local anaesthetics, is likely to pose problems of mass administration, withdrawal periods etc. and cannot be considered practical at the present time. This leaves the use of local anaesthesia.

Local anaesthesia for tail docking

136. Effective anaesthesia can be induced by epidural injection (injection into the spinal canal). This is a technically difficult procedure which can only be done by a veterinary surgeon. Although it would be possible theoretically to train lay people to do this in lambs, there is a high risk of the technique not working properly because the injection site is very precise, and there is considerable danger of introducing infection into the spinal canal. Injection of anaesthetic into the tail is not fully effective and is probably more painful than the tailing procedure itself.

Local anaesthesia for castration

137. Effective anaesthesia of the scrotum and testicles is both possible and reasonably simple to perform. However, the technique requires more than one injection of anaesthetic, itself a procedure not without pain, and sufficient time to elapse for the anaesthetic to take effect, meaning double handling of lambs. There is also the distinct possibility of the introduction of infection if the injection technique is not carried out.
under clean conditions. The consequences of this are likely to be serious as the spermatic cord leads directly into the abdominal cavity. Localised sepsis or peritonitis may result.

**Recommendations**

**Castration**

138. We recommend that farmers consider carefully whether castration and tail docking within a particular flock are necessary in the light of changing market requirements within the sheep industry. Farmers should only carry out the mutilations if the type of system would otherwise lead to welfare problems through difficulties in management procedures.

139. Whilst provision of analgesia for both castration and tail docking is technically possible, in practice the currently available methods carry too many additional risks to be applicable on the farm at the present time. We therefore recommend continuing research into methods of providing quick, practical and safe methods of local or other forms of analgesia which do not require the use of needles to inject anaesthetic either into the spinal canal, the testicle or the spermatic cord. Whilst total analgesia is desirable, any method which substantially reduced the amount and duration of pain would be an advance.

140. Available evidence suggests that surgical castration with the knife, carried out under farm conditions, is likely to cause substantially greater and more prolonged distress than other methods, together with a significant risk of adverse consequences developing following the operation. We therefore recommend that this method be banned at any age, except when carried out with anaesthetic by a veterinary surgeon.

141. Results of a comprehensive comparison of the relative amounts and duration of pain or distress following castration with the bloodless castrator, improved clamp or rubber ring are, as yet, not available. We are conscious that many hill farmers prefer the ring because of the ease of use and immediate efficacy, but are unable to use it under present law once a lamb is over 1 week of age. We are also aware of evidence which indicates that castration with a rubber ring causes similar distress with older lambs up to 6 weeks.

142. On balance, and taking account of available evidence and our observations, we recommend that the use of bloodless castrators or rubber rings for castration be allowed up to 6 weeks of age. We will review the position when results of a comprehensive comparison of these and other methods under development are available.

143. We recommend that as soon as a satisfactory and practical way of producing analgesia or administering an anaesthetic without the necessity of injecting it via a syringe and needle becomes available, its use must be adopted.

144. We recommend that when sheep over 6 weeks of age are castrated, the operation must be performed only by a veterinary surgeon using an anaesthetic.

145. We recommend that research on castration be pursued vigorously including the following: a comprehensive comparison of the effects of current methods on very young lambs and lambs of up to 6 weeks of age; novel or alternative methods of castration; and alternative methods of producing analgesia or anaesthesia.
Tail docking

146. Under present law on tail docking, a rubber ring or similar device may be used in the first week of life only and, thereafter, docking may be carried out by any other method. We recommend that tail docking by any method when performed by a non-veterinarian should be limited to lambs less than six weeks of age; and that over this age, docking must be carried out by a veterinary surgeon for therapeutic purposes only and then with the use of an anaesthetic.

147. Whilst there appears to be some evidence that the use of a knife alone causes more distress than other methods, there is at present no clear evidence as to the relative amounts of distress caused by the various methods of docking, and the outcome of further research needs to be assessed. We therefore recommend that tail docking should be allowed to be carried out by any of the recognised methods already described (see paragraph 127). However, once evidence from further research becomes available this recommendation should be reviewed.

Combined castration and tail docking

148. Evidence suggests that if castration and tail docking are carried out at the same time, more distress results than performing either task alone. We recognise, however, that it is impractical for the farmer, and may adversely affect the welfare of the animals, if these tasks are performed at different times requiring two separate gathering and handling sessions.

