

Symposium Timetable

Thursday 30th June (Day 1)

08:00 – 09:00 Registration and Poster set up (Refreshments available from 8:30)

09:00 – 09:10	James Kirkwood Humane Slaughter Association, UK	Welcome and Introduction
---------------	---	--------------------------

09:10 – 10:35 Session 1 Chair: Neville Gregory

09:10 – 09:40	Andrea Gavinelli European Commission, Belgium	Future challenges of the new European regulation on the protection of animals at the time of killing and its relevance to international trade
09:40 – 10:00	Vicky Sandilands Scottish Agricultural College, UK	Methods for whole house gassing of poultry
10:00 – 10:20	Bert Lambooi Wageningen University and Research Centre, The Netherlands	Electrical stunning of farmed fish
10:20 – 10:35	Louwrens Hoffman Stellenbosch University, South Africa	Advances in the electrical stunning and bleeding of ostriches

10:35 – 11:10 Break and refreshments

11:10 – 12:40 Session 2 Chair: Antonio Verlarde

11:10 – 11:40	Georgina Limon Royal Veterinary College, UK	Current methods in Bolivia: reality and challenges
11:40 – 12:00	Grahame Coleman Monash University, Australia	The attitudes and behaviour of stockpeople at Australian sheep and cattle abattoirs
12:00 – 12:20	Gry Aletta Bjørlykke Institute of Marine Research, Norway	Slaughter of Atlantic salmon (<i>Salmo Salar</i> , L) in the presence of carbon monoxide (CO) and the importance of neuroglobin (NGB)
12:20 – 12:40	Robert Elwood Queen's University, UK	Do crustaceans experience pain?

12:40 – 14:10 Lunch including poster session 1 (from 13:10)

14:10 – 15:40 Session 3 Chair: Jane Downes

14:10 – 14:40	Temple Grandin Colorado State University, USA	Auditing animal welfare and practical improvements in beef, pork, and sheep slaughter plants
14:40 – 15:00	Troy Gibson Royal Veterinary College, UK	Effectiveness of captive bolt guns as a killing method without exsanguination for horned and un-horned sheep
15:00 – 15:20	Claudia Terlouw INRA, France	Stress at slaughter in cattle: role of reactivity profile and environmental factors
15:20 – 15:40	Nikki Kells Massey University, New Zealand	Assessment of the relative welfare impacts of three gas treatments for the euthanasia of suckling piglets

15:40 – 16:15 Break and refreshments

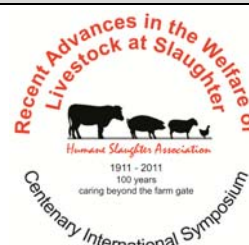
16:15 – 17:35 Session 4 Chair: Lotta Berg

16:15 – 16:35	Martin von Wenzlawowicz Bsi Schwarzenbek, Germany	Identifying reasons for stunning failures in slaughterhouses for cattle, sheep and pigs – a field study
16:35 – 16:55	Mary Cullinane Department of Agriculture Fisheries and Food, Ireland	Veterinary certificates for emergency or casualty slaughter bovines in Ireland: are the welfare needs of certified bovine animals adequately protected?
16:55 – 17:15	Jeff Lines Silsoe Livestock Systems, UK	Improving the poultry shackle line
17:15 – 17:35	Antoni Dalmau IRTA, Spain	Assessment of unconsciousness during slaughter without stunning in lambs

End 17:35

19:00 – 21:00 Drinks reception on board HMS Warrior 1860
Including Humane Slaughter Award presentation at 19:30

Humane Slaughter Association Centenary International Symposium:
Recent Advances in the Welfare of Livestock at Slaughter
30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK



Friday 1st July (Day 2)

09:00 – 10:20 Session 5 Chair: Mohan Raj		
09:00 – 09:20	Hans van de Vis IMARES, The Netherlands	Electrical stunning of captured fish
09:20 – 09:40	Neville Gregory Royal Veterinary College, UK	Complications during halal slaughter and shechita in cattle
09:40 – 10:00	Sofia Wiberg Swedish University of Agricultural Sciences, Sweden	Welfare of animals and employees in connection with slaughter or euthanasia of animals
10:00 – 10:20	Diana Quilliquini Agriconsulting Europe S.A, Belgium	The Italian approach to welfare during transport of deers bred for meat: implementation of Regulation (EC) 1/2005

