

Getting experience in the food sector: Meat production & processing

A guide for UK veterinary students



Acknowledgements

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In co-operation with

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British Meat Processors Association

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Foreword



Veterinarians play a vitally important role in the provision of safe meat. Our involvement with the individuals responsible for the complex process of turning an animal into meat helps protect public health and animal health and welfare. We are without doubt significant eaters of meat with the average consumption of meat in the UK in 2007 was 73.6kg per person. In 2006 we also spent around £1.6 billion on pet food, all of which must be produced to the same standard as that required for human consumption. For these reasons the slaughtering of livestock requires proper management and professional input from farm to fork.

This protocol plays an important role in ensuring that all who are involved in extra mural studies (EMS) – students, veterinary schools, Food Business Operators (FBO) and the Meat Hygiene Service (MHS) – maximise the value of every slaughterhouse placement.

Veterinary Public Health (VPH) is a challenging and worthwhile specialisation providing an essential service to both the UK meat industry and the general public.

A handwritten signature in black ink that reads "Jane m Downes". The signature is written in a cursive, slightly slanted style.

Jane Downes
Veterinary and Technical Director
Meat Hygiene Service (MHS)



We are very pleased to have been able to work so closely with colleagues in the veterinary profession to produce this first guide for UK veterinary students aiming to gain ‘on the ground experience’ in meat production and processing.

We want all veterinary students, whether taking formal work based placements or participating in tutor led sessions on our premises, to see the work we do as a **vital aspect of their veterinary education** and provide them with a constructive and fulfilling introduction to our industry.

Veterinarians play a pivotal and valued role within the sector but also in areas of research and policy development that guides us. Therefore it is vital to us that we have this early positive engagement and the contribution of the best and brightest. These opportunities are also as much ours to attract the best **future professionals**, which we know the veterinary graduate can offer.

With the co-operation of participating members and the support of their staff alongside colleagues in the MHS I am confident students will value an experience of our industry and hope to stimulate more UK graduates to consider a professional role in the ‘farm to fork process’ chain.

A handwritten signature in black ink, appearing to read 'Philip Hambling'. The signature is fluid and cursive, with a large loop at the end.

Philip Hambling
British Meat Processors Association

Introduction

Your part in the food chain

This guide aims to support your learning in Veterinary Public Health (VPH) and build your understanding of the important role the veterinary profession in providing assurance for the quality of the food we eat which is of animal origin.

The guide sets out some key areas which are important for the Food Business Operator (FBO), and which you, as a veterinary professional, will be expected to know and understand as part of your day one competences.

Know your meat

Whatever your future career plans, as a member of the veterinary profession working within the EU, your understanding of meat production and processing, as well as knowledge of the nutritional value and potential risks associated with meat and other animal derived products, will be essential.

You will need to be able to advise and support food producers and meat processors to produce food in a way which considers the welfare of animals and takes into account the full farm to fork processes which may impact on consumption of food. You will also have a responsibility to ensure producers and meat processors have adequate understanding to safeguard against human health risks which may be associated with their businesses.

You will also be responsible for supporting managers within the food chain to adopt practices which





manage environmental risks and which minimise the risk of contaminants entering the food chain.

The recent introduction of new legislation across the EU means it is more important

than ever for veterinary professionals to understand their role and responsibilities as well as to be able to demonstrate their expertise and understanding of this field of study.

Why get experience in a meat processing plant?

A learning environment

As part of your overall learning through your veterinary school's VPH curriculum, gaining experience in a meat processing plant will introduce you to the commercial working environment of meat establishments, the meat industry and the wider food sector.

You should expect to build on your practical, clinical and science skills as well as gain greater knowledge of the critical areas of quality assurance required within a meat plant.

Building on your science knowledge and clinical skills

Your period of Extra Mural Studies (EMS), alongside any tutor led sessions, should allow you to:

- build your clinical and diagnostic skills by looking at all aspects of animal welfare including ante-mortem inspection and the critical welfare management involved in humane slaughter.
- gain a better awareness of the principles and regulations underpinning operational hygiene and overall quality assurance including the audit and verification of the FBO's procedures for food safety management systems and other controls such as animal identification, Specified Risk Material (SRM) and animal by-products.

He/She will also ensure that responsible for the following:

- build your understanding of physiology and pathology skills by carrying out and understanding the procedures for post-mortem inspection and understanding how the muscle to meat transition impacts on meat nutritional value and eating quality.
- Build your understanding of microbiological assessment and disease surveillance by identifying cross-contamination risks, assessing the role of the meat processing plant in surveillance and evaluating the overall hygiene management of the processing plant.