149. We therefore recommend that farmers, having considered carefully if both mutilations are necessary (see paragraph 138), should adopt timing and methods which when combined lead to the minimum of extra distress to the animal. As regards timing, we recommend that combined castration and tail docking should not be carried out on lambs less than 24 hours old. Clear guidelines are needed together with appropriate training in the procedures.

IDENTIFICATION

150. Most hill flocks are identified by earnotching or horn branding. Identification is essential where animals are kept on extensive or common grazing. Pedigree animals are identified by tattooing, ear tagging or earmarking. This is necessary to be able to carry out planned breeding programmes. Some commercial flocks are identified individually by tags where flock recording schemes are in operation.

151. Notching is usually carried out from a few days of age up to about 8 weeks, tattooing at a few months, horn branding when sufficient horn has grown (about 12 months of age) and tagging at any age. Problems are rare with notching, apart from initial slight bleeding; tattooing may occasionally result in haematoma formation; horn branding should have no adverse consequences if confined to the insensitive part of the horn; tagging may result in infection and fly strike around the tag hole (particularly in summer), accidental tearing of the ear, and inability to identify if the tag is lost.

152. Implementation of EC Directive 92/102 on identification and registration is underway. The new identification system for sheep is not due to start until 1995 and, as yet, a system of marking sheep moving between holdings has not been devised. It
will not be a requirement to mark sheep until they leave a holding and we welcome the proposal that temporary marks will suffice. However, approved tags or tattooing will be necessary for animals going for export.

Recommendation

153. We recommend that research be carried out into the type of tag most likely to remain permanently in the ear and least likely to cause damage by tearing, and into other more welfare-friendly methods of individual marking. We also recommend that a clear mark on the head and neck wool of cull ewes should be an acceptable substitute (see paragraph 161).

UNFIT SHEEP

154. No matter how high the standard of husbandry practised, the problem of having to deal with unfit sheep will arise from time to time. The term 'unfit' is difficult to define but in legislation it includes 'infirm, diseased, ill, injured and fatigued' animals. It is an offence for an unfit animal to be transported 'if by reasons of its unfitness it is likely to be subjected to unnecessary suffering'. When an unfit animal is transported it must be penned separately from other stock, it should be taken to the nearest abattoir and prior arrangements made to ensure immediate slaughter. Further information is available in the MAFF 'Guidance on the Transport of Casualty Farm Animals' 1993 PB 1381. We found that while farmers agreed that unfit animals should not be left to die but should be humanely destroyed, there was some disagreement as to how this should be carried out in the absence of a knackery service. We believe that a small bore rifle or a shotgun can be extremely effective. Cutting the throat with a sharp knife is, as a last resort, an alternative but only if no other method is immediately available.

Recommendations

155. We strongly condemn the practice of leaving unfit 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.

156. We recommend that where unfit sheep are incapable of being transported without causing unnecessary suffering, they should be humanely destroyed by the use of a gun or a humane killer. For unfit newborn lambs, a single blow to the head with a blunt instrument may be an appropriate alternative method.

157. We recommend that training should be available to enable the chosen method to be carried out in an efficient and humane manner.

158. There was concern about inconsistent interpretation by issuing authorities of the Home Office guidance on certification of firearms. We therefore recommend that the Home Office considers ways to improve consistency and takes views from, amongst others, the Humane Slaughter Association.

159. In all cases falling within the above categories we strongly recommend that farmers should study 'MAFF's Guidance on the Transport of Casualty Farm Animals.' The animal's welfare must always be the first consideration and, if there is any doubt
as to whether the animal is: (a) fit to travel and (b) fit for human consumption, farmers should consult their veterinary surgeon.

CAST (CULL) EWES

160. Despite the fact that at most cast ewe sales a clear indication is given as to whether ewes are either 'sound' in mouth and udder and are fit for breeding, or are 'unsound' and are intended only for slaughter or feeding prior to slaughter, it would appear that a considerable number of 'unsound' ewes are subsequently re-sold as breeding stock. This may result in welfare problems as many ewes in this category are not fit to survive a further pregnancy or produce enough milk to rear a lamb.

