

**Databases containing health, productivity and welfare
information for livestock
in South West England**

Report for the South West Healthy Livestock Initiative

by

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Introduction

The aim of the fact finding exercise was to identify health, welfare and productivity (economic) data sources potentially accessible and useful to the South West Healthy Livestock Initiative (SWHLI).

The objectives were to identify:

1. Which parameters are recorded
2. How it is collected and presented
3. What information it provides (and its limitations)
4. The availability of the data, where (if at all) it is published and date or frequency publication
5. Suitable contacts within the relevant organisations

This report details the information gathered by the 31st of March 2009. When possible the robustness of the data has been described. The highest level of robustness includes data sources where a scientifically valid sampling regime has been followed (e.g. randomised, stratified sampling) and least robust data sources include those where there is self-reporting on a voluntary basis. These characteristics are summarised in the final section of the report. Accompanying this report (appendix 1) is a 'Review of surveillance activities in the pig industry in England' (2007) compiled by Professor Katharina Stärk and Dr. Mandy Nevel, which focuses on National pig surveillance databases.

Cross sectoral data

1. *Veterinary Laboratory Agency (VLA)*

Introduction

The VLA is an executive Agency of Defra with a number of roles including disease surveillance. A stated aim of the organisation is to:

“work collaboratively to deliver leading edge veterinary research, surveillance, consultancy and laboratory testing services through a series of integrated science programmes.”

Who collates the data and where it is collected

Twenty three Laboratories in the UK submit reports to the Veterinary Investigation Diagnosis Analysis (VIDA) database for national reporting. There are 15 VLA Regional Laboratories (RLs) and the remainder are the Veterinary Service Laboratories of the Scottish Agricultural Colleges north of the border. In the South West region RLs are based in Langford (Bristol University Vet school site), Starcross and Truro. Samples and carcasses are submitted by veterinary practices for diagnostic testing. Samples from farms in the Eastern fringes of the South West will be submitted to the Winchester laboratory. Reports are made by Veterinary Investigation officers (VIOs) to the private veterinary surgeons who are responsible for the care of animals on farm.

What information does it provide

The activities within the VICs are part funded by fees paid by the veterinary practices subsidised by Defra as part of a strategy to monitor for new and emerging disease, identify epidemics and establish patterns of endemic disease. An emphasis is placed on achieving a very accurate diagnosis, with rigorous, evidence-based criteria needing to be met before a diagnosis can be recorded. Therefore quality of the diagnoses is extremely high ensuring good surveillance and maximises the chances of detecting a new or emerging disease which is not routinely screened for.

There are some limitations to the database. The sample submission rate may not reflect the true incidence of the disease in the population. For example, submission rates may be influenced by factors such as awareness, economics or notifiable disease outbreaks such as the 2001 Foot and Mouth Disease outbreak. These limitations are explained in more detail in the VIDA reports (http://www.defra.gov.uk/vla/reports/docs/rep_vida07_intro.pdf). The lack of a population denominator and a standardised sampling regime means it is not possible to calculate incidence rates and prevalence. Hence the data cannot be used to measure disease rates. However, the data can be analysed by syndrome (using the Vladimir system) to highlight changes in causal agents over time. For example, if rotavirus was the target of a calf scour initiative, then the proportion of scour samples that were rotavirus positive would be expected to decrease. This would be particularly useful for eradication programmes.

Alternatively, by using census data (population data available through RADAR <http://www.defra.gov.uk/animalh/diseases/vetsurveillance/reports/listing.htm>) and economic parameters, the disease trends can be statistically modelled. If used in conjunction with other measures such as sentinel farms, a robust assessment of a range of diseases can be established.

There are a number of conditions which are not typically recorded by the VLA. These include any condition which is normally diagnosed by physical examination of the live animal i.e. any condition that is not normally diagnosed by laboratory or post-mortem examination. These include lameness in ruminants, displaced abomasum in cattle, feather pecking in poultry etc.

Some samples may not be routinely sent to the VLA for testing. For example, many practices will perform their own lab testing and there are a number of private (commercial) and specialist laboratories in operations (section 9).

The availability of the data, where it is published and frequency of availability/publication

Sharing information is a key aim of the VLA. National reports can be accessed online.

The VLA publishes the following surveillance reports:

1. Annually (VIDA) http://www.defra.gov.uk/vla/reports/rep_vida.htm
2. Quarterly by species http://www.defra.gov.uk/vla/reports/rep_surv.htm#surveillance
3. Monthly by condition http://www.defra.gov.uk/vla/reports/rep_surv.htm#surveillance

The VLA advertise customised searches of the VIDA database, available by contacting the VLA on the following numbers/email:

Tel: +44 (0) 1932 357622

Fax: +44 (0) 1932 349983

E-mail: vida@vla.defra.gsi.gov.uk

Although VLA has produced, as part of its contribution to the SW initiative, data on disease conditions of major interest, onward and continuous provision will attract a charge. It would be useful for the various sectors to identify which diseases they would wish to receive such data on a regular basis. Reports on either a quarterly or annual basis detailing the full range of diseases would incur substantial cost and would probably be too overly detailed to be of practical use. However, producing a South West region equivalent of the VIDA report is conceivable.

The VLA TB system

This database records details of all samples coming into the diagnostic laboratory for bacteriological examination. The majority of the samples are bovine, but it includes other wildlife and domestic species.

