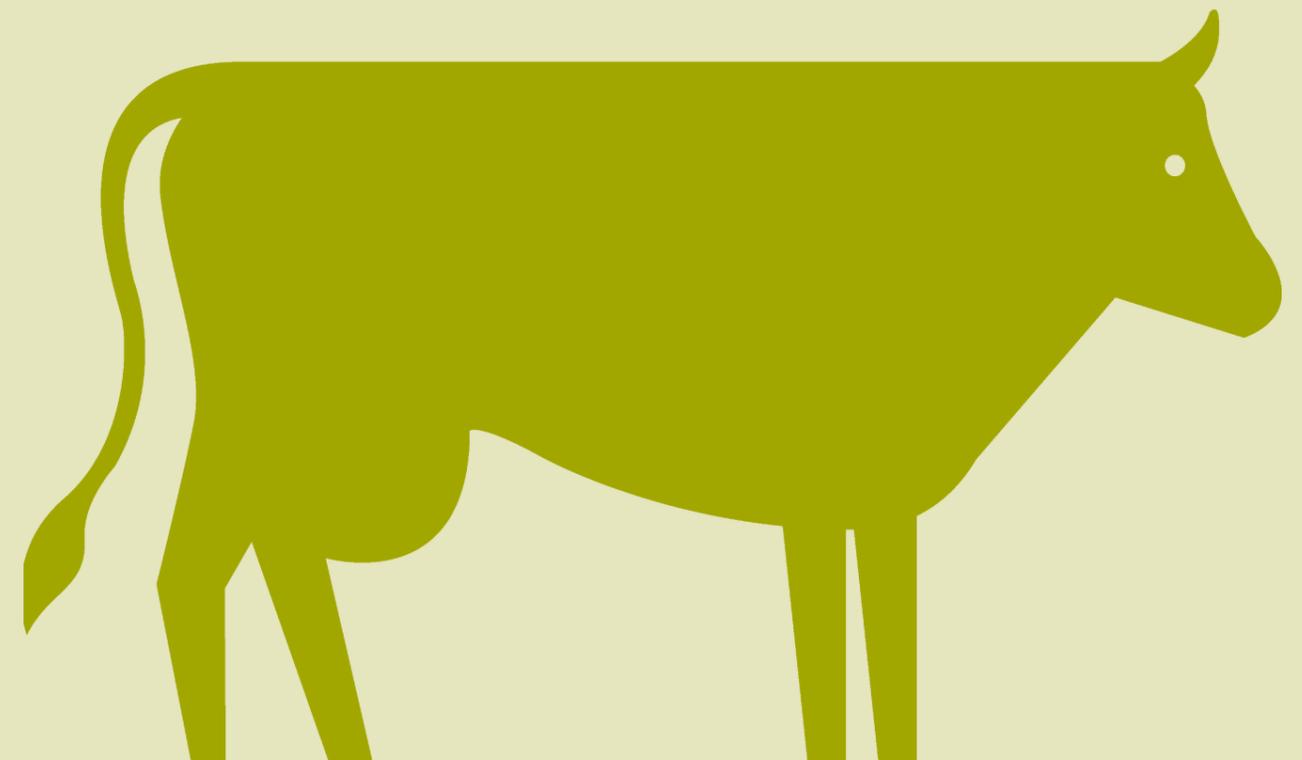


# Cattle



# Code of Recommendations for the Welfare of Livestock: Cattle

## Note

After consultation, this code (which consists of paragraphs 1-150) has been put before both Houses of Parliament for authority to issue it under Section 3 of the Agriculture (Miscellaneous Provisions) Act 1968.

This Section allows 'the Ministers' to produce codes of recommendations for the welfare of livestock, and to issue such codes once they have been approved in draft by both Houses of Parliament. However, the original definition of 'the Ministers' (see Section 50 of the 1968 Act) has been changed to reflect devolution for Scotland and Wales and the creation of the Department for Environment, Food and Rural Affairs. In England, the powers of 'the Ministers' were first transferred to the Minister of Agriculture, Fisheries and Food by the Transfer of Functions (Agriculture and Food) Order 1999 (S.I. 1999/3141) and then transferred to the Secretary of State by the Ministry of Agriculture, Fisheries and Food (Dissolution) Order 2002 (S.I. 2002/794).

In Scotland, the powers of 'the Ministers' had previously been transferred to the Scottish Ministers by Section 53 of the Scotland Act 1998 (1998 c.46) and, in Wales, the powers of 'the Ministers' had previously been transferred to the National Assembly for Wales by article 2(a) of the National Assembly for Wales (Transfer of Functions) Order 1999 (S.I. 1999/672).

Any reference in this code to advisory publications is for information only and does not form part of this code.

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# Preface

This preface is not part of the code; instead, it explains the code's role and the broad considerations on which it is based. The legal text in shaded boxes throughout this document is not part of the code either but highlights the legal position. The text in these boxes is the law as it stands on the date that this code is published or reprinted (please turn to the back cover for this information). You should be aware that any of the legal requirements quoted here could change - you should check that these are an accurate statement of the law as it currently stands. (See the Appendix for a list of relevant legislation).

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 10, provides that:-

Any person who employs or engages a person to attend to animals shall ensure that the person attending to the animals:

- is acquainted with the provisions of all relevant statutory welfare codes relating to the animals being attended to;
- has access to a copy of those codes while he is attending to the animals; and
- has received instruction and guidance on those codes.

Any person who keeps animals, or who causes or knowingly permits animals to be kept, shall not attend to them unless he has access to all relevant statutory welfare codes relating to the animals while he is attending to them, and is acquainted with the provisions of those codes.

In Regulation 2 it states that 'statutory welfare code' means code for the time being issued under Section 3 of the Agriculture (Miscellaneous Provisions) Act 1968.

To cause unnecessary pain or unnecessary distress to any livestock on agricultural land is an offence under Section 1(1) of the Agriculture (Miscellaneous Provisions) Act 1968. The breach of a code provision,

whilst not an offence in itself, can nevertheless be used in evidence as tending to establish the guilt of anyone accused of causing unnecessary pain or distress under the Act (Section 3(4)).

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 3(1), states that: -

- owners and keepers of animals shall take all reasonable steps:
- to ensure the welfare of the animals under their care; and
  - to ensure that the animals are not caused any unnecessary pain, suffering or injury.

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 3(3), states that:

In deciding whether the conditions under which animals are kept comply with the requirements set out in Schedule 1 of the Regulations, the owner and keeper of the animals shall have regard to their species, and to their degree of development, adaptation and domestication, and to their physiological and ethological needs in accordance with established experience and scientific knowledge.

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 11, states that:

Where an authorised person considers that animals are being kept in a way which is likely to cause unnecessary pain, suffering or injury, or in any other way in contravention of any provision of these Regulations, he may serve a notice on the person appearing to him to be in charge of the animals requiring that person, within the period stated in the notice, to take any action that the authorised person considers to be reasonably necessary to ensure compliance with these Regulations and the authorised person shall give his reasons for requiring that action to be taken.

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 13(2), states that:

In any proceedings against an owner or keeper of animals for a failure to comply with Regulation 3(1) or 3(2), the owner or keeper as the case may be, may rely on his compliance with any relevant recommendation contained in a statutory welfare code as tending to establish his compliance with the relevant regulation.

The code aims to encourage all those who care for farm animals to follow the highest standards of husbandry. Without good stockmanship, animal welfare can never be properly protected. If stock-keepers follow this code, it will help them to meet the necessary welfare standards. No matter how acceptable a system may be in principle, without competent, diligent stockmanship, the welfare of the animals cannot be adequately catered for.

The welfare of cattle is considered within a framework that was developed by the Farm Animal Welfare Council and known as the 'Five Freedoms'. These form a logical basis for assessing animal welfare within any husbandry system, together with taking the action necessary to protect animal welfare within the limitations of an efficient livestock industry.

The Five Freedoms are:

- 1 freedom from hunger and thirst**  
- by ready access to fresh water and a diet to maintain full health and vigour;
- 2 freedom from discomfort**  
- by providing an appropriate environment including shelter and a comfortable resting area;
- 3 freedom from pain, injury or disease**  
- by prevention or rapid diagnosis and treatment;
- 4 freedom to express normal behaviour**  
- by providing sufficient space, proper facilities and company of the animals' own kind;
- 5 freedom from fear and distress**  
- by ensuring conditions and treatment which avoid mental suffering.

In taking account of these freedoms, those people who care for livestock should demonstrate:

- caring and responsible planning and management;
- skilled, knowledgeable and conscientious stockmanship;
- appropriate environmental design (for example, of the husbandry system);
- considerate handling and transport of animals; and
- humane slaughter.

The Protection of Animals Acts 1911-2000 contain the general law relating to cruelty to animals. Broadly it is an offence (under Section 1 of the 1911 and 1912 Acts) to be cruel to any domestic or captive animal by anything that is done or omitted to be done.

Section 12(2) of the 1911 Act empowers a police constable to place in safe custody, animals in the charge of persons apprehended for an offence under the Act until the end of proceedings or the court orders the return of the animals. The reasonable costs involved, including any necessary veterinary treatment, are recoverable from the owner upon conviction.

Under section 1 of the Protection of Animals (Amendment) Act 1954, as amended by the 1988 Act, the court has the power to disqualify a person convicted under these Acts from having custody of any animal. The ban can specify a particular kind of animal or all animals for such period as the court thinks fit.

The Protection of Animals (Amendment) Act 2000 supplements the 1911 Act by allowing a court to make an order relating to the care, disposal or slaughter of animals kept for commercial purposes that are the subject of a prosecution brought under the 1911 Act by a "prosecutor". A "prosecutor" is defined in the 2000 Act to include certain bodies that conduct prosecutions (Crown Prosecution Service, Government departments and local authorities) and any person or bodies approved by the Department for Environment, Food and Rural Affairs (Defra). The 2000 Act then allows reasonable costs to be recovered from the owner by the "prosecutor".

This code only applies in England and has been issued by the Secretary of State for the Environment, Food and Rural Affairs (following its approval in draft by both Houses of Parliament). It replaces (also only in England) the existing code, which was issued in 1983.

Similar codes are being produced in Scotland, Wales and Northern Ireland. Until these new codes are issued, the existing code will continue to apply in Scotland and Wales. Separate arrangements exist in Northern Ireland.

THIS WELFARE CODE WAS ISSUED ON 23 APRIL 2003

## Introduction

1 This code (which only applies in England) covers all cattle. 'Cattle' refers to all bovine stock (such as cows and oxen), and includes buffalo and bison. A calf refers to any animal under six months old.