10:20 – 11:00 Break and refreshments

11:00 – 12:30 Session 6 Chair: Craig Johnson		
11:00 – 11:30	Jia Zili Beijing Chaoyang Anhua Animal Product Safety Research Insititute, China	WSPA and APSRI humane slaughter programme in China – STEPS®
11:30 – 11:50	John Gilliam Oklahoma State University, USA	Captive bolt euthanasia of cattle: determination of optimal shot placement and evaluation of the Cash Special euthanizer kit for the euthanasia of cattle
11:50 – 12:10	Katja van Driel Food and Environment Research Agency, UK	Journey duration and welfare of pigs transported to slaughter in the UK
12:10 – 12:30	Karen von Holleben Bsi Schwarzenbek, Germany	Licensing poultry gas stunning systems with regard to animal welfare – investigations under practical conditions

12:30 – 14:00 Lunch including poster session 2 (from 13:00)

14:00 – 15:30 Session 7 Chair: Karen von Holleben		
14:00 – 14:30	Craig Johnson Massey University, New Zealand	Pain perception at slaughter
14:30 – 14:50	Pol Llorch IRTA, Spain	Aversion to the inhalation of nitrogen and carbon dioxide mixtures compared to high concentrations of carbon dioxide for stunning rabbits
14:50 – 15:10	Lotta Berg Swedish University of Agricultural Sciences, Sweden	Stun and meat quality of sheep under commercial conditions
15:10 – 15:30	Fiona Roberts Kingston Maurward College, UK	The use of a single empirical outcome measure to assess welfare in slaughter plants: between and within sector comparisons of the supply base for a major retail multiple

15:30 – 16:10 Break and refreshments

16:10 – 17:30 Session 8 Chair: Temple Grandin		
16:10 – 16:30	Marien Gerritzen Wageningen University and Research Centre, The Netherlands	High expansion gas-foam: a humane agent for emergency killing of poultry?
16:30 – 16:50	Véronique Deiss INRA, France	Reduction of stress reactions of lambs at slaughter by improving their reactivity to human beings
16:50 – 17:10	Jennifer Woods J Livestock Services Ltd & Horse Welfare Alliance of Canada, Canada	The welfare of horses at slaughter: the development of recommended handling guidelines and animal welfare assessment tool for horses
17:10 – 17:30	Terry Cassidy Food and Veterinary Office, Ireland	Equivalency between EU and third country standards for animal welfare at slaughter (findings from inspections of the Food and Veterinary Office of the European Commission)

End 17:30

Humane Slaughter Association Centenary International Symposium:
Recent Advances in the Welfare of Livestock at Slaughter
 30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK



Poster Presentations

Poster Session 1

Thursday 30th June from 13:10

RISK ASSESSMENT FOR BEEF CATTLE AT SLAUGHTER: A METHOD FOR PERFORMING A RISK ASSESSMENT BASED ON EMPIRICAL DATA

E Aiassa^{1,2}, O Mosbach-Schulz² and E Canali¹

¹University of Milan, Italy and ²European Food Safety Authority, Belgium

CATTLE WELFARE ASSESSMENTS AT STUNNING IN OLD VERSUS NEW ABATTOIRS

S Atkinson¹, E Tolo², B Algers¹ and V Sandstrom³

¹Swedish University of Agricultural Sciences, Sweden and ²Animalia, Norway

OFFICIAL CONTROL OF ANIMAL WELFARE AT SLAUGHTER

C Berg¹ and T Axelsson²

¹Swedish University of Agricultural Sciences, Sweden and ²Swedish National Food Administration, Sweden

IMPROVE THE WELFARE OF FARMED FISH AT SLAUGHTER – THE IMPACT OF LEGISLATION

B Bergersen

The Norwegian Food Safety Authority, Norway

ASSESSMENT OF ROAD TRANSPORTATION OF FARMED AFRICAN CATFISH AND EUROPEAN EEL WITH RESPECT TO ANIMAL WELFARE

JGJ Boerrigter¹, **R Manuel**¹, J Roques¹, H Hol¹, K Kusters¹, G Flik¹ and JW van de Vis²