For further information please email tb.datarequests@vla.defra.gsi.gov.uk.

The Spoligotyping and Variable Nucleotide Tandem Repeat (VNTR) database

This contains Spoligotyping and VNTR results for the TB samples. For further information please email tb.datarequests@vla.defra.gsi.gov.uk.

2. Meat Hygiene Service (MHS)

Currently there are a number of parameters that the MHS record, although **no longer on a regional basis** as all of them were superseded during 2008. Extra information is provided under the section describing data sources for poultry.

Response from the MHS:

The MHS collects daily throughput and post mortem data for cattle, sheep, pigs and poultry by establishment. Ante-mortem data is centrally available for cattle, sheep and pigs (ante-mortem data for poultry is held at the plant level and is not currently available centrally).

The information can be collated by establishment or geographic location of the establishment (County, Country) where the animals were slaughtered rather than farm of origin by month or year. Individual farm of origin information would be kept at the establishment and is not available centrally for collation.

It would be unlikely that establishment specific data could be provided (due to Data Protection issues) however assuming that there is more than 1 establishment that slaughters a specific species per county / geographic region this level of data could be provided.

The throughput data is used for charging purposes. The condition data is collected as part of a Service Level Agreement with the Food Standards Agency and is provided for policy decisions or as part of ad hoc requests.

Normally data would be provided free of charge unless a considerable amount of time is needed to retrieve it.

Type of Information presently collected and stored by the MHS

1. Data currently collected and stored for each species:

- Throughput for all different species. (held electronically)
- Ante and Post Mortem data for all species. (will be held electronically in the future)
- Food Chain Information for pigs (held electronically) and poultry (will be held electronically in the future).
- TSE monitoring Data for Cattle, Sheep and goats.(results sent to the MHS electronically from the laboratories)
- VMD/RIM sampling data for all species. (results sent to the MHS electronically from the laboratories)
- Animal Welfare data for all species.(mostly held electronically)
- Trichinella sampling in pigs, horses, farmed wild boar.(results sent to the MHS electronically from the laboratories)
- Campylobacter sampling in poultry.(results sent to the MHS electronically from the laboratories)

2. Collection, transmission and storage of the said data:

- Throughput data is currently collected at the plant, transmitted and stored electronically directly by the MHS.
- Ante and Post Mortem data and Animal Welfare data is manually collected by the MHS at the plant, forms are then sent to the MHS HQ and then manually inputted onto the computer.
- Food Chain Information for pigs is currently collated at the plant, transmitted and stored electronically by the MHS.
- Food Chain Information for poultry is manually collected, filed and held at the plant.
- Samples and relevant forms for TSE monitoring, VMD/RIM sampling, Trichinella sampling and Campylobacter sampling are sent directly to the relevant laboratories and electronic spread sheets with the results are subsequently forwarded to the MHS.

3. Who owns the data:

- MHS

4. Access to data:

- Authorised persons working on or behalf of the MHS.
- Other government departments e.g. Trading Standards for data in relation to Animal Welfare.
- Anyone has a right to ask for information under the Freedom of Information Act (FOI).

Additional Information:

- The MHS in future will be able to electronically capture all data
- Information currently collated is utilised for a number of projects /surveys.
- The MHS does have a records retention policy but in general this type of information is kept for at least 12 months.
- At the moment it is very difficult to capture some data on a county or regional basis –it will be a lot easier once we have the required IT systems in place.

Contact information

Craig.Kirby@mhs.gov.uk

Dawn Webster
Delivery Team Manager
Delivery and Planning Unit
Meat Hygiene Service
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Mobile: 07881 857764
dawn.webster@mhs.gov.uk

3. National Animal Disease Information Service (NADIS)

Who collates the data and where is it collected from

NADIS currently consists of 54 sentinel practices and the 6 UK Veterinary Colleges which form a sentinel practice (and farm) network nationally. Within the South West region there are currently 11 practices and this is expected to expand in the next 5 years (for example 20 practices have been approached to be involved with the delivery of training programmes). Veterinary practitioners within the sentinel practices complete disease census forms.

The pig database is the most developed and involves quarterly visits to sentinel farms each of which has a farm reference number. Pig populations, management system, health status (whether a disease is present or not), quarterly production figures, and quarterly disease syndrome trends are monitored (census forms). Vets also record anecdotal comments on each call they make giving the farm reference number. This divides anecdotal comments into

- Unidentified diseases
- Welfare issues
- Comments on health
- Production comments
- Fertility comments
- Laboratory
- Drug reaction

NADIS are currently developing the scheme with BPEX so more detailed work can be recorded and farmer disease recording improved by better disease recognition training by the vet.

The health planning initiative, funded by Defra, utilised data from a number of sentinel farms in the country. Now the funding has ceased and the exercise has ended.

NADIS currently monitors diseases in cattle, sheep and pigs. At the present time it has no surveillance data for poultry, game species, camelids or goats.

What it tells you

National trends in disease, as reported by vets, are presented on the website ([http://www.nadis.org.uk/Graphs/Web\(27\)\(3L\).pdf](http://www.nadis.org.uk/Graphs/Web(27)(3L).pdf)). A monthly report which selects topical issues for cattle, sheep and pigs is also available at a national level (http://www.nadis.org.uk/On%20the%20Farm/ONTHEF_1.htm). Qualitative information is provided in addition to the trend lines.

The veterinary reported disease suffer the same limitations as the VLA diagnostic submission rate data in that there is no population denominator to calculate incidence rates or prevalence (except for census data – see below). However, by taking into account factors that could influence the presentation of cases to the vet then trends can be accurately modelled. Even without modelling, a general picture could be established (Figure 1 below) for diseases which can be definitively diagnosed by physical examination.

Unlike the VLA data, the diagnostic criteria are not defined (the vets professional opinion is used). This means the quality of the diagnosis for certain conditions will be less robust than those given by the VLA. None-the-less, there are many conditions which can be definitively diagnosed very accurately by physical examination and the veterinary opinion from the contributing practices can be assumed to offer high standards of quality assurance.

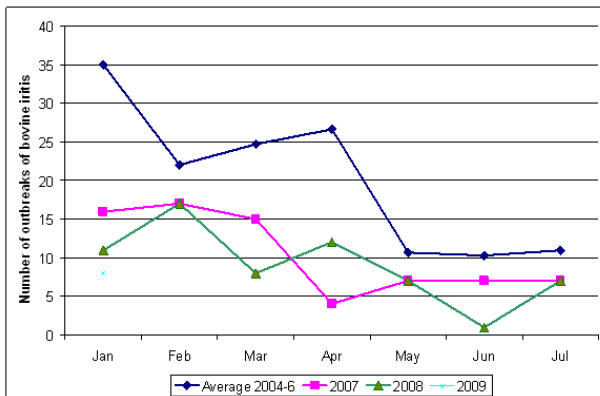


Figure 1: Change in monthly reports of bovine iritis (silage eye) since 2004 showing the year-on-year reduction in reports of this disease

The sentinel farm data has proved extremely useful for providing a baseline incidence rate or prevalence of the major farm animal diseases in the country. Although the sentinel farms inherently biased for scientific purposes as farms are not randomly selected, they are informative for monitoring trends. For a true disease incidence or prevalence assessment, a random sample of farms would be required but this would select farms with records unsuitable for detailed disease measurement.

For beef cattle the following conditions were characterised using 332 sentinel farms (over 60 from the SW and S. Wales) involving 21,392 cows, 3,864 heifers, 16,178 replacements/stores and 733 bulls:

1. Fertility/production e.g. PD positive, calves born alive, calves weaned
2. Losses e.g. calf deaths, cow deaths and culls
3. Calving difficulties
4. Pneumonia
5. Fluke
6. Parasitic gastroenteritis
7. Lungworm
8. Metabolic disease
9. BVD
10. Lice
11. Coccidiosis
12. Johne's
13. Leptospirosis

Similarly, 308 sentinel sheep farms were assessed, involving 153,000 ewes. The following conditions were characterised:

1. Abortions
2. Clostridial disease
3. Foot rot
4. Scab
5. Parasitic gastroenteritis
6. Fluke
7. Watery mouth
8. Pasteurella
9. Orf
10. CODD

There is no other comparable database extensively covering disease in this way. Whilst there may be inter-observer variations in the diagnosis, the consolidated nature of the data would mean these figures would be reasonably robust if the same recording protocols were adhered to in future. However, this would need funding.

Disease recording can be similar to 'Schrödinger's cat', in that the sheer act of observing and recording will influence incidence and prevalence (through increased sensitivities). It means incidence rates and prevalence can appear to increase as those involved in recording become increasingly aware of the problems. However, this effect can be minimised and accounted for by selecting the most objective measures of a disease. The extensive nature of the census means these figures can be selected.

Parasite forecasts are also available for sheep and cattle on a regional basis (<http://www.nadis.org.uk/Regions/SWE.html>). This is a predictive service based on climatic data and can be used to interpret the significance of the parasite trends and any potential response to a regional health initiative.

The availability of the data

As described above, the veterinary reports and parasite forecasts are available online. The regional reporting and sentinel farm reporting would inevitably incur a cost to produce. Sentinel farm data would incur a cost to collect and collate.

Where (if at all) it is published, frequency of publication

The reports are published online (monthly updates) and with the UK vet magazine (monthly). Figures are also presented on the BPEX (<http://www.bpex.org.uk/publications/NadisReports.aspx>) and EBLEX websites (registered users only).

4. RADAR (Rapid Analysis and Detection of Animal-related Risks)

RADAR is a new information management system, which has been developed by Defra to collect and collate data from many different sources around the UK related to animal populations and diseases. It provides specialist tools for the analysis of surveillance data and publishes reports

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

Eventually, RADAR will hold information about a great variety of animal diseases and current, accurate information about the number and location of animals in the UK. At present it contains information about the **cattle population** and reported cases of **salmonella** in GB. More data will be added to RADAR gradually over time. An online data catalogue is being developed to provide more detailed information about the data RADAR holds. It will show **metadata**, data definitions and information about the **quality** of data held on RADAR.

Sources of information

The information in RADAR will eventually come from a number of different collection activities and systems across the UK. Examples of the types of data include:

1. Agricultural holdings, land and livestock data from UK government databases;
2. Animal health data from private veterinary surgeons and animal owners;
3. Companion animal data, including that collected by the PETS travel scheme, and horse passport registrations;
4. Information on carcass condemnations and throughputs from abattoirs;
5. Diagnostic data from veterinary laboratories;
6. Information on the number of fallen stock consigned for destruction, and
7. Meteorological information from the Met Office.

Data availability

Some of the data RADAR holds is available to scientists and epidemiologists for use in research projects, which further our understanding of veterinary surveillance and disease control in the UK. RADAR is being developed and released in phases between now and 2013. Phase 2 ran throughout 2005 and 2006 yet 3 years later Defra are still considering what data should be made available from it. The range of possibilities includes population data about other livestock (sheep, pigs, poultry), livestock movement information (cattle, sheep, pigs and goats), information from statutory surveillance programmes (Brucellosis and EBL) and information about the occurrence of some diseases (BSE and TB).

Contact information:

RADAR Team
Area 5B
Nobel House
17 Smith Square
London
SW1P 3JR

Fax: 0207 238 3009

Email: vetsurveillance@defra.gsi.gov.uk

Website: <http://www.defra.gov.uk/animalh/diseases/vetsurveillance/radar/data.htm>

(accessed 05/02/2009 – last updated 28/08/2008)

Other potential contacts: Ruth Lysons/Jane Gibbon

5. National Fallen Stock Company (NFSCo) and the Defra Fallen Stock Scheme

The data held comprise the number of dead animals by species and postcode entered electronically on a daily basis by the collectors. The data could potentially be sorted and made available to SWHLI but as this is not routinely done, this would be at cost.

Web links provided:

<http://www.defra.gov.uk/animalh/by-prods/fallen/fallen.htm>

<http://www.defra.gov.uk/animalh/by-prods/pdf/nfscs-review.pdf>

Contact details NFSCo

Mike Seales, MBE
Chairman
National Fallen Stock Company
Sallyfield Lane
Stanton, Ashbourne
Derbyshire
DE6 2DA

Tel: 0845 054 8888
Mobile: 07966262016
e-mail: michael.seales@farmline.com

Possible contact defra: Neil Leach - Defra, Head of the Animal by-products Unit, with responsibility for advising on government policy on animal by-products including the disposal of fallen stock. Responsible for developing the National Fallen Stock Scheme and Government Director of NFSCo since its creation in 2003.)
Patrick Burke – contact for ‘over 30 month scheme’ (OTMS)

6. Defra Animal Health (data from local/regional offices)

Reply to enquiry:

Thank you for your enquiry, which has been forwarded from the individual Animal Health Offices concerned to Animal Health Corporate headquarters in Worcester in order to coordinate a joint response.

In relation to your enquiry, Animal Health does hold some welfare-related information. However, you would need to provide more detail about exactly what information you require in order for us to confirm this. This link, <http://www.defra.gov.uk/animalhealth/about-us/whatwedo/index.htm>, describes the work that Animal Health undertakes and gives an idea of the information we hold about our customers.

For general information regarding Animal Health 'Access to Information' and the process for submitting a request for information then please see: <http://www.defra.gov.uk/animalhealth/about-us/accesstoinformation/index.htm>. Any request for information would need to be assessed on a case by case basis, so you would need to submit more details in order for us to assess whether the information could be released or not.

There is usually no cost attached to releasing information (unless it is a Subject Access Request under the Data Protection Act 1998), however if the request is large, very general or unclear we may need to contact you to clarify/narrow down the request to allow us to comply with Government Department cost limits.

If you require any further advice then please feel free to contact us. Could you liaise with us (access 2 info) directly and we will coordinate with the offices if needed.

Regards

Katie Lambeth-Mansell

Reference Data Manager (on behalf of the Animal Health Information Manager)

Animal Health

BDD | Block C | Government Buildings | Worcester | WR5 2LQ

Tel: 01905 763355 Ext. 8050 | GTN: 6180 8050

Email: katie.lambeth-mansell@animalhealth.gsi.gov.uk

7. Defra June Agricultural survey (livestock numbers & holdings information)

An annual survey of agricultural activity which collects information from carefully selected agricultural holdings in England relating to land use, crops, livestock, labour, horticulture and glasshouse. In recent years it has been conducted as a sample survey, in which data is only sought from a proportion of holdings in each year. The exception to this is in every tenth year when EU regulations demand a complete census; 2000 was the most recent. The survey is conducted by a postal questionnaire (or electronically via the internet), which requires the farmer to state what agricultural activity is happening on their land on a specified day in June each year.

There are currently around 210,000 agricultural holdings in England, many of which are very small. The sample sizes used in recent years are between 45,000 and 75,000 and larger holdings are sampled at a higher rate than smaller ones.

All estimates are produced using statistical methods which allow for non-respondent/non-sampled holdings, making use of past data, where available.

For further details of the survey and a wide variety of data analyses please email:

farming-statistics@defra.gsi.gov.uk

8. Laboratories

Apart from the VLA, other laboratories have data relating to animal disease. These have not been approached unless they have relevance to specific sectors (see Cattle and Poultry).

9. Farm business survey

This survey performs a detailed financial accounts analysis on a representative sample of farms nationally. Farms are randomly selected with stratification to ensure a range of farms are represented within the sample.