2 The code's recommendations apply to cattle under all husbandry systems. Section 1 of the code gives the recommendations that apply to all ages and types of cattle. Section 2 covers those recommendations that apply to specific categories of cattle (such as calves, breeding cattle and dairy). If these recommendations are followed, they will help to protect the stock's welfare. The code's recommendations are not a complete list and they are not meant to replace expert advice, such as from a veterinary surgeon.

3 The husbandry system that is used, and the number and stocking rate of cattle kept at any one time, should depend on:

- the suitability of the farm environment;
- how many animals the farm can accommodate at one time;
- the competence of the stock-keeper; and
- how long the stockmen have to carry out their duties.

4 Organic cattle farming is conducted according to additional, legally enforced standards. However, nothing in those standards affects the legal responsibilities of organic farmers regarding positive animal welfare. Any matters which appear to conflict with organic standards should be discussed with your organic certifying body. In addition, you should seek expert advice, such as from a veterinary surgeon.

5 In general, the larger the size or the productivity of the herd, the more skill and care is needed to protect welfare. No changes should be made to husbandry, equipment or production until the possible effects on animal welfare have been considered.

6 The relevant animal welfare legislation applies to owners as well as to anyone looking after cattle on their behalf, wherever the cattle are located. A written contract can be useful in making sure that everyone involved is clear about their animal welfare responsibilities. However, the obligations imposed by law will still apply, whether or not a contract exists. Certain aspects of livestock husbandry can present hazards to the health and safety of the stock-keeper. Advice on such matters is available from the local Agricultural Safety Inspector of the Health and Safety Executive.

# Stockmanship

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) define a “keeper” as ‘any person responsible for or in charge of animals whether on a permanent or temporary basis.’

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 1, states that:

Animals shall be cared for by a sufficient number of staff who possess the appropriate ability, knowledge and professional competence.

## General

**7** The stock-keeper has the most significant influence on the welfare of cattle. The stock-keeper should draw up a written health and welfare plan with the herd's veterinary surgeon and, where necessary, other technical advisors, which should be reviewed and updated each year. This plan should set out health and husbandry activities that cover the whole year's cycle of production, and include strategies to prevent, treat or limit existing disease problems. The plan should include records to enable you to monitor and assess the health and welfare of the herd.

**8** Those responsible for farm management should make sure that the cattle are cared for by enough well-motivated and competent staff. These staff need to be aware of the welfare needs of cattle and be capable of protecting them from all expected problems before they are given any responsibility. This means that the staff need specific knowledge and skills, which they should develop on-farm by working with a skilled stock-keeper who is experienced in the relevant system. Wherever possible, staff should also go on a course run by a suitable training organisation. Ideally, the training should lead to formal recognition of competence. Any contract or casual labour used on the farm in busy periods should be trained and competent in the relevant activity.

**9** Stock-keepers should be knowledgeable and competent in a wide range of animal health and welfare skills, which should include:

- handling skills (see paragraphs 14-17);
- ear tagging (see paragraphs 18-21);
- preventing and treating certain basic or common cases of lameness (see paragraphs 31-33);
- preventing and treating internal and external parasites (see paragraphs 34-35);
- administering medicines (see paragraph 36);
- providing appropriate care to sick and injured cattle (see paragraphs 39-48);
- castration (see paragraph 116);
- disbudding (see paragraphs 117-119); and
- removing supernumerary (extra) teats (see paragraph 120); and
- milking (see paragraph 143-149)

It is particularly important that stock-keepers are competent in calving assessments and simple deliveries, if this is part of their role. If they are expected to perform specific tasks on-farm, such as foot trimming, then appropriate training should be given. Otherwise, a veterinary surgeon or, for certain tasks, a competent and trained contractor will be required.

**10** It is important that grazing cattle, especially young stock come into regular contact with a stock-keeper so that they will not be too frightened if they need to be gathered or treated. Careful supervision and handling of the animals will reduce their fear. The stock-keeper needs a back-up plan and equipment available if he needs to catch and restrain an extensively grazed animal that is not so used to human contact (for example, if it needs to see a veterinary surgeon). You should avoid mixing groups of animals, especially where the animals are horned.

## Inspection

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 2, requires that:

- All animals kept in husbandry systems in which their welfare depends on frequent human attention shall be thoroughly inspected at least once a day to check that they are in a state of well-being; and

- Animals kept in systems other than husbandry systems in which their welfare depends on frequent human attention shall be inspected at intervals sufficient to avoid any suffering.

**11** The health and welfare of animals depends on them being regularly inspected. All stock-keepers should be familiar with the normal behaviour of cattle and should watch for any signs of distress or disease. To do this, it is important that stock-keepers have enough time to:

- inspect the stock;
- check equipment; and
- take action to deal with any problem.

There are more detailed inspection rules for calves (see box before paragraph 99 and paragraphs 99-101).

**12** The stock-keeper should be aware of the signs of ill-health in cattle, which include:

- listlessness,
- separation from the group;
- unusual behaviour;
- loss of body condition;
- loss of appetite;
- a sudden fall in milk yield;
- constipation;
- scouring (diarrhoea);
- not cudding;

- any discharge from the nostrils or eyes;
- producing more saliva than usual;
- persistent coughing;
- rapid or irregular breathing
- abnormal resting behaviour;
- swollen joints;
- lameness; and
- mastitis.

**13** You should be able to anticipate problems or recognise them in their earliest stages. In many cases, you should be able to identify the cause and put matters right immediately. You should always consider the possibility that cattle may be affected by a notifiable disease (see paragraphs 37-38). If the cause is not obvious, or if your immediate action is not effective, a veterinary surgeon or other expert should be called in immediately – failure to do so may cause unnecessary suffering.

## Handling

The Welfare of Farmed Animals (England) Regulations (S.I. 2000 No. 1870), Schedule 1, Paragraph 30, states that: -

No person shall apply an electric current to any animals for the purposes of immobilisation.

**14** Cattle should be moved at their own pace, without being hurried by stock-keepers, vehicles or dogs. You should encourage them gently - especially around corners and where it is slippery underfoot. You should avoid using too much noise, excitement or force. You must not put pressure or strike at any particularly sensitive part of the body (such as the head or udder). Anything that you use to guide the animals (such as a stick) should only be used for that purpose and must not have a sharp or pointed end. The use of electric goads on adult cattle should be avoided as far as possible. If goads are used, you

should always ensure that there is sufficient space for them to move forward.

**15** You should regularly assess the type and condition of any track on which cattle are moved and the distance from housing or milking facilities to pasture. Your assessment should include:

- gateways;
- tracks; and
- the areas surrounding water troughs;

so that you can take appropriate action to avoid possible injury or lameness.

You should make sure that any concrete floors and walkways have a non-slip surface, which does not cause too much pressure or excessive abrasion on the animals' feet.

**16** All stock-keepers should have access to easy-to-use and efficient handling pens (the right size and scale for the type and number of animals in the herd). This is so that you can routinely manage and treat the animals, and make sure that they are quietly and firmly handled. Ideally, these handling pens should protect the animals from extreme weather. You should keep all pens, races (narrow passageways), crushes (restraining gates to assist handling) and floors in good condition and make sure that they are free from any sharp edges or projections which might injure cattle. Where possible races should be gently curved rather than have right-angled bends.

### Transport off-farm

The Welfare of Animals (Transport) Order 1997 (S.I. 1997 No. 1480) Schedule 2, Part II, Paragraph 15, states that: -

- (1) Animals shall not be suspended by mechanical means, nor lifted or dragged by the head, horns, legs or tail.

(2) No person shall use excessive force to control animals.

(3) Subject to sub-paragraph (4) below, no person shall use –

- (a) any instrument which is capable of inflicting an electric shock to control any animal;
- (b) any stick, goad or other instrument or thing to hit or prod any cattle of six months or under.

(4) The prohibition in sub-paragraph (3)(a) above shall not apply to the use of any instrument of a kind mentioned in the sub-paragraph, on the hindquarters of any cattle over the age of six months which are refusing to move forward when there is space for them to do so, but the use of any such instrument shall be avoided as far as possible.

(5) Nothing in this provision shall prevent the suspension by mechanical means of a receptacle in which an animal is being carried.

The Welfare of Animals (Transport) Order 1997 (S.I. 1997 No. 1480), Schedule 2, Part II, paragraph 10 states that:-

- (1) Animals shall be loaded and unloaded in accordance with this paragraph.
- (2) Save as provided in sub-paragraphs (6) and (7) below they shall be loaded and unloaded using suitable ramps, bridges, gangways or mechanical lifting gear, operated so as to prevent injury or unnecessary suffering to any animal.
- (3) The flooring of any loading equipment shall be constructed so as to prevent slipping.
- (4) Subject to sub-paragraph (6) below, ramps, bridges, gangways and loading platforms shall be provided on each side with protection which is-
  - (a) of sufficient strength, length and height to prevent any animal using the loading equipment from falling or escaping; and
  - (b) positioned so that it will not result in injury or unnecessary suffering to any animal.

[(5) not relevant.]

(6) An animal may be loaded or unloaded by means of manual lifting or carrying if the animal is of a size that it can easily be lifted by not more than two persons and the operation is carried out without causing injury or unnecessary suffering to the animal.

(7) An animal may be loaded or unloaded without equipment or by manual lifting or carrying provided that, having regard to the age, height and species of the animal, it is unlikely to be caused injury or unnecessary suffering by being loaded or unloaded in this manner.

**17** You should have the facilities on-farm to load and unload cattle onto and from a vehicle, with as little stress as possible. Stock-keepers should know how to handle animals during loading and unloading, including:

- using visual fields (i.e. cattle have a wide field of vision but have a blind spot behind them, which you should avoid entering) and flight zones (an imaginary area which if you enter will make the animal want to move away. You can control an animal's movement by understanding the flight zone).
- lighting (as cattle prefer to move from the dark into the light); and
- when and how to use such things as sticks and other implements.

### Marking

**18** The law states that all cattle must be permanently identified by an official ear tag in each ear. These ear tags should be fitted by a properly trained and competent operator, so that the animal does not suffer any unnecessary pain or distress - either when the tags are fitted or later. Think carefully about the best type of tags for your animals.

A suitable style and size of tag should be used for the breed of animal. Make sure that you fit the tag correctly by following the manufacturers' instructions and using the correct applicator for the model of tag you are fitting. Always fit the tags under hygienic conditions.