Understanding the FBO's environment

Your time working in the plant should also give you the opportunity to gain **confidence in communicating** your veterinary knowledge and build an understanding of the roles and responsibilities of the broad range of people engaged in food production and food assurance. You should expect to:

- gain an insight into the overall farm to fork requirements and the links between on-farm management through to marketing and international trade in meat and other animal products.
- understand the verification of food safety management procedures from farm to fork, in order to provide the consumer with the maximum confidence in the safety of the product.
- experience and understand the commercial demands within which factory management staff and meat producers are working.

Understanding assurance and regulatory roles

Veterinarians working in both government and in the private sector as well as veterinarians working in research facilitate the safe production of food. All these roles ultimately improve animal welfare, food safety and quality and facilitate the UK's trade in food and animal products. Your time spent within the commercial environment should allow you to build an understanding of **collaborative working** and give you an opportunity to:

- gain an understanding of the interface between the Meat Hygiene Service (MHS) and the Food Standards Agency (FSA) and the role of the veterinary advisor in policy development and regulation of food assurance.
- gain an understanding of Department for Environment, Food and Rural Affairs (Defra) role in supporting Animal Welfare Regulation in the farm to fork chain, facilitating UK food trade and regulating Transmissible Spongiform Encephalopathy's (TSE) including animal by-product controls.
- understand the delivery structure for supporting meat processing and production in the UK and recognise the role of the lead veterinarian in the MHS to overseeing assurance.
- gain a clear understanding of the link between the Official Veterinarian (OV) role and the broader veterinary role in VPH linking back to the role of the clinician on-farm e.g. animal disease control, gross anatomy, anatomopathology, the effect of welfare on food safety, etc.
- recognise the importance of the OV in effectively communicating and building good working relationships with the FBO, producers, plant staff, and officials from other government departments.
- understand the importance of the OV as the inspection team leader and as part of the inspection team their responsibility in disease outbreaks.

Working in a meat processing plant

The OV role and responsibilities

The OV is your main contact if you are undertaking EMS or other work placement in a meat processing plant. The OV will support your learning and provide you with information about:

- Reporting times
- Biosecurity requirements
- Conduct and confidentiality
- Health and safety precautions
- Important sources of other information

- He/she will ensure time is allocated to give you the opportunity to spend time with both the OVs and Meat Hygiene Inspectors (MHIs) within the meat inspection team.
- Certify your attendance and assess your overall performance during the placement. Annex III can be used for this purpose.



Contact details

Please record your Veterinary School contact details and ensure the OV and FBO know who they can contact if necessary during your placement.

Veterinary School

EMS coordinator

Postal address

Telephone

Email

Your responsibilities

Working in any commercial environment requires an understanding of your role and responsibilities in the workplace. Meat processing plants require all workers and anyone on site to observe and adhere to all health and safety requirements including wearing correct protective clothing.

Commercial sites also require staff to recognise confidentiality issues in relation to all aspects of production. For example taking photographs and producing reports based on your time on site should only be recorded with the prior knowledge and approval of the FBO and the OV.

Notifying your EMS coordinator or other veterinary school contact

You should give your veterinary school EMS coordinator or other contact at least 8 weeks notice of your preferred dates for EMS. It is important that you allow adequate time to have the necessary clearances in place and to allow the EMS coordinator to locate a suitable placement opportunity.

Contacting the FBO

The FBO at the meat processing plant is the person either you or your Veterinary School's EMS coordinator should contact initially to be granted permission to have access to their premises. The FBO should be the first point of contact in all cases, rather than the MHS team at the premises.

Proof of identity

You will need to provide satisfactory identification as required by the FBO. You will need to have this identification on your person at all times whilst working on the premises. Advice on the type of identification normally required should be available from your veterinary school. For example the FBO may request a letter from your veterinary school to confirm your status as a registered student.

Visit prearrangements

Once you have received permission from the FBO to visit the establishment, the FBO will confirm details with the OV at the premises who will be your main support contact during your time on site.

Either you or your veterinary school EMS coordinator should contact the OV at the establishment for a pre-visit arrangement to agree the following:

- confirm dates and reporting times as agreed already with the FBO.
- confirm availability of appropriate clothing and equipment
- to receive any special instructions.

This preliminary information will ensure that the OV is available when you arrive to provide the orientation you will need before commencing your EMS placement.

Health certification

You should not visit any premises when suffering from any gastro-intestinal infection or any other condition which could be transmitted to others or potentially passed to the consumer via meat. The FSA Fitness to Work Guidance for food handlers is available on the FSA Website and should be consulted if you have any doubt about your fitness to work on site.