¹Radboud University Nijmegen, The Netherlands and ²Wageningen UR, The Netherlands

RELATIONSHIPS BETWEEN SLAUGHTER PROCEDURES AND REACTIONS OF CATTLE: A FIELD STUDY

C Bourguet, EMC Terlouw, V Deiss and C Cohen-Tannugi

INRA, France

HUMANE SLAUGHTER OF CRUSTACEANS

S Buckhaven¹, D Robb², B Roth³, D Neil⁴ and J Sparrey⁵

¹Studham Technologies Ltd, UK; ²University of Bristol, UK; ³University of Bergen, Norway; ⁴University of Glasgow, UK; and ⁵LiveTec, UK

WELFARE AT SLAUGHTER PLANTS PROCESSING BEEF FOR THE INTERNAL MARKET IN THE ARGENTINEAN PAMPAS

N Coria¹, L Zapata¹, R Liboa¹, R Davicino¹, GA María² and B Sobre-Casas¹

¹Universidad Nacional de Río Cuarto, Argentina and ²University of Zaragoza, Spain

SENSIBILITY IN NON-STUNNED CALVES DURING SLAUGHTER

JJ Cranley¹ and CA Cranley²

¹johnjcranley@gmail.com and ²Kings College London, UK

TRANSPORT DURATION IN LAMBS: EFFECT ON ANIMAL WELFARE AND MEAT QUALITY

A Dalmau¹, CE Realini¹, P Llonch¹, A Verlarde¹, P Rodríguez¹ and **P Dalla Villa**^{*2}

¹IRTA-Monells, Spain and ²Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "Giuseppe Caporale", Italy

Humane Slaughter Association Centenary International Symposium:

Recent Advances in the Welfare of Livestock at Slaughter

30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK



EVALUATION OF HYPOBARIC HYPOXIA EUTHANASIA FOR HEALTHY AND MORIBUND NURSERY PIGS

BL Buzzard¹, LN Edwards*¹, TE Engle², L Bergamasco³, SS Drits³, B Rollin², C Pinney², C Kaiser⁴, DB Anderson² and T Grandin²

¹Kansas State University, USA; ²Colorado State University, USA; ³Kansas State University College of Veterinary Medicine, USA; and ⁴Woods Hole Oceanographic Institution, USA

SURVEY ON THE ACTUAL ANIMAL WELFARE SITUATION AT TURKISH SLAUGHTERHOUSES

E Eser¹, I Erol² and J Hartung¹

¹University of Veterinary Medicine Hannover, Germany and ²Ankara University, Turkey

MULTI-STAGE GAS STUNNING OF BROILERS IN TRANSPORT CONTAINERS WITH CARBON DIOXIDE IN TWO PHASES

MA Gerritzen, HGM Reimert and VA Hindle
Wageningen UR, The Netherlands

2011 UPDATE OF THE "AVMA GUIDELINES ON EUTHANASIA" AND CREATION OF THE "AVMA GUIDELINES FOR THE MASS DEPOPULATION OF ANIMALS"

GC Golab

American Veterinary Medical Association, USA

ELECTRO STUNNING OF ATLANTIC SALMON (SALMO SALAR): FACTORS THAT AFFECT THE STUNNING CURRENT

E Grimsbø¹, B Roth² and R Nortvedt¹

¹University of Bergen, Norway and ²Nofima-Norconserv AS, Norway

DEVELOPMENT OF STANDARD OPERATING PROCEDURES FOR THE SLAUGHTER OF AUSTRALIAN CATTLE IN OVERSEAS MARKETS

L Hewitt

Murdoch University, Australia

CAUSES OF CATTLE BRUISING DURING HANDLING AND TRANSPORT IN NAMIBIA

LC Hoffman and J Lühl

Stellenbosch University, South Africa

ALTERNATIVE ELECTRICAL STUNNING METHODS

E Lambooij, MA Gerritzen and VA Hindle

Wageningen UR, The Netherlands

PROGRESS IN THE HUMANE SLAUGHTER OF FISH

JA Lines¹ and J Ace-Hopkins²

¹Silsoe Livestock Systems, UK and ²Ace Aquatec, UK

A NEW SYSTEM FOR THE CONTROL OF STICKING OF PIGS ('VISION STICKING')

