Cynulliad Cenedlaethol Cymru
National Assembly for Wales

Request from the UK to Use the Bovine Registers of Great Britain and Northern Ireland in Replacement of Statistical Surveys

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1. Background

There is significant pressure within UK Government and from the farming industry (including the farming press and advocacy groups) to reduce the regulatory burdens on farm businesses through making wider use of administrative data. This has been the subject of a number of initiatives, in particular the Department for the Environment Food and Rural Affairs (Defra) has made a commitment to make a 25 percent net reduction in its administrative burdens by 2010. This aligns with the European Commission's own strategy, which includes a proposed joint EU target of a 25 percent reduction in the medium term.

Statistical data on cattle populations (as required under Council Directive 93/24/EC (as amended by Council Directive 97/77/EC) are obtained through surveys conducted annually in June and December. Cattle information is also available from the Cattle Tracing System (**CTS**) in Great Britain and by the Animal and Public Health Information System (**APHIS**) in Northern Ireland. This meets the provisions of Council Regulation 17560/2000/EC which establishes a system for the identification and registration of bovine animals and requires Member States to have fully operational databases. CTS data is further processed by the Rapid Analysis and Detection of Animal-related Risks system (**RADAR**). This is used primarily to monitor livestock populations to assess the risk of veterinary disease and to control outbreaks. Data processing includes further quality checks. Missing information is also imputed so that complete life histories for all registered animals can be obtained.

The UK would like approval from Eurostat to allow use of information collected through the CTS/RADAR and APHIS systems in place of survey data. This is under the framework outlined at the Eurostat Animal Products Statistics Working Group on 15-16 March 2006. Our analysis and review confirms the administrative cattle tracing systems are now sufficiently developed – and indeed may be more accurate than the survey – to justify the change. This view has been endorsed by the statisticians in the UK departments running the surveys, the statisticians using the results, administrative data owners, policy divisions and industry experts.

2. Discussion of survey and administrative data sources (relative strengths and weaknesses)

2.1 Census and surveys

In the UK agricultural and horticultural surveys are run annually by each agriculture department (England, Scotland, Wales and Northern Ireland) in June and December of each year. The June Survey is run as a Census every 10 years, the latest having been in 2000. In interim years, it is run as a large sample survey, with varying sample sizes each year. Descriptions of the UK agricultural registers are at Annex 1

The main shortcomings associated with survey data are reporting errors, sampling errors, errors from non-response and incomplete register coverage. Minimisation of sampling error is attempted through stratification of the survey sample by holding size and confidence levels are published in line with Eurostat requirements. Generally, the largest holdings are sampled at 100 percent each year with the smallest holdings being sampled at around 10 percent.

Survey response rates are generally good at around 70 percent and larger samples are selected in anticipation of this level of return. Response rates are particularly good for those holdings in receipt of subsidy payments. However recent work under the 2005/2006 TAPAS action for England has shown that between 1 and 2 percent of holdings on the Farm Survey System have not returned a form for 10 years or more. Dairy farms comprise a significant proportion in this grouping.

The June survey only covers registered agricultural holdings and there may be a degree of undercounting caused by unregistered holdings. This is mostly a problem for holdings not in receipt of subsidy payments or with no legal obligation to register for any other purpose and so is unlikely to significantly affect cattle holdings.

2.2 UK Cattle Tracing Systems

2.2.1 Great Britain - CTS and RADAR

The Cattle Tracing System is the most comprehensive source of cattle information for Great Britain. With Northern Ireland's Animal and Public Health Information System (APHIS) details of cattle populations for the whole of the UK can be obtained. More comprehensive descriptions of the GB and Northern Irish cattle tracing registers is at Annex 2

The CTS records the identification, births, deaths and movements of individual animals. By tracking of individual animals throughout their lives the system makes it possible to determine which animals are present on a given holding and also the size and composition of the cattle population at any given time.

RADAR (Rapid Analysis and Detection of Animal-related Risks) is an information management system which has been developed to collect and collate veterinary surveillance data from a number of different sources around the UK. It provides specialist tools for the analysis of surveillance data and publishes reports

highlighting the risks and distribution of veterinary threats to the public and animal health and welfare.

The RADAR system captures information about cattle locations and movements from CTS. Within RADAR the data pertaining to individual cattle movements undergo a series of transformations. The cattle population for a location is calculated in a two stage process. During stage one the CTS movement records are transformed to create a 'life history' for each animal. Each record of the animal's life history represents a 'stay' at a particular location between two specified dates. Where some doubt exists regarding the animal's whereabouts, for example if it was in transit overnight or because of a missing record, then a stay at an 'unknown' location is recorded. This results in the production of two tables, one containing details of individual animals and one containing details about cattle locations. The animal life history records are then processed to determine the number of animals that were present at a location on a selected date.

A number of measures are in place to check and adjust tracing information. These include:

- On farm inspections
- The provision of regular statements of information held to cattle keepers.
- Construction of life histories (with imputation of missing information)

Regular (6 monthly) statements showing CTS figures for each holding have been sent to cattle keepers since 2004. Of the statements sent out most recently (for the period 17/8/05 to 4/5/06) only around 8 percent were returned for correction.

