

US beef innovation study tour

24–29th August 2009

Declan Troy, from the ProSafeBeef management team went on a US beef innovation study tour last summer organised by Bord Bia (the Irish food industry marketing agency). A summary of the tour is provided below.

The tour started with a visit to meet John Stika, President of **Certified Angus Beef**, a marketing and licensing company owned by the Pedigree Angus breeders. Their mission is to grow demand for their cattle by increasing consumer demand. To qualify for Certified Angus Beef, the hide needs to be 51% black and several other points need to be verified such as marbling and weight. In 2008 2.7 million cattle were Certified Angus, which represents 8% of US production.

Dave McKenna and Scott Eilert from **Cargill Meat Solutions R&D centre** gave a tour around their 60,000 square foot research facility, built inside an old meat plant. Sixty staff work at this R&D centre, although Cargill have 79 business unit worldwide. Trends in the US relating to consumer purchases and consumption of meat indicate that consumer confidence in meat has shown a rise recently. Consumers tend to make fewer shopping trips, and although “supercentres” are growing, smaller format stores are also emerging. There is an increasing preference for “local” meat and privately-produced meat is growing due to the much improved quality. A third of people are buying meals out less often, and the expected quality of burgers has

increased greatly with a shift in preference from frozen to fresh and from generic to branded burgers.

Mike Kerry provided a tour around the 4th largest **National Beef** plant in the US. National Beef, which handles 60,000 hides per week, is the biggest US exporter, exporting more than the three biggest groups together. They export to 30 countries, mainly Japan, Taiwan and Korea.

The tour continued with a visit to meet Mel Coleman and Paul Philips at the marketing company **Meyer Natural Angus**. They sell their branded “natural” products in speciality shops and also as an additional line with large retailers. Their total throughput represents about 0.5% of total US prime slaughtering and about half of the “natural” business in the US. Retailers are increasingly moving to own label, with Meyer Natural Angus supplying. The key issue for Meyer in trying to grow the business is providing a good service to the customer. They do this by educating the retailer, who then trains the sales staff. Information is also provided via a Q&A leaflet and a free telephone information service to assist sales staff when necessary.



Declan Troy

Next on the tour was a visit to the **National Cattlemen’s Beef Association (NCBA)** where Marvin Kokes and his colleagues talked about the Association’s activities. The NCBA was formed in January 1996 after the merging of the Beef Industry Council of the Meat Board

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and the National Cattlemen's Association into one unified organization representing all segments of the beef industry. The NCBA is working to increase profit opportunities for cattle and beef producers by enhancing the business climate and building consumer demand. A few points highlighted during the visit included the weekly one hour television programme produced by the Association which can be seen online at www.cattlementocattlemen.org, and the government's increased emphasis on the environment with proposals to convert agricultural land to forestry in order to offset carbon credits for industry.

The tour also included a visit to the feedlot **Lane County Feeders**. The feedlot has a capacity of 42,000 cattle at a time and an average feeding period of 160 days, with the cattle kill out at around 1,000 lbs carcass weight. The cattle are fed three times a day with a mix that includes "impact" technology, a liquid feed additive that allows them to reduce roughage from 25% of the diet to 5%, and reduces dung production by 40%. All cattle are electronically tagged on entry and given vaccination and hormones.



A computerised camera system, combined with automatic weighing, segregates the cattle into different groups according to finish dates.

The protein recovery plant **Beef Products Inc (BPI)** in Nebraska was visited next. The plant, which is situated next to Tyson beef slaughterhouse, produces two products, enhanced beef loin and lean meat for inclusion in burgers. Beef loins with lesser marbling levels are pumped with a brine solution to enhance the meat. The end product eats as good as Prime, and is sold to food services only. The lean meat for

burgers is prepared using fat trimmings which are chopped into smaller pieces, pumped with ammonia, heated and centrifuged to separate the fat from the lean meat. The meat is then quick frozen in thin layers and cut into squares about the size of cornflakes. The product is then packaged loose in large cartons or compressed into large blocks and distributed to burger manufacturers. The plant is unique in the processes it uses and in its structure and equipment. For example, all equipment is stainless steel; even the walls of some rooms are stainless steel which allows equipment normally bolted to walls to be welded instead, thus removing any joints that could possibly harbour bacteria.

The final visit on the tour was to the meat distribution company **De Bragga & Spittler Inc**, based in an old meat market area in New York. The company dry age an increasing amount of beef due to the rapid growth in demand over recent years. The product arrives in a vacuum pack and is opened and aged for 21 to 28 days at about 38 degrees centigrade. During dry ageing the humidity in the meat evaporates and between 10-15% of the weight of the meat muscle is lost. The meat becomes more tender due to the slow, temperature controlled ageing, and the flavour develops during ageing to a more mineral, slightly nutty and more concentrated beef flavour due to enