

A Technological & Sustainable Approach to Meat Inspection

This document has been written
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The abattoir sector is facing unprecedented financial challenges which are threatening the very existence of a number of businesses – none more so than in the so-called small abattoir sector. The combination of supermarket pressure on the local high streets, escalating production costs and the swingeing cost of an outdated and outmoded European inspection system is resulting in the closure of a number of our more local, niche, artisanal and remote slaughter facilities up and down the country.

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The loss of smaller abattoirs across the UK means that 'food miles' have increased considerably over the years negatively impacting on animal welfare and the environment – notwithstanding the loss of a cultural heritage of our village communities and the resultant wastage in traditional skills and employment. There is a clear need for a new approach to the support afforded these types of premises, quickly, before we see a further diminution of the small abattoir sector to unsustainable levels.

Buy local, eat local, stay local

Many rural and livestock organisations are actively promoting the buy local, eat local, stay local theme along with the Eat British campaign and support your local community message but this is only going to be effective if we still have the necessary infrastructure to actually deliver the goods for the consumer to source.

The UK's departure from the EU and the removal of the requirement to fully implement and comply with all aspects of the Official Controls Regulations and their related legislation poses a real opportunity for the UK Government to make meaningful advances towards making this endangered sector of the meat industry not just sustainable but to thrive and actively

contribute to the vibrancy of our local and rural communities.

Currently all abattoirs are treated with a one size fits all inspection regime perpetrated by the UK Government in full compliance with EU rules. This fact remains even if a business is not exporting their products and are only serving their local community. Many of these smaller artisanal operations deliver much higher standards of food safety and animal welfare than dictated by the Regulations based on the pride of the operator for his craft and the value he places on his customer and community. However, notwithstanding this fact the Food Business Operator is still required to undergo an inspection regime more suited for a larger industrial exporting organisation.

FSA overcharge for inspections that are entirely redundant, resource heavy, not risk-based and which are impacting severely on the sustainability of this section of the industry

There are numerous examples of micro-premises – poultry and red meat species – being charged hundreds of thousands of pounds by the Food Standards Agency (FSA) to inspections that are entirely redundant, resource heavy, not risk-based and which are impacting severely on the sustainability of this section of industry.

Through the use of modern and advanced technology the UK Government has the ability to implement a ground-breaking inspection regime that will be considered to be the very apotheosis of a consumer protective model whilst at the same time deliver significant savings to the Exchequer and the industry.

One size DOES NOT fit all

The overall approach such a novel and innovative inspection regime might be structured is as follows. All livestock would need to be fully identified and recorded – this is a current legal requirement and thus would not impose additional burdens – the use of a DNA based identification solution would provide traceability to animal level and would provide a significant level of assurance.

Smaller abattoirs would be removed from the

existing legislative framework – a two-tier industry is envisaged - and permitted to operate under a different regime to produce meat for domestic consumption only but operating to equivalent or better hygiene and animal welfare standards than the export premises.

The current requirement is for all animals to be inspected by a vet (most trained in the EU due to a national shortage) prior to slaughter. This is burdensome, highly judgemental and subjective, costly, environmentally suspect as veterinary staff must be physically despatched to small premises in often remote locations simply to undertake inspection of a tiny parcel of animals. This on-site ante-mortem requirement can be removed through the use of high-tech thermo-imaging camera technology – and further enhanced through the use of spectroscopic analysis thus meaning that a vet can inspect animals remotely and actually identify a higher level of details and information than can be practically when carrying out a physical visual inspection. Remote diagnosis is already permitted within the clinical (medical and veterinary) sphere. Suspect animals can be slaughtered immediately, suspected notifiable disease can be notified to the relevant authorities, livestock cleanliness can be assessed and proposed actions taken accordingly to ensure hygienic dressing, and animal health conditions can be recorded and referred back to farm.

Modern camera technology means that a vet can inspect animals remotely and actually identify a higher level of detail and information than can be done when carrying out a physical visual inspection

Relatively cheap and easy to install

Camera technology is relatively cheap and easy to install – it is a current legislative requirement in all slaughterhouses to have such technology throughout GB and it would be a simple step to extend the reach and remit of the existing systems. Ultimately through the use of existing machine learning (ML) systems the inspection process can be fully automated – pilot trials are due to commence to 'teach' ML-based inspection systems in order for such inspection 'decisions' to be achieved using Artificial Intelligence (AI).

Once the animal is slaughtered the post-mortem inspection process commences as the animal is

dressed by the specific operatives. The various parts of the animal requiring inspection are presented to a Meat Inspector whose job it is to visually assess fitness and apply a Health Mark 'certifying' that the meat is safe and fit for human consumption. This process is again costly, inconsistent, often inaccurate and relies on the deployment of a severely limited resource into often small and remote locations.

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Appropriately 'taught' ML will permit this task to be completed remotely (Proof of Concept (PoC) about to launch of an ML-based alternative to physical inspection).

In the interim prior to completion of the PoC industry employed 'spotters' can be trained so that operatives carrying out dressing in a premises can then also do a check on the fitness of the meat – this can then be verified remotely.

Such a plant-based operative inspection system has existed in the poultry sector for decades and an equivalent system is in operation in Australia and the evidence has shown in both cases to work extremely effectively.

This combination of the latest technologies alongside a redrafting of European legislation using the latest scientific advice and analysis to produce a modernised meat inspection process that will greatly enhance animal welfare and consumer protection whilst at the same time driving down costs helping to make a vital industry more sustainable can only be considered a substantial win:win scenario. Industry will commit funds to support this move in partnership with Government to help the UK develop a world-leading inspection model and really drive forwards Brexit generated success, improve productivity and sustainability whilst at the same time limiting the environmental impact of what is currently a highly manual and inefficient inspection regime.

**WIN : WIN
scenario**

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