Recommendation

161. We recommend that unsound sheep are marked at the time of presentation for sale so that they are not subsequently used as breeding stock.
PART IV

SUMMARY OF RECOMMENDATIONS

A. Proposed legislative controls

1. The owner of any sheep, wherever located, must be responsible for their health and welfare unless a contract is drawn up to state otherwise. (paragraph 28)

2. In the absence of any alternative effective control, sheep scab should be re-instated as a notifiable disease with compulsory, supervised dipping/treatment of infected flocks. Movement restrictions should be imposed until treatment has been completed satisfactorily. Tracing of movements in and out of infected flocks should be carried out and neighbours notified and required to take action. (paragraph 78)

3. Only a qualified veterinary surgeon trained in the technique should perform transcervical A.I. in sheep. (paragraph 104)

4. Embryotomy must be carried out on dead lambs only. (paragraph 110)

5. Surgical castration with the knife must be banned at any age, except when carried out with anaesthetic by a veterinary surgeon. (paragraph 140)

6. The use of bloodless castrators or rubber rings for castration should be allowed up to 6 weeks of age. We will review the position when results of a comprehensive comparison of these and other methods under development are available. (paragraph 142)

7. As soon as a satisfactory and practical way of producing analgesia or administering an anaesthetic without the necessity of injecting it via a syringe and needle becomes available, its use must be adopted. (paragraph 143)

8. When sheep over 6 weeks of age are castrated, the operation must be performed only by a veterinary surgeon using an anaesthetic. (paragraph 144)

9. Tail docking by any method when performed by a non-veterinarian should be limited to lambs less than six weeks of age. Over this age, docking must be carried out by a veterinary surgeon for therapeutic purposes only and then with the use of an anaesthetic. (paragraph 146)

10. Tail docking should be allowed to be carried out by any of the recognised methods described in paragraph 127. However, once evidence from further research becomes available this recommendation should be reviewed. (paragraph 147)

11. Combined castration and tail docking should not be carried out on lambs less than 24 hours old. (paragraph 149)

B. Proposed controls by Code provision

12. All sheep farmers should have available appropriate facilities for routine handling and management of the flock which should be suitable for the number of sheep kept. (paragraph 37)
13. When sheep are housed, proper attention should be paid to the detailed aspects of care set out in paragraphs 45 and 46 of this Report. (paragraph 47)

14. All shepherds and sheep farmers should be familiar with the technique of condition scoring of sheep and should be aware of the benefits to be gained from the use of condition scoring to identify thin animals which must be given special care. (paragraph 50)

15. Any flock with a significant number of sheep at a condition score of less than 1.5 must be regarded as demonstrating inadequate care and welfare. (paragraph 51)

16. Scanning should be carried out whenever possible for ewes where it is important to have forewarning of lamb numbers. Appropriate adjustments should then be made to the diet. (paragraph 54)

17. The description of acceptable handling procedure in the Sheep Welfare Code should be changed to: 'Sheep should not be caught by the fleece alone. They should be handled or restrained by means of a hand or an arm under the neck (holding the neck wool, if necessary) with the other arm placed on or around the rear. Lifting or dragging sheep by the fleece or tail is not acceptable and horns can break off if sheep are roughly handled by them.' (paragraph 56)

18. Sheep-to-shepherd ratios should be related to the achievement of good husbandry standards. Even with aids to shepherding, no shepherd should have sole responsibility for the routine husbandry and management of more than around 1000 ewes. (paragraph 59)

19. All flocks on in-bye land should be inspected once per day throughout the year. During the lambing period, all individual sheep on in-bye land or in houses must be seen at least once per day, or more frequently, as necessary. (paragraph 61)

20. Shepherds on extensive farms should make every effort to inspect the flock as frequently as is necessary, most particularly in summer at the time of fly strike danger and, in winter, under adverse weather conditions. (paragraph 62)

21. On hill farms, under extensive conditions, where there is the potential for twin-lamb production, sheep should be scanned and condition scored and twin-bearing and thin ewes separated out for special feeding and supervision at relevant times. (paragraph 65)

22. Each flock should have a written welfare programme, produced with expert advice where necessary, setting out health and husbandry activities covering the whole of the yearly cycle of production. This should help to ensure that routine prophylactic measures which are required are given at the correct time and at the correct dose, and to the appropriate animals. The programme should be reviewed and updated annually. (paragraph 69)

23. Attention should be paid to, and where necessary training given in, the correct use of equipment, including maintenance and calibration. (paragraph 71)
24. Farmers and inspectors should consider the existence within a flock of a significant percentage of sheep with chronic foot lameness as an indicator of poor welfare standards within that flock. (paragraph 73)