**19** When fitting ear tags, you must properly restrain the animals. You should take care to position and insert tags correctly, avoiding main blood vessels and ridges of cartilage. When inserted, the tag should be properly closed to minimise snagging. Remember to leave a suitable gap under the tag and at the edge of the ear to allow for growth. If you are tagging cattle during the fly season (i.e. summer) you should take precautions to prevent the animals being irritated by flies.

**20** If you are marking the cattle with neck bands or chains, and tail bands or leg bands (which you use for herd management identification purposes) you should fit them carefully and adjust them as necessary to avoid causing the animals any unnecessary pain, suffering or injury. If you are using aerosols or paints for temporary marking, make sure you only use non-toxic (safe) substances.

**21** You can find out more information on cattle identification and cattle movements from the British Cattle Movement Service (see the Appendix for contact details).

### Clipping

**22** Anyone who clips cattle should be experienced, competent and trained in clipping techniques. Clipping operators should clean and disinfect their equipment between cattle to reduce the risk of spreading disease. The clippers they use should always be appropriate for the purpose and well maintained.

# Health

## General

**23** Maintenance of good health is the most basic requirement affecting the welfare of cattle. Measures to protect health include good hygiene, good husbandry and effective ventilation. Vaccinations may be appropriate against certain diseases. You should ensure that only authorised veterinary medicinal products, including vaccines, are used.

**24** The written health and welfare plan (see paragraph 7) should also, as a minimum, look at:

- biosecurity arrangements on-farm and in transport;
- purchased stock procedures;
- any specific disease programmes, such as leptospirosis, Johne's disease, salmonella, BVD and tuberculosis;
- vaccination policy and timing;
- isolation procedures;
- external and internal parasite control;
- lungworm control;
- lameness monitoring and foot care;
- routine procedures, such as ear tagging;
- mastitis control.

The health and welfare plan should make sure that animals get any necessary medical treatment at the correct time and in the correct dose.

**25** In geographical areas with known mineral deficiencies and imbalances - and where vitamin or mineral deficiencies are likely - you may need to supplement the animals' diet. Supplementary magnesium should be provided during periods when there is a recognised risk of deficiency, for example, in early spring or at weaning in suckler herds. This aspect should be covered in your health and welfare plan. Equally, too much of a particular vitamin or mineral may cause problems. For example, too much

copper can lead to copper poisoning. You need to look carefully at the amount of copper in the existing diet, prior to the administration of copper orally or by injection.

**26** If your herd has a serious problem with summer mastitis, you need advice from a veterinary surgeon about introducing a suitable control programme. Controls for summer mastitis may include:

- dry cow therapy;
- teat sealants;
- controlling flies (particularly from July to September) by using ear tags impregnated with insecticide or pour-on/spray insecticides; and
- where possible, avoiding high-risk pastures (such as areas close to hedges and slow moving water which attract flies) (see paragraph 142).

## Condition scoring

**27** Body-condition scoring can contribute greatly to good husbandry and help to avoid costly welfare problems. Condition scoring is an easy technique to learn. Basically, it means that you can quickly assess the body reserves (i.e. fat) of individual animals. The technique will be of benefit if you use it as a routine management tool to check that cattle are in the target condition for each stage of the production cycle. This will be particularly useful at:

- drying off or weaning;
- calving;
- peak yield; and
- early lactation.

You should adjust feeding as necessary for animals that are too fat or too thin. You will find more information in the Defra booklets, 'Condition scoring of dairy cows' and 'Condition scoring of beef suckler cows and heifers' (see the Appendix).

## Biosecurity

**28** Biosecurity means reducing the risk of disease occurring or spreading to other animals. Good biosecurity can be obtained through:

- good management/husbandry;
- good hygiene;
- reducing stress on the herd;
- effective disease control systems such as vaccination and worming programmes.

Biosecurity results in:

- farm units being more secure from the introduction of new infectious diseases; and
- the spread of any diseases on the unit itself being kept to a minimum.

**29** If you are careful when you move livestock onto a farm, and within the farm (particularly if the farm is on more than one site), this can greatly reduce the chance of a major outbreak of disease. For example, any cattle must only be transported in vehicles that have been properly cleansed and disinfected. You should ask the vendor to provide you with information on the health of the herd, such as routine vaccination and worming procedures, so that their suitability for your herd can be assessed and, where necessary, appropriate treatments and vaccinations administered.

**30** You should have isolation facilities so that you can isolate and observe/test new animals for a suitable period when they arrive, before they join the rest of the herd. Hired bulls should only be used when no alternative is available. The potential disease status of the hired bull should be carefully considered prior to its introduction. Get advice from your veterinary surgeon. You can find more information in the Defra publication 'Better biosecurity provides peace of mind, healthy stock and a more viable business' (see the Appendix).

## Lameness

**31** Lameness in any animal is usually a sign that they are in pain. Lameness in cattle is a sign of ill-health and discomfort. It clearly affects animals' welfare, as well as their performance and production. For this reason, very lame cows should be taken off concrete and housed in a suitably bedded pen. If a significant percentage of your cattle has severe lameness, this can be a sign of poor overall welfare standards within the herd. You can find more information in Defra's booklets, 'Lameness in dairy cattle' and 'Lameness in beef cattle and dairy followers' (see the Appendix).

**32** If lame cows do not respond to treatment, you need to call a veterinary surgeon immediately. Lameness can have a number of causes. This is why you need the veterinary surgeon's early and accurate diagnosis of the specific type of lameness affecting the herd before you can identify the likely causes and take the appropriate action.

**33** If a lame animal does not respond to the veterinary surgeon's treatment, you should have it culled rather than leave it to suffer. If you cannot transport lame animals without causing them more pain, you should slaughter them on the farm (see paragraph 47). Also, you must not transport any cattle off-farm that cannot stand up unaided or cannot bear their weight on all four legs when standing or walking. You should not take any cattle that can bear weight on all four feet but are slightly lame to market or anywhere else if it is likely to aggravate the injury, however slightly.

## External parasites

**34** You should control diseases caused by external parasites - especially where the animal's skin is irritated and it is rubbing the area - with the appropriate parasiticides. You should treat your animals for parasites with your veterinary surgeon's

advice and ensure that control and treatment regimes form part of your herd health and welfare plan.

### Internal parasites

35 You should control internal parasites by planning the grazing rotation and by using effective medicinal products (to control roundworm and fluke) or vaccines (to prevent lungworms). As part of the herd health and welfare plan you should ensure that treatment is based on the life cycle of the particular parasites you are tackling. You should treat your animals for parasites with your veterinary surgeon's advice. Organic producers, in particular, should seek veterinary advice on this aspect of their health and welfare plan.

### Dosing and vaccination equipment

36 You must make sure that all the equipment you use for dosing, vaccinating and treating the animals is in good working order. Ideally, use equipment from your own farm. If you must borrow it, make sure it is cleaned and disinfected before use on your farm. You should regularly clean and sterilise any equipment you use for injections, to avoid infections and abscesses. Ideally, you should use disposable needles. The size of a dosing-gun nozzle should be suitable for the animal's age. You should dispose of any dangerous objects (such as needles) safely. Products should be administered according to manufacturer's instructions and you should be trained to give treatments - such as injections or boluses by mouth - as the animals could be injured by poor administration of treatments.

### Notifiable diseases

37 If you suspect that any animal is suffering from a notifiable disease, you have a legal duty to notify a

Divisional Veterinary Manager (DVM) of Defra as soon as possible.

38 The following are the main notifiable diseases which affect cattle:

**Anthrax**

**Aujesky's disease**

**Bluetongue**

**Bovine spongiform encephalopathy (BSE)**

**Brucella abortus (Brucellosis)**

**Enzootic bovine leukosis**

**Foot-and-mouth disease**

**Lumpy-skin disease**

**Pleuropneumonia**

**Rabies**

**Rift-valley fever**

**Rinderpest**

**Tuberculosis**

**Vesicular stomatitis**

**Warble fly**

For more information on these diseases contact your veterinary surgeon or local Animal Health Divisional Office.

### Sick and injured animals

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 5, states that: -

- any animals which appear to be ill or injured:
- shall be cared for appropriately without delay; and
- where they do not respond to care, veterinary advice shall be obtained as soon as possible.

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 6, states that: -

where necessary, sick or injured animals shall be isolated in suitable accommodation with, where appropriate, dry comfortable bedding.

39 You should take action immediately if any cattle are injured or appear ill or distressed. It is important to exclude the possibility of notifiable diseases. If you are in any doubt about the ill-health or the most effective treatment, consult your veterinary surgeon without delay. Likewise, if an animal you have treated does not respond to treatment, seek your veterinary surgeon's advice.

40 When necessary, you should have a procedure for isolating and caring for sick or injured animals. Hospital pens should be an essential component of any cattle unit and they should have an entrance that is wide enough for an animal to be easily herded into the pen. When moving sick or injured cattle to the hospital pens, you should ensure that unnecessary suffering does not occur. These pens should be easily reached so that you can regularly check on the animal. You should make sure that drinking water is freely available in the pens, and that there are feeding facilities. The possibility of spillage should be minimised by using an appropriate receptacle and positioning it carefully, so as not to wet the lying area and deprive the animal of feed or water. Ideally, you should also be able to milk any cows in them, if you need to.

41 If an unfit animal does not respond to treatment, it should be humanely killed on-farm (culled). You should cull any animals suffering from an incurable condition (such as mucosal disease or Johne's disease), poisoning or untreatable painful conditions, as soon as possible after diagnosis.

### Downer animals

42 When an animal is unable to rise - a 'downer animal' - the prospect for recovery of the animal can be greatly increased by providing quality care in the initial period of recumbency. The animal should be provided with a comfortable dry lying area and given food and water. Treatment should include frequent turning to ensure that the animal is not continuously resting on one side or leg, which could lead to irreversible muscle damage.

43 When an animal becomes recumbent, it is important to identify the likely cause. Where there is a history of trauma, for example, falling or slipping, a veterinary surgeon should assess the extent of any injury. Where the prognosis for recovery is poor, early intervention, by humanely destroying the animal on-farm, should not be delayed.

44 Where the history indicates a medical origin for the recumbency, such as milk fever or toxic mastitis, appropriate treatment should be given in accordance with veterinary advice. Where a 'downer animal' has not responded to treatment, it should be assessed by a veterinary surgeon. Attempts to lift 'downer animals' must not be made prior to an assessment by a veterinary surgeon, to ensure that the procedure will not result in additional suffering for the animal.

