

# Humane Slaughter Association

Improving the welfare of food animals around the world

Spring 2018



## NEW RESEARCH AIMS TO FIND A MORE HUMANE WAY TO STUN PIGS

The HSA has jointly funded, with the Department for Environment Food & Rural Affairs (Defra), a new two-year programme of research to determine whether Low Atmospheric Pressure Stunning (LAPS) might be a more humane way to stun pigs during commercial slaughter.

LAPS stuns animals by gradually reducing the atmospheric pressure and hence the amount of oxygen available for animals to breathe. The joint funding by HSA and Defra will allow Dr Dorothy McKeegan at the University of Glasgow, and colleagues at the University of Edinburgh and Scotland's Rural College (including former HSA Research

Training Scholar, Dr Jessica Martin) to determine whether LAPS might be a more humane alternative to carbon dioxide stunning methods for pigs.

LAPS was initially developed and tested in the USA as a method for stunning chickens and the European Food Safety Agency's Panel on Animal Health and Welfare recently published a scientific opinion that LAPS is at least as humane as currently permitted methods (electrical waterbath and gas stunning) for broiler chickens, paving the way for regulatory approval and commercial use of LAPS in the EU.

[Continued overleaf ...](#)



Credit: Blue Moon Dog

### CHAIRMAN'S COMMENT



Welcome to the Spring 2018 newsletter, bringing you up to date with how your support has enabled the HSA to continue its work caring beyond the farm gate.

As I write, new legislation concerning the implementation and use of CCTV in slaughterhouses is passing through Parliament. The legislation will come into effect from May this year, at which point businesses will have six months to comply. The HSA not only contributed to the consultation but also – thanks to your continued support – awarded a substantial travel grant to enable Miss Ellie Wigham to study the use of CCTV in slaughterhouses in America, with the aim of promoting good practices which have been developed. You can read more about this and the charity's forthcoming seminar for industry, at which Ellie will be presenting, on page 2.

From the last Annual Report, you will know that the charity received funding from the Open Philanthropy Project to advance farm animal welfare in China and work has commenced forging collaborative relationships and translating key guidance and technical notes into Chinese. You can read more about our progress on page 4.

These are just two of the areas of work in which the charity has been involved. All of the work highlighted in this newsletter is only possible due to your generosity and kindness in continuing to support the HSA and its work – and your support has never been so important.

Enjoy the read.

Professor Andrea Nolan OBE  
Chair



LAPS mimics the reduction in pressure experienced when ascending to high altitude in an unpressurised aircraft. Military pilots are often exposed to low atmospheric pressures and do not report the experience as unpleasant. For this reason, LAPS is a promising method which may be able to render some animal species unconscious with less impact on their welfare than commonly-used methods. Currently, it is common practice for the commercial slaughter of pigs to stun them by direct exposure to high concentrations of carbon dioxide (CO<sub>2</sub>), a method which is widely thought to compromise animal welfare. The use of CO<sub>2</sub> in high concentration is permitted under EU and national regulations and this method is used in the UK as well as other EU member states.

Dr McKeegan, who led the research projects which contributed to the approval of LAPS for poultry in the EU, will aim to establish whether pigs show any signs of poor welfare when exposed to gradual decompression. The project will include assessments of pigs' physiological and behavioral responses when exposed to gradual reductions in atmospheric pressure, and these responses will be compared to those of pigs exposed to carbon dioxide to determine whether LAPS offers a more humane way to stun pigs. If the evidence from this project suggests that LAPS is more humane than carbon dioxide for pigs, and is practically and economically viable, it is hoped that it will contribute towards regulatory approval and subsequent commercial adoption of LAPS.

