4. Cattle production and movement

Introduction

4.1 Movement of cattle from farm to farm is likely to have been a significant factor in the geographical spread of BSE from the south, where it appears to have emerged, to the rest of the UK. Between 1986 and 1995, there was widespread cattle movement from farm to farm over long distances. This included movement both within the beef sector and between the dairy and beef sectors. This chapter provides a brief overview of the UK cattle industry’s structure, including the size and geographical distribution of cattle holdings. It goes on to look at the close interrelationship between the dairy and beef sectors, and at patterns of livestock movement. Finally, it describes the statutory background to movement recording systems in place when BSE emerged, and new requirements placed on farmers in response to the epidemic.

4.2 Further details on policy development and national cattle-tracking systems relevant to BSE are found in vol. 5: Animal Health, 1989–96. Vol. 9: Wales, Scotland and Northern Ireland should be consulted for further details on cattle production in those countries.

Structure of UK cattle production

4.3 As shown in Table 4.1, between 1986 and 1995 the total number of cattle in the UK declined from 12.7 million to 11.9 million. Beef cow numbers increased while dairy cow numbers fell, reflecting both the impact of EU milk quotas in 1984 and increases in the payment rate of the EU Suckler Cow Premium.

Table 4.1: UK cattle and calves (000)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Total breeding herd</td>
<td>4,472.1</td>
<td>4,414.0</td>
<td>4,452.0</td>
<td>4,524.8</td>
<td>4,442.9</td>
</tr>
<tr>
<td>Dairy herd</td>
<td>3,138.1</td>
<td>2,682.5</td>
<td>2,667.8</td>
<td>2,716.0</td>
<td>2,602.8</td>
</tr>
<tr>
<td>Beef herd</td>
<td>1,334.0</td>
<td>1,731.5</td>
<td>1,784.2</td>
<td>1,808.9</td>
<td>1,840.2</td>
</tr>
<tr>
<td>Total heifers in calf</td>
<td>882.6</td>
<td>767.6</td>
<td>802.7</td>
<td>775.2</td>
<td>775.4</td>
</tr>
<tr>
<td>Total bulls for service</td>
<td>77.0</td>
<td>83.6</td>
<td>85.6</td>
<td>88.9</td>
<td>90.0</td>
</tr>
<tr>
<td>Total other cattle and calves</td>
<td>7,216.2</td>
<td>6,659.2</td>
<td>6,510.5</td>
<td>6,565.3</td>
<td>6,548.2</td>
</tr>
<tr>
<td>TOTAL CATTLE AND CALVES</td>
<td>12,647.8</td>
<td>11,924.3</td>
<td>11,850.8</td>
<td>11,954.2</td>
<td>11,856.5</td>
</tr>
</tbody>
</table>

Source: MAFF

Note: other cattle and calves includes herd replacements 1 year and over, and cattle and calves intended for slaughter.
4.4 The number of dairy cow holdings in the UK declined from 52,300 in 1986 to 38,900 in 1995, continuing a downward trend from 80,600 in the mid-1970s. While dairy holding numbers declined, the average herd size increased from 60 cows in 1986 to 67 cows in 1995. The number of beef cow holdings increased marginally from 70,600 in 1986 to 71,000 in 1995, and herd size increased from 18 to 25 cows over the same period.28

4.5 Dairy and beef cattle are mainly grass-fed and require substantial areas of land to support them. This reliance on grass means that dairy and beef farms tend to be concentrated on the western side of the UK, where rainfall is high and grass abundant. Suckler herds along with sheep breeding flocks (paragraphs 11.2–11.5), tend to be located in areas less suitable for other farming enterprises.

4.6 As shown in Table 4.2, in 1986 England had just under 60 per cent of the UK’s cattle herd, followed by Scotland with about 17 per cent, Northern Ireland with nearly 12 per cent, and Wales at around 11 per cent. The distribution of cattle within the UK was similar in 1995, although Northern Ireland’s share had increased to just over 14 per cent, with a corresponding drop in England’s share to 57 per cent.