The Welfare of Animals (Transport) Order 1997 (S.I. 1997 No. 1480) Articles 4 (1) and 6 respectively provide that: -

- No person shall transport any animal in a way which causes or is likely to cause injury or unnecessary suffering to that animal.
- No person shall transport any animal unless:
  - it is fit for the intended journey; and
  - suitable provision has been made for its care during the journey and on arrival at the place of destination.

For these purposes an animal shall not be considered fit for its intended journey if it is ill, injured, infirm or fatigued, unless it is only slightly ill, injured, infirm or fatigued and the intended journey is not likely to cause it unnecessary suffering, likely to give birth during transport, has given birth during the previous 48 hours or is a new born animal in which the navel has not completely healed.

**45** You can **only** transport an unfit animal if you are taking it to a veterinary surgeon for treatment or diagnosis, or to the nearest available place of slaughter and even then, only if you do so in a way that does not cause the animal any more suffering. You will find more information in Defra's booklet, 'Guidance on the transport of casualty farm animals' (see the Appendix).

**46** In an emergency, you may have to slaughter an animal immediately to prevent its suffering. In such cases, you should destroy the animal humanely and, where possible, it should be done by someone who is suitably trained and competent both in slaughter methods and use of the equipment. Under these emergency circumstances a slaughter licence is not required.

It is a general offence under the Welfare of Animals (Slaughter or Killing) Regulations 1995 (S.I. 1995 No. 731) as amended by the Welfare of Animals (Slaughter or Killing) (Amendment) Regulations 1999 (S.I. 1999 No. 400), to cause or permit any avoidable excitement, pain or suffering to any animal during slaughter or killing (regulation 4(1)).

The general offence applies in all cases, but the detailed provisions in respect of the method of slaughter or killing do not apply when an animal has to be killed immediately for emergency reasons (regulation 13(2)).

**47** If you have to slaughter the animals on-farm in a non-emergency situation, you must do so using a permitted method which is in line with current

welfare at slaughter legislation (see box below).

The Welfare of Animals (Slaughter or Killing) Regulations 1995 (S.I. 1995 No. 731) as amended by the Welfare of Animals (Slaughter or Killing) (Amendment) Regulations 1999 (S.I. 1999 No. 400) state that when an animal is slaughtered or killed on-farm, this must be done using a permitted method. The animal could be:

- stunned using a captive bolt pistol, concussion stunner or electrical stunner after which it must be followed by bleeding – or pithed – without delay (regulation 14 and Schedules 5 (Part II) and 6). If the animal is stunned and bled, the operation must be carried out by a slaughterman licensed for these operations (Schedule 1), unless the owner is slaughtering an animal for his own consumption; or
- killed by a free bullet (regulation 15 and Schedule 5 Part III); the animal should be killed with a single shot to the head.

**48** After slaughter, you must dispose of the carcass by a suitable method (see the box below):

Article 5 of the Animal By-Products Order 1999 (S.I. 1999 No.646) requires that fallen stock are disposed of by:

- despatch to a knackery yard, hunt kennel or similar premises;
- incineration;
- rendering;
- in certain circumstances, burial in such a way that carnivorous animals cannot gain access to the carcass, or burning.

This provision applies to the disposal of still-born or unborn calves, as well as to older cattle.

The Dogs Acts 1906-28 include provisions making it an offence for a person knowingly to permit a carcass to remain unburied in a place to which dogs could gain access.

At present, burial or burning is only permitted in very limited circumstances. If you plan to bury the carcass on-farm, you should first check that the local authority allows this under the Animal By-Products Order 1999. However, from 30 April 2003, new EU legislation, the Animal By-Products Regulation, will ban the routine burial or burning of animal carcasses.

## Record Keeping

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 7, states that:

A record shall be maintained of –

- (a) any medicinal treatment given to animals; and
- (b) the number of mortalities found on each inspection of animals carried out in accordance with any of the following provisions.

Schedule 1, paragraph 8 states that:

- The record referred to in paragraph 7 shall be retained for a period of at least three years from the date on which the medicinal treatment was given, or the date of the inspection, as the case may be, and shall be made available to an authorised person when carrying out an inspection or when otherwise requested by such person.

It is a requirement under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) Regulations 1997 (S.I. 1997 No.1729), Part V, paragraph 32, that you keep a record of:

'The name and address of the supplier of the veterinary medicinal product'.

**49** You should only buy and use authorised animal medicines. You must keep full records of all the medicine you buy, including where you bought it. Also, you must keep records for at least three years of:

- the date you treated the animals;
- how much medicine you used; and
- which animal or group of animals you treated.

You will find more information in the Code of Practice on responsible use of animal medicines on the farm (see the Appendix).

**50** In terms of individual animal management, you may find it useful, as part of the health and welfare plan, to note specific cases of mastitis, lameness and disorders, such as milk fever, and where appropriate, the relevant treatment given.

## Feed, water and other substances

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraphs 22-27, states that:

- Animals shall be fed a wholesome diet which is appropriate to their age and species and which is fed to them in sufficient quantity to maintain them in good health and to satisfy their nutritional needs and to promote a positive state of well-being.
- No animals shall be provided with food or liquid in a manner, nor shall such food or liquid contain any substance, which may cause them unnecessary suffering or injury.
- All animals shall have access to feed at intervals appropriate to their physiological needs (and, in any case, at least once a day), except where a veterinary surgeon acting in the exercise of his profession otherwise directs.
- All animals shall either have access to a suitable water supply and be provided with an adequate supply of fresh drinking water each day or be able to satisfy their fluid intake needs by other means.
- Feeding and watering equipment shall be designed, constructed, placed and maintained so that contamination of food and water and the harmful effects of competition between animals are minimised.
- No other substance, with the exception of those given for therapeutic or prophylactic purposes or for the purpose of zootechnical treatment shall be administered to animals unless it has been demonstrated by scientific studies of animal welfare or established experience that the effect of that substance is not detrimental to the health or welfare of the animals.

**51** All cattle need a balanced daily diet to maintain full health and energy. You should monitor how much forage is available and when there is no longer enough for the animals' needs, you should supplement it with other suitable feeds. You should regularly check the weight and type of supplementary feeds offered, to make sure they are well balanced.

You should plan any changes in the diet and introduce them gradually.

**52** Sufficient roughage must be available in all diets to reduce the risk of inducing bloat or laminitis. In intensive barley beef systems, long roughage, such as straw, should be made available *ad lib*. Where total mixed rations are used, you should seek specialist advice.

**53** Animals that have been isolated for treatment must have plenty of water available. Unless a veterinary surgeon tells you otherwise, you must give the animal its normal feed.

**54** There should be enough water available for at least 10% of housed cattle to drink at any one time. Water troughs - especially those in loose housing or cubicle units - should be designed and placed where:

- they are protected from fouling; and
- there is a low risk of the water freezing in cold weather.
- where there is sufficient space and easy access for all stock and dead-ends are avoided.

You should keep water troughs or bowls thoroughly clean and check them at least once a day to make sure they are not blocked or damaged, and the water is flowing freely. Checking for blockages is equally important where drinking nipples are used. Provision must be made for providing emergency supplies of water.

**55** For grazing cattle, you need the appropriate number of water troughs (large enough and of the right design) or some other source of drinkable water (such as a bowser, or water tanker) that the animals can readily use wherever they are grazing. These areas should allow easy access, be smooth underfoot and not prone to waterlogging.

## Accommodation

### General

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraphs 11 and 12, state that:

- materials used for the construction of accommodation, and, in particular for the construction of pens, cages, stalls and equipment with which animals may come into contact, shall not be harmful to them and shall be capable of being thoroughly cleaned and disinfected.
- accommodation and fittings for securing animals shall be constructed and maintained so that there are no sharp edges or protrusions likely to cause injury to them.

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 4, states that:

- where any animals (other than poultry) are kept in a building they shall be kept on, or have access at all times to, a lying area which either has well-maintained dry bedding or is well-drained;

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 9 states that:

- The freedom of movement of animals, having regard to their species and in accordance with established experience and scientific knowledge, shall not be restricted in such a way as to cause them unnecessary suffering or injury.

Schedule 1, paragraph 10 states that, where animals are continuously or regularly tethered or confined:

- they shall be given space appropriate to their physiological and ethological needs in accordance with established experience and scientific knowledge.

**56** The more you limit the space that cattle have in the housing system you provide, the less choice the animal has to avoid unfavourable conditions. Housed cattle need constant care and attention from staff who are well trained in the nutritional and environmental needs of cattle.

**57** No matter how long you house the animals, their accommodation should give them shelter and enough room to move around and interact with each other. The accommodation should provide enough space for a subordinate animal to move away from a dominant one. It is important to provide as comfortable an area as possible, so that the animals can lie down for as long as they want and have enough space to stand up again. The floor should not slope too steeply – no more than about 10% - as steeper slopes can cause leg problems, slipping and falling.

**58** You should keep all concrete yards and passageways in good condition. They should not be too rough as this can graze or even cut the soles of the animals' feet. On the other hand, the yards and passageways must not be worn smooth, as the animals are then likely to slip and possibly cause leg and other damage. You should not let slurry build up on concrete floors and passageways, as this will also make the floor slippery.

**59** Where slatted floors are used, you should pay particular attention to the type of slats, to avoid slipperiness. The gaps between the slats should not be wide enough to cause foot injuries (for example, when claws get trapped). You should only use slatted pens for the size of animals that they were designed for.

**60** You should not use fully-slatted concrete floors for breeding cows or replacement heifers. Where there are slats, part of the accommodation should be a solid-floor area with straw or some other suitable bedding material, so that the animals will be comfortable and less likely to injure themselves - particularly their udders.

**61** You should keep bulls reared for slaughter in small groups, ideally no more than 20 animals in each. You should not normally add bulls to groups already formed, and neither should you add one group to another to send to slaughter. You should keep groups of bulls at a safe distance from female cattle.

### Straw yards

**62** Ideally, for dairy herds you should completely clean out straw yards every four to six weeks. This is so that the cows do not get too dirty and to reduce the risk of mastitis from bacteria in the bedding (i.e. environmental mastitis). If you use straw yards, you should top them up with clean, dry straw every day. In the case of suckler herds, the frequency of cleaning out and topping up can be reduced. You should make sure that there is enough clean and dry straw available for as long as the animals are housed. Where possible, you should store this straw under cover to keep it dry. There should be enough space for all the animals to lie in comfort at the same time, and to stand up and move freely.