A number of issues with CTS data were noted by DG Sanco in the report of their mission in 2004[1]. The main inaccuracies observed were caused by non-recording or mis-recording of details of an animal's movements, as well as problems in defining locations accurately. CTS records movements from the location of origin (or 'off) and to the destination ((or 'on'). The RADAR system is able to use this information to pair records (or impute for missing parts halves of paired records and establish a complete life history for each animal.

A further DG Sanco mission to inspect UK cattle tracing systems in the UK took place towards the end of 2006. A report is expected early in 2007.

2.2.2 Northern Ireland – APHIS

The 2004 DG Sanco report noted that APHIS was functioning well technically and was easy to manage. Some shortcomings concerning data input and monitoring and traceability were noted. The report noted that around 7 percent of holdings were inspected from 1 April 2003 to 31 March 2004. These revealed that notification problems affected 19 percent of holdings inspected.
However (as for CTS) the quality of APHIS data has been since been further improved by the introduction of monthly statements allowing farmers to cross check against their own on-farm records.

[1] DG (SANCO)/7044/2004.

3. Comparison of survey and administrative information

3.1 Total cattle, age and gender

This section considers comparisons of survey and administrative data for the UK and GB cattle population. Section 3.2 considers comparisons at holding level. Methods for deriving the more detailed categories required by Eurostat (other than age and gender) are set out in Section 3.3.

Information on total numbers of cattle and a split by age and gender is obtainable directly from the CTS/RADAR and APHIS systems.

Key points from our analysis indicate that:

- The survey figures of total cattle at UK level are consistently some 4 per cent lower than the administrative data between 2003 and 2006 – see Tables and Chart 1.
- Similar trends are shown by data from both sources at aggregate level and also by gender (Table 2 and Charts 2 and 3) and age (Table 4).
- The difference is greatest for cattle under 1 year of age and is most pronounced for males of this age.
- The proportions of male and female (Table 3) are very similar in both the administrative and survey data.
- The age breakdown in both sources (Table 5) is very similar.

Table 1. GB and UK cattle population at 1st June from survey and admin.: 2003 to 2006

Total cattle **'000**

	Great Britain				United Kingdom			
	2003	2004	2005	2006	2003	2004	2005	2006
June Survey	8,823	8,911	8,727	8,635	10,508	10,588	10,392	10,270
Admin data	9,202	9,300	9,154	8,970	10,946	11,070	10,867	10,657
Difference: Survey-Admin	-380	-390	-428	-335	-438	-482	-475	-386
Percentage Difference	-4	-4	-5	-4	-4	-4	-4	-4

Chart 1. UK cattle population at 1st June from survey and admin.: 2003 to 2006

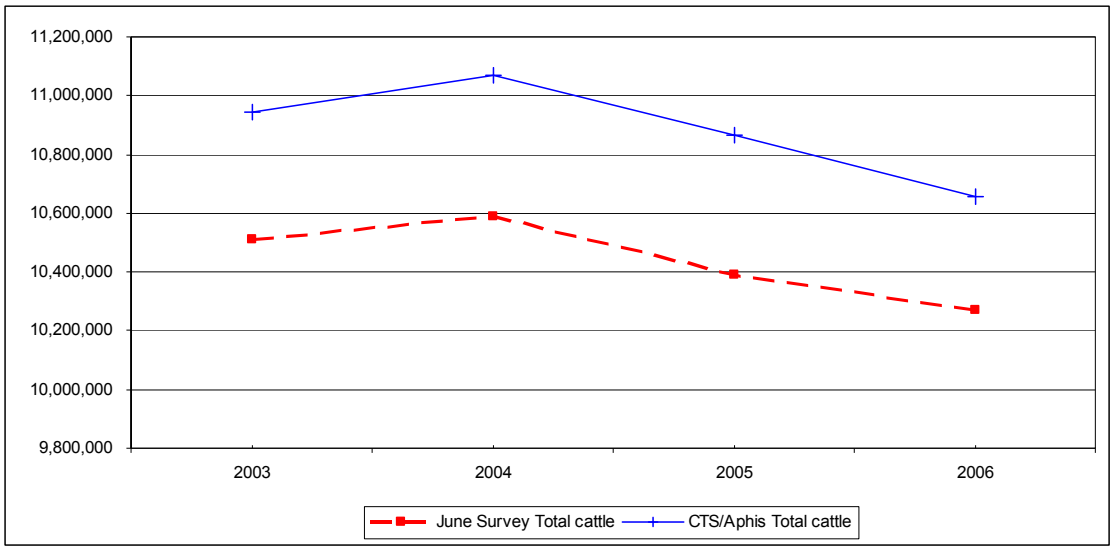

Table 2. GB and UK cattle population by gender at 1st June from survey and admin.: 2003 to 2006