Weblink: <https://statistics.defra.gov.uk/esg/asd/fbs/results.htm>

Contact: Richard Soffe <richard.soffe@duchy.ac.uk>

Cattle

1. DairyCo and The Kingshay Farming Trust

The following production and culling parameters are available through DairyCo (hyperlinks are available for each bullet on the electronic version of this document).

- [Cow & Calf Sale Prices](#)
- [UK Cow Numbers](#)
- [Slaughter Statistics](#)
- [Cull Cow Prices](#)
- [Older Cattle Disposal Scheme](#)
- [TB Statistics](#)
- [Net Farm Income](#)
- [Farm Business Income](#)
- [Feed Prices](#)
- [Fertiliser Prices](#)
- [Kingshay National Herd Data](#)
- [Kingshay Regional Herd Data](#)
- [Kingshay Organic Herd Data](#)
- [Kingshay Jersey & Guernsey Herd Data](#)
- [Land Prices](#)
- [Rent Levels](#)
- [Oil Prices](#)
- [UK Producer Numbers](#)
- [EU Producer Numbers](#)
- [Quota Movement](#)
- [Quota Prices](#)

Kingshay are willing to provide regionalised data on request.

Contact: Duncan Forbes duncan.forbes@kingshay.co.uk

2. Milk recording companies

There are three companies who measure milk quality parameters as a service for dairy farmers. Along with milk quality information, some animal production data is gathered along side this (calving dates, service dates). From these recordings mastitis and infertility can be assessed. Other health parameters are being gathered, with each company developing a range of reporting styles.

a. National Milk Records (NMR)

NMR have agreed in principle to provide regionalised data (to level of postcode). They have said a 'wish-list' would be needed. A growing amount of serological data on Johnes and Bovine Viral Diarrhoea (BVD) may be available through NMR.

Web link: <http://www.nmr.co.uk/>

Contact: Ben Bartlett <BenB@NMR.co.uk>

b. Cattle Information Service (CIS)

No response so far.

Web link: <http://www.thecis.co.uk/>

Contact: Lucy Andrews <lucyandrews@holstein-uk.org>

c. Quality Milk Management Services (QMMS)

QMMS have agreed in principle to provide regionalised data. They are a SW company and the majority of their clients are located in the SW region. Farm reports are generated through a supporting software programme (Totalvet).

Web link: <http://www.qmms.co.uk/CMS/index.php/>

Contact: Andrew Bradley <andrew.bradley@qmms.co.uk>

3. EBLEX

EBLEX provide production and NADIS surveillance data to registered users. See also Nadis.

4. Defra Cattle Tracing System (CTS) and the British Cattle Movement Scheme (BCMS)

The Cattle Tracing System (CTS) is a computer based system used to register cattle in Great Britain. Data relating to where cattle are kept is recorded by the Government so that the animals can be traced for a variety of reasons, including animal disease.

CTS records the identification and death of cattle, the movements from birth to death of cattle issued with passports from 28 September 1998, and the movements of older cattle since 29 January 2001. CTS is run by the British Cattle Movement Service (BCMS), which is part of Defra. BCMS can provide you with numbers of deaths by location type (e.g. on farm/slaughterhouse) and by region (county or country). Unfortunately CTS does not capture cause of death. It only captures location of death, location type and date of death. This can be analysed to any spatial granularity. Cause of death is captured by the Fallen Stock scheme which was collated by British Cattle Movement Service until the end of 2008, however this could not be considered a diagnosis, as in most cases a veterinary examination is not performed.

Mortality data has been used in one scientific paper on mortality in calves (Calf mortality as a welfare indicator on British cattle farms A. Ortiz-Pelaez, D.G. Pritchard, D.U. Pfeiffer, E. Jones, P. Honeyman, J.J. Mawdsley The Veterinary Journal 176 (2008) 177–181).

For further information please visit the [BCMS website](#) or, alternatively, please email vetsurveillance@defra.gov.uk

5. Blade Farming Southwest

We have made contact with Richard Phelps who has given us the brief information that 'Blade has a great deal of health information and would be happy to help on the basis of covering our costs etc.'

Contact

RichardP@rwmfoodgroup.co.uk

6. Abattoirs

H R Jaspers Ltd

At the beef site we record on our database the supplier, haulier, how many animals were brought in, date of birth, how many moves animals have had, farm assurance status, sex, breed, confirmation/grade and weight all on the day of slaughter. DOAs are not put through our systems as they are not fit for human consumption but this information you may be able to gain from knackers yards.

"All bruising, condemnations, parasites and illnesses found are documented by MHS. However we have computerised this information onto our database in a joint project with our local vets (Castle Vets in Launceston) to allow farmers feedback on issues such as liver fluke. "

Contact: Zoe Jasper <Zoe@jaspersbeef.co.uk>

7. Myhealthyherd.com

This utilises individual cow measures recorded by NMR and relates these measures to risks and control measures on farms. This database is developing and expanding, and therefore may not give a good baseline measure. None-the-less, it is a useful record of on-farm risk with potential for monitoring sentinel farms.