**63** There should be enough room for all the animals in the management group to lie down and move around freely. Where feed and water troughs are accessible from the bedded area, measures should be put in place to reduce fouling. Where feed and water troughs are provided in the adjacent loafing area, the access areas should be sufficiently wide to permit free movement of animals and prevent routes becoming wet, fouled and slippery. Where a loafing area is used it should, ideally, be partly covered. You will need to control the build-up of slurry in passageways and loafing areas by scraping at least twice a day.

**64** Where appropriate, you should take cows that are bulling away from the main group temporarily, so that the risk of teat injuries is reduced and the

straw yard will not be churned up. Churned-up straw can dirty the cows and may lead to mastitis.

### Cubicles

**65** If you are installing cubicles or adapting your existing facilities, you should get specialist advice. You need to consider the size, shape and weight of the animals when you design the cubicles. Cubicle passageways should be wide enough for cows to pass one another easily.

**66** Cubicles should be designed to encourage cows to lie down and stand up easily without injuring themselves. You need to have enough bedding to:

- keep the cows comfortable;
- prevent them from getting contact or pressure sores (from always lying in the same or cramped positions); and
- keep the cows' teats, udders and flanks clean.

You must never use a bare, solid base in the cubicles. The kerb should not be so high that it strains the cows' legs as they enter or leave the cubicle, neither should the bed be so low that it becomes contaminated with slurry.

**67** Where you do have cubicles, you should have at least one for each cow. About 5% more cubicles than the number of cows in the management group is recommended. You should train heifers to lie correctly in cubicles by encouragement (giving them familiar bedding), rather than by restraint (such as tethering them).

**68** It is important that you keep slurry to a minimum, either by scraping out the passageways at least twice a day or by using slatted passageways. You should clean the cubicle base each day and replace the bedding as necessary, to keep the lying area clear of manure.

### Cowsheds

**69** In cowsheds, the lying area should be big enough to help keep the cows clean and comfortable and to avoid them damaging their joints. You need to untie tethered cows and let them exercise at least once a day and give them feed and water if it is a long exercise period. The animals should also be able to groom themselves when tethered. The cowshed needs to be well ventilated.

**70** Feed and water troughs should be designed and placed where smaller animals cannot get into them and you should keep the troughs clean. Where particular feeds are not provided *ad lib*, the troughs should enable all the animals in the pen to eat at the same time to avoid excessive aggression.

**71** The internal surfaces of housing and pens should be made of materials that you can clean and disinfect and easily replace when necessary.

**72** If you are going to treat these surfaces, use paints or wood preservatives that are safe to use with animals. There is a risk of lead poisoning from old paintwork, especially if you use second-hand building materials.

### Space allowances

**73** You should work out the space allowance for cattle housed in groups in terms of:

- the whole environment;
- the age, sex, liveweight and behavioural needs of the stock;
- the size of the group; and
- whether any of the animals have horns;

and you should base your decision on expert advice.

### Ventilation

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 13, states that:

- air circulation, dust levels, temperature, relative humidity and gas concentrations shall be kept within limits which are not harmful to the animals.

**74** All new buildings should be designed with the animals' comfort in mind, and with the aim of preventing respiratory diseases. The buildings should provide enough ventilation throughout the year for the type, size and number of stock to be housed in them. Where appropriate, roofs should be insulated to reduce solar penetration.

**75** Where the ventilation in existing buildings is not good enough, you should adapt these buildings by improving air inlets and outlets, or by using mechanical equipment (such as a fan).

**76** When you are removing slurry from under slats, you must take special care to avoid fouling the air with dangerous gases (such as methane), which can kill both humans and animals. Ideally, slurry tanks should be emptied when the building is not in use. Where it becomes necessary to remove slurry when cattle are being housed, you should take all stock out of the building. Buildings should be well ventilated during this procedure.

### Lighting

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870), Schedule 1, Paragraph 3 states that:

- where animals are kept in a building, adequate lighting (whether fixed or portable) shall be available to enable them to be thoroughly inspected at any time.

Schedule 1, paragraphs 14-16 state that:

- Animals kept in buildings shall not be kept in permanent darkness.
- Where the natural light available in a building is insufficient to meet the physiological and ethological needs of any animals being kept in it then appropriate artificial lighting shall be provided.
- Animals kept in buildings shall not be kept without an appropriate period of rest from artificial lighting.

**77** During daylight hours, indoor lighting - whether it is natural or artificial - should be bright enough for you to clearly see all the housed cattle and for the cattle to feed and behave normally. Also, you should have enough fixed or portable lighting available at any time if you need to inspect any animals, for example, during calving.

## Equipment

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) (Schedule 1, Paragraphs 18-21), state that:

- All automated or mechanical equipment essential for the health and well-being of the animals shall be inspected at least once a day to check there is no defect in it.
- Where defects in automated or mechanical equipment of the type referred to in the paragraph above are discovered, these shall be rectified immediately, or if this is impossible, appropriate steps shall be taken to safeguard the health and well-being of the animals pending the rectification of such defects including the use of alternative methods of feeding and watering and methods of providing and maintaining a satisfactory environment.
- Where the health and well-being of the animals is dependent on an artificial ventilation system –
  - provision shall be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the animals in the event of failure of the system; and
  - an alarm system (which will operate even if the principal electricity supply to it has failed) shall be provided to give warning of any failure of the system.
- The back-up system shall be thoroughly inspected and the alarm system shall each be tested at least once every seven days in order to check that there is no defect in the system and, if any defect is found (whether when the system is inspected or tested in accordance with this paragraph or at any other time) it shall be rectified immediately.

**78** All mains electrical equipment should meet relevant standards and be properly earthed, safeguarded from rodents and out of the animals' reach.

# Management

## General

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No 1870) Schedule 1, paragraph 17, states that:

- Animals not kept in buildings shall, where necessary and possible, be given protection from adverse weather conditions, predators and risks to their health and shall, at all times, have access to a well-drained lying area.

**79** Where there is no natural or artificial shelter to protect grazing stock from extreme weather conditions, you should move them to a more suitable area. Shelter or natural shade from trees or hedges is important in summer as heat stress causes animals (particularly high-yielding cows and dark-coated suckler cows) severe problems such as:

- abnormal breathing;
- severe loss of appetite;
- serious weight loss; and
- anoestrus (cows not coming into season).

**80** Where animals are outwintered they must have access to a well-drained lying area and, where possible, be provided with shelter from adverse weather conditions.

**81** You should have a concrete standing area, or well-drained, suitable surface, that will not injure animals' feet around feed and water troughs. The surface on which the animals walk to reach the troughs should also be well drained. Otherwise, you should move the troughs quite often so that the animals are not standing in the same muddy and fouled areas.

**82** You should take all practical measures to remove all cattle from areas that are in imminent danger of flooding.

**83** You should keep all the farm's fields and buildings clear of debris such as wire or batteries (with their risk of lead poisoning), or plastic or sharp metal objects that could injure the cattle or rip out their ear tags and damage their ears.

## Fencing and hedges

**84** You should look after your fences, trim hedges and remove any obstructions or snags (on hedges, gates, fences or feeding troughs) that could catch on ear tags.

**85** You should make sure that any electric fences are designed, constructed, used and maintained properly, so that when the animals touch them they only feel slight discomfort. All power units for electric fences must be properly earthed to prevent short circuits or electricity being conducted anywhere it should not be, for example, gates and water troughs.

## Injurious weeds

**86** You should control injurious (harmful) weeds because they can harm animals by:

- poisoning them (for example, ragwort);
- injuring them (for example, thistle); and
- reducing their grazing area by reducing the edible plants that are available.

Under the Weeds Act 1959, the Secretary of State for the Environment, Food and Rural Affairs, may serve an enforcement notice on an occupier of land on which one or more of the five injurious weeds are growing requiring the occupier to take action to prevent the weeds from spreading. The Act permits Defra officials to enter land to inspect whether an enforcement notice has been complied with. If an occupier has unreasonably failed to comply with the notice, he or she shall be guilty of an offence and

on conviction liable to a fine. The Act also contains additional powers, which enable the Secretary of State to take action to arrange for the weeds to be cleared and recover the cost of doing so, if necessary through the Courts. The five weeds that this legislation applies to are:

- Spear thistle (*Cirsium vulgare*)
- Creeping or field thistle (*Cirsium arvense*)
- Curled dock (*Rumex crispus*)
- Broad-leaved dock (*Rumex obtusifolius*)
- Common ragwort (*Senecio jacobaea*).

You can find out more information on injurious weeds in Defra's leaflets, 'The Weeds Act - Preventing the spread of harmful weeds'; 'The Weeds Act – Guidance notes on the methods that can be used to control harmful weeds' and 'Identification of injurious weeds' (see the Appendix).

## Fire and other emergency precautions

**87** There should be plans in place to deal with emergencies at your farm, such as fire, flood or disruption of supplies (for example, no electricity for milking machines). The owner should make sure that all the staff are familiar with the appropriate emergency action. You will find more information in the Defra booklets, 'Emergencies on livestock farms' and 'Farm fires: advice on farm animal welfare' (see the Appendix).

**88** It is important that you get advice about design when you are building or modifying a building. You need to be able to release and evacuate livestock quickly if there is an emergency by, for example, having outward opening doors and gates. You should consider installing fire alarms that can be heard and responded to at any time of the day or night.

**89** You can get expert advice on all fire precautions from your local fire prevention officers and from the Fire Prevention Association.

## Pregnancy and calving

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870), Schedule 5, paragraphs 1 and 2 state that:

- Where any lactating dairy cows or any cows which are calving are kept in any roofed accommodation they shall have access at all times to a well-drained and bedded lying area.

- Where any cows which are calving are kept in a building, they shall be kept -

- (a) in a pen or yard which is of such size as to permit a person to attend the cows; and
- (b) separate from other livestock other than calving cows.

**90** A large proportion of calving difficulties and losses can be prevented by making sure that cows are at the correct condition at calving. Stock-keepers in charge of calving should be:

- familiar with all the signs that a cow is about to calve; and
- well trained in caring for calving cows and their calves, including the use of mechanical calving aids.

**91** You should always provide adequate supervision at calving, whilst ensuring that calving cows should not be disturbed, unless there are indications that the birth process is not proceeding normally. Enough space should be available to allow cows to exhibit their normal behaviour at calving. If space is limited, you should not house heifers with older cows, as the cows may dominate their feeding and lying areas.