Cattle by gender								'000
	Great Britain				United Kingdom			
	2003	2004	2005	2006	2003	2004	2005	2006
Females[1]								
June Survey	6,446	6,483	6,350	6,311	7,602	7,637	7,500	7,453
Admin data	6,636	6,660	6,586	6,503	7,816	7,857	7,781	7,682
Difference: Survey-Admin	-191	-177	-236	-192	-214	-221	-281	-229
Percentage Difference	-3	-3	-4	-3	-3	-3	-4	-3
Males[1]								
June Survey	2,336	2,386	2,333	2,262	2,865	2,910	2,848	2,757
Admin data	2,566	2,640	2,568	2,467	3,130	3,213	3,086	2,975
Difference: Survey-Admin	-230	-254	-235	-205	-265	-303	-238	-218
Percentage Difference	-10	-11	-10	-9	-9	-10	-8	-8

1. excluding calves for slaughter as calves (except NI).

Chart 2. UK female cattle population at 1st June from survey and admin.: 2003 to 2006

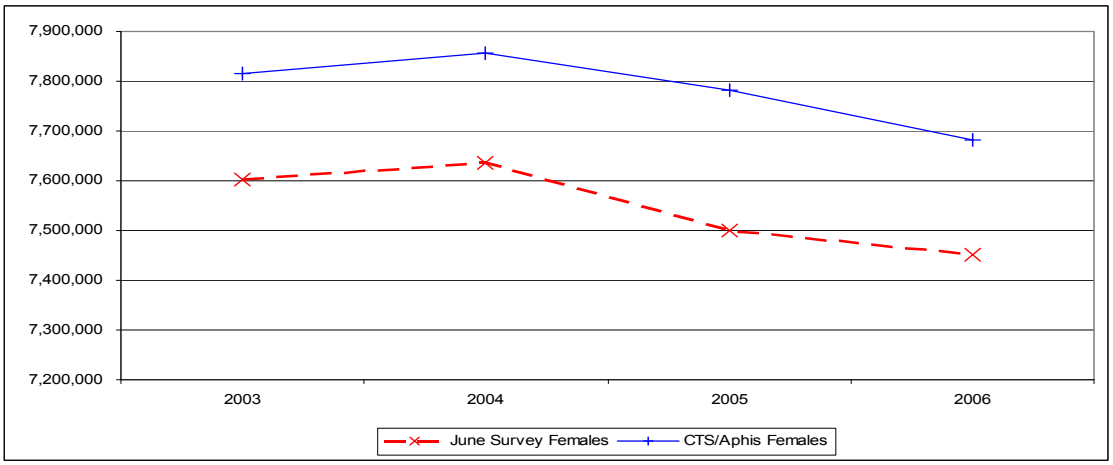

Chart 3. UK male cattle population at 1st June from survey and admin.: 2003 to 2006

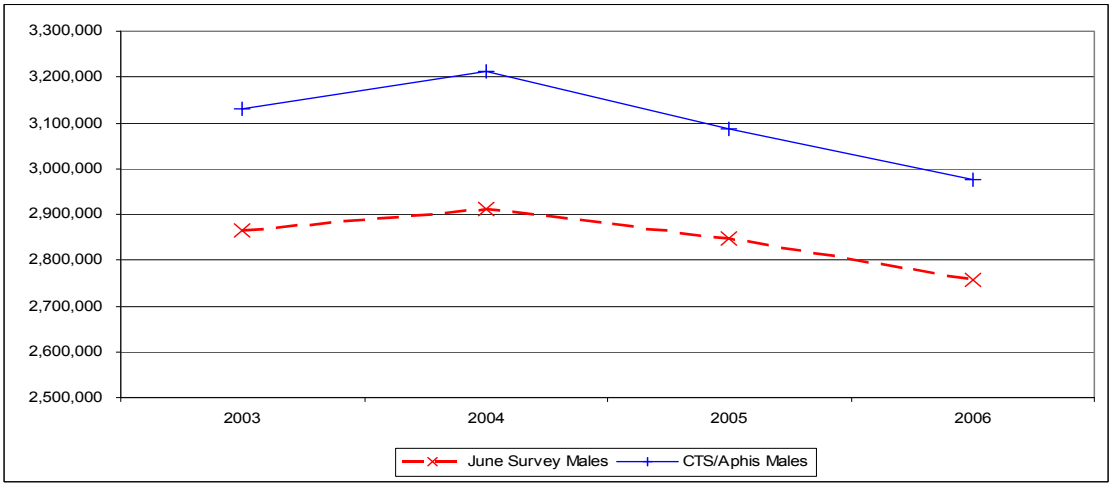

Table 3. Proportion of UK cattle population by gender at 1st June from survey and admin.: 2006

Percent

	Survey	Admin
Female	72.1	72.6
Male	27.9	26.8
Unallocated		0.6
Total	100	100

Table 4. GB and UK cattle population by age at 1st June from survey and admin.: 2003 to 2006