Guidance available at: www.food.gov.uk

Health and safety and hygienic practices

You are responsible for your own health and safety at all times on site.

You should also be aware of any actions which could create a health and safety risk to others. You should aim to be familiar with and follow strict hygienic practices, including presenting yourself in clean protective clothing and clean boots, throughout your time on site.

If you have any questions or concerns in relation to your personal health and safety at any time you should bring these to the attention of the OV.

Your commitment and learning experience

Your conduct throughout the period you are on site is very important.

You will need to approach your time on site with a professional attitude and show a willingness to learn from the experience and from those working with you at all times.

You must ensure that you have covered as many as possible of the learning objectives (page 14) and record these in the learning objectives checklist (Annex II) and this record should be signed by your supervising OV on completion of your EMS placement.

The MHS and the meat industry representatives who contributed to this guide are committed to ensuring all students receive a satisfactory quality of tuition and have a positive introduction to the industry.

Any issues in relation to your personal learning experience should be reported via your school's tutor or EMS coordinator who will contact the relevant MHS lead veterinarian to address your concerns.



Insurance

You will be covered by your veterinary school's insurance for any third-party or public liability claims arising from your work on a meat premises when you attend as part of your recognised study programme.

By joining the British Veterinary Association (BVA) as a student member you will be covered for any personal injury or accident which may occur as a result of working on a meat premises. You can find information at the BVA website.

A meat plant may not accept you on site without adequate personal insurance cover.

Feedback

To further improve the learning experience for veterinary students your feedback is welcome. You can give feedback via your veterinary school VPH tutors and EMS coordinators or via your student representatives.

The Veterinary Public Health Association (VPHA) and industry representatives, working with the Government Veterinary Surgeons (GVS) – University Veterinary Schools (UVS) Liaison Group aims to review and revise guidance and training to support student experience in the food sector and welcomes the input of Association of Veterinary Students representatives to this group.

Learning objectives

Purpose of training objectives

The purpose of the following training objectives is to give you some direction and allow the Official Veterinarians (OV) to ensure that as much as possible is gained in the limited time available during your placement.

Regulation and enforcement

1. To understand the different legislation (EU and domestic) that OVs must be familiar with for the delivery of the Official Controls.

2. To understand the structure of the Meat Hygiene Service (MHS), the roles and responsibilities of MHS staff, and the relationships with Food Standards Agency (FSA) and Department for Environment, Food and Rural Affairs (Defra) including Veterinary Medicine Directorate and British Cattle Movement Service.
3. To understand the importance of the MOC and MIG and how to navigate their contents.
4. To understand the principles of risk based enforcement and the hierarchy of enforcement to identify and prioritise deficiencies.
5. To understand the principles behind the need to detain meat and preserve evidence where appropriate.

Food Business Operator's (FBO) role

6. To observe and understand FBO's implementation and maintenance of pre requisites and food safety management procedures based on Hazard Analysis and Critical Control point (HACCP) principles.
7. To understand the FBO responsibilities for the identification, separation, hygienic storage, staining and dispatch of the different categories of animal by-products.
8. To understand the FBOs responsibilities for microbiological testing and the difference between 'process hygiene criteria' and 'food safety criteria'.

OV role

9. To understand the role the OV plays as team leader providing veterinary and technical leadership to the MHS inspection team

- 
10. To understand the OV role and responsibilities for animal welfare during transport, at unloading, in the lairage and during slaughter
 11. To understand the OV role in the auditing and verification of FBO's own procedures to control possible hazards

Hygiene, technical skills and observation of meat processing

12. To understand on line post-mortem inspection procedures, including the judgments and actions to be taken, such as the recording of contamination presented at the time of inspection.
13. To understand the relevance of the OV checks on carcasses in the chiller to measure the effectiveness of post-mortem inspection.
14. To recognise the value of the collection and communication of inspection results (ante and post-mortem).
15. To understand the importance of ante and post-mortem inspections in slaughterhouses for animal health surveillance and the importance of checking for notifiable diseases.
16. To understand the hygienic procedures involved in the handling of offal and for processing of edible co-products (casings, tripe, etc).

Procedures for animal welfare management, disease surveillance and residue testing

17. To observe and understand ante-mortem procedures in the slaughterhouse for all main species, including the use of Food Chain Information (FCI), emergency slaughter provisions on site.