**92** Before you use any type of recognised calving aid, you should examine the cow to make sure that the calf is properly presented (i.e. in the correct position – head first, the right way up and with the head between the two front feet). You also need to check that the calf is not too large for a natural delivery, so that it will not cause any unnecessary pain or distress to either mother or offspring.

**93** If you have any concerns about the presentation or the ability to calve naturally, you should get advice from a veterinary surgeon immediately.

**94** If you help in the delivery, good hygiene of both yourself and the equipment, is essential. You should clean and disinfect calving aids and ropes after each time you use them. You should only use calving aids to help with a delivery, not to extract the calf as quickly as possible. Calving ropes need to be flexible and thick enough not to damage the calf. After the birth, you should treat the calf's navel with a suitable antiseptic to prevent infection, particularly when calves are born inside.

**95** Where calving pens are used, you should do everything possible to prevent the build-up and spread of infection by making sure that they have enough clean bedding and that they are regularly cleaned and disinfected.

**96** Where cows and their calves are group housed, calves should have a separate solid floor and bedded area which the cows are unable to access.

**97** Calving should not be induced routinely. Induction does have a role to play in preventing oversized calves, but you should seek advice from your veterinary surgeon.

# Calf rearing

## General

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Regulation 6, states that owners and keepers of calves confined for the rearing and fattening shall ensure that, in addition to the requirements set out in Schedule 1, the conditions under which the animals are kept comply with the requirements set out in Schedule 4.

**98** Caring for calves, particularly when you buy calves from a number of sources, should be part of your written health and welfare plan. As calves are more susceptible to a number of diseases, good hygiene is essential, particularly with the equipment used artificially to rear calves. You will find more information in Defra's booklet, 'Improving calf survival' (see the Appendix).

## Inspection

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 4, paragraphs 3 and 4, state that:

- All housed calves shall be inspected by the owner or keeper of the calves at least twice a day to check that they are in a state of well-being.
- Calves which are kept outside shall be inspected by the owner or keeper of the calves at least once a day to check that they are in a state of well-being.

**99** It is particularly important that you watch calves carefully for signs of diarrhoea or respiratory disease, such as coughing or rapid or laboured breathing, both of which could spread rapidly. When you buy in calves, you should inspect them as soon as they arrive, before they come into contact with other calves on the farm. You need to assess their general health, paying particular attention to their posture, breathing and the condition of their nose, eyes, navel, anus, feet and legs.

**100** After carefully inspecting any calves you have bought, you should rest them in comfortable conditions for a few hours and then give them a first feed of milk or other suitable liquid, such as electrolyte solution. Where practicable, you should keep them apart from other calves for long enough to prevent any possible cross-infection.

**101** If you rear calves in a system where milk is provided by artificial means, you should closely monitor their feed intake. If calves have a reduced or slower feed intake, this is often an early sign of disease.

## Sick and injured calves

In addition to the provisions laid down in Schedule 1, paragraph 5 of the Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870), Schedule 4 paragraph 5 states that: -

- where necessary sick or injured calves shall be isolated in suitable accommodation with dry comfortable bedding.

**102** You should isolate and treat calves if, for example, they have diarrhoea or pneumonia. Monitoring their temperature is a useful means of assessing their response to treatment. If the calves do not respond to treatment promptly or properly or these illnesses return, you need to get advice from a veterinary surgeon.

## Feed, water and other substances

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 4, paragraph 11, states that: -

each calf shall receive bovine colostrum as soon as possible after it is born and in any case within the first six hours of life.

Schedule 4, paragraph 12 states that:

- (1) All calves shall be provided with food which contains sufficient iron to ensure a blood haemoglobin level of at least 4.5mmol/litre.
- (2) A minimum daily ration of fibrous food shall be provided for each calf over 2 weeks old, the quantity being raised in line with the growth of the calf from a minimum of 100g at 2 weeks old to a minimum of 250g at 20 weeks old.

Schedule 4, paragraph 13 states that calves shall not be muzzled.

Schedule 4, paragraph 14 states that:

- (1) All calves shall be fed at least twice a day.
- (2) Where calves are housed in a group and do not have continuous access to feed, or are not fed by an automatic feeding system, each calf shall have access to food at the same time as the others in the feeding group.

Schedule 4, paragraph 15 states that:

- (1) Subject to sub-paragraph (2) below, all calves shall be provided with a sufficient quantity of fresh drinking water each day.
- (2) Calves shall be provided with fresh drinking water at all times –
  - (a) in hot weather conditions, or
  - (b) when they are ill.

**103** Bovine colostrum is essential to protect the calf against infectious disease. Ideally calves should be left with their dam for at least 12 and preferably 24 hours after birth. It is recommended that the calf should continue to receive colostrum from its mother for the first three days of life. Allowing the calf to suckle naturally may be the best way to make sure that it gets enough colostrum. However, you should supervise suckling carefully and ensure that the udder is clean before the calf sucks. If the calf is unable to suck, colostrum should be given by a suitably trained

person using a stomach tube. When there is any doubt about the quantity or quality of colostrum that is available from the cow, you should give it to the calf by teat feeder or stomach tube from another source within six hours of its birth. A store of frozen or some other form of colostrum should be kept on the farm for use in emergencies.

**104** Removing the calf earlier than 12-24 hours after birth should only be done for disease control purposes, under the advice of a veterinary surgeon and the protocol should be recorded in the health and welfare plan. These calves should still be fed colostrum. In some circumstances, such as in the control of Johne's disease, the use of pooled colostrum may promote the transfer of infection. In such cases, to prevent the risk of the spread of infection in the herd, you should ensure that each calf receives colostrum only from its dam or if this is not possible, only from a single animal.

**105** You can increase the value of colostrum by specific vaccination of the cow or colostrum donor. In high-yielding dairy cows, you may find that the concentration of antibodies in colostrum is diluted. You should get advice from your veterinary surgeon on ways to improve colostrum to protect calves against infectious diseases.

**106** You should not offer milk from cows treated with antibiotics or those being treated for mastitis to calves fed on whole milk.

**107** In artificial calf-rearing systems, it is better for the calf to drink from, or be able to reach a dummy teat. Fresh water should be available in the pen. All calves should receive liquid food every day during their first four weeks of life and, in any case, until they are eating enough solid food.

**108** When calves are put on unlimited milk-feeding diets, you should make sure that they have enough teats to avoid undue competition and watch them carefully to check that they are all feeding properly.

You should take the same care when you introduce solid food, as and when the calves want it.

**109** You should wean suckler calves so that it causes as little stress as possible to both cows and calves. You should take particular care of newly-weaned suckling calves and keep them in groups of familiar animals to avoid fighting and cross-contamination. If you have to mix some of the animals, to minimise disease you should make sure that the environment does not stress the calves.

**110** You should avoid the routine early weaning of suckled beef calves (at two to three months old) as it can increase the post weaning growth check and thus reduce their resistance to disease. Weaned calves must always have access to fresh forage and weaner mix. You should replace the feed each day so that the food is fresh and appetising. Weaning at between six and nine months of age is recommended, although earlier weaning is acceptable for suckler calves where the cow's health or body condition is poor.

### Accommodation

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 4, states that:

1. -(1) No calf shall be confined in an individual stall or pen after the age of eight weeks unless a veterinary surgeon certifies that its health or behaviour requires it to be isolated in order to receive treatment.  
(2) The width of any individual stall or pen for a calf shall be at least equal to the height of the calf at the withers, measured in the standing position, and the length shall be at least equal to the body length of the calf, measured from the tip of the nose to the caudal edge of the *tuber ischii* (pin bone), multiplied by 1.1.  
(3) Individual stalls or pens for calves (except for those isolating sick animals) shall have perforated

walls which allow calves to have direct visual and tactile contact.

(4) For calves kept in groups, the unobstructed space allowance available to each calf shall be -  
- at least 1.5 square metres for each calf with a live weight of less than 150 kg,  
- at least 2 square metres for each calf with a live weight of 150 kg or more but less than 200 kg, and  
- at least 3 square metres for each calf with a live weight of 200 kg or more.

(5) Each calf shall be able to stand up, turn around, lie down, rest and groom itself without hindrance.

(6) Subject to sub-paragraphs (7) and (8) below, each calf that is kept on a holding on which two or more calves are kept shall be able to see at least one other calf.

(7) Sub-paragraph (6) above shall not apply to any calf that is kept in isolation on a holding on veterinary advice.

(8) For the purpose of calculating the number of calves being kept on a holding in order to determine whether sub-paragraph (6) above applies, no account shall be taken of any calf that is being kept in isolation on that holding on veterinary advice.

### Transitional provisions for accommodation

2. -(1) Until 1st January 2004 sub-paragraphs (1), (3) and (4) of paragraph 1 shall not apply in relation to accommodation in use before 1st January 1998.  
(2) Until 1st January 2004, in the case of accommodation brought into use after 1st January 1994 but before 1st January 1998 –  
(a) where calves are housed in groups, each calf of 150 kg or more live weight shall have at least 1.5 square metres of unobstructed floor space; and  
(b) where a calf is housed in an individual stall or pen, the stall or pen shall have at least one perforated wall which enables the calf to see

other animals in neighbouring stalls and pens unless isolated for veterinary reasons.

### Tethering

6. -(1) Calves shall not be tethered, with the exception of group-housed calves which may be tethered for a period of not more than one hour when being fed milk or milk substitute.  
(2) Where tethers are used in accordance with the preceding sub-paragraph, they shall not cause pain or injury to the calves and shall be inspected regularly and adjusted as necessary to ensure a comfortable fit.  
(3) Each tether shall be designed to avoid the risk of strangulation or pain or injury and allow the calf to lie down, rest, stand up and groom itself without hindrance.

### Lighting

7. Where calves are kept in an artificially lit building then, subject to paragraphs 14 and 16 of Schedule 1, artificial lighting shall be provided for a period at least equivalent to the period of natural light normally available between 9.00 a.m. and 5.00 p.m.

### Cleansing and Disinfection

8. -(1) Housing, stalls, pens, equipment and utensils used for calves shall be properly cleaned and disinfected to prevent cross-infection and the build-up of disease-carrying organisms.  
(2) Faeces, urine and uneaten or spilt food shall be removed as often as necessary to minimise smell and to avoid attracting flies or rodents.

### Floors

9. Where calves are kept in a building, floors shall -  
- be smooth but not slippery so as to prevent injury to the calves;  
- be so designed as not to cause injury or suffering to calves standing or lying on them;  
- be suitable for the size and weight of the calves;

and  
- form a rigid, even and stable surface.

