

WSPA and APSRI humane slaughter programme in China: STEPS®

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Abstract

The adoption of slaughter and pre-slaughter techniques to improve animal welfare and meat quality and safety is dependent on providing appropriate information, application and enforcement as well as information ownership by local people. The World Society for the Protection of Animals (WSPA) and Beijing Chaoyang Anhua Animal Product Safety Research Institute (APSRI) have been running a humane slaughter programme in China for more than three years. The aim of the programme is to improve the welfare of animals slaughtered in China through a three-pronged approach: i) train core-plant mid-level managers to be humane slaughter trainers; ii) provide guidance on legislation and codes of practice; and iii) develop and implement pre-slaughter and slaughter animal welfare curricula for undergraduate veterinarians. The production of in-country training material is based on a training-needs analysis conducted prior to the programme. Four Chinese trainers have completed the training and become national level trainers. In the last three years they have trained more than 5,000 staff from 800 slaughterhouses. Technical standards for slaughtering pigs, based on those of the OIE, have been adopted in China and the veterinary curriculum development is progressing. The programme has introduced many positive changes to the Chinese slaughter industry and the signs are positive for good progress.

Keywords: animal welfare, China, humane slaughter, livestock, meat safety, pigs

Introduction

The humane slaughter programme discussed here is a project developed and managed by WSPA and APSRI since December 2007. The programme aims to change the behaviour and attitude of people in China towards animals during pre-slaughter handling and slaughter. The Chinese slaughter industry is the largest in the world with more than 20,000 registered slaughterhouses (Ministry of Commerce of PRC 2007). Although the government legislates on and inspects pig and poultry slaughterhouses, it has incomplete control over other types of plants. More than 90% of cattle and sheep slaughterhouses in China are run by the Muslim minority community (Personal communication, Head of Department of Livestock Slaughtering of Ministry of Commerce of PRC 2007). Furthermore, the industry in China is extremely diverse from both qualitative and quantitative points of view. Small, old-fashioned plants can be observed as well as large modern slaughterhouses.

Following assessments of such issues, the main elements of the WSPA and APSRI humane slaughter programme were decided:

- Humane slaughter training provided to slaughterhouse staff and inspectors;

- Lobbying and advising on humane slaughter legislation and codes of practice; and
- Incorporation of animal welfare at pre-slaughter and slaughter into the curricula of undergraduates and postgraduates studying meat science and veterinary science.

Training-needs analysis

China is divided into geographical and political units. It consists of 23 provinces, five autonomous regions, four municipalities and two special administrative regions, with slaughterhouses mostly concentrated in central and southern provinces. The pilot training programme was conducted in the province of Henan, as it had favourable conditions and infrastructure.

The most challenging area of work related to the humane slaughter training of slaughterhouse staff and inspectors. The Chinese slaughter industry employs more than 1,500,000 workers (Ministry of Commerce of PRC 2007), of which about 150,000 work in pre-slaughter and slaughter. These 150,000 workers were considered the key target audience.

The training-needs analysis visits defined several main animal-welfare-related problems: unsuitable design of unloading premises and rough unloading of animals, lack of

knowledge of animal behaviour, appropriate handling, and proper design of pre-slaughter premises; lack of understanding of efficient stunning or the need for such stunning, and failure to carry out bleeding immediately or at least as soon as possible after stunning.

In-country training

The establishment of an in-country capacity, in the form of an expert group, was considered a priority.

Due to limited resources and time, it was agreed the most feasible approach would be to build an in-country group of training experts (T1 trainers), based at APSRI. This would be responsible for training other trainers (T2 trainers) at each slaughterhouse, who would then train the company staff actually involved in pre-slaughter handling and slaughter. The T2 trainers are provincial slaughterhouse technical managers and inspectors.

To ensure the transfer of all important information through both tiers of the training programme, WSPA and APSRI have developed species-specific training packs consisting of technical notes and training DVDs in Chinese. In addition, as the game of poker is very popular amongst slaughter workers and hauliers, poker card sets printed with images of best practice humane slaughter and basic humane slaughter principles were produced for entertainment and educational purposes by APSRI. The branded training programme and packs (STEPS®) have been uploaded on the internet at <http://www.steps.org.cn/>, and are free to be downloaded by all stakeholders, including those that have not attended the training programme. In 2009, an additional online e-learning programme, in Chinese, about animal welfare before and during slaughter was developed and uploaded to the website.

Before the launch of the Chinese pilot training programme in Henan province in March 2008, questionnaires were sent to the slaughterhouses selected by the Henan Commercial department for an initial situational survey. Based on the survey, more than 300 slaughterhouses (about 40%) were recommended by the government as suitable for the training programme.

With support from the provincial commercial department, training was delivered to a total of 424 T2 trainers from 309 slaughterhouses, and 158 commercial inspectors. Within four months of training being completed, monitoring and evaluation visits were then carried out at randomly selected slaughterhouses.