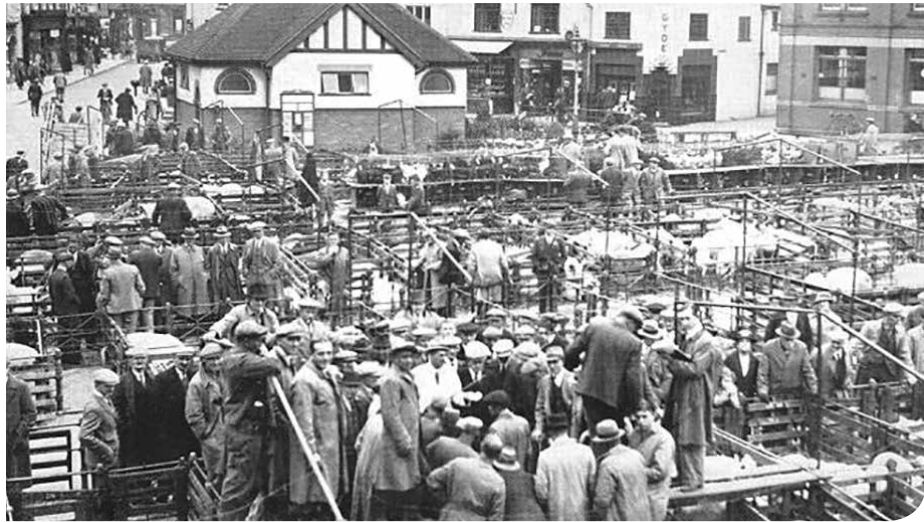
Dr Robert Hubrecht, Chief Executive and Scientific Director of the HSA said: "The HSA is delighted to be working with Defra to support this much needed work by Dr McKeegan to evaluate whether Low Atmospheric Pressure Stunning may be a more humane alternative to the current use of CO<sub>2</sub> for stunning pigs". ■



## LATEST NEWS

### Livestock market survey

The year 2017 saw the two-hundredth anniversary of the opening of the first, purpose-built, livestock market in Hawick. To mark this important milestone in the history of the UK's meat and livestock industry, and at the request of the Livestock Auctioneers Association (LAA), the HSA has been carrying out an independent survey of a sample of 24 markets across England and Wales. To date 16 markets have been visited and the aim is to complete the survey visits by June 2018. Following the field-work, confidential reports will be sent to each participating market and a review report, highlighting the impact of infrastructure, procedures, staff training and management practices on the welfare of animals together with any necessary recommendations, will be sent to the LAA. The information gathered will be used to disseminate details of good practice and innovative handling systems to all those involved with animal handling and livestock marketing. ■



Traditional market scene

### HSA to hold seminar on CCTV in abattoirs

Closed circuit television (CCTV) has long been a valuable tool for security purposes, but it can also fulfil a role as an aid to management, training and quality assurance in abattoirs, and so has been an important requirement for quality assurance schemes for many years. Consequently, many UK processing plants have installed it and have been using CCTV to ensure good practice throughout the handling and slaughter processes. Nonetheless, it has not been a regulatory requirement and, following a consultation last year, the UK Environment Secretary Michael Gove confirmed in November that "Legislation will be introduced in the New Year, coming into force in Spring 2018. All slaughterhouses will be required to comply following an adjustment period of up to six months".

While CCTV can contribute to better welfare, it is not a panacea, and with the aim of maximising the potential benefits of CCTV, the HSA not only contributed to the consultation but also funded a veterinary surgeon who is also a PhD student at the University of Bristol to travel to the USA to study a CCTV surveillance scheme used by a US major processor. The HSA is also organising a one-day seminar, to be held on Wednesday 9th May 2018, for industry enforcement agencies and others to discuss the implementation and implications of the new legislation – for further details on the seminar, including booking details, see the HSA website. ■

## How your support has benefited animals

### New online guide for humane killing during disease control

As reported in the annual report, the HSA has produced a new online guide for humane killing of livestock during disease control. The guide is now live on the web and pulls a wealth of information and materials into one resource. It has been made freely available to enable easy access worldwide. This information relating to high animal welfare standards may otherwise be difficult to obtain.