Cattle by age '000

	Great Britain				United Kingdom			
	2003	2004	2005	2006	2003	2004	2005	2006
Survey								
Under 1 year	2,354	2,371	2,268	2,180	2,826	2,838	2,725	2,622
1 to 2 years	2,257	2,346	2,336	2,293	2,713	2,795	2,774	2,717
2 years and over	4,211	4,193	4,123	4,162	4,970	4,955	4,894	4,932
Admin Data								
Under 1 year	2,722	2,730	2,588	2,522	3,222	3,165	3,057	2,983
1 to 2 years	2,133	2,268	2,267	2,165	2,601	2,738	2,698	2,590
2 years and over	4,348	4,302	4,299	4,283	5,122	5,167	5,112	5,083
Difference: Survey-Admin								
Under 1 year	-368	-359	-320	-342	-397	-327	-332	-361
1 to 2 years	125	79	69	128	112	58	76	127
2 years and over	-136	-109	-176	-121	-153	-213	-218	-151
Percentage Difference								
Under 1 year	-16	-15	-14	-16	-14	-12	-12	-14
1 to 2 years	6	3	3	6	4	2	3	5
2 years and over	-3	-3	-4	-3	-3	-4	-4	-3

Table 5. Proportion of UK cattle population by age at 1st June from survey and admin.: 2006

Percent

	Survey	Admin
Under 1 year	25.5	28.0
1 up to 2 years	26.4	24.3
2 years and over	48.1	47.7
Total	100	100

3.2 Comparison by Holding

This section considers comparisons of survey and administrative data for those holdings which recorded a survey response.

Table 6 shows that consistency between the two sources at holding level as being good. The vast majority of survey responses are also represented on CTS/APHIS. Just 25 holdings recording survey responses had no corresponding administrative data. 1,287 holdings were represented on administrative systems but not through survey responses.

Chart 4 shows 28 per cent of holdings with a survey response had an exact match in cattle numbers and around three quarters were within 10 per cent of that recorded on the administrative system.

Surveys appear to consistently record fewer cattle across all sizes of holdings. The level of the discrepancy is highest for the largest holdings. Reporting problems appear to be the main reason for the difference in numbers, particularly amongst these larger holdings (as shown in Table 7).

Table 6. UK comparison of holdings recording survey responses with administrative information: 2006

	Number of holdings	Number of cattle - admin	Number of cattle - surveys
Cattle for both survey and admin	35,841	4,719,964	4,574,658
Cattle for admin but not survey response	1,287	52,850	0
Cattle for survey response but not admin	25	0	530
Total	37,153	4,772,814	4,575,188

Chart 4. UK comparison of holdings recording survey responses with administrative systems – percentage difference of total cattle on holding: 2006

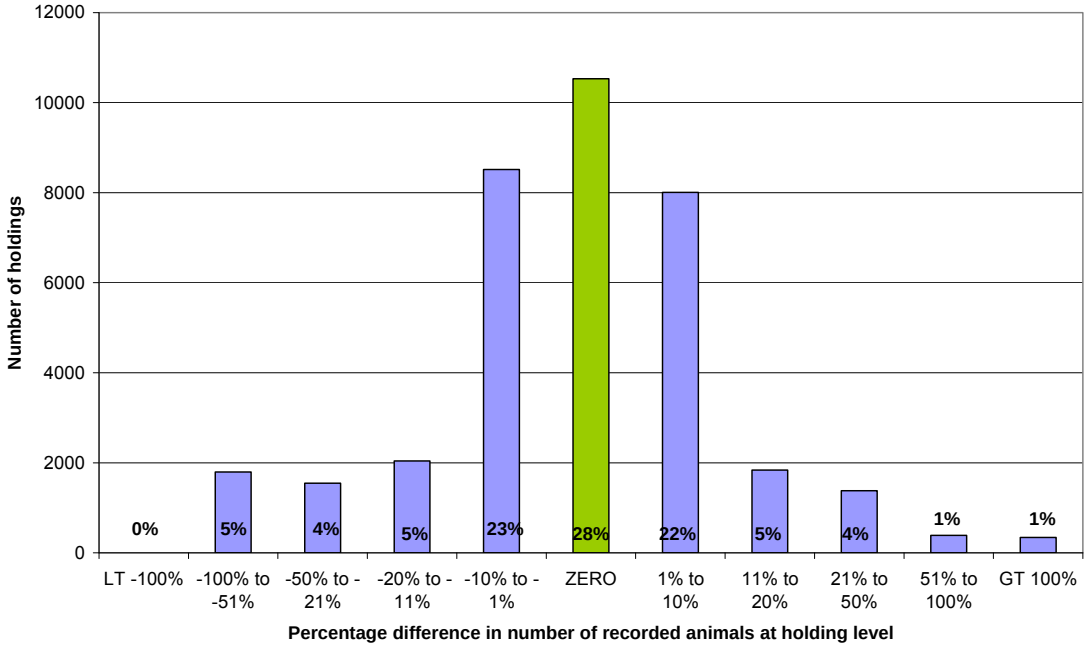

Table 7. UK comparison of holdings recording survey responses with administrative systems by herd size: 2006