25. All those using organic systems should recognise the potential for adverse welfare conditions developing and adopt a flexible attitude to the use of preventive vaccines. (paragraph 89)

26. The removal of less fit animals from flocks in harsh environments should be encouraged. (paragraph 94)

27. Any planned health and welfare programme must include rams. (paragraph 96)

28. If any procedure to increase litter size is instituted, account must be taken of the extra requirements in welfare, feed, labour and other inputs before and at lambing time. (paragraph 101)

29. Appropriate housing or shelter should be available if lambing is to take place outside the normally recognised breeding period in adverse weather conditions. (paragraph 102)

30. When a farmer experiences difficulty in delivering a live lamb, skilled assistance should be sought immediately. (paragraph 111)

31. Every mature sheep must have its fleece removed at least once every year. Full use must also be made of advance weather forecasts to avoid excessive cold stress to newly-shorn sheep at whatever time of year shearing is carried out. Shelter should be provided, where necessary. (paragraph 117)

32. Shearers should disinfect their shearing equipment between flocks to minimise the risk of spreading the disease caseous lymphadenitis. (paragraph 118)

33. All sheep folded on roots should have access to a clean area to lie down and shelter should be provided. (paragraph 122)

34. Farmers should consider carefully whether castration and tail docking within a particular flock are necessary in the light of changing market requirements within the sheep industry. Farmers should only carry out the mutilations if the type of system would otherwise lead to welfare problems through difficulties in management procedures. (paragraph 138)

35. Farmers, having considered carefully if both castration and tail docking are necessary, should adopt timing and methods which when combined lead to the minimum of extra distress to the animal. Clear guidelines are needed together with appropriate training in the procedures. (paragraph 149)

36. Where unfit sheep are incapable of being transported without causing unnecessary suffering they should be humanely destroyed by the use of a gun or a humane killer. For unfit newborn lambs, a single blow to the head with a blunt instrument may be an appropriate alternative method. (paragraph 156)
C. General recommendations

37. The Government's Sheep Welfare Code should be revised, taking into account the findings set out in this Report. (paragraph 25)

38. The payment of the Annual Ewe Premium (AEP) should be conditional upon the maintenance of good husbandry and welfare standards based upon the principles of the Government's Sheep Welfare Code, as revised. (paragraph 24)

39. Both the Government and the farming industry should ensure that training in the skills and techniques of sheep husbandry, particularly relating to welfare of the animals, should be readily available for all farmers and shepherds; and that satisfactory completion of training should be recognised by the issue of a certificate. (paragraph 32)

40. The Government should explore with the industry the possibility of financial support for short-term training courses and apprenticeship-type schemes. (paragraph 33)

41. Sheep contractors should be required to demonstrate competence and persons providing a contract service for sheep husbandry tasks should join an appropriate organisation which issues a certificate of competence. (paragraph 34)

42. The Government should consider the restoration of grant-aid to assist construction and repair of handling pens, in the interests of improving sheep welfare. (paragraph 38)

43. The design of sheep handling facilities should receive further research and development, particularly with regard to operation by one person. (paragraph 39)

44. The use of ATVs by shepherds should be encouraged. Any future control from Government which might apply to certain public access for leisure use of ATVs should not restrict use by shepherds going about their duties. (paragraph 41)

45. Government and the industry should consider 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. (paragraph 74)

46. Research should be undertaken into the relative seriousness of various forms of lameness in sheep and into control measures. (paragraph 75)

47. Tighter controls should be introduced over chemicals used in dips and the dipping procedure, and a training programme should be developed to ensure their correct use. (paragraph 79)

48. Further research should be conducted into alternative control measures for sheep scab particularly with a view to licensing effective products applied by methods other than dipping e.g. by injection. (paragraph 80)

49. The Government should conduct a campaign to make farmers aware of the potential danger of resurgence of blow fly, lice and ked infections if routine sheep dipping or other control measures are discontinued. (paragraph 81)
50. The Government should introduce an advisory campaign to guard against excessive or inappropriate use of anthelmintics. This should recommend the use, where possible, of rotational grassland management techniques to provide clean or safe grazing systems and alternation of types of anthelmintics. (paragraph 83)

51. More research should be carried out into the causes and prevention of each of the diseases specified in paragraph 84 of this Report. Both Government and the farming industry should be involved. (paragraph 85)