### Table 4.2: Approximate percentage of UK herd in each country, 1986 and 1995

<table>
<thead>
<tr>
<th>Total cattle</th>
<th>Dairy breeding cows</th>
<th>Beef breeding cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>59.9</td>
<td>56.9</td>
</tr>
<tr>
<td>Scotland</td>
<td>17.2</td>
<td>17.5</td>
</tr>
<tr>
<td>Wales</td>
<td>11.1</td>
<td>11.3</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>11.8</td>
<td>14.3</td>
</tr>
</tbody>
</table>

**Source:** MAFF; Dairy Facts and Figures

### Sources of beef production

4.7 Figures 4.1 and 4.2 highlight the significance of the dairy herd as the main source of UK beef production in 1986 and 1995. In 1986, 66 per cent of beef produced in the UK came from the dairy herd in the form of surplus calves (ie, those not required for herd replacements) and unproductive and/or aged cows. By 1995 this contribution had declined to 56 per cent. Unproductive or aged dairy cows could typically be culled at 6–7 years old as a source of beef, but could be as old as 11 or 12 years.29

4.8 Specialist beef production and finishing systems usually involve the slaughter of cattle at between 15 and 24 months of age, depending on the feed system in use (see paragraphs 6.12–6.25 below on beef cattle diets). Cattle can also be slaughtered at an earlier age under some specialist systems, such as the barley beef system whereby calves are fed high levels of concentrates up to slaughter at around 11 months of age. ‘Bobby’ calves, which can be slaughtered within a few days of birth, and old cull bulls are other sources of beef.30

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29 See for example S134 Hoskin p.1. Since the introduction of the Over Thirty Months Scheme in April 1996, cull cows from the dairy and beef herd no longer provide a source of beef for human consumption
30 M43A tab 13 pp. 5–8
Movement of livestock

4.9 In UK beef production many cattle change hands at least once during their lifetime among the various operators – whether dairy farms, suckler herds, rearing farms or fattening farms – leading to widespread movement of cattle from farm to farm.31 During 1986–95 dairy calves were either fattened as beef by the dairy farmer or more usually sold to specialist beef finishers who produced steer beef (from castrated bulls) and heifer beef. Calves were also exported to various markets around the world for veal production. For example, 201,000 calves were exported in 1986, with the Netherlands and France being prominent destinations.32 Suckler beef producers in the uplands sold weaned calves or store cattle to specialist beef finishers.

31 M11A tab 2 p. 57
Markets

4.10 The movement of cattle usually took place via livestock markets, of which there were about 360 in the UK in 1986, compared with 250 or so in 1995. UK cattle production therefore relied on an extensive supporting infrastructure of livestock markets and transport networks.

4.11 Livestock markets were also the most popular way of marketing finished cattle. Throughout 1986–95, they handled over 50 per cent of cattle raised as beef for human consumption, and about 90 per cent of all cull cows sent to slaughter. Abattoirs also sourced some of their cattle for slaughter directly from farmers.

Transport to abattoirs

4.12 In 1974/75 there were 1,600 abattoirs throughout England, Wales and Scotland, but by March 1995 this number had dropped to 488. This reduction inevitably resulted in a low number of abattoirs in some beef-producing areas relative to the number of cattle available there for slaughter.

4.13 Fewer abattoirs led to longer journeys from the farm via the market to the abattoir. During 1986–95 it was not unusual for the largest abattoirs to receive cattle from all over England and Wales. However, most abattoirs obtained their livestock from within a 150-mile radius.

4.14 An MLC survey in 1994 showed that finished cattle were generally located within eight hours’ travelling time from an abattoir. Cattle bought by abattoirs from farmers tended to be of local origin and within a few hours’ travelling distance. However, those purchased through livestock markets included animals from further afield. Only 20 per cent of cattle were found to travel long distances for slaughter, but in some cases that could be from central and northern Scotland to the Midlands or the South East of England.