	1 to 10 Cattle	11 to 50 Cattle	51 to 100 Cattle	101 to 300 Cattle	301 to 600 Cattle	Over 600 Cattle	Total
Number of holdings							
admin greater than survey	1,046	2,869	2,485	5,347	2,091	394	14,232
admin equal to survey	2,577	3,872	2,057	1,761	245	19	10,531
admin less than survey	806	3,689	2,808	3,841	1,022	199	12,365
All holdings	4,429	10,430	7,350	10,949	3,358	612	37,128
Percentage of holdings							
admin greater than survey	24	28	34	49	62	64	38
admin equal to survey	58	37	28	16	7	3	28
admin less than survey	18	35	38	35	30	33	33
All holdings	100	100	100	100	100	100	100

3.3 Methodology and comparison for detailed Eurostat categories

3.3.1 Methodology to obtain data directly available from administrative data

Section 3.3.1 and 3.3.2 consider cattle population comparisons of survey and administrative data for the Eurostat categories stated in Council Directive 97/77/EC (shown below).

The figures obtained for Great Britain for 2003 and 2004 are set out in Table 8. Whilst the RADAR system captures all of the variables collected by the Cattle Tracing System, not all of these, including some required for survey purposes (offspring indicator and genetic dam) had previously been collated in the system. Further work has been undertaken to make the information available. This work is nearing completion and historic data is now being processed. Data for 2003 and 2004 is complete and data for 2005 onwards should be available by the end of March 2007. More recent information from the Northern Ireland APHIS System is available and so data for 2005 and 2006 are presented in Table 9 .

Key points from our analysis indicate that :

- Similar trends are shown for both sources.
- In GB, the greatest percentage difference appears for animals less than 1 year, followed by males of 2 years and over

Eurostat cattle categories

A. Bovine animals <1 year old:

(a) Calves for slaughter
(b) Other:
    (ba) Female
    (bb) Male

B. Bovine animals aged between 1 and 2 years:

(a) Male
(b) Female:
    (ba) Animals for slaughter
    (bb) Other

C. Bovine animals aged between >=2 years:

(a) Male
(b) Female:
    (ba) Heifers:
        1. heifers for slaughter
        2. other
    (bb) Cows
        1. Dairy
        2. Beef

The Eurostat bovine categories A, B and C which are defined by age area, are readily obtainable from the administrative data. Available information on gender, breed

purpose, breed of genetic dam and details of whether the animal has had offspring make it possible to construct the further sub-divisions.

Of the 11 detailed categories B.a, C.a, C.b.bb.1 and C.b.bb.2 are directly obtainable from CTS/RADAR and APHIS systems as follows:

B.a - Males between 1 and 2 years old
C.a - Males of two years and over

Gender and age information are available from tracing data.

C.b.bb1 - Dairy cows of 2 years and over

Gender and age information are available from tracing data. The purpose (dairy) is obtained from the breed type. The indicator showing that the animal has offspring indicates that the animal is not a heifer (included in categories **C.b.ba.1** and **C.b.ba.2**).

C.b.bb2 - Other cows of 2 years and over (not dairy or heifers)

Gender and age information are available from tracing data. The purpose (beef) is obtained from the breed type. The indicator showing that the animal has offspring indicates that the animal is not a heifer (included in categories **C.b.ba.1** and **C.b.ba.2**).

3.3.2 Methodology to obtain data not directly available

Categories A.b.ba, A.b.bb, B.b.ba, B.b.bb, C.b.ba.1 and C.b.ba.2 can be partially derived from administrative sources as follows:

A.b.ba - **Other males less than 1 year old (not for slaughter)**
A.b.bb - **Other females less than 1 year old (not for slaughter)**

Gender and age information are available from tracing data. An element representing calves for slaughter needs to be deducted from each category to produce Category A.a. This is very small in the UK representing just 1 percent of the cattle population.

B.b.ba - Females between 1 and 2 years for slaughter

Gender and age information are available from tracing data. The female offspring from the dairy herd that fall into this category is obtained where the breed type indicates beef purpose and the genetic dam breed is dairy purpose. The proposed approach to derive the remaining constituent (representing animals from the beef herd) is set out below.

B.b.bb - Other Females between 1 and 2 years (not for slaughter)

This category was constituted from dairy and beef heifers in first calf and replacements. Gender and age information are available from tracing data. The female offspring from the dairy herd that fall into this category is obtained where

the breed is pure bred dairy and no offspring has been produced. The proposed approach to derive the remaining constituent (representing animals from the beef herd) is set out below.

C.b.ba.1 - Heifers for slaughter of 2 years and older

Gender and age information are available from tracing data. The female offspring from the dairy herd that fall into this category is obtained where the breed type indicates beef purpose and the genetic dam breed is dairy purpose.

C.b.ba.2 - Other heifers (not for slaughter) of 2 years and older

This category is constituted from heifers in first calf and replacement heifers of 1-2 years. Gender and age information are available from tracing data. The female offspring from the dairy herd that fall into this category is obtained where the breed is pure bred dairy and no offspring has been produced.

