1. Agenda of Veterinary Public Health – From Education to Ethics course

Nottingham Vet School – New School, New Approach
Integrating veterinary public health education
Dr Richard Hammond, School of Veterinary Medicine, University of Nottingham
Dr Mike Jones, School of Veterinary Medicine, University of Nottingham

Control of Salmonella in Pig Slaughterhouses
Prof. Christine Dodd, School of Biosciences, University of Nottingham

Supply Chain Information – the Dutch Approach to Meat Safety
Derk Oorburg, Vion Food Group, The Netherlands

The Wild Game Industry in GB
Rick Bestwick, Rick Bestwick Ltd., Derbyshire

Cleaning and Disinfection in Food Establishments
Dr Slim Dinsdale, Food Safety Experts Limited

"Cows, cheese and the Commission"
Current Milk and Dairy Product Food Safety Issues
Geraldine Hoad, Food Standards Agency

Food Ethics and Animal Diseases
Dr Kate Millar, Centre for Applied Bioethics, University of Nottingham

2. Speakers' Abstracts

Nottingham Vet School – New School, New Approach
Integrating veterinary public health education

Dr Richard Hammond, School of Veterinary Medicine, University of Nottingham

Dr Mike Jones, School of Veterinary Medicine, University of Nottingham

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The new veterinary degree program at Nottingham University is a novel, pioneering course, delivered though a fully vertically integrated modular curriculum that is unique in UK veterinary education. Integration ensures exposure to clinical material from the inception of the course, underpinning the relevance, and reinforcing the assimilation of other delivered objectives such as anatomy and physiology. Contemporary evidence-based teaching methodology has been embraced, including the use of a reflective portfolio and facilitated, small group, case based learning. One area in which the School of Veterinary Medicine and Science is challenging the dogma of the traditional educational model is through the use of 'clinical associates'. These seven centres, ranging from commercial veterinary practices and hospitals to the Veterinary Laboratory Agency and Twycross Zoo, provide structured work placements through which the skills development opportunities and presented and developed. The Nottingham model has been developed through careful consultation and consideration of required outcomes at day one of graduation - the 'first-day' skills.

A new course, especially one based on early integration of practical and clinical material, provides a real opportunity to review the way in which veterinary public health is delivered. Animal health and welfare is delivered as a 'longitudinal module' throughout the curriculum, starting on day one. Through this, animal health and also production is introduced and developed alongside the other core modules and embedded modules (such as pathology and microbiology) in a horizontally integrated way such that by the time the students reach year 4 they have built a comprehensive understanding of welfare and production methods in the context of veterinary medicine. The question is what then? In years 4 and 5 how do we then build on this knowledge in the framework of veterinary public health? What are we trying to produce in terms of student experience? Who should deliver this teaching? What should the abattoir experience be? How should student

competency be assessed and by whom? All these questions are currently open. We have ideas and suggestions as to what the School thinks may be effective. We welcome the opportunity to work with the Association as a group of professionals who are in the best place, and with the best understanding, to help shape the next generation of veterinary surgeons towards competency in protection and improvement of human health. We will use the session to outline the structure of the curriculum and to discuss and canvass opinion as to how veterinary public health education should be delivered.

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Dr Michael A. Jones, michael.a.jones@nottigham.ac.uk.

Dr Jones graduated with a BSc (hons) in microbiology from the university of Sheffield in 1989. He then went on to do an M.Sc. Biotechnology and Ph.D in molecular biology (UEA, 1994). He then moved on to work at the Institute for Medical Sciences at the University of Aberdeen as part of an EU program on Food Microbiology. In 1997 he moved to the Institute for Animal Health, where he worked on molecular mechanisms of enteric diseases in cattle and set up research investigating enteric pathogens and vaccines in poultry. In 2006 he moved to the University of Nottingham, to convene the microbiology for the new BVMS course. His current research is directed at understanding both the environmental and immune interactions of enteric bacteria in livestock species. This work helps inform the debate in agricultural and health agencies on improving animal welfare and disease control and aims to identify novel routes for disease management.