Record-keeping and cattle-tracking

4.15 Systems to identify farm animals have been used in the UK for centuries. Historically, owners identified their animals for day-to-day farm management purposes such as breeding, feeding, and milk yield records. More recently, national policies on disease control have led to a succession of record-keeping and animal identification requirements for farmers to implement. The first fully national identification scheme in the UK was introduced for cattle in 1953, as part of efforts to eradicate bovine tuberculosis. All cattle that were not already registered with a breed society had to be identified with an ear tag or tattoo. The system has undergone some modifications, but still forms the basis for the identification and registration scheme that operates in the UK. Since 1992 national systems of identification and tracking have been required to help identify livestock for

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33 M44 tab 4 p. 12
34 M44 tab 4 p. 12; M11A tab 2 p. 81
35 M45 tab 3 p. 37 (see vol. 13: Industry, Processes and Controls for further details)
36 M44 tab 4 p. 12
37 T58 p. 85
38 M44 tab 4 p. 12
39 M11A tab 1 pp. 8–9
payments made to farmers under the various livestock schemes introduced as part of CAP reforms.

4.16 Cattle-tracking comprises:

i. the physical identification of an individual animal and the recording of its details;

ii. recording the movements of individual animals; and

iii. using the above:

• to trace an animal’s movements over time, identifying all locations at which it has been held, and all other animals held concurrently at those, or nearby, locations; and

• to trace an animal’s dam or progeny.40

4.17 This section describes farmers’ obligations with respect to (i.) and (ii.), and how they changed in response to the BSE outbreak. Further details about policy development on national tracking systems relevant to BSE can be found in vol. 5: Animal Health, 1989–96. The Department of Agriculture for Northern Ireland had operated a comprehensive, computerised cattle-tracking system for some years, and this is discussed in vol. 9: Wales, Scotland and Northern Ireland.

Identification and record-keeping requirements when BSE emerged

4.18 The statutory requirements imposed on owners or keepers of cattle to provide identification and movement records have gradually grown and, with computerisation, have become more sophisticated. The legislation governing record-keeping at 1986 is described briefly in vol. 14: Responsibilities for Human and Animal Health.

4.19 In brief, there were three relevant sets of legislation. The Movement of Animals (Records) Order 1960 (made under the Diseases of Animals Act 1950) required farmers to keep records of the movements of animals onto or off their premises; the movement records had to be kept for three years. The Animal Health Act 1981 provided the Minister with powers to prescribe and regulate the marking of animals for disease control purposes. The Tuberculosis (England and Wales) Order 1984 (made under the provisions of the Animal Health Act 1981) set down particular requirements for the ear tagging of bovine animals.

4.20 The ‘movement books’ kept by farmers under the requirements of the 1960 Order were inspected and signed by local authority Trading Standards Officers. However, it was difficult for the authorities to check the accuracy of records, and in practice they could only check that records actually existed on farm. Errors and omissions would only surface when specific animal tracing was attempted.41 Some farmers kept books that recorded more details than required by the law, usually for production and breeding purposes.42
4.21 In principle, record-keeping should have made it possible for interested parties to follow an animal’s movements during its lifetime and identify the farm of origin. This was particularly important for disease control, since it was easier to prevent or control an epidemic if the course of the disease could be identified:

Animal diseases may be spread in a variety of ways and this can dictate the information requirement. Where spread involves aerial transmission or contact with other animals (e.g., foot and mouth disease) interest mainly concerns the movement of animals. BSE and the possibility of maternal transmission has added another dimension in that there could be a need to trace the animal’s dam and/or its progeny, involving breeding as well as movement records. The present basic information requirements for disease control involve knowledge of when and where an animal was born, when and where it has been moved to and the identity of animals it may have been in contact with including details of its dam and any progeny.

The nature of the disease itself also determines the speed with which tracing has to be carried out.\(^{43}\)

**Influence of BSE**

4.22 With the emergence of BSE there were concerns about the adequacy of existing cattle-tracking regimes. In particular the long incubation period of BSE and its unpredictable nature called into question the effectiveness of the requirement under the 1960 Order to keep movement records for only three years. This led to a further series of controls under the Bovine Animals (Identification, Marking and Breeding Records) Order 1990 (SI 1867),\(^{44}\) the Movement of Animals (Records) Amendment Order 1990, and the Tuberculosis (England and Wales) Amendment Order 1990.

