

A multi-faceted approach to achieving sustainable pork

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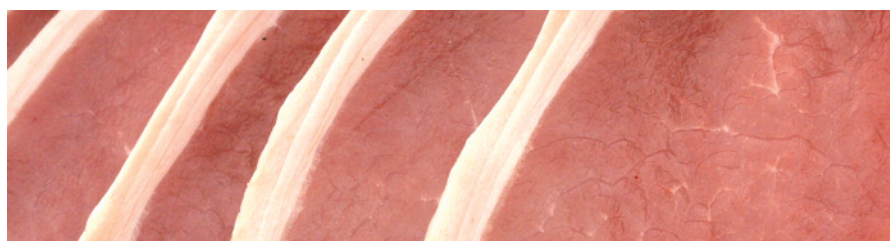
The pork industry continually strives to improve efficiency making it possible for pork production to meet the growing global demand in a sustainable way. However, sustainability is now a multi-faceted concept which may mean different things to different people often including elements of being 'animal friendly', 'environmentally friendly', 'consumer friendly' and/or 'business friendly'.

Social acceptability

One of the more recent factors to be included in the sustainability formula is the effect of market forces. Industries that are dependent on consumers purchasing their products or services in a free market are increasingly realising that 'social acceptability' is a key factor in their sustainability.

The explosion of corporate social responsibility (CSR) programmes among major food retailers in recent years may indicate their concern over what consumers think of the wider impact that they, and their suppliers, have on society as a whole.

The importance of consumer perception, and its potential to impact pork production methods, was highlighted earlier this year in the US when the country's biggest meat producer, Tyson, announced new animal



care guidelines for all its pig suppliers. This was announced just weeks after NBC News revealed inhumane handling of pigs by one of its suppliers. The rapid response is one notable example of how seriously companies take consumer confidence.

In the company's own words it was trying to balance the expectations of consumers with the realities of today's hog farming business. In some instances, public perception may be a more potent force for change than scientific evidence. Making sure that consumers have a positive perception of the pork industry is therefore essential for the long term sustainability of pork sales in developed countries.

Globally, more pork is consumed than any other meat – but it must be remembered that consumers have other choices.

Sustainability matrix

In some markets, consumers are less vocal about the welfare and environmental impact of how their food is produced. Quality,

price and safety are the key drivers – at least for the time being. Thus factors that contribute to sustainability in these markets are weighted differently, with production economics playing an even more central role. One way of assessing the relative importance of the different factors in the sustainability of pork production is to use a matrix system. This idea was the subject of a paper published in the journal *Animal* last year. The aim was to show that a systematic approach could be used to assess the sustainability of different production practices on the basis of objective (science-based) information and ethical and economic factors.

When a sustainability matrix was used to compare indoor and outdoor systems, for example, it showed that outdoor production systems may be less sustainable than indoor as a result of concerns over food safety/zoonoses. This is despite the fact that public perception generally supports outside production, on the basis that it is more natural and produces better meat.

Knowledge of how a food product is produced will influence people's perceptions of taste and quality. A study using pork showed that when tested 'blind', consumers could not tell any difference between outdoor and indoor pork; but if shown the label before they tried, they claimed to prefer pork from outdoor pigs.

This potential disparity between consumer belief and technical fact was also apparent in the matrix assessment of castration for the reduction of boar taint.

This common procedure is becoming less acceptable in many markets, and is due to be stopped in the EU by 2018. The matrix was used to compare the sustainability of physical castration with the alternatives: marketing at a younger age, castration with pain relief, and immunological castration

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Table 1. Comparison of selected methods of castration using a sustainability matrix. This table applies to countries where pigs are marketed at relatively heavy weights (over 110kg live weight).

Issue	Physical castration (PC)	Immunological castration (IC)
Animal welfare perception	0	2
Animal welfare science	0	2
Productivity and economics	0	1
Environmental impact	0	2
Worker health and safety	0	-1
Community interface	0	0
Food safety and zoonoses	0	-1
Total	0	5

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(using a vaccine). Genetic selection (for low boar taint) was also considered, but as this is not currently available, it was not included in the matrix.

Marketing at a younger age reduces efficiency, since larger carcasses cost less per kg of meat produced to raise and to process. So in terms of long term sustainability, this is not a good option.

The matrix showed that animal welfare, productivity, and environmental impact were positively affected by immunological castration. The negatives were worker health and safety – due to the small risk of needle stick injury during administration of the vaccine – and food safety/zoonoses – because of some anticipated consumer reservations about a technology which works by blocking a hormone. However, these negatives were outweighed by other factors and, overall, it was concluded that immunological castration was the most sustainable option (see Table 1 on page 13).

Note that in this table the animal welfare perception and food safety are in two areas. Not physically castrating pigs is viewed positively by knowledgeable consumers, however there is a fear about any technology that is injected in the animal (fear of contaminated food that may harm a person, even if evidence is presented to indicate otherwise).

IC is better for pig welfare both based on

science and human perception. Economics favour IC over PC. The environmental impact is less for IC than PC. Worker health and safety is a concern in case humans get injected with the immunogen (although safety measures are in place).

Table 1 would indicate IC would be preferred to PC unless the fear of contaminated food is stronger than the negative reaction to PC without pain relief (normally, the fear of contamination with biotech products is less than the negative view of PC without pain relief).

Studies have shown that the perception of this new technology changes once consumers have it explained to them, and they will accept it as a preferred alternative to physical castration.

The author concludes that 'science can be used to identify more sustainable systems of pig farming and pork production. But science must be considered within the context of human emotion and economics to obtain a glimpse of which systems and practices are the most sustainable'.

The sustainability matrix is an intellectual exercise and is presented as the basis for discussion rather than absolute guidance. But it does provide the flexibility to reflect the weighting of different factors and thus take into consideration the variation between different markets.

Paradoxically, in the case of immunological castration, the technology has been adopted

more readily in markets where animal welfare is a less important driver for change – perhaps reinforcing the need for economic factors to be considered in the sustainability mix. In Europe, where the pressure to find a workable alternative to castration is perhaps greater than anywhere else, the most sustainable option available still has limited uptake in some markets.

Summary

Sustainability is an important factor that shapes the pork industry but, by definition, it will ultimately be the one factor that drives which producers will thrive and which geographies will be the most successful producers of pork in the long term. The challenge for the pork industry is to model what a sustainable industry looks like and take steps now to put that model in place rather than wait for nature (the market) to take its course.

Sustainability means being (and, equally importantly being perceived to be) animal friendly, environmentally friendly, consumer friendly and business friendly.

It is clear that such a multi-faceted issue calls for a multi-faceted approach and a change of mindset. ■

*References are available
from the author on request*