The guide joins others already available on the charity's website, providing a portfolio of best practice in humane handling and slaughter. It can be found at [www.hsa.org.uk/diseasecontrol](http://www.hsa.org.uk/diseasecontrol). ■



### Work continues to improve the welfare of fish, crustaceans and cephalopods at slaughter

Billions of farmed finfish are slaughtered annually for human consumption, far greater than any type of mammal or bird, and many of these fish are not humanely stunned before slaughter. The most common methods of slaughter expose them to substantial suffering over a prolonged period of time - many species of farmed fish are typically killed by being taken out of water and left to asphyxiate in air, or they might be frozen or gutted whilst conscious. The HSA recently published a report discussing scientific research that is required to identify humane stunning methods for more species of fish.

In addition, many crustaceans (eg crabs and lobsters) and cephalopods (eg octopus, cuttlefish and squid) are slaughtered for food without stunning and there is a lack of practical and scientifically validated humane stunning methods for these species. The HSA wishes to support the development of humane stunning methods which will preclude the possibility of these animals experiencing pain or distress at the time of slaughter and, to this end, has just announced a considerable sum for research funding. The funding for this research is the result of a generous donation from an organisation which wishes to remain anonymous. You can read the latest updates on the HSA's current grant recipients on page 7. ■

### What can consumers do?

Just like for cattle, sheep, pigs and poultry, there are assurance schemes for fish, certifying that the producer complied with more humane methods of farming and slaughter. For example, when purchasing fish products, consumers can look for the UK RSPCA Assured label, which certifies farmed Atlantic salmon and rainbow trout and requires that both species "must be humanely killed" using specified, permitted stunning methods. More humane slaughter of fish is associated with improvements in meat quality, for example firmer, translucent fillets with brighter colour and less gaping of the flesh.

Other assurance schemes for farmed fish are rapidly growing in scope and also include animal welfare in their list of requirements alongside environmentally sustainable and socially responsible goals.



Our website contains more information on other assurance schemes – see [www.hsa.org.uk/schemes](http://www.hsa.org.uk/schemes). ■





## Swiss introduce new laws for crustaceans

As part of an overall animal protection reform, the Swiss government has banned the common practice of boiling live lobsters without stunning them first. The move is a response to scientific studies that suggest lobsters are sentient with advanced nervous systems that may enable them to feel pain.

The HSA welcomes this news as, in the late 1990s, the charity funded pioneering research, which led to the development and production of a novel electrical stunning device for use with crabs, lobsters, crayfish and langoustines. The passing of an electrical current through the central nervous system of the crustaceans, for one second, resulted in them being stunned and unable to experience pain. By increasing the duration of the stun for up to ten seconds, the animals were killed outright. The device, which was launched in 2004, offered a humane alternative to the traditional methods of boiling, chilling or mechanical destruction of the ganglia, as these could not guarantee a rapid painless death. As well as providing a reliable stun, the equipment was also commercially viable and installed in restaurants worldwide, thus making a significant contribution to improving the welfare of thousands of animals.



The new law, which came into force in March 2018, states that: "Live crustaceans, including the lobster, may no longer be transported on ice or in ice water. Aquatic species must always be kept in their natural environment. Crustaceans must now be stunned before they are killed." ■

## HSA visits Beijing

In October 2017 HSA Technical Officer Jade Spence visited Beijing to attend the *International Symposium on Farm Animal Welfare and Sustainable Development of Animal Husbandry* (organised by the China University of Geosciences (Beijing) and Griffith University, Australia) and thereafter had productive meetings with organisations in China to discuss a HSA proposal to share knowledge, resources and HSA expertise on farm animal welfare and humane slaughter science and innovation with the Chinese livestock industry.

As part of its Open Philanthropy funded work, described in our last Annual Report, the HSA hopes to forge collaborative relationships and work with the Chinese industry, to assist with promoting good practices for improving the welfare of farmed animals during transport, marketing and at slaughter. At the *World Conference on Farm Animal Welfare* held in Hangzhou the same month, it was reported that China's Agriculture vice-minister Yu told delegates: '... China would ... vigorously promote work on animal welfare' and suggested establishing technical standards, regulations, supervision of animal welfare and carrying out international exchanges to understand other nations' philosophies.