52. Those who farm organically should recognise the need for even higher levels of stockmanship than normal and the need for special training. (paragraph 90)

53. Financial support given to the industry should be used to encourage young and vigorous flocks. (paragraph 94)

54. If any change in breed or type is contemplated in difficult extensive conditions, replacement must only be with a breed or type which is sufficiently hardy. Account must also be taken of the effect of introducing breeds which are unfamiliar with the area. (paragraph 98)

55. Within breed improvement selection programmes, monitoring should be carried out for problems associated with selection for greater musculature. (paragraph 99)

56. Training of the shepherd and adequate supervision are the most important factors in reducing mortality and other welfare problems at lambing time. ATB-Landbase or similar organisations should be supported to provide suitable courses. (paragraph 108)

57. The sheep industry should introduce a system to support the setting up and running of lamb banks which reduce the need for young lambs to go to market. The ultimate welfare aim should be to have such lambs transferred directly from farm to farm. (paragraph 113)

58. The Government and the industry should fund further research into the factors which trigger mastitis and teat diseases and into preventive measures. (paragraph 115)

59. Research should be carried out to examine whether depriving newly-weaned ewes of water for a short period has any effect on subsequent incidence of mastitis. Evidence would then be available upon which future recommendations could be based. (paragraph 120)

60. There should be continuing research into methods of providing quick, practical and safe methods of local or other forms of analgesia which do not require the use of needles to inject anaesthetic either into the spinal canal, the testicle or the spermatic cord. (paragraph 139)

61. Research on castration should be pursued vigorously, including the following: a comprehensive comparison of the effects of current methods on very young lambs and lambs of up to 6 weeks of age; novel or alternative methods of castration; and alternative methods of producing analgesia or anaesthesia. (paragraph 145)
62. Research should be carried out to discover the type of tag most likely to remain permanently in the ear and least likely to cause damage by tearing, and into other more welfare friendly methods of individual marking. (paragraph 153)

63. A clear mark on the head and neck wool of cull ewes is an acceptable substitute to tagging. (paragraph 153)

64. The practice of leaving unfit sheep to die on the farm is strongly condemned and both the Government and the industry are recommended to remind farmers that it is an offence to cause unnecessary pain or unnecessary distress to an animal on agricultural premises. (paragraph 155)

65. Where unfit sheep are incapable of being transported without causing unnecessary suffering they should be humanely destroyed by the use of a gun or a humane killer. For unfit newborn lambs, a single blow to the head with a blunt instrument may be an appropriate alternative method. (paragraph 156)

66. Training should be available to enable the chosen method of humane killing to be carried out in an efficient and humane manner. (paragraph 157)

67. The Home Office should consider ways to improve consistency of interpretation of its guidance on certification of firearms; and take views from, amongst others, the Humane Slaughter Association. (paragraph 158)

68. Farmers should study MAFF's 'Guidance on the Transport of Casualty Farm Animals'. The animal's welfare must always be the first consideration and, if there is any doubt as to whether the animal is: (a) fit to travel and (b) fit for human consumption, farmers should consult their veterinary surgeon. (paragraph 159)

69. Unsound sheep should be clearly marked at the time of presentation for sale so that they are not subsequently used as breeding stock. (paragraph 161)
APPENDIX A

MEMBERSHIP OF THE FARM ANIMAL WELFARE COUNCIL

Professor Sir Colin R W Spedding - Chairman
Mr B Atkinson
Mr R H Baker
Dr M Baxter
Mr G Berry
Rev A Birbeck
Dr W J M Black – Chairman of the Sheep Working Group
Professor D Broom
Mr J Dewhirst
Mr T Harris
Mrs F Hodgson
Mr C Hollands
Mrs J MacArthur Clark
Miss C A Milburn
Mr R Macpherson
Dr M Pattison
Mr F E Shields
Mr P F Staines
Mr J G Thomas
Mrs J Turnbull
Mr A Watkins
Professor A J F Webster #
Mrs T Wickham
Dr A Winter

* Member of the Sheep Working Group
# FAWC member until 31 December 1993
APPENDIX B

