

Opportunities for abattoirs in Wales to reduce waste and increase profits



Summary

This case study summarises the findings of a collaborative project with WRAP Cymru and Hybu Cig Cymru - Meat Promotion Wales (HCC). Four abattoirs across Wales were reviewed on the volume, cost and management techniques of Animal By-Products and other on-site waste. The case study identifies the challenges and highlights some short and long-term opportunities to reduce waste to thereby increase profitability.

The main challenges identified included: the size of the business, rising waste disposal costs, labour availability and the processing of Animal By-Products.

It was recognised that for these SME (small and medium sized enterprises) abattoirs, there are some key areas for improvement to enable long-term sustainability and business growth. Including:

- Collaborative activities to reduce costs,
- Further processing of products,
- Utilising products for pet food or energy generation,
- Training to reduce waste on site.

Commercial examples to improve business efficiencies and reduce waste were outlined.

Key facts

- 19 abattoirs in Wales of which 16 are SMEs
- 4 SME abattoirs (25% of SME abattoirs) participated in the project
- Average cost for Category 1 waste collection across the group was £130/tonne
- Average cost for Category 3 waste collection across the group was £55/tonne
- Evidence of innovative practices were demonstrated including collaborating with other businesses and utilising Animal By-Products for pet food or energy generation

Background

One of the main challenges for the red meat sector is to become more efficient and therefore more competitive.

There are 19 abattoirs across Wales, 16 of which are small or medium sized enterprises (SME).

Four SME abattoirs took part in this project and discussed their current management practices, destinations and volumes for red meat products, by-products and other waste. This case study summarises the findings from the participating abattoirs (the abattoirs were anonymised for the report).

Animal By-Products are regarded as waste within the industry and are described as “by-products that are not intended for human consumption”. These are categorised in the order of high to low safety risk: Category 1, Category 2 and Category 3. Animal by-products are produced with every carcass and are regarded as waste as they are a cost to the business, with abattoirs being charged by waste management companies for collection and then further processing e.g. valorisation, rendering or incineration*.

Challenges for SME abattoirs identified within the project include:

- Small family business structure
- Economies of scale
- Rising waste disposal costs
- Location of waste companies
- Animal By-Products processing technology
- Regulatory paperwork
- Labour availability

Current Waste Management Practices

On-farm practices can influence waste at abattoirs and include: the time an animal has been fasted pre-slaughter, the cleanliness and pre-slaughter handling of livestock. Many of these issues are preventable (such as poor handling which can lead to carcass bruising). The number of carcass condemnations could be reduced through better knowledge exchange of on-farm practices (e.g. fluke management).

All of the SME abattoirs recorded the volume of waste produced on site. By carrying out this practice, they are able to monitor and identify key areas for business improvement. One abattoir recorded waste on a per animal basis, whilst another carried out an internal review to understand the “cost of waste removal” which is then used to determine the cost charged for their slaughtering service.

All abattoirs paid an external company to remove their Category 1 waste and the majority of the Category 3 waste (with the

remaining waste being utilised further such as in pet food). The average cost for Category 1 collection across the group was £130/tonne (2018).

Two of the abattoirs did not differentiate between Category 1 and 2 waste, disposing of both Categories into the same (Category 1) waste bin. However, the other two abattoirs separated Category 2 from Category 1 and further utilised gut content by applying it to land as a soil fertiliser or sending it to an anaerobic digestion plant for energy generation. As a result, the volume of waste treated as Category 1 waste was reduced, leading to reduced costs.

The average cost for Category 3 collection across the participating abattoirs was £55/tonne (2018). Three of the abattoirs showed good practice by using valorisation techniques to sell meat, fat and organs to local raw meat pet food companies for further processing.

*Footnote

Rendering - A heat process to evaporate water content, to sterilise and stabilise raw material. This segregates the fat and protein to create marketable products e.g. pet foods, pharmaceuticals, organic fertilisers, biofuels, cosmetics and construction.

Incineration - A method of waste disposal that involves the combustion of waste. Material can be destroyed by incineration, or by rendering followed by incineration.

Valorisation - From the term valorise “Give or ascribe value or validity to”. Adding value to a product. In this instance using unavoidable wastes as an ingredient for another product.

Opportunities

Opportunities for reducing food waste and cost identified in this project include:

- Knowing on-site costs
- Reviewing collaborative business activities to reduce costs
- Further processing of products
- Utilising products for pet food or energy generation
- Training on livestock production pre-slaughter and for staff on-site to reduce waste.

Reduce costs

Two sites had carried out an in-depth review of processing and waste disposal costs. This was a key step in understanding where carcass value can be added. It was mainly used within these businesses to enable a sustainable slaughter charge. There is an opportunity for abattoirs to monitor costs and to identify good and poor practice with regards to waste. Another significant tool that could be used to monitor waste/costs are the WRAP materials - Your Business Is Food – don't throw it away. These can be found at <https://partners.wrap.org.uk/campaigns/your-business-is-food/>

Collaboration

To create a resilient meat sector strong business links are needed. This includes both developing relationships between local agri-food businesses and other local abattoirs. For example, collaborative ventures in this project were observed with external businesses utilising Animal By-Products (e.g. pet food industries).

There is an opportunity for SME abattoirs to collaborate in a pre-competitive space. For example; collaborating on waste collection would allow smaller businesses to build up economies of scale to target markets with a larger resource/volume of Animal By-Products. This could even lead to opening new export markets for Category 3 Animal By-Products.

There are Regional Investment projects available from Welsh Government, if a business is interested in a group based activity. Contact with Hybu Cig Cymru for further details info@hccmpw.org.uk

Additional Processing

Another possible area for improvement includes extracting edible co-products (e.g. sausage casings) from material that would normally be adding to the Category 3 waste. This can be a challenge for small businesses as the equipment and resources needed can be expensive (e.g. additional equipment and water for washing the products). Two abattoirs had overcome this issue by using sub-contractors that visit the sites and extract the edible co-products for use within their own businesses. Subject to demand and capacity, collaboration with other abattoirs could assist with increasing economies of scale.

Anaerobic Digestion Plant

Where other valorisation routes are not possible or cost prohibitive Category 2 & 3 wastes can be sent to anaerobic digestion plants for energy generation. One abattoir

was already doing this. It is worth knowing if these facilities are in your locality and to investigate if they have the capacity to use additional material. You can find the location of Welsh Anaerobic Digestion plants [here](#).

Training

Training activities could assist with on farm training for preventable disease management, pre-slaughter handling of livestock and abattoir training such as butchery techniques and waste record management. If a business would like any further information in this area please contact the Hybu Cig Cymru office info@hccmpw.org.uk and sign up to "The Cut" for further meat industry information guide.

One abattoir spokesperson said: *"As an industry we are currently facing many challenges. To help combat this we have reviewed our business and waste streams, in order to cut costs. **This project has allowed us to look at different opportunities for utilising and disposing of Animal By-Products**".*

Conclusion

The Project identified the following top 4 opportunities for abattoirs to reduce waste and increase profits:

1. Reviewing abattoir expenditure to become more resilient (including Animal By-Products and waste).
2. Examining collaborative business ventures to reduce processing and waste disposal costs.
3. Investigating ways to add value to food products or waste products (e.g. pet food or energy generation).
4. Training for livestock farmers and for abattoir staff to reduce waste on site.

To view the full report, please visit the website www.wrapcymru.org.uk