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Dr Richard Hammond BSc(hons) BVetMed PhD DVA Dip ECVAA FHEA MRCVS
Richard.hammond@nottingham.ac.uk

Richard is a specialist in the area of veterinary anaesthesia and an academic clinician teaching throughout the course at Nottingham. He was awarded a PhD in 1999 in the area of Biochemical Pharmacology and then received both RCVS and European Diplomas in Veterinary Anaesthesia soon after. As well as having experience of clinical general veterinary practice, Richard has spent time working in the commercial operation of a major pharmaceutical company and as an academic educator at a number of other veterinary schools in the UK. Richard was awarded a Prize for outstanding contribution to teaching from the Royal Veterinary College in 2005 and fellowship of the Higher Education Academy for his work in curriculum design and integration. Richard joined the University of Nottingham as Associate Professor of Pharmacology and Anaesthesia in 2006 and is now Head of the Division of Surgery School of Veterinary Medicine and Science.

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Control of Salmonella in Pig Slaughterhouses

Professor Christine E R Dodd

Division of Food Sciences, School of Biosciences, University of Nottingham, Sutton Bonington Campus, Loughborough, Leicestershire. LE12 5RD UK

In the production of red meat, few procedures exist to control the spread of zoonotic pathogens between slaughter of the animal and chilling of the final carcass. The implementation of a Hazard Analysis Critical Control Point (HACCP) System relies mainly therefore on the prevention of microbial spread by good hygiene measures. However, pork production is an exception as the particular methods for carcass production involve heat treatments, scalding and singeing, at temperatures which superficially should help control the presence of pathogens such as *Salmonella* on the carcass surface. Despite this, *Salmonella* is an important contaminant of pork carcasses. By using molecular typing to differentiate bacterial isolates obtained at various stages of pork processing, sites which contribute to the final contamination of the carcass can be identified. This has demonstrated both the failure and the potential of stages such as scalding and singeing to control carcass contamination. In recent Food Standards Agency funded studies we have evaluated the effectiveness of these processes and have identified key features of current practice which may influence *Salmonella* control.

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Professor Christine Dodd is the Chair in Food Microbiology in the Division of Food Sciences at the University of Nottingham. Her main research work over the last 20 years has addressed problems in the food supply associated with food borne pathogens and in particular the transmission of enteric disease through red and white meats.

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Supply Chain Information – the Dutch Approach to Meat Safety

Derk Oorburg, Vion Food Group, The Netherlands

The EU White Paper on Food Safety embodied the new policy of the EU with respect to food safety. This new policy has resulted in a drastic change of legislation concerning veterinary controls in supply chains of products of animal origin. Amongst others, there are two relevant elements in this policy: the producers are responsible for food safety and science is the basis for the control of food safety.

Within VION this new EU legislation is put into practice. The first step was the design of a HACCP based scheme for the pork supply chain. After the implementation of this tailor made HACCP scheme, the veterinary controls were redesigned in order to realise an optimal synergy between the private schemes and the official controls: Supply Chain Inspection.

Supply Chain Inspection of pork is an advanced type of a control system which combines a risk based approach and relevant information from the supply chain. Results show that all relevant hazards in pork are controlled at a substantial higher level as a result of the implementation of Supply Chain Inspection.

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Derk Oorburg
Born: 23-02-1979
Study: faculty of veterinary medicine at the University Utrecht, the Netherlands

During the last year of my studies I did an internship at the Ministry of Agriculture, Nature and Food Safety where I got the chance to write the contingency plan for the control of African Swine Fever.
After finishing my studies in 2005 I started working at VION. I was involved with the Supply Chain Inspection pilot in cooperation with the competent authority. This pilot led to the implementation of the SCI-system on different slaughter plants.

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The Wild Game Industry in GB

Rick Bestwick, Rick Bestwick Ltd., Derbyshire

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Rick Bestwick left school at 16 with no qualifications, his first and only job which lasted 15 years was an apprenticed trained printer and carton maker, before starting his current business with his wife, which is reputed to be the largest game and venison processor in the UK with a workforce of over 200 staff, serving most of the major supermarkets and exporting to 15 European countries.