L Lykke and MD Aaslyng

Danish Meat Research Institute, Denmark

RISK FACTORS FOR POOR WELFARE, INCLUDING HEALTH, OF HORSES TRANSPORTED FOR SLAUGHTER WITHIN THE EUROPEAN UNION

D Marlin¹, P Kettlewell², T Parkin³, M Kennedy⁴, DM Broom⁵, and JLN Wood⁵

¹David Marlin Consulting Ltd, UK; ²ADAS Drayton, UK; ³University of Glasgow, UK; ⁴Anglia Ruskin University, UK; and ⁵University of Cambridge, UK

SLAUGHTER OF FARMED SALMON IN NORWAY

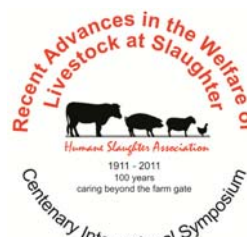
CM Mejdell¹, KØ Midling², U Erikson³ and E Slinde⁴

¹National Veterinary Institute, Norway; ²Nofima, Norway; ³SINTEF, Norway; and ⁴Institute of Marine Research, Norway

Humane Slaughter Association Centenary International Symposium:

Recent Advances in the Welfare of Livestock at Slaughter

30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK



Poster Session 2

Friday 1st July from 13:00

STUN ASSURANCE MONITOR (SAM)

J Messenger

MLC Services Ltd, UK

A MAJOR ENVIRONMENTAL CAUSE OF SHIPPING FEVER IN HORSES TRANSPORTED BY AIR?

MA Mitchell¹, PJ Kettlewell², M Farish¹, and DP Leadon³

¹Scottish Agricultural College, UK; ²ADAS, UK; and ³Irish Equine Centre, Ireland

HUMANE CAPTURE & SLAUGHTER OF COMMERCIALY-CAUGHT WILD FISH – AN EMERGING ISSUE

A Mood

Fishcount.org.uk Website, UK

BASIS FOR A TOOL FOR TRANSPORTERS TO SELF-CONTROL THE WELFARE OF LIVESTOCK DURING TRANSPORT

B Mounaix¹, A de Boyer des Roches², A Brule¹, L Mirabito¹, and V David¹

¹Institut de l'Elevage, France and ²VetAgroSup, France

IF IT IS FOR HUMAN, MAKE IT MORE HUMANE

KS Prasanna

College of Veterinary and Animal Sciences, Pookot, India

REDUCTION OF SLAUGHTERHOUSE STRESS IN BEEF CATTLE BY FACILITATING ANIMAL TAMENESS

JK Probst^{1,2}, F Leiber², E Hillmann², M Kreuzer², and A Spengler Neff¹

¹FiBL, Research Institute of Organic Agriculture, Switzerland and ²ETH Zurich, Institute of Plant, Animal and Agroecosystem Sciences, Switzerland

ANESTHESIA OF BROODSTOCK MEDITERRANEAN FISH

F Norambuena, R Valles, I Carazo, N Duncan, A Estevez, and **A Roque***

IRTA-SCR, Spain

NOCICEPTION AND PAIN IN FISH: IMPLICATIONS FOR PRACTICES IN THE AQUACULTURE CHAIN

JAC Roques^{1,2}, W Abbink¹, D Burggraaf¹, G Flik², and JW van de Vis¹

¹IMARES Wageningen UR, The Netherlands and ²Radboud University Nijmegen, The Netherlands

THE PROS AND CONS OF VARIOUS ON-FARM CULLING TECHNIQUES

DA Sandercock¹, V Sandilands¹, DEF McKeegan², J Sparrey³, and N Sparks¹

¹Scottish Agricultural College, UK; ²University of Glasgow, UK; and ³Livetec, UK

PHYSIOLOGICAL MONITORING OF LAYING HENS DURING WHOLE HOUSE KILLING WITH CARBON DIOXIDE GAS

DEF McKeegan¹, N Sparks², **V Sandilands**², TGM Demmers³, and CM Wathes³

¹University of Glasgow, UK; ²Scottish Agricultural College, UK; and ³The Royal Veterinary College, UK