In July last year the Chinese Veterinary Medical Association requested information from the HSA on humane harvesting of farmed fish and the charity sent a Mandarin Chinese translation of a HSA publication. Mainland China produces the most farmed finfish in the world, from over 40 species, so this request to identify higher-welfare slaughter methods is very encouraging. ■

## Come and meet us – HSA on the road

The HSA is planning to exhibit at agricultural shows in the Spring/Summer of 2018. Attendance at these events allows us to meet, and offer advice to, a wide range of the HSA's core audience, from smallholders to large-scale farmers, producers and processing companies.

The first show will be the Pig and Poultry Fair held at Stoneleigh on the 15th and 16th of May, followed by the Royal Welsh Spring Festival on the 19th and 20th of May at the Royal Welsh Showground, Llanelwedd. Later in the summer the HSA stand will be at The Small Holders and Country Show in West Sussex (7th and 8th July) and the National Sheep Association Sheep Event on the 18th of July in Malvern. Please keep checking the website for additional show dates, and do come and see us if you attend these shows. ■



## Training activities and welfare assessments

HSA staff have given training courses in the use of captive-bolt equipment and firearms for the humane killing of livestock for the Milton Estate, Sheffield City Council, the RSPCA and the National Trust. The Technical Director has also provided training at a market in the south of England and been actively involved in providing hands-on slaughter training for the charity's technical staff to ensure their knowledge is kept up-to-date.



Since August last year staff have provided animal welfare lectures – one to students at Harper Adams and one to RSPCA trainee inspectors, as well as two animal welfare assessments in the UK, covering cattle, sheep and poultry, and three in New Zealand covering sheep and deer.

Technical Director Charles Mason was also asked to speak at the Association of Meat Inspectors Seminar at Harper Adams, the Fish Veterinary Society Conference in Edinburgh and the Pharmaq Fish Seminar near Inverness. HSA staff were also present at the AIMS Conference in Leeds; the VPHA Conference near Daventry, the Livestock Auctioneers' Association reception at the House of Lords and the British Veterinary Association reception in London.

In March 2018, the HSA's Charles Mason visited Australia to give a presentation on the concept and history of humane slaughter at RSPCA Australia's Animal Welfare Seminar in Canberra, as well as lead a seminar workshop. The seminar provided an opportunity to highlight the HSA's current work as well as share best practice and the latest research outcomes. Whilst in Australia he also, by invitation, visited a couple of slaughterhouse establishments for cattle and pigs as well as carried out welfare assessments in three abattoirs in New Zealand, and gave a lecture to veterinary students at the University of Queensland. ■

## IN BRIEF

### Fish welfare at slaughter

On 4th December 2017 the HSA provided its annual lecture on fish welfare at slaughter for veterinary medicine students at the University of Liverpool. ■



### Advice

Since July 2017 the HSA has provided animal welfare advice to auditors, government vets, scientists, NGOs and industry in the UK, France, Italy, Ghana, Uganda, India, Vietnam, Canada and Peru. ■

### Overseas outreach

In October 2017, John and Margaret Cooper – supporters of the HSA who are involved in teaching at various universities, travelled to East Africa (Rwanda and Kenya) as part of their teaching work. On their travels, they very kindly took educational resources from both the HSA and the Universities Federation for Animal Welfare (UFAW) for dissemination to students at the various veterinary schools and universities they visited. ■

## Global focus on broiler welfare

In August 2017, WATT Global Media hosted a webinar on broiler chicken welfare from rearing through to slaughter. Alongside Dr Karen Christensen from the University of Arkansas (who spoke on the latest welfare developments in broiler rearing), HSA Technical Officer Jade Spence gave an invited presentation on animal welfare requirements and good practice principles for large and small-scale humane slaughter for consumption; for on-farm stunning and killing of individual sick/injured birds; and for on-farm mass killing during disease outbreaks/emergencies. The webinar was attended by 155 persons, with questions on ventilation shut down and gas killing. ■