18. To understand the importance of animal identification and traceability particularly with regard to notifiable diseases.
19. To observe the taking of samples for residue testing and understand the importance of correct traceability in relation to residues.
20. To understand the underlying principles involved in the testing of cattle and sheep for Transmissible Spongiform Encephalopathy (TSE) as well as the sampling techniques used and the need to maintain control of the product pending the receipt of test results.
21. To understand the procedures in accepting animals with abnormalities, as well as the bodies of animals that have been subjected to on-farm emergency slaughter.
22. To understand the principles involved in testing of animals for Trichinella and the sampling techniques used.
23. To understand contingency planning measures and the procedures to be followed when a notifiable disease is suspected or has been confirmed on site.

Veterinary school role

This section outlines areas you can look to your veterinary school tutors and EMS coordinators for support and further information. Please use this section as a reminder on areas which are also your responsibility as part of your time at a meat processing premises.

Confidentiality

Your veterinary school tutors and EMS coordinators will understand that much of the information gained during the period of EMS in meat processing plants will be commercially sensitive and must therefore not be discussed outside the meat premises.



The principles which govern client confidentiality extend to this area. During your EMS placement your discretion is essential and observations or concerns in relation to management or quality assurance processes within the meat plant should be discussed with the Official Veterinarian (OV).

Your observations and opportunity to record your experience are as important to your learning. However the premises must not be identified in any report produced from your EMS placement.

Use of photographic material

Special permission will need to be sought on use of photographic or filming material. This permission will need to be provided by the FBO.

Personal protective equipment

Your veterinary school will provide you with information on the use of appropriate protective clothing and equipment based on legislative and plant specific requirements.

You will be responsible for arranging your own protective clothing. However, it is important to discuss this with the OV at the premises as in some establishments there are particular conditions under which certain types of protective clothing has to be worn.

Allocation of premises

A list of approved establishments that are subject to veterinary controls and are willing to be involved in the EMS programme is available to all veterinary schools in the UK. This should provide details of local slaughterhouses.

A list of approved establishments is also available from the Food Standard Agency (FSA) web page at: www.food.gov.uk/foodindustry/meat/meatplantsprems/meatpremlcence



A career in the food sector?

The UK has drawn on many veterinary graduates from outside the UK to support the work of our meat processing industry.

We believe UK veterinary graduates may have been less attracted to work in the food industry in the past because there is limited information about the

potential career opportunities and the level of challenge offered by this type of work.

If you would like to know more about the role of veterinary professionals working in the meat and wider food sector please visit the GVS website www.defra.gov.uk/gvs about roles in government or you can contact the Veterinary Public Health Association (VPHA) via their website www.vpha.org.uk

Royal College Veterinary Surgeons (RCVS) Consultation on EMS

EMS requirements in relation to VPH were reviewed as part of a wider consultation on EMS by the RCVS Education Committee in 2009.

You can read the RCVS guidelines on EMS and view their consultation document at www.rcvs.org.uk

Although one of the recommendations from the review is that mandatory abattoir EMS should be re-incorporated into the core curriculum, it is hoped students will still see value in undertaking support opportunities available within the meat industry to gain work-based experience in addition to their formal studies.

Annex I Abbreviations and acronyms

BCMS	British Cattle Movement Service
Cefas	Centre for Environment, Fisheries & Aquaculture Science
Defra	Department for Environment Food and Rural Affairs
EMS	Extra Mural Studies
FBO	Food Business Operator
FCI	Food Chain Information
FSA	Food Standards Agency
GVS	Government Veterinary Surgeons
GVS-UVS	Government Veterinary Surgeons – UK Veterinary Schools
HACCP	Hazard Analysis and Critical Control point
MHIs	Meat Hygiene Inspectors
MHS	Meat Hygiene Service
MIG	Meat Industry Guide
MOC	Manual of Controls
OV	Official Veterinarian
RAVC	Royal Army Veterinary Corp
RCVS	Royal College of Veterinary Surgeons
SRM	Specified Risk Material
TSE	Transmissible Spongiform Encephalopathy
UK	United Kingdom
VLA	Veterinary Laboratories Agency
VMD	Veterinary Medicines Directorate
VPH	Veterinary Public Health

Annex II Learning objectives checklist

You may have a particular area of interest or additional areas you would like to cover during your EMS placement. The OV can discuss with you any other learning objectives you want to cover or support you to record any additional areas covered during your placement. The main species are given in these tables but if you have an opportunity to observe fish processing or game meat production please record these similarly.

You can use this checklist as part of your formal EMS record. Check with your EMS coordinator or Veterinary Public Health (VPH) tutor for additional or alternative requirements.