### Bedding and lying area

10. -(1) All calves shall be provided with appropriate bedding.  
(2) All calves shall be kept on, or at all times have access to, a lying area which is clean, comfortable and well-drained and which does not adversely affect the calves.  
(3) All housed calves and calves kept in hutches or temporary structures shall be kept on, or at all times have access to, a lying area which is well-maintained with dry bedding.

**111** Housed calves need an environment that is:

- dry;
- well drained;
- well bedded;
- well ventilated; and
- draught free.

The calves must have enough space for each of them to lie down comfortably. Young calves are particularly susceptible to pneumonia so good ventilation is essential. Ventilation should not be restricted to try and raise the air temperature.

**112** Until they are weaned, you should keep housed calves in small groups to:

- make it easier for you to inspect them; and
- limit the spread of disease.

When calves are fed by natural suckling, other penning arrangements may be satisfactory.

**113** You should not put newborn and young calves on totally slatted floors. Suitable bedding should always be provided.

## Moving and selling calves

The Welfare of Animals (Transport) Order 1997 (S.I. 1997 No. 1480) Article 6, states that:

(3) Animals shall not be considered fit for transport if (*inter alia*) they are newborn animals in which the navel has not completely healed.

The Welfare of Animals at Markets Order 1990 (S.I. 1990 No. 2627), Article 14, states that: -

- no person shall bring to a market a calf which is less than 7 days old or which has an unhealed navel.

- no person shall bring to a market a calf which has been brought to a market on more than one occasion in the previous 28 days.

- it shall be the duty of the owner of any calf in a market on any day, or of his duly authorised agent, to remove it from the market within 4 hours of the time when the last sale by auction of a calf has taken place on that day.

- in this article “calf” means a bovine animal under 12 weeks of age.

**114** To reduce the risk of disease, wherever possible, you should make arrangements to transfer the calves directly from farm to farm rather than through a market.

**115** Ideally, young calves reared without their mothers, should receive human contact, preferably from the same stock-keeper.

## Castration

Under the Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to castrate calves which have reached two months of age without the use of an anaesthetic. Furthermore, the use of a rubber ring, or other device, to restrict the flow of blood to the scrotum, is only permitted without an anaesthetic if the device is applied during the first week of life.

Under the Veterinary Surgeons Act 1966, as amended, only a veterinary surgeon may castrate a calf which has reached the age of two months.

**116** Stock-keepers should consider carefully whether castration is necessary. If it is necessary, there are three methods which can be used to castrate calves:

- a rubber ring or other device, which can only be used in the first seven days of life, by a trained and competent stock-keeper, to restrict the flow of blood to the scrotum;
- bloodless castration, by a trained and competent stock-keeper, by crushing the spermatic cords of calves less than 2 months old, with a burdizzo;
- castration by a veterinary surgeon, using an anaesthetic.

## Disbudding and dehorning

Under The Protection of Animals (Anaesthetics) Act 1954, as amended, it is an offence to disbud calves or dehorn any cattle without the use of an anaesthetic other than when chemical cauterisation is used. Chemical cauterisation may only be used during the first week of life.

**117** Disbudding means removing the horn buds in calves, before any horn material can be seen. It is preferable to dehorning as it is less stressful to the animal. Disbudding should take place before calves are two months old and ideally as soon as you can start to see the horn bud. It is strongly recommended that chemical cauterisation should not be used. Disbudding should only be carried out with a heated iron, under local anaesthetic, by a trained and competent stock-keeper.

**118** Dehorning should not be a routine procedure. It involves cutting or sawing horn and other sensitive tissues under local anaesthetic. Ideally, a veterinary surgeon should do it, and only if it is necessary for the herd's welfare. It should not be a routine

procedure. If you feel that dehorning is necessary, it should be done in spring or autumn to avoid flies or frosts. Following the procedure, the animal should be given appropriate pain relief. You should protect the wound from contamination by such things as grass seeds, hay or silage until the hole has scabbed over. You should put hay racks at a level which reduces the risk of food falling onto the head and contaminating the wound.

**119** The person doing the disbudding or dehorning should always allow enough time for the anaesthetic to numb the area before they begin. They should test this by pricking the skin in the area to see whether the animal can still feel anything around the horn bud or the base of the horn.

## Supernumerary teats

Under the Veterinary Surgeons Act 1966, as amended, only a veterinary surgeon may remove a supernumerary teat from a calf which has reached three months of age.

- The Protection of Animals (Anaesthetics) Act 1954 makes it an offence to remove a supernumerary teat from a calf which has reached three months of age without the use of an anaesthetic.

**120** If an animal has supernumerary teats (i.e. too many teats) and the extra ones are to be removed, the operation should be done at an early age. Anyone carrying out the procedure should be suitably trained and competent. Once the local anaesthetic has numbed the area and antiseptic has been applied, the supernumerary teats should be removed with clean, sharp scissors. Any bleeding should be stopped immediately.

# Breeding animals

## Breeding

The Welfare of Farmed Animals (England) Regulations 2000 (S.I. 2000 No. 1870) Schedule 1, paragraph 28, states that:

(1) Subject to sub-paragraph (2), natural or artificial breeding or breeding procedures which cause, or are likely to cause, suffering or injury to any of the animals concerned shall not be practised.

(2) Sub-paragraph (1) shall not preclude the use of natural or artificial breeding procedures that are likely to cause minimal or momentary suffering or injury or that might necessitate interventions which would not cause lasting injury.

Schedule 1, paragraph 29 states that:

- No animals shall be kept for farming purposes unless it can reasonably be expected, on the basis of their genotype or phenotype, that they can be kept without detrimental effect on their health and welfare.

**121** To rear heifers, you need to demonstrate conscientious and knowledgeable management during their growing period, and through to calving. The animals should show steady growth to meet recommended target weights, so that they will successfully calve at a weight and size suitable for introduction to the adult herd. You should not deliberately mate heifers that are too small, or mate females with an inappropriate bull, or breed of bull. If you do, you are likely to produce calves which will be subject to a high degree of calving difficulties due to their high birth weight or conformation. Every effort should be taken to ensure that such matings do not take place accidentally. Where it becomes apparent that an inappropriate mating has occurred, veterinary advice should be sought on how best to handle the situation.

**122** A high priority in the breeding selection policy should be to include qualities that will improve the welfare of the animals, for example, leg and foot

conformation which would lessen the likelihood of lameness. You should not breed from any animals that have deformities or other weaknesses, where these could affect the general welfare of the stock. For beef cattle in particular, you should breed from animals that are more docile (less aggressive), and also animals with good muscular-skeletal structures (which can reduce lameness). Where possible, you should breed from naturally-polled cattle (i.e. those with no horns) as this avoids the need for disbudding or dehorning.

## Inspection

**123** In breeding herds where you use supervised or artificial mating and at calving times, the stock-keeper should allow enough time to monitor oestrus activity, so as to avoid the unnecessary use of hormones or other treatments. At least twice a day, the stock-keeper should inspect all lactating dairy cows and cattle close to calving.

## Management

**124** A lactating cow needs an appropriate diet to satisfy her nutritional needs, without harming her body condition and metabolism. The amount an animal consumes will be dependent on the quantity, quality and accessibility of the feed provided and the time spent eating. Anything which interferes with this, such as lameness, will have a detrimental effect on the health and welfare of the animal.

**125** You should regularly inspect the feet of all cattle - including bulls - and trim them when necessary. A foot-care programme for your herd should be part of your farm's written health and welfare plan. Foot trimming is of value for all cattle, not just for cows that are lame. You should not attempt foot trimming unless you are properly trained and you have restraining facilities for the

animals. This is because poor foot trimming can cause lameness. If you are in any doubt, get advice from a veterinary surgeon.

## Natural service - bulls

**126** Where natural mating is used, young bulls should only be introduced to small groups of cows (ideally 10-15). Extra feed should be offered as necessary.

**127** All bulls should have good and safe service conditions. Slatted floors and slippery conditions underfoot, (for example, in yards, cubicles and passageways) are not suitable for mating animals.

## Artificial insemination (AI) and embryo transfer

Under the Artificial Insemination of Cattle (Animal Health) (England and Wales) Regulations 1985 (S.I. 1985 No. 1857), as amended, AI may only be carried out by a veterinary surgeon, a competent full-time employee of a licensed supply centre or, in the case of cows in his ownership, by a farmer or his employee who has been trained under Regulation 24(b)(iv).

Under the Bovine Embryo (Collection, Production and Transfer) Regulations 1995 (S.I. 1995 No. 2478):

Embryo collection may only be undertaken by someone who is a member of an approved embryo collection team and acting under the authority of the team veterinarian;

Embryo transfer may be undertaken only by a veterinary surgeon or by a member of an approved embryo transfer team acting under the responsibility of the team veterinarian.

Before embryo transfer takes place, the recipient cow must be clinically examined by a veterinary surgeon (within 30 days preceding transfer if the person who is to carry out the transfer is not a veterinary surgeon). The veterinary surgeon must certify that the recipient is suitable to receive the embryo, and that there is no reason at the time of examination to believe the recipient would not be able to carry it to term and to calve naturally;

Embryo transfer and embryo collection may only be made if the animal concerned is given an appropriate anaesthetic (usually an epidural);

Epidural anaesthesia may only be given by a veterinary surgeon, or by somebody trained and acting under the conditions given in Article 3 of the Veterinary Surgery (Epidural Anaesthesia) Order 1992 (S.I. 1992 No. 696).

**128** You should keep the cows in familiar surroundings until insemination, at which time they can then be moved to an appropriate stall nearby and inseminated immediately.

**129** Embryo transfer (the transplanting of an embryo from one cow into the uterus of a surrogate mother) should always be carried out in line with The Bovine Embryo (Collection, Production and Transfer) Regulations 1995. Surgical methods of embryo collection or transfer may only be carried out by a veterinary surgeon and should not be used as part of routine husbandry. Surgical methods should only be necessary when it is not possible to collect or transfer embryos by the usual method.

**130** The recipient animal (the cow receiving the embryo) should be able to carry the chosen embryo to full term and to calve normally, without needing a caesarean section. Caesarean sections should not be routinely undertaken.

**131** Ovum pick up (collecting unfertilised eggs direct from the ovary of a cow or heifer, usually through a needle inserted through the wall of the vagina) must only be done by a veterinary surgeon

as it is a surgical procedure. You should not use this procedure on young, immature heifers and, in any case, it should only be done rarely. Repeated epidural injections are necessary for this procedure and they can cause welfare problems for the animals (such as severe pain in the tailhead and lower back).