4.23 Articles 4 and 9 of the Bovine Animals (Identification, Marking and Breeding Records) Order required all cattle farmers to keep a record of calves born into the herd and the identity of their dams. Article 4 required that dairy cattle be marked and recorded within 36 hours of birth and all other cattle within seven days of birth. Under article 9, farmers had to keep records for ten years (instead of three) and the records had to be made available to an inspector on demand. The Movement of Animals (Records) Amendment Order required that movement records also be retained for ten years.\(^{45}\)

4.24 To help ensure that record-keeping was as efficient as possible, in response to the new controls, the National Farmers’ Union (NFU) offered its members on-farm breeding and movement record sheets.\(^{46}\)

4.25 In 1992, Council Directive 92/102/EEC on the Identification and Registration of Animals (‘the Directive’)\(^{47}\) was agreed as part of general CAP reforms, and to help identify animals eligible for various livestock assistance schemes. Among other things, the Directive required movements of cattle to be recorded giving origin

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\(^{43}\) YB90/9.18/1.2  
\(^{44}\) L2 tab 4B  
\(^{45}\) YB90/10.12/2.1  
\(^{46}\) S137 Rudman para. 14  
\(^{47}\) L18 tab 1 GUL 355/32 of 5 December 1992
and destination of the cattle concerned (article 4). All cattle had to be identified with an ear tag with a code of no more than 14 characters (article 5).

4.26 On 30 January 1995 the Bovine Animals (Records, Identification and Movement) Order 1995 (SI 12) came into force to implement the Directive. Cattle farmers were required to register with their local Animal Health Office (article 4) and to keep breeding and movement records (article 5). These were similar to the existing legislative requirements, but farmers were now required to send a movement document with cattle going to market (article 6). Furthermore, the Order introduced the Ear Tag Allocation System (ETAS), which gave all cattle a unique identity (article 8).

4.27 It was relatively easy to implement these requirements in the UK, as many were similar to aspects of domestic legislation already in force, which was in parts more stringent than the Directive. This was especially so in Northern Ireland, which already had a comprehensive cattle identification and movement tracing system in place (see vol. 9: Wales, Scotland and Northern Ireland).

Problems with farmers’ records

4.28 Even with the UK’s long history of record-keeping for statutory purposes, there were deficiencies in the records kept by farmers, and therefore in their usefulness for disease control programmes. Perennial problems included the amount of paperwork involved in keeping the records and the practical problems and costs of ear tagging.

4.29 On 20 December 1993 Mr Martin Haddon, Under Secretary in the Animal Health and Veterinary Group at MAFF, wrote to Mr D MacInnes of the Association of County Councils to express his Ministry’s concern about the quality of statutory record-keeping on farms:

You will no doubt be aware that over the last year or so, MAFF Veterinary Officers have had to carry out extensive tracing of livestock movements for disease control purposes . . . These tracing exercises were unfortunately severely hampered by inaccurate livestock movement records and deliberate, unrecorded removal of ear tags from imported cattle. To give an indication of the size of the problem, during a recent exercise in one particular county 43% of breeding records and 26% of animal movement records were found to be incomplete or non-existent. This was from a small survey but does demonstrate that a very real problem exists with the recording of animal breeding and movement records.
4.30 The House of Commons Agriculture Committee noted in 1995 that ‘in the course of three inquiries we have been told that farmers’ records constitute the main flaw in the animal tracking system.’\textsuperscript{51} This was because farmers do not always maintain the records they are legally required to keep as accurately or completely as they should.\textsuperscript{52}

4.31 Further developments on cattle-tracking are discussed in vol. 5: *Animal Health, 1989–96.*

\textsuperscript{51} The Agriculture Select Committee’s report into *Bovine Spongiform Encephalopathy (BSE)* (1990); *Health Controls on the Importation of Live Animals* (1994); and *Identification and Registration of Farm Livestock* (1995)

\textsuperscript{52} M11A tab 1 pp. 18–19