The remaining information not covered above can be summarised as:

- B.b.ba Females between 1 and 2 years for slaughter
- B.b.bb Other Females between 1 and 2 years (not for slaughter)
- C.b.ba.1 Heifers for slaughter of 2 years and older
- C.b.ba.2 Other heifers (not for slaughter) of 2 years and older

Additionally, the combined categories B.b.ba + B.b.bb (all females between 1 to 2 years) and C.b.ba.1 + C.b.ba.2 (all heifers 2 years and older) can be derived directly from administrative data. So it is just the ratio of B.b.ba to B.b.bb and C.b.ba.1 to C.b.ba.2 for those animals from the beef herd which is required. The ratio of females between 1 and 2 years for slaughter (B.b.ba) to other females between 1 and 2 years not for slaughter (B.b.bb) is little changed over recent years. The same is true for the ratio of C.b.ba.1 to C.b.ba.2. These factors make the derivation of the remaining categories more straightforward.

The remaining information can be derived by retaining some survey questions. Alternatively, estimates can be modelled using historic survey and administrative data or by modelling prospective slaughter estimates using retrospective slaughter information which is available from CTS/RADAR and APHIS. A modelling option is our preferred choice should investigations prove it to be feasible and effective.

Table 8. GB cattle population at 1 June from survey CTS/RADAR.: 2003 & 2004

Cattle by Eurostat Categories '000

Eurostat Categories	Description	June Survey Categories	June Survey		Admin. data		Difference: Survey-Admin		Percentage Difference	
			2003	2004	2003	2004	2003	2004	2003	2004
A. Bovine animals less than 1 year old										
A.a	calves for slaughter	K17	41	41	n.a	n.a	n.a	n.a	n.a	n.a
A.b.ba	other males	K18	1,200	1,204	1,406	1,407	-206	-202	-15	-14
A.b.bb	other females	K19	1,113	1,126	1,317	1,325	-204	-199	-15	-15
B. Bovine animals between 1 and 2 years										
B.a	males	K12+K16	926	966	928	1,001	-2	-35	0	-3
B.b.ba	females for slaughter	K14	591	615	*(267)^*	*(273)^*	n.a	n.a	n.a	n.a
B.b.bb	other females	K3+K5+K8+K10	740	765	*(427)^*	*(445)^*	n.a	n.a	n.a	n.a
	all females		*1,331*	*1,380*	*1,205*	*1,268*	*126*	*112*	*10*	*9*
C. Bovine animals of 2 years and over										
C.a	males	K11+K15	297	294	328	323	-31	-30	-10	-9
C.b.ba.1	heifers for slaughter	K13	127	129	*(135)^*	*(128)^*	n.a	n.a	n.a	n.a
C.b.ba.2	other heifers	K2+K4+K7+K9	485	490	*(444)^*	*(404)^*	n.a	n.a	n.a	n.a
	all heifers		*611*	*619*	*794*	*729*	*-183*	*-110*	*-23*	*-15*
C.b.bb.1	dairy cows	K1	1,901	1,840	1,820	1,795	80	46	4	3
C.b.bb.2	other cows	K6	1,402	1,440	1,411	1,463	-8	-23	-1	-2

^ - Eurostat categories B.b.ba, B.b.bb, C.b.ba.1 and C.b.ba.2 can only be partially derived directly from administrative sources - these partial estimates are given in brackets. Since the figures shown in brackets are partial they cannot be compared directly to survey data, the figures are shown for illustrative purposes only.
n.a = not available

Table 9. NI cattle population at 1 June from survey and APHIS: 2005 & 2006

Cattle by Eurostat Categories '000

Eurostat Categories	Description	June Survey Categories	June Survey		Admin. data		Difference: Survey-Admin		Percentage Difference	
			2005	2006	2005	2006	2005	2006	2005	2006
A. Bovine animals less than 1 year old										
	calves under 1 year		457	442	461	461	-4	-19	-1	-4
B. Bovine animals between 1 and 2 years										
B.a	males	K12+K16	207	193	194	194	12	-1	6	-1
B.b.ba	females for slaughter	K14	121	127	n.a	n.a	n.a	n.a	n.a	n.a
B.b.bb	other females	K3+K5+K8+K10	110	104	n.a	n.a	n.a	n.a	n.a	n.a
	all females		*232*	*231*	*231*	*231*	*1*	*0*	*0*	*0*
C. Bovine animals of 2 years and over										
C.a	males	K11+K15	84	87	92	92	-8	-4	-8	-5
C.b.ba.1	heifers for slaughter	K13	34	39	n.a	n.a	n.a	n.a	n.a	n.a
C.b.ba.2	other heifers	K2+K4+K7+K9	65	65	n.a	n.a	n.a	n.a	n.a	n.a
	all heifers		*99*	*104*	*150*	*148*	*-52*	*-45*	*-34*	*-30*
C.b.bb.1	dairy cows	K1	291	296	286	285	4	11	1	4
C.b.bb.2	other cows	K6	297	283	278	277	19	6	7	2

n.a = not available

4. Assessment of the UK position

A Review group, chaired by the Head of the Statistics Profession in Defra, Peter Helm, has considered the results. The group included a wide range of experts working on the surveys across the UK, those working and using the admin data and experts on the livestock sector within and outside the department. The unanimous view was that there merit and benefit in making the switch from the survey to the administrative source.