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Cleaning and Disinfection in Food Establishments

Dr Slim Dinsdale, Food Safety Experts Limited

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Slim Dinsdale is a food microbiologist by training with extensive experience of the food manufacturing, processing, and catering industries. Prior to 1997 was head of the Food Industry Unit at City College Norwich, where he was heavily involved in the teaching of meat inspection. In particular, he provides support to develop or strengthen a food company's legal compliance and due diligence defence systems, with clients ranging from SMEs to large processors and manufacturers, law firms, loss adjusters and insurance companies, and public and private sector training and education organisations. He also provides expert witness support in cases of criminal and civil litigation. He is a Fellow of the SOFHT and IFST, a Chartered Biologist, a founding member of the Expert Witness Institute, and a member of the London based Food Law Group. He regularly gives papers at conferences and meetings, and occasionally writes articles for food and law journals.
He enjoys sailing, skiing and shooting, and his beach hut by the North Sea!
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"Cows, cheese and the Commission"
Current Milk and Dairy Product Food Safety Issues

Geraldine Hoad, Food Standards Agency

In June 2006, the Food and Veterinary Office of the European Commission came to the UK to evaluate official controls related to the safety of food of animal origin, in particular meat, milk and their products. During the mission, the activities at a dairy in Lancashire which made curd cheese came to their attention. In particular, the way in which they handled milk rejected by other dairies for failing a rapid screening test for the presence for antibiotic residues.

Both legal and scientific issues around the testing of milk for antibiotic residues were the subject of considerable discussion over the next few months between the FSA and the Commission. However, in October 2006 a Commission Decision was passed which prohibited the placing on the market of cheese manufactured at the dairy and the UK industry was instructed by the FSA to change its practices with regard to milk which has failed a rapid screening test.

The presentation will give an overview of events which took place, highlight the scientific issues and explain the current situation in the UK and the rest of Europe.

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After studying for a degree in Microbiology at Leeds University I worked in the food industry for 8 years in quality control, testing a wide variety of foods to ensure they met microbiological specifications. In 1994 I joined MAFF to work in the Food Safety and Science Group and worked mainly on the management of surveillance and research projects. In 2000 I joined the Food Standards Agency and have had a variety of responsibilities, including dealing with microbiological incidents and developing the FSA's strategy for the minimisation of MAP in milk. I have gradually moved towards a more policy making role but still with an element of microbiology and currently head up the Dairy Hygiene Branch which is responsible for dairy hygiene policy and legislation. The Branch plays a leading role in promoting sound food safety management practices in the dairy sector and works closely with Animal Health Dairy Hygiene (part of Animal Health) to discharge the Agency's responsibility as the competent authority for the enforcement of dairy hygiene legislation at milk production holdings.

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Food Ethics and Animal Disease: Using ethical frameworks to explore the social and ethical issues raised by animal disease management strategies

Millar, K.M. *Centre for Applied Bioethics, School of Biosciences, University of Nottingham, Sutton Bonington Campus, LE12 5RD, UK*

Professionals working in the veterinary public health sector have a broad range of roles and responsibilities and deal with an equally broad range of ethical issues. Policy-makers are increasingly seeking strategies to help map and manage these ethical issues in order to support professionals working within this field.

This paper explores some of the ethical issues raised by animal health management strategies and presents an attempt, within a European Network (project) on genomics of host-pathogen interactions, to engage involved scientists in reflections about ethical issues. The challenge is on the one hand to clarify key ethical values at stake and to ensure priorities are set, whilst also raising awareness and discussion capacity among policy-makers and scientists. This paper will discuss the use of an adapted version of a bioethical decision-support tool, the Ethical Matrix (EM). The method helps users consider whether current research and management trajectories and technology innovations might infringe upon or respect broadly defined ethical principles for a number of interest groups. Users of the tool are able to map out what they see to be the key ethical challenges. The value of this method will be discussed.

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Dr Kate Millar is Director of Centre for Applied Bioethics, Division of Animal Physiology, University of Nottingham. Kate's research focuses on the development and application of participatory biotechnology assessment tools, stakeholder engagement and bioethical analysis, with a particular interest in food and animal ethics. She has an animal physiology background (Leeds University first class honours degree) and PhD in biotechnology assessment and bioethical analysis from the University of Nottingham. Kate is a project partner and principal investigator on a number of EC projects (e.g. FP6 CLONET; FP7 LUPA, etc), a Member of the Editorial Board of the Journal of Agricultural and Environmental Ethics
(JAEE) and vice president of the European Society for Agricultural and Food Ethics (EURSAFE).

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