ORGANISATIONS WHICH GAVE EVIDENCE AND ASSISTANCE

Agricultural Development and Advisory Service
Agricultural Training Board – Scotland
Animal (Scientific Procedures) Inspectorate – Home Office
Assembly of Welsh Counties
Borders and Lothian Animal Welfare Liaison Group
British Veterinary Association
Central Scotland Police – Animal Health Department
Compassion in World Farming
Convention of Scottish Local Authorities
Countryside Council for Wales
Dartmoor Livestock Protection Society
Farm and Food Society
Farm Animal Care Trust
Farm Animal Welfare Co-ordinating Executive
Farm Assured British Beef and Lamb
Farmers’ Union of Wales
Hide and Allied Trades Improvement Society
Humane Slaughter Association
Institute of Biology
Lancashire County Council
Livestock Traders’ Association of Great Britain Ltd.
Massey University, New Zealand – Professor D Mellor
Meat and Livestock Commission
National Farmers’ Union
National Farmers’ Union of Scotland
National Federation of Young Farmers' Clubs
National Sheep Association
Redesdale Experimental Husbandry Farm
Road Haulage Association
Rowett Research Institute
Royal College of Veterinary Surgeons
Royal (Dick) School of Veterinary Studies – Dr V Molony
Royal Society for the Prevention of Cruelty to Animals
Royal Veterinary College
Scottish Agricultural College – Mr B Hosie, Mr H McClelland and others
Scottish Association of Young Farmers' Clubs
Scottish Centre for Animal Welfare Sciences
Scottish Consumer Council
Scottish Landowners' Federation
Scottish Society for the Prevention of Cruelty to Animals
Sheep Veterinary Society
Shropshire County Council
Silsce Research Institute
Soil Association
State Veterinary Service
Universities Federation for Animal Welfare
University of Bristol Veterinary School
University of Cambridge – Department of Veterinary Clinical Medicine
University of Liverpool – Leahurst Veterinary Field Station
Vegetarian Society

And the farmers and shepherds who the members of the working group met in various parts of England, Scotland and Wales.


APPENDIX C

**TABLE 1: UK Flock expansion – numbers of breeding ewes (millions)**

<table>
<thead>
<tr>
<th></th>
<th>1980</th>
<th>1992</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total UK Flock</td>
<td>14.9</td>
<td>20.6</td>
<td>+37%</td>
</tr>
<tr>
<td>Ewes in Less Favoured Areas*</td>
<td>8.4</td>
<td>12.3*</td>
<td>+47%</td>
</tr>
</tbody>
</table>

*LFA boundaries were extended in 1985

**TABLE 2: Sheep carcase exports (1000 tonnes)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36.9</td>
<td>36.9</td>
<td>60.0</td>
<td>105.0</td>
</tr>
</tbody>
</table>

**TABLE 3: Export of live lambs (1000 head)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>101.6</td>
<td>195.8</td>
<td>509.6</td>
<td>1400</td>
</tr>
</tbody>
</table>

**TABLE 4: Distribution of sheep numbers and subsequent slaughtering (%)**

<table>
<thead>
<tr>
<th></th>
<th>June numbers</th>
<th>Slaughtering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland</td>
<td>25.3</td>
<td>15.5</td>
</tr>
<tr>
<td>Northern Region</td>
<td>16.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Yorkshire/Lancashire</td>
<td>3.2</td>
<td>16.7</td>
</tr>
<tr>
<td>Wales</td>
<td>26.4</td>
<td>8.6</td>
</tr>
<tr>
<td>Midlands</td>
<td>11.8</td>
<td>21.3</td>
</tr>
<tr>
<td>Eastern Region</td>
<td>1.0</td>
<td>4.8</td>
</tr>
<tr>
<td>South East</td>
<td>5.2</td>
<td>10.5</td>
</tr>
<tr>
<td>South West</td>
<td>10.3</td>
<td>17.4</td>
</tr>
</tbody>
</table>
TABLE 5: Time of slaughtering (% of lambs)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January to March</td>
<td>19</td>
<td>23</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>April to June</td>
<td>16</td>
<td>17</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>July to September</td>
<td>36</td>
<td>30</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>October to December</td>
<td>29</td>
<td>30</td>
<td>29</td>
<td>33</td>
</tr>
</tbody>
</table>