As we start a new year with all of its possibilities and challenges, the HSA will be commencing its 107th year of caring beyond the farm gate. The charity has a proud history, in which it has achieved some truly outstanding contributions to improving the welfare of food animals worldwide – here is a snapshot from across the decades:

### 1928

The Council of Justice to Animals formally amalgamated with the Humane Slaughter of Animals Association (HSAA) to avoid any overlap in their activities and in the interests of efficiency and economy. The HSAA had been founded in 1920 by Mr Norman Graham. The association subsequently became the HSA.



### 1938

The charity continued its campaign to get sheep and pigs included within the scope of the Slaughter of Animals Act, and work continued to improve conditions in markets – including the supply of adequate water, closed pens for all stock and cover for all stock, especially dairy stock, calves and pigs.

### 1948

The HSA continued to argue for the construction of new municipal slaughterhouses and for new and improved livestock markets. The charity's campaign for the stunning of all animals slaughtered for food received a considerable degree of support from local authorities, unions, the Society of Veterinary Officers, the National Veterinary Medical Association and from the provincial press.

### 1958

The charity was consulted by the Government prior to legislation of the new gas stunning method for pigs. The method had been developed in the USA and Denmark and used a mixture of 65% CO<sub>2</sub> in air to render pigs unconscious before slaughter and until death from exsanguination. The organisation was of the view that this method was a great improvement on electrical stunning and less open to human error.

### 1968

The charity continued its work against the export of live animals for slaughter, and started a campaign against the export of two to three week old calves. The HSA also financed research into the use of antibiotics in animal husbandry and their possible effect on humane health for a Government committee.



### 1978

Miss Dorothy Sidley, General Secretary, retired in June after 48 years selfless service. Dorothy devoted a great part of her life to promoting the objects of the HSA and there have been very few UK Acts and Regulations concerned with the welfare of livestock and poultry in which she was not involved. Her memory and recognition of her outstanding contribution to animal welfare is still remembered by the HSA today.

### 1988

Work commenced on a new video on the transportation and handling of livestock entitled *Livestock in Transit – Handle with Care*, which was designed to be used for teaching purposes as well as for general information.

### 1998

As part of its outreach work, the charity's Technical Director Charles Mason travelled to Taiwan as part of a fact-finding tour of Taiwanese markets and slaughterhouses, and subsequently organised a workshop to demonstrate humane stunning equipment and provide expert advice. Mr Mason also travelled to Turkey to help install an electrical stunning system for pigs in slaughterhouses and provide training in its correct use.

### 2008

A leading UK retailer contracted the HSA to assess its in-store carp slaughter systems in its Hungarian stores. As a result of this review, a fish welfare policy, training manual, advisory posters and a standard operating procedure were introduced into the stores. The retailer also planned to incorporate these developments into its stores in Europe, Asia and the Americas where fish were slaughtered in-store.

### The future - 2018 and beyond

The above is just a sample of HSA's work. All of the activities undertaken by the charity over 100 years have only been possible due to the generosity and kindness of the HSA's members and supporters. From this support has come far-reaching and long-lasting improvements for food animals – an inspiring legacy. As a charity, the HSA's work remains dependent on your continued and ongoing support, as well as new members and supporters coming on board to continue the legacy that others have made possible. ■

# 2015 HSA Research Training Scholars

## Awal Fuseini

At the University of Bristol, Awal Fuseini is developing a new type of humane electrical stunning for adult cattle. The Single Pulse Ultra-high Current (SPUC) stun is expected to be reversible, potentially making it eligible for stunned halal certification. The hope is that SPUC technology may significantly reduce risks to animal welfare at slaughter and may improve meat quality, throughput and personnel health and safety. If it does, then SPUC is likely to be of interest to the food industry as a whole and the research may encourage investigation of SPUC electrical stunning for other species, including for secular slaughter.