Web link: www.myhealthyherd.com

Contact: Dick Sibley dicksibley@aol.com

8. Defra bovine TB databases

- i. Randomised Badger Culling Trial (RBCT) data from a large-scale field trial run between 1998 – 2006 by Defra and overseen by the Independent Scientific Group on Cattle TB (ISG). The trial aimed to assess the impact of badger culling on cattle bTB incidence in parts of the country with a high incidence of the disease. Full details of the trial are available in the [ISG's Final Report](#) (PDF 2.50 MB)

- ii. A road traffic accident (RTA) survey of badgers was also carried out in seven counties in the south west of England between 2002 - 2005.
- iii. VetNet TB in Cattle system data. VetNet is Defra's bTB control and surveillance system. The system has been in place since the mid-1990s and records details of herds, bTB tests, bTB breakdowns and the details of any slaughtered (reactors, slaughterhouse cases and direct contacts) and inconclusive reactor cattle. For further information please email tb.datarequests@vla.defra.gsi.gov.uk.
- iv. **VeBus database** For a proportion of the tests recorded on VetNet all the individual animal details (sex, breed, age and skin test results) are recorded on VeBus.

Poultry

1. Exeter St David's Poultry Vets

A large amount of production and health data is collected for broilers, laying hens and game birds. This includes:

Disease status/disease maps

Lab diagnosis

Egg production

Web link: <http://www.stdavids-poultryteam.co.uk/>

Contact: Kerry Davidson Kerry@stdavids-vets.co.uk

2. Meat hygiene service

There is some variation in parameters recorded at each abattoir. The major abattoirs dealing with laying hens are based in the north of England. They routinely record:

- i. abnormal smell /colour*
- ii. ascites/oedema*
- iii. contamination*
- iv. emaciation/cachexia*
- v. mechanical damage*
- vi. overscald*
- vii. peritonitis/perihepatitis*
- viii. salpingitis*
- ix. septicaemia*
- x. skin lesions*
- xi. bruise*
- xii. tumours*
- xiii. possibly transport time, lairage time, death on arrival, culls etc*

The recording for broilers is similar. Table 1 and 2 illustrate the parameters recorded by the slaughter plants. The MHS have created a new website service to store this data. Further information is available through Liz Olney (e-mail Liz.Olney@mhs.gov.uk).

Table 1 Slaughter plant record of carcass quality (not including rejects)

Date _____ Farm + House _____

	house	Multiple houses?
Number of birds		
Slaughter weight		
DOA		
Hock score estimate		
Cleanliness		
% foot marks		
% hock marks actual		
% breast burns		
% breast blisters		
% breast bursa		
% scratching		
% blood retention		
% barking		
% crop		
Crop weight		
% wing damage post gas		
Number missing stunner		
number missing blade		
% bruised wings		
% bruised legs		
% broken wings		
% broken legs		
% total wing damage post plucker		
% head removal		

Table 2 Record of reasons for carcass rejection

Date _____ Farm + house _____

	Post 1	Post 2
Contamination		
Cellulitis		
Dermatitis		
Tumors/nodules etc		
Pericardiditis		
Hepatitis/jaundice		
Peritonitus		
Joint leisions		
Ascities		
Emaciation		
Abnormal colour		
Post mortem fracture/machine damage		
Ante mortem bruising/fractures		
Abnormal fever/colour		
Breast burns		
Full crops		
Others		

3. Integrated broiler producers –

Two Sisters (formerly Lloyd Maunder) are the major broiler producer in the South West. They have agreed to share recorded data with SWHLI with some provisos given the commercially sensitivities of consolidated data from a single large producer.

Contact Mark Field <Mark.Field@2sfg.com>

4. University of Bristol database

One output from a current 90 farm laying hen study is the development of a national database recording the following parameters:

- i. plumage score/coverage
- ii. cannibalism/vent pecking
- iii. Mortality rates through season
- iv. Egg production

Once running, the intention is that other farms would contribute to the database.

5. Large laying hen organisations -

Stonegate – Information from Richard Kemspey (MD) is that no health records for producer flocks are held centrally on their producer database.

He states: 'We would however be more than willing to help out the SWHLI initiative by promoting the scheme through our Columbian Blacktail producers in those areas. Each of these producers will have an active veterinary health plan in place and the records you are after will be held at farm level.'

Stonegate slaughtered hen data is likely to be available through the MHS. The data is being collected as part of a University of Bristol research study.

Contact Richard Kemspey <RichardKempsey@goodbehere.co.uk>

Pigs

1. BPEX

BPEX currently compiles health, productivity and welfare data on a national scale only. However, BPEX has an interest in gaining measures at a regional level that could result in the national databases being split up by county or to fit Regional Development Agency regions, thus being of direct relevance for SWHLI requirements.

In 2007 a review of surveillance activities in the pig industry in England was performed by Prof. Katharina Stärk and Dr. Mandy Nevel and this can be found attached to this report. Mr Derek Armstrong MRCVS (BPEX) has kindly provided a summary of pig health databases that may be of interest to the SWHLI (Table 3).