Regulation and enforcement

Key learning objectives

1. To understand the different legislation (EU and domestic) that OVs must be familiar with for the delivery of the Official Controls.
2. To understand the structure of the MHS, the roles and responsibilities of MHS staff, and the relationships with FSA and Defra including VMD and BCMS.
3. To understand the importance of the MOC and MIG and how to navigate their contents.
4. To understand the principles of risk based enforcement and the hierarchy of enforcement to identify and prioritise deficiencies.

Cattle	Sheep	Pigs	Poultry

Key learning objectives

- 5. To understand the principles behind the need to detain meat and preserve evidence where appropriate.

Cattle	Sheep	Pigs	Poultry

FBO's role

Key learning objectives

- 6. To observe and understand FBO's implementation and maintenance of pre requisites and food safety management procedures based on HACCP principles.
- 7. To understand the FBO responsibilities for the identification, separation, hygienic storage, staining and dispatch of the different categories of animal by-products.
- 8. To understand the FBOs responsibilities for microbiological testing and the difference between 'process hygiene criteria' and 'food safety criteria'.

Cattle	Sheep	Pigs	Poultry

OV role

Key learning objectives

9. To understand the role the OV plays as team leader providing veterinary and technical leadership to the MHS inspection team.
10. To understand the OV role and responsibilities for animal welfare during transport, at unloading, in the lairage and during slaughter.
11. To understand the OV role in the auditing and verification of FBO's own procedures to control possible hazards.

	Cattle	Sheep	Pigs	Poultry
9.				
10.				
11.				

Hygiene, technical skills and observation of meat processing

Key learning objectives

12. To understand on line post-mortem inspection procedures, including the judgments and actions to be taken, such as the recording of contamination presented at the time of inspection.
13. Understand the relevance of the OV checks on carcasses in the chiller to measure the effectiveness of post-mortem inspection.

	Cattle	Sheep	Pigs	Poultry
12.				
13.				

Key learning objectives

- 14. Understand the importance of collection and communication of inspection results (ante and post-mortem).
- 15. To understand the importance of ante and post-mortem inspections in slaughterhouses for animal health surveillance and the importance of checking for notifiable diseases.
- 16. To understand the hygienic procedures involved in the handling of offal and for processing of edible co-products (casings, tripe, etc).
- 17. Procedures for animal welfare management, disease surveillance and residue testing.

Cattle	Sheep	Pigs	Poultry

Procedures for animal welfare management, disease surveillance and residue testing

Key learning objectives

- 18. To observe and understand ante-mortem procedures in the slaughterhouse for all main species, including the use of Food Chain Information (FCI), emergency slaughter provisions on site.

Cattle	Sheep	Pigs	Poultry

Key learning objectives

	Cattle	Sheep	Pigs	Poultry
19. To understand the importance of animal identification and traceability particularly with regard to notifiable diseases.				
20. To observe the taking of samples for residue testing and understand the importance of correct traceability in relation to residues.				
21. To understand the underlying principles involved in the testing of cattle and sheep for TSEs as well as the sampling techniques used and the need to maintain control of the product pending the receipt of test results.				
22. To understand the procedures in accepting animals with abnormalities, as well as the bodies of animals that have been subjected to on-farm emergency slaughter.				
23. To understand the principles involved in testing of animals for Trichinella and the sampling techniques used.				
24. To understand contingency planning measures and the procedures to be followed when a notifiable disease is suspected or has been confirmed on site.				

Annex III OV assessment

The following proforma is provided as a guide for OVs to provide feedback to you on your placement period. If completed and signed this can be considered an official record for the EMS placement. However you will need to check with your veterinary school whether they have any additional or alternative records which are required as part of your placement.

Annex III OV assessment

Name of Student:

Placement/Business Name:

Address:

Postcode:

Tel:

Email:

Dates of placement: *From* *To* *Total No. Days:*

Placement description – please give a brief description of the nature of the work carried out.

**Name of OV/
Placement Supervisor:**

Comments:

Signed:

Date:

Please complete checklist overleaf before signing.



Please tick the appropriate boxes to indicate the performance the student has made in each area.	Excellent	Good	Satisfactory	Less than Satisfactory	Poor
Attitude (student's approach to their work and ability to relate to others)					
Professional appearance (i.e. cleanliness, tidiness, dress and appearance)					
Communication skills (with placement staff)					
Knowledge and approach to learning					
General knowledge					
Problem solving abilities					
Ante-mortem and welfare assessment skills					
Post-mortem and pathology skills					
Contribution to discussion (organised and informal discussions)					
Appreciation of the wider context of your establishment and its work					