The consistent under reporting of the surveys by about 4 per cent is in line with other member states experiences. Users of the data have confirmed that this is well within their normal level of tolerances. Rather than the level, the critical need is for trend data which is virtually equivalent on both sources.

The admin systems are becoming much more robust and in particular with the periodic checks with farmers on the number of cattle on the holding. The GB results are further verified and slightly refined as they are transferred into the RADAR system. A small survey for holdings where there were large differences between December 2006 Survey figures and CTS has been carried out. The discrepancies were mostly explainable and had largely arisen where holders had recorded their herd for dates other than 1 December.

The under recording of the younger animals in the survey is thought to result from a mixture of quick estimates, the greater fluidity of number of animals on the holding in this group and farmers not reporting the precise figures on the survey reporting date. It is not surprising and reassuring that the gender splits are the same – these are one of the easiest things to for the survey to capture. However it has long been recognised that it is more difficult to get precise estimates of age in the survey. It may be unreasonable to expect farmers, particularly of large herds to provide exact figures on the survey and the returns may reflect best estimates with some degree of rounding. For example, cattle aged 11.5 – 12 months may all get included in the 12 months and over group.

Our experience here, along with other member states does suggest we have to be realistic on what can be captured in surveys and the accuracy of this.

5. Conclusion/recommendation

Overall, both the GB and Northern Irish administrative systems provide a more reliable source of cattle information than surveys. The coverage provided by the administrative data is by its nature more complete than by sample survey. Additional confidence in the reliability of the administrative data is provided by the mechanisms in place for cross checking and correcting tracing information.

Whilst supply of both survey and administrative information are statutory requirements, the penalties for non-reporting or misreporting cattle tracing information are much more severe. In addition animals found without appropriate documentation are slaughtered without remuneration. These penalties act as strong incentives for farmers to keep information up to date.

The greatest differences between the survey and administrative data sources occur for animals under 1 year of age. As farmers must supply details of births (with gender) within a specified timeframe, the tracing data for age and gender are likely to be much more accurate than for survey. Survey information is accepted up to 4 months after the date for which it relates and there may be a tendency for farmers supplying late responses to estimate the number of animals they had at that time. Farmers also frequently cite the availability of administrative data as a reason for supplying quick and rough estimates for the survey and also for failing to respond at all.

The Cattle Tracing and Aphis Systems provide good quality and reliable information and has been consistent over a number of years. The UK therefore feels confident in using this to replace that collected via the agricultural surveys from June 2007.

Annex 1

Technical description - UK agricultural survey registers

England

In England, a register of all agricultural holdings is continuously updated and maintained by the Department for Agriculture Food and Rural Affairs (Defra). The register uses the same unique (CPH) number for each holding as the CTS. It also holds the contact details of the holder, the size of the holding, whether the holding is active, the legal status of the holding and the CPH number of any associated holdings. Information on previous owners is also retained. The register is supplied with regular updates from the Rural Payments Agency (the body responsible for subsidy payments) as well as via survey contact with holdings.

Statistical data on holdings are held separately on the Farm Survey System (FSS). Stratified sample surveys of cattle populations are conducted in June and December of each year in accordance with EC Council Directive 93/24/EC (as amended). Survey datasets comprise values for those holdings surveyed, administrative data when considered suitable and imputed data for all non-sampled holdings. The imputed data are based upon last known responses and known changes to other holdings within strata. Economic farm size and types are calculated for each holding. It is these last two items, often coupled with region, that are the most important for stratification.

Wales

A statistical register of farm holdings in Wales is maintained by the Welsh Assembly Government (WAG) which is continuously updated.

The three main sources of new register information are: survey correspondence; change of address details from administrative records such as the subsidy payment system and feedback from maintaining the mailings of the monthly farming magazine (“Gwlad”).

The Census register is accurate for the majority of holdings in Wales, particularly for those receiving subsidy payments.

Scotland

The Scottish Executive Environment and Rural Affairs Department (SEERAD) are responsible for the collection of agricultural statistics for Scotland. An integrated Corporate Database is used to hold the details of all agricultural holdings and businesses that have contact with the Department, and is used for all SEERAD statistical surveys.

As for elsewhere in Great Britain, the unit of reporting in Scotland is the agricultural holding. Each holding is allocated a unique holding number and then an occupier (owner or person/company renting the land under a full tenancy) is allocated to the holding. A threshold is applied so that the population surveyed includes ‘all holdings having one hectare or more of farmed land and at least 1⅔

European Size Units, and/or a full-time farmer, and all holdings where an occupier farms more than 1 holding and all holdings with significant poultry or horticultural activity'. Holdings of this size are classed as 'main' holdings. Smaller holdings are classed as 'minor' and are also registered, but not surveyed as frequently.