Nationwide training programme

APSRi has been carrying out a nationwide training programme in two modes. In the first mode, T1 trainers provide more general lectures on animal welfare during pre-slaughter handling and at slaughter at workshops and seminars to government officials, academics and other stakeholders. In the second mode, in co-operation with local meat associations, APSRI trains slaughterhouse managers (T2 trainers) at the slaughterhouses. APSRI co-operates closely with meat-processing companies such as the Yurun group, which is currently the largest pig processing

slaughter group in China. Husi Food Ltd (a subgroup of the OSI), which supplies McDonald's China, is also one of our major clients. APSRI has been providing training to both Husi suppliers and auditors, and assisting Husi in developing their auditing system to ensure good quality and welfare. From April 2008 until the present, a total of 5,000 staff from more than 800 slaughterhouses attended APSRI and WSPA training. In addition, more than 500 government officials from 300 local government departments attended our training workshops.

Results

From April to July 2008, humane slaughter training was provided to 582 T2 trainers (including 158 Ministry of Commerce inspectors) in 309 pig and poultry slaughterhouses in Henan province. In August and September 2008, a two-tier evaluation of short-term results was carried out by distributing questionnaires and collecting information from site visits at 16 slaughterhouses.

Of 309 questionnaires distributed, 182 (60%) were returned. According to these, 3,331 Henan province slaughterhouse staff members were trained by the T2 trainers. Of the 182 slaughterhouses, 160 said they changed their handling methods according to the training received, while the other 22 slaughterhouses stated their pre-training handling methods were satisfactory.

Based on the summary report from the questionnaires, evaluation visits were conducted at 16 slaughterhouses (5%) which received training in Henan province, confirming satisfactory or encouraging changes in practice.

Following the nationwide training in the last three years, a variety of positive changes were observed in the design of premises handling and slaughtering of animals, greatly improving their welfare during pre-slaughter handling and slaughter. These included changes in design of unloading platforms, raceways and lairages and removal of distractions. The most important are perhaps changes in raceway designs and lairages as these are often designed according to obsolete Chinese norms. Almost all pig slaughterhouse managers in China prefer to build drainages in the middle of the passageways or races, which is convenient for cleaning. However, that interrupts animals' movement and involves many interventions from handlers, which are usually very stressful. Other distractions, such as transparent fences and doors at the lairage pens were removed at ten slaughterhouses, particularly those of one slaughtering group. Last but not least, major improvements in handling and attitude towards animals have been observed at slaughterhouses post training. Rough handling such as lifting or dragging pigs by the ears, feet or tail — historically seen at many slaughterhouses, causing unnecessary suffering to animals — has been eliminated at the majority of plants. APSRI training has introduced the concept of humane handling tools such as rattles, bats, and handling boards across China.

At the end of 2007, APSRI and WSPA produced the first of several species-specific technical guides for pre-slaughter

and slaughter. The document, *The Requirements for Pig Humane Slaughter*, was accepted by the Ministry of Commerce in 2008 with minor changes and in 2009 it was approved by the Standardisation Authority of the People's Republic of China.

Positive changes in the industry associated with this robust training programme have attracted many industry stakeholders. APSRI co-operates with large slaughtering groups such as Yurun Group, Shineway Group, Fifth Roulian Co Ltd and Shunxin Pengcheng Co Ltd, and food suppliers such as Husi Food. Additionally, equipment producers and distributors such as Stork China, SFK, Jarvis China and Shengfeng consult with APSRI about new potential developments.

APSRI has built close links with the Ministry of Commerce and its provincial commercial departments, the Veterinary Bureau of the Ministry of Agriculture and the Chinese Veterinary Medical Association.

Discussion

WSPA and APSRI have been running a humane slaughter programme in China for more than three years. Significant improvements in practice were observed as a direct result of the programme.

There are still challenging elements of humane slaughter that affect the project. Notably, these are the technical aspects of slaughter and availability of suitable equipment, fit for purpose. It is clear that these problems cannot be solved by WSPA and APSRI alone, whose programme is aimed at triggering changes in behaviour and attitude within the Chinese slaughter industry.

Availability, appropriateness and maintenance of stunning equipment are critical for humane slaughter. An issue specific to the Chinese slaughter industry, with serious welfare implications, is use of low-voltage, electric-stunning equipment. Most Chinese stunners operate on 110–150 v. According to research (EFSA 2004) this cannot guarantee immediate loss of consciousness in 100% of pigs, or a sufficiently long period of stunning from a short application of current. A

longer application of lower voltage stunning cannot guarantee sufficient current to ensure instantaneous loss of consciousness (EFSA 2004). However, if the electrodes are placed between the eyes and ears on wet skin for at least 7 s, loss of consciousness for approximately 30 s can be achieved with 110 v (MAFF, personal observation 1993). The Humane Slaughter Association (HSA) recommends a current of 1.3 amps to ensure effective and humane stunning of pigs (HSA 2000): this can be achieved using well-maintained stunning equipment with output voltages of at least 250 volts.

As in many countries, the main reason expressed by the Chinese for use of low-voltage stunners is concern over intense contraction of muscles caused by high voltage stunning equipment, resulting in broken bones, haemorrhage and rupture of muscles. This discourages owners of slaughterhouses from using higher voltages for stunning. This issue has been discussed with various stakeholders, concluding there is an urgent need for research in China on the use of different electric parameters for stunning and their effects on quality of meat. At this time, APSRI strongly encourages longer application of the electric stunning apparatus (at least 7 s) to achieve a sufficient duration of unconsciousness to avoid possible recovery before, or at, the time of bleeding.

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