FREE-BULLET RIFLE SHOOTING OF OUTDOOR CATTLE

KJ Schiffer and O Hensel

University of Kassel, Germany

Humane Slaughter Association Centenary International Symposium:

Recent Advances in the Welfare of Livestock at Slaughter

30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK



RECENT DEVELOPMENTS IN EUTHANASIA EQUIPMENT

C Scrivens

Accles and Shelvoke Ltd, UK

ANIMAL WELFARE: HAZARDS TO LIVESTOCK UNDERGOING SLAUGHTER

A Sheridan

Australian Government Department of Agriculture, Fisheries and Forestry, Australia

ANIMAL WELFARE RISK MANAGEMENT: A PROCESS TO DEVELOP AND IMPLEMENT AGREED WELFARE MEASURES

A Sheridan

Australian Government Department of Agriculture, Fisheries and Forestry, Australia

DELIVERING NITROGEN GAS TO POULTRY SHEDS FOR EMERGENCY KILLING USING HIGH EXPANSION FOAM

J Sparrey¹, D McKeegan², M Gerritzen³, and F Withoos⁴

¹Livetec, UK; ²University of Glasgow, UK; ³Wageningen University and Research Centre, The Netherlands; ⁴LST International BV, The Netherlands

MORE DANISH CATTLE CORRECTLY EUTHANIZED AFTER INFORMATION CAMPAIGN

PT Thomsen¹, S Norlander Andreasen², and N Otten²

¹University of Aarhus, Denmark and ²University of Copenhagen, Denmark

AUTOMATED ON-LINE SCORING OF FOOT PAD DERMATITIS IN BROILER CHICKENS AT THE SLAUGHTERLINE: EVALUATION AND CORRESPONDENCE WITH SUBJECTIVE EXPERT SCORING

R Vanderhasselt¹, M Sprenger¹, I De Jong², and FAM Tuytens¹

¹Institute for Agricultural and Fisheries Research (ILVO), Belgium and ²Wageningen UR, The Netherlands

MAIN OUTCOMES AND RECOMMENDATIONS FOR GOOD ANIMAL WELFARE PRACTICES DURING RELIGIOUS SLAUGHTER

A Velarde¹, P Rodriguez¹, C Fuentes¹, P Llonch¹, K von Holleben², M von Wenzlawowicz², H Anil³, M Miele³, B Cenci Goga⁴, B Lambooi⁵, A Zivotofsky⁶, N Gregory⁷, F Bergeaud-Blackler⁸, and A Dalmau¹

¹IRTA, Spain; ²BSI Schwarzenbek, Germany; ³Cardiff University, UK; ⁴University of Perugia, Italy; ⁵ASG Veehouderij, The Netherlands; ⁶Bar Ilan University, Israel; ⁷Royal Veterinary College, UK; and ⁸IREMAM Maison Méditerranéenne des Sciences de l'Homme, France

EVALUATING SHORT (UNDER 8 H) TRANSPORT JOURNEYS OF SHEEP IN THE UK IN TERMS OF WELFARE PLUS ENVIRONMENTAL AND ECONOMIC CONSEQUENCES

CA Weeks¹, P Statham¹, SN Brown¹, S Lambton², A Angus³, and TG Knowles¹

¹University of Bristol, UK; ²VLA, UK; and ³Cranfield University, UK

ABNORMAL BEHAVIOUR IN HORSES TRANSPORTED LONG DISTANCES ACROSS EUROPE FOR SLAUGHTER: PRELIMINARY FINDINGS

H Westen and J White

World Horse Welfare, UK

TRAUMATIC BRAIN INJURY ASSOCIATED WITH CAPTIVE BOLT EUTHANASIA OF SWINE

JA Woods^{1,2}, J Hill², KJ Schwartz¹, RL Parsons¹, T Grandin³, and ST Millman¹

¹Iowa State University, USA; ²J. Woods Livestock Services, Canada; and ³Colorado State University, USA

Humane Slaughter Association Centenary International Symposium:

Recent Advances in the Welfare of Livestock at Slaughter

30th June & 1st July, Portsmouth Historic Dockyard, Portsmouth, UK