Table 3 Pig health datasources in the South West

What health or welfare data is collected	Who collates the data	Where it collected from	What it tells you	The availability of the data	Where (if at all) it is published Date or Frequency of availability/publication
Assurance scheme audits and Quarterly Veterinary reports	Assurance schemes Assured British Pigs www.assuredpigs.co.uk Genesis Quality Assurance Ltd www.genesisqa.com	Auditor and veterinary reports.	Compliance with assurance standards; basic farm data	Assurance schemes provide some access to anonymised data for research purposes on request.	No open publication
Abattoir condemnation and lesion data	Meat Hygiene Service www.food.gov.uk/foodindustry/meat/mhservice/	OVs and meat inspectors record data in abattoirs	Prevalence of lesions resulting in condemnation – some concerns over reliability of data	Available from MHS on request – level of detail unknown	Summary statistics may be published in MHS annual report but may not be published in full detail.
Food chain information	Food Standards Agency www.food.gov.uk/foodindustry/guidancenotes/meatregsguid/fcipegslaughter	Submitted by farms to abattoirs. Legal requirement.	Of limited value.	FSA may consider making anonymised data available for research purposes.	Little data published to date.
Enzootic pneumonia like lesions Pleuropneumonia-like (APP-like lesions) Other lung lesions Pleurisy Pericarditis Peritonitis Papular dermatitis Pyaemia	BPEX Pig Health Scheme http://www.bpex.org.uk/PracticalAdvice/ProducerKt/Bphs/default.aspx	Veterinary surgeons contracted to BPHS record lesion data in abattoirs.	Prevalence of lesions in carcasses in abattoirs	BPHS provides some access to anonymised data for research purposes on request	Some statistics referred to in print – report for years 1 to 3 to be published shortly

What health or welfare data is collected	Who collates the data	Where it collected from	What it tells you	The availability of the data	Where (if at all) it is published Date or Frequency of availability/publication
Milk spot liver Hepatic scarring Tail damage					
Clinical veterinary inspections. Basic farm description data; key production data, including mortality; status for major diseases and control measures including vaccination status; prevalence of the main diseases and aberrant behaviour. Subjective observations on unusual conditions and problems.	NADIS (National Animal Disease Information Service www.nadis.org.uk	Routine advisory visits by experienced veterinary practitioners on a quarterly basis	Monitoring the levels of the main economically important endemic diseases so that the prevalence can be determined; Regular analysis of the surveillance data so that early departures from normal disease trends, as may occur with a new emerging disease, can be identified quickly;	BPEX may be able to organise access to anonymised data.	Irregular reports of selected data.
Prevalence of Salmonella antibodies in finishing pigs.	Zoonoses National Control Programme for Salmonella in Pigs. www.bpex-zncp.org.uk/zncp/	Meat-juice samples collected in abattoir.	Good indicator at a national or regional level of prevalence of Salmonella antibodies.	ZNCP provides some access to anonymised data for research purposes on request.	Annual reports. Scientific publications.
Post-mortem and laboratory test results	Veterinary Laboratories Agency, VLA www.defra.gov.uk/vla/	Veterinary Investigation Centres	Results of tests on animals or tests submitted. May be biased because of cost of testing.	Access to raw data may be available on request.	Regular Disease Surveillance Reports Scientific papers Annual Review

What health or welfare data is collected	Who collates the data	Where it collected from	What it tells you	The availability of the data	Where (if at all) it is published Date or Frequency of availability/publication
Targeted sampling for individual research projects	Research groups eg RVC (PMWS Study); University of Cambridge (Pleurisy study); University of Newcastle (Risk factors for pig diseases)	Farm, abattoir and/or laboratory test data	Project specific data that relate to results during the timescale of the project.	Project dependent.	Presentations and scientific papers.
Statutory inspections on farms.	Animal Health, Rapid Analysis and Detection of Animal-related Risks - RADAR	Farms by Animal Health and Local authority staff.	Mainly welfare-orientated.	May be available on request at national and regional level.	CVO report?
Performance recording	Individual farms; farm data recording companies - Agrosoft www.agrosoftltd.com	On-farm	Production efficiency	May be available on request for research purposes (at a cost?)	BPEX pig yearbook
Veterinary health plans	Individual farmer and vet.	On-farm	Control measures adopted.	Directly by negotiation with individual.	Not published.

Feedback from Helen Thoday:

BPMS database

BPEX has the data from the British Pig Health Scheme where all pigs slaughtered in the primary pig slaughterhouses in England are scored for a number of diseases by vets on certain days of the year. All pigs slaughtered are captured quarterly and if producers pay a nominal fee they are sent their records.

Action: For BPEX to organise a county break down.

Updating: The BPMS data base is updated by the vets who score and then SAC do the necessary administration so no extra effort is required.

Number of pigs: This would include all pigs in the SWHLI counties – about 50,000 pigs

Level: can be regional, county or ranked per disease with farm name.

Weblink: <http://www.bpex.org.uk/PracticalAdvice/ProducerKt/Bpms/default.aspx>

Performance Records

Currently farmers can permit their recording system to be accessed by Agrosoft (biggest selling pig recording software) to pool data into a national Agrosoft data base. It can be used to rank producers as average, top third and top 10%.

Action: For BPEX to organise a county break down.

Updating: Self updating so nothing for us to do.

Number of pigs: Would need to find out, as not everyone records and not everyone uses Agrosoft.

Level: Due to this being a commercial database single farm information may not be accessible straight away but averages on mortality could be analysed per county (would just be pooled results).

Further work could be that a letter is sent out via Agrosoft to ask the users if they would mind if we have access to certain reports compiled by Agrosoft for the SWHLI period.

Blood Test database

A number of blood tests were carried out by RVC on behalf of BPEX last year. They would be available on a county level I am sure but it would be sensitive per farm just at this stage. Helen Thoday will look into this information further as it may be out of date but a good starting point.