The census branch jointly maintains a Corporate Database which registers all agricultural holdings in Scotland. The register is updated on a day-to-day basis. The register for each holding includes:

- identity number of holding,
- name, address and telephone number of occupier,
- holding description,
- area of land,
- details of land movements.
- demographic characteristics,
- date of commencement of new holdings, cessation of activities, previous occupiers.

The register is used to survey main holdings on a yearly (June full census) or six-monthly (December sample survey) basis. Economic stratification is carried out yearly in line with the survey results. Further employment and diversification activities data are obtained from the FSS every two/three years. Minor holdings are surveyed less frequently, once every three years on a rolling sample basis as part of the June census.

Northern Ireland

The IACS administrative system maintains a register of all Department of Agriculture for Northern Ireland (DARD) "clients". Almost 95 percent of farms in Northern Ireland grow cereal crops or have cattle or sheep and are, therefore, included in the IACS administrative system. Each person or company is allocated a client reference and each client is associated with a specific business, in accordance with the rules operated by the IACS controls. To this register have been added other clients and businesses, such as pig, poultry, horticulture or potato specialists, who have not made an IACS return but which are included on other DARD administrative registers, e.g. customers of the DARD Advisory Service. The register also includes other businesses which Farm Census Branch has identified from external sources.

The register does not hold statistical data about each business. A separate data file is held for each survey in the statistical software package, 'SPSS for Windows'. The register for each client includes: name; address; telephone number and a reference for the business with which they are associated. The business reference incorporates a grid reference of the main farm buildings.

Annex 2

Technical description - UK cattle tracing systems

Great Britain

The Cattle Tracing System (CTS)

The Cattle Tracing System (CTS) is a computer based system to register cattle in Great Britain. This was introduced for Great Britain in 1998. It was developed by British Cattle Movement Service (BCMS) and is maintained with support from IBM. BCMS is the specialised cattle tracing organisation for Great Britain and part of the Rural Payments Agency (RPA).

The CTS is one of four elements of the cattle registration and identification system which also includes:

- Ear tagging;
- Farm records – records of births, imports, movements and deaths must be kept by keepers;
- Passports – Cattle born since 1 July 1996 must have passports, recording where they have been throughout their lives.

Records of cattle movements are obtained from keepers in three ways:

- Completion and return of 'movement cards' (which are included in the animals passport) to the BCMS every time there is a movement on or off their location. A separate card is needed for each.
- Via the CTS online website. This allows immediate validation of data.
- By e-mail via the Standard Interface Specification (SIS) which delivers a specially formatted mail to BCMS with all relevant information.

Changes or additions to the register must be supplied within the following deadlines:

- 27 days to report the birth of an animal
- 3 days to report any movement of an animal (ON or OFF)
- 7 days to report the death of an animal (excludes calves up to 20 days old if not yet tagged)

A list of the key variables for reporting purposes recorded on the system is at Annex 3.

Northern Ireland - Animal and Public Health Information System (APHIS)

The APHIS cattle tracing system has been operation since 1998. The system records details of every bovine animal in the province including its age, gender, breed, colour and every movement made during its lifetime.

APHIS has been declared fully operational by the Commission therefore no cattle passports are used. Direct access to the database is provided to Divisional Veterinary Offices, markets and slaughterhouses. Farmers are able to make notifications remotely to APHIS.

Annex 3

CTS Fields Used For Report Building

Field Name	Description
Ear tag	Ear tag number of animal
Breed Name	Full breed name (e.g. Aberdeen Angus)
Breed Code	Breed Code (e.g. AA)
Sex	Gender of animal
Birth Date	Date the animal was born
Birth Dam Ear tag	Ear tag of the animal that gave birth to the calf
Genetic Dam Ear tag	Ear tag of the animal that provided the genetic material for the embryo
Sire Ear tag	Ear tag of the animals male parent
Application Receipt Date	Date the application to register the animal on CTS was received
Application Type	Type of application received onto CTS (i.e. temporary Calf Passport, Application from the Birth Location, an EU Import, Third Country Import, etc)
Application Source Type	How the application was received onto CTS (via Paper Application Form, SIS email, CTS Online, etc)
Death Date	Date the animal died
Country Of Origin	Country where the animal originated (i.e. born in GB or imported from another country)
Unique Location Number	CPH number for holdings (e.g. farms, markets and SH numbers for slaughterhouses).
County	County holding in (e.g. Cumbria)
Region	Region holding in (e.g. England North)
Country	Country holding in (e.g. England)
Location Address Information	Address details are held such as name, address, post code, telephone number.

Field Name	Description
	Addresses are available for where the animals are kept, where the keeper actually lives, where the correspondence is required to be sent and other contact addresses as required.
Premises Type	Type of premises (e.g. agricultural holding, market, slaughterhouse, etc)
Movement Date	Date the animal moved
Movement Type	Type of Movement reported (e.g. Birth, Import, On, Off, Death). This also includes other types of movements used for management purposes.
Movement Source Type	How the movement was received onto CTS (via Application Form, SIS email, CTS Online, Card, etc)
Movement Receipt Date	Date the movement was received

N.B. There are many other fields on CTS which are used for management of the database (i.e. management of the system and the data held in the database).