### Ultrasound scanning

**132** Ultrasound scanning through an animal's rectum is an invasive procedure that needs skill and training on the operator's part. The Veterinary Surgery (Rectal Ultrasound Scanning of Bovines) Order 2002 requires lay operators to have attended a Defra approved training course, undertaken a number of supervised scans and obtained a 'certificate of exemption' from Defra, before they can carry out the procedure.

### Bull pens

**133** You should not neglect the welfare of bulls. Breeding bulls, where possible, should be kept with other stock, for example dry cows. Bull pens should be sited to allow the bull to see and hear farm activity. As a guide, accommodation for a single adult bull of average size should include a sleeping area of at least 16m<sup>2</sup>. For bulls weighing over one tonne, the sleeping area should be at least 1m<sup>2</sup> for every 60 kg liveweight. If the bull is not regularly and routinely exercised outside the bull pen - or if you use the bull pen as the service area - the pen should include an exercise area at least twice as large as the sleeping area.

**134** You should have facilities in the pen and exercise area so that you can securely restrain the bull with a yoke or similar device. This is so that you can carry out routine husbandry procedures (such as cleaning out the bull pen) and so that the bull can be treated when required.

## Dairy cows

### General

**135** It is recommended that at least once a month, you should record the daily milk yield of each lactating dairy cow and monitor this against the appropriate lactation curves for the yield level of the herd. You should use these figures and other available data as a management tool in order to identify possible welfare problems at an early stage.

**136** When you offer concentrated dry feeds on their own to dairy cows, you should normally limit the amounts to a maximum of 4 kg in any one feed. This is to reduce the risk of rumen acidosis (i.e. too much grain in the rumen leading to digestive problems) and other metabolic disorders. To make sure that the animals have enough to eat, you should make alternative feeds freely available at all times.

**137** To allow for cows to eat as much forage as they want, you should offer more than you expect them to eat each day. You should remove any old or stale feed which could contaminate fresh feed and spoil the animals' appetites.

**138** You should carefully introduce dairy heifers to the adult herd at least four weeks before calving, so that they have time to get used to their new and unfamiliar surroundings – including the milking parlour.

**139** If you are introducing cows of high genetic potential into a dairy herd (i.e. cows that have been bred for high milk yield), you will need expert advice on nutrition. High metabolic turnover in such cows can mean that they have a greater risk of:

- mastitis;
- lameness;
- failure to become pregnant or maintain pregnancy; and
- metabolic disorders.

These animals potentially need a higher standard of management and nutrition to maintain a satisfactory standard of welfare.

**140** Before high-yielding dairy cattle are fed on conserved forages (such as silage and hay), you should analyse feed samples to check their nutritional value. If necessary, you should get expert advice on how you can supplement the diet to match the animals' age and species. You also need to analyse the quality of feeds you buy (including by-products, such as brewers' grains), if the supplier does not provide an analysis.

**141** You should dry lactating cows off quickly and put them on an appetising forage diet, which will maintain their body condition. From two to three weeks before calving, you should gradually introduce the cows to the production ration (i.e. the phased introduction of the higher energy, post-calving diet) to avoid a sudden change of diet.

### Mastitis

**142** As with any other infection, mastitis can cause the animals distress and suffering so you should therefore control it. Despite the overall reduction in clinical mastitis, the level of environmental infection has hardly changed. Dairy producers should follow the Defra Mastitis Management Action Plan (Mastitis MAP) which, together with good stockmanship and environmental management, will help you to control mastitis infection.

The Mastitis MAP covers:

- hygienic teat management (such as keeping the teats clean);
- promptly identifying and treating clinical cases;
- dry-cow management and therapy;
- accurate record keeping;
- culling of chronically infected cows; and
- regular milking-machine maintenance and testing.

You will find more information in Defra's booklet, 'Treatment and prevention of mastitis in dairy cows' (see the Appendix).

## Milking

**143** You should never leave lactating dairy cows unmilking or with over-full udders. Anyone who milks cows - including relief milkers - should be fully competent to perform all milking procedures. Ideally, formal training should be given to milkers, which would include a period of full supervision by competent, trained operators.

**144** A milking machine that is working properly is essential for:

- the cows' comfort;
- optimum milking performance; and
- udder health.

During each milking session, you should make simple checks (such as the working vacuum level) and carry out routine maintenance to make sure that the milking machine is working properly.

**145** Where necessary, you should upgrade the milking machine so that there is no machine damage caused to teats and that the cyclic vacuum fluctuations are within the recommended range. You may need specialist advice for this.

**146** You should have new or refurbished installations independently tested to ensure correct operation in accordance with manufacturer's recommendations and those contained in the 'British Standard for milking machine installations' (see the appendix).

**147** Each year, a trained and competent operator should carry out at least one full working assessment of the machinery, to ensure that it is operating correctly and to make any necessary repairs or adjustments.

**148** You should minimise the amount of time cows have to wait to be milked. The standings should be large enough for the size of cattle being milked and for cows to enter and leave the milking parlour easily, with a minimum of stress. The entrance and exit areas of the milking parlour, where animals will tend to collect, should be wide enough for the animals to move easily on non-slip floors.

**149** Where automatic backing gates are used in collection yards, they should be designed to encourage dairy cows to move towards the parlour, without causing them any distress. These gates should not be electrified.

## Robotic milkers

**150** Robotic milkers offer the opportunity to make more efficient use of labour, but cannot replace good stockmanship. At least twice daily, the robotic system should be assessed and the appropriate action taken in respect of:

- cows not attending the milking station;
- failed attachments;
- incomplete milkings;
- fall in milk yields; and
- alarms generated by various sensory equipment to detect conditions such as abnormal milk composition, including mastitis.

# Useful publications

## A Defra publications related to cattle welfare as at March 2003

| PB number | Title   |
|-----------|---|
| 0409      | Code of Practice - the welfare of animals in livestock markets  |
| 0621      | Farm fires: advice on farm animal welfare   |
| 1147      | Emergencies on livestock farms  |
| 1151      | Lameness in beef cattle and dairy followers   |
| 1381      | Guidance on the transport of casualty farm animals  |
| 2339      | A short guide to the Dairy Products (Hygiene) Regulations for Dairy Farmers                           |
| 2594      | Explanatory guide to the Welfare of Animals (Slaughter or Killing) Regulations 1995                   |
| 3335      | Improving calf survival   |
| 3477      | Welfare of red-meat animals at slaughter - pre-slaughter handling: a pocket guide                     |
| 3478      | Welfare of red-meat animals at slaughter - stunning and sticking: a pocket guide                      |
| 3575      | Assessment of practical experience in the handling, transport and care of animals: guide to employers |
| 3766      | Guidance on the Welfare of Animals (Transport) Order 1997   |
| 4020      | Lameness in dairy cattle  |
| 4192      | Identification of injurious weeds.  |
| 4516      | TB in Cattle - reducing the risk  |
| 4661      | Treatment and prevention of mastitis in dairy cows  |
| 6491      | Condition scoring of beef suckler cows and heifers  |
| 6492      | Condition scoring of dairy cows   |
| 7189      | The Weeds Act 1959 – Preventing the spread of harmful weeds.  |
| 7190      | The Weeds Act 1959 – Guidance note on the methods that can be used to control harmful weeds.          |
| 7350      | Better biosecurity provides peace of mind, healthy stock and a more viable business.                  |

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These publications are updated regularly. For more information on the most current versions and new publications, please contact Defra's Animal Welfare Division on 020 7904 6521.

## B Legislation related to cattle welfare as at March 2003

| SI number          | Title  |
|--------------------|--|
|                    | Dogs Acts 1906-1928  |
|                    | Protection of Animals Acts 1911-2000   |
|                    | Protection of Animals (Anaesthetics) Act 1954  |
|                    | Weeds Act 1959   |
|                    | Veterinary Surgeons Act 1966   |
|                    | Agriculture (Miscellaneous Provisions) Act 1968  |
| S.I. 1985 No. 1857 | Artificial Insemination of Cattle (Animal Health) (England and Wales) Regulations 1985 |
| S.I. 1990 No. 2627 | Welfare of Animals at Markets Order 1990   |
| S.I. 1992 No. 696  | Veterinary Surgery (Epidural Anaesthesia) Order 1992                                   |
| S.I. 1995 No. 731  | Welfare of Animals (Slaughter or Killing) Regulations 1995                             |
| S.I. 1995 No. 2478 | Bovine Embryo (Collection, Production and Transfer) Regulations 1995                   |
| S.I. 1997 No. 1480 | Welfare of Animals (Transport) Order 1997  |
| S.I. 1998 No. 871  | Cattle Identification Regulations 1998   |
| S.I. 1999 No. 400  | Welfare of Animals (Slaughter or Killing) (Amendment) Regulations 1999                 |
| S.I. 1999 No. 646  | Animal By-Products Order 1999  |
| S.I. 2000 No.1870  | Welfare of Farmed Animals (England) Regulations 2000                                   |
| S.I. 2000 No.1618  | Transport of Animals (Cleansing and Disinfection) (England) (No2) Order 2000           |
| S.I. 2002 No. 2584 | The Veterinary Surgery (Rectal Ultrasound Scanning of Bovines) Order 2002              |

You can get copies of the legislation quoted in this code from the Stationery Office at:

**TSO Publications Centre**  
**PO Box 29**  
**Norwich NR3 1GN**  
**Telephone orders: 0870 600 5522**  
**E-mail: [book.enquiries@theso.co.uk](mailto:book.enquiries@theso.co.uk)**  
**Website: <http://www.clicktso.com>**

## C Other useful publications related to cattle welfare.

British Standard for milking machine installations, BS/ISO 3918, 5707 and 6690 (1996).

British Standard on the design and construction of cattle buildings, BS5502 Part 40.

Code of practice on the responsible use of animal medicines on the farm (2001)  
 (Veterinary Medicines Directorate)

## Further information

**D** For further information on cattle identification and cattle movements, contact:

**British Cattle Movement Service**  
**BCMS**  
**Curwen Road**  
**Workington**  
**Cumbria**  
**CA14 2DD**  
**Helpline: 0845 0501234**  
**Email: [ctsonline@bcms.defra.gsi.gov.uk](mailto:ctsonline@bcms.defra.gsi.gov.uk)**

If you would like any more information or advice about this code, please contact your local Animal Health Divisional Office or Defra's Animal Welfare Division on 020 7904 6521.