Awal's work is attracting interest in Belgium, where the Wallonia region recently enacted a legal ban on slaughter without prior stunning, due to come into force in September 2019. In June 2017, Awal presented his research in Ghent at the Belgian Meat Science and Technology Association (BAMST) Animal Welfare Symposium.

The HSA was pleased to hear that Awal had been awarded the Final Year Presentation Winner at the 2017 Livestock PhD Seminar, sponsored by Quality Meat Scotland and the Agriculture & Horticulture Development Board. ■



## Carlos Rebelo

At the Royal Veterinary College, Carlos Rebelo is further developing the design of dry electrical stunning systems used for small-scale, on-farm slaughter of turkeys, to improve their welfare and produce acceptable meat quality. This year Carlos evaluated the effects of commercially-available types of electrode, and modified prototype electrodes, on current profiles and the duration of unconsciousness induced. In October 2016 Carlos presented a poster reviewing EU and UK legislation, and the potential effect of BREXIT, on head-only electrical stunning of turkeys and waterfowl, at the European Congress of Animal Welfare and Behavioural Medicine in Portugal. Carlos will complete his HSA-funded PhD research on turkeys this year, whilst a postdoctoral scholar will begin very similar research on ducks and geese under a HSA Research, Project & Travel Grant award. ■

## Inaugural Research Training Scholar publishes second and third papers on her research

Dr Jessica Martin, the inaugural HSA Research Training Scholar who graduated from the University of Glasgow in 2015 with her HSA-funded PhD, has published her second and third papers on her PhD research. Jess designed a glove to optimise the performance of cervical dislocation of chickens on-farm (eg if birds are sick or injured or for small-scale private slaughter). Jess is currently investigating how to produce the glove commercially for the mass-market. ■



## A lasting legacy

Credit: HSA



Gifts left in wills make up over 50% of our income, so every one is extremely valuable to us. A gift in your will, regardless of size, will ensure that we can continue to make a lasting difference to the welfare of food animals during marketing, transport and slaughter.

Gifts left in wills have enabled the HSA to grow from simple beginnings in 1911 to become an organisation that has led and/or contributed to major changes in attitudes towards animals, with scientific and technological developments resulting in huge improvements in methods for slaughter or killing. The HSA believes high standards of animal welfare must continue beyond the farm gate and is the only UK charity exclusively promoting the humane treatment of all food animals including cattle, sheep, pigs, poultry, fish and “exotic” species such as deer, during transport, marketing and slaughter or killing for welfare reasons and disease control. ■

## General Data Protection Regulation (GDPR)

With effect from the 25th of May 2018, new legislation will come into force which will replace the Data Protection Act 1998 and give people more control over how their personal data is used. We value everyone who supports the charity and its work and want to be able to stay in touch. Members and regular supporters are not required to do anything unless you do not wish to hear from us – please contact the HSA office if you'd like further information or assistance. ■

## Why your support is vital to the HSA's work

Every donation that the HSA receives makes a difference. It is easy when we look back over the charity's activities over many years (see page 6) to see just what donations and legacies have helped the charity to achieve. Whilst we are proud of our past, we are looking to the future. Today, with an estimated 70 billion farm animals a year reared and killed for food globally, the challenge for the HSA is to expand its education and training programme and its international reach through animal welfare activities in countries which farm a large number of animals and where there are opportunities to improve standards of animal welfare research, education and legislation. If you haven't already done so, please would you consider making a monthly donation? Just £3 a month will help us to continue to visit markets and slaughterhouses, whilst £10 a month will enable us to provide up-to-date technical information and advice on all aspects of animal handling, transport and slaughter. As a small organisation, a regular source of income allows the HSA to plan ahead, for example by being able to offer more grants, and commit to overseas programmes of work. Over the past twelve months, the charity has been seeking to expand its international reach through animal welfare activities in countries which farm a large number of animals and where there are opportunities to improve standards of animal welfare research, education and legislation. Your support has never been so important in ensuring that the work goes on. Thank you. ■



Credit: HSA



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