TABLE 6: Breed structure as a percentage of national flock mated

<table>
<thead>
<tr>
<th></th>
<th>1971</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill breeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scottish Blackface</td>
<td>19.6</td>
<td>14.8</td>
</tr>
<tr>
<td>Cheviots</td>
<td>6.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Swaledale</td>
<td>4.2</td>
<td>7.0</td>
</tr>
<tr>
<td>Welsh Mountain</td>
<td>16.5</td>
<td>9.4</td>
</tr>
<tr>
<td>Welsh Speckled Face</td>
<td>2.7</td>
<td>4.6</td>
</tr>
<tr>
<td>Beulah</td>
<td>1.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Other purebreds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romney</td>
<td>2.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Suffolk</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Clun</td>
<td>3.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Dorset Horn</td>
<td>0.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Crossbreeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mule types</td>
<td>2.6</td>
<td>23.6</td>
</tr>
<tr>
<td>Longwool x Hill</td>
<td>13.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Suffolk</td>
<td>6.6</td>
<td>10.1</td>
</tr>
</tbody>
</table>

TABLE 7: Estimated percentage of rams by breed

<table>
<thead>
<tr>
<th></th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of rams</td>
</tr>
<tr>
<td>Hill breeds</td>
<td></td>
</tr>
<tr>
<td>Scottish Blackface</td>
<td>9</td>
</tr>
<tr>
<td>Welsh Mountain</td>
<td>5</td>
</tr>
<tr>
<td>Swaledale</td>
<td>3</td>
</tr>
<tr>
<td>Welsh Speckled Face</td>
<td>2</td>
</tr>
<tr>
<td>Upland</td>
<td></td>
</tr>
<tr>
<td>Bluefaced Leicester</td>
<td>8</td>
</tr>
<tr>
<td>Border Leicester</td>
<td>2</td>
</tr>
<tr>
<td>North Country Cheviot</td>
<td>2</td>
</tr>
<tr>
<td>Terminal sire breeds</td>
<td></td>
</tr>
<tr>
<td>Suffolk</td>
<td>46</td>
</tr>
<tr>
<td>Texel</td>
<td>5</td>
</tr>
</tbody>
</table>

Sources: MAFF, MLC and ADAS
## GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analgesia</td>
<td>Relief of pain. An analgesic is a drug that relieves pain.</td>
</tr>
<tr>
<td>AEP</td>
<td>Annual Ewe Premium. The sheep subsidy that comes from the European Community on a per head basis for all ewes.</td>
</tr>
<tr>
<td>Anthelmintic</td>
<td>A drug used to treat helminth worm parasites.</td>
</tr>
<tr>
<td>Burdizzo</td>
<td>A bloodless castrator used on male lambs.</td>
</tr>
<tr>
<td>Condition Scoring</td>
<td>An established technique used for handling the sheep over the loin to assess the subcutaneous fat reserves. A score of 0 is very thin and 5 is very fat.</td>
</tr>
<tr>
<td>Cull Ewes</td>
<td>Ewes that are no longer fit for breeding and are sent for slaughter.</td>
</tr>
<tr>
<td>Draft Ewes</td>
<td>Older ewes that have been taken from the open hill where conditions are particularly tough. They are still suitable for breeding on the lowland.</td>
</tr>
<tr>
<td>Embryotomy</td>
<td>The dismemberment of a dead lamb inside the birth canal of a ewe in order to permit delivery without damage to the ewe.</td>
</tr>
<tr>
<td>Enclosed Ground</td>
<td>Sometimes called in-bye ground. Land that is surrounded by permanent hedges, fences or walls and subdivided by these into fields. As opposed to open ground which could be hills, marshes, military ranges or commons.</td>
</tr>
<tr>
<td>Flushing</td>
<td>The practice of giving ewes extra nutrition in the period before mating in the autumn in order to raise body condition, stimulate the shedding of eggs and hence increase the number of lambs born.</td>
</tr>
<tr>
<td>Folding</td>
<td>Technique of using temporary fences to give grazing sheep small areas of forage crops such as swedes, turnips, rape or kale.</td>
</tr>
<tr>
<td>Gimmer</td>
<td>Young female sheep between approximately 9–18 months of age.</td>
</tr>
<tr>
<td>HLCA</td>
<td>Hill Livestock Compensatory Allowance. The subsidy paid largely by the UK government to farmers in the hills and uplands (Less Favoured Areas).</td>
</tr>
<tr>
<td>In-bye</td>
<td>Land that is surrounded by permanent hedges, fences or walls and subdivided by these into fields. As opposed to open ground which could be hills, marshes, military ranges or commons.</td>
</tr>
<tr>
<td>Lamb</td>
<td>A young sheep during the first 9 months of life.</td>
</tr>
</tbody>
</table>