Reports by veterinary surgeons

Most farms are assured which means they have a Vet Health Plan and quarterly vet visits. This information sits on farm and with the vet but if producers "buy in" to the SWHLI ideal then it is information that is available and updated. The data recorded are likely to vary from farm to farm, holding as much as the farm or vet tests/looks for so is not comprehensive but a very good start for a data base.

This would require somebody to compile and update.

Contact details

Helen Thoday (BPEX member on SWHLI board)

helen.thoday@bpex.org.uk

2. *Producer groups/contract growers*

i) Thames Valley Cambac

Contact Nick Dalton

Tel: 01491 863264

ii) Jon & Malcol Easey

Tel: 01379 668111

Sheep

1. **EBLEX**

(see under cattle and NADIS, above)

2. **South West Livestock Pilot (SWLP)**

Contact details

Alison Morgan (07775 826165).

<http://www.defra.gov.uk/animalh/id-move/register/sw-livestockpilot.htm>

Although this project has officially ended there was a lot of information integrated between several databases, which could be informally continuing.

3. **National Sheep Association**

This appears to have no databases.

Contact Sue Martyn sue@hornacott.freeserve.co.uk

She stated that 'I am sure that abattoirs would have databases giving all the info you are looking for, whether you would be allowed access is another matter!! Producer groups would also no doubt have plenty of info. A lot of farmers would also keep extensive records, how you identify them I don't know. Sorry to be so negative, but farmers are notoriously bad at sharing their records with anyone. However I am sure there would be people only too willing and able to help you given the chance.'

4. **Abattoirs**

We have contacted a few abattoirs and, unlike cattle, they appear to hold little data for sheep. This may change if individual ear-tagging or sheep identification is implemented.

5. **Defra annual inventory of sheep numbers by holding** (1 Dec)

Summary

There are numerous sources of data relating to health, welfare and productivity. The quality can be variable and therefore it is useful to summarise the features of data robustness.

Table 3 below roughly categorises datasets according to robustness features. However, it should be emphasised that the quality of data can be improved with a large sample size. Therefore, any measure that is prone to inaccuracy or extreme variability can be improved with many samples.

Table 3: A summary of data source robustness for those that could be assessed

Database	Measure of quality	Sample features
e.g. Epidemiological surveys of specific diseases	Scientifically validated methods	Small sample calculated to estimate disease prevalence/incidence to accepted degree of accuracy; sample selected using various sampling regimes taking into account population as denominator
Cross-sectoral		
Farm business survey	Standard accounting methods	Small sample, random, stratified
VLA	Strict diagnostic criteria in addition to veterinary diagnosis	Diagnostic samples submitted (no denominator)
MHS	Veterinary diagnosis or MHS inspection	Large, at slaughter only, slaughter population is the denominator
NADIS	Veterinary diagnosis	Large, on-farm, no denominator
National fallen stock company	Requirement to dispose of all livestock according to legislation	Almost all livestock (whole population valid denominator)
Sectors		
Cattle – see also cross-sector		
DairyCo/Kingshay	Range of production parameters that do not require diagnosis	Large with denominator
EBLEX	Range of production parameters that do not require diagnosis	Large with denominator
Milk recording companies	Laboratory Quality assurance	Large (dairy), mostly relating to mastitis and fertility
CTS/BCMS	Legal requirement to report movements	Large, relating to mortality
Poultry – see MHS		
Exeter St Davids	Veterinary diagnosis	Large sample
Pigs – see also cross-sector		
BPHS	Veterinary diagnosis	Large, at slaughter population
Sheep – see cross-sector		
EBLEX	Range of production parameters that do not require diagnosis	Large with denominator

The range of parameters recorded is summarised in Table 4 and 5 below.

Table 4 Recorded parameters for each of the data sources – cross sector

Database	Cattle	Sheep	Pigs	Poultry	Health parameters	Welfare (economically significant)	Productivity and economic
VLA	✓	✓	✓	Minor	Sampled	Minor	-
MHS	✓	✓	✓	✓	At slaughter	At slaughter	At slaughter
NADIS	✓	✓	✓	-	Vet examined	Vet examined	-
National fallen stock company	✓	✓	✓	-	Mortality only	-	-
Defra Animal Health	✓	✓	✓	✓	Notifiable and reportable	Welfare breaches	-
Farm business survey	✓	✓	✓	✓	-	-	Financial only

Table 5 Summary of recorded parameters for each of the data sources – sector specific

Database	Health parameters	Welfare (economically significant)	Productivity and economic
Dairy DairyCo	-	-	Yes
Kingshay Milk recording	Culling Udder health Infertility	- -	Yes Productivity
Beef EBLEX All cattle	From NADIS	-	Yes
CTS/BCMS Poultry	Mortality	Mortality	-
Exeter St David's MHS	Range Diseases visible at slaughter	Range At slaughter mostly	Range At slaughter
Pigs BPHS	Range of disease at slaughter	Range of problems	At slaughter
Sheep EBLEX	From NADIS	-	Yes

Conclusion

Data sources are available for all the major livestock sectors; most is available for the dairy sector and least is available for sheep. The cross-sectoral data sources offer the most comprehensive assessments of livestock health, while the sector specific data sources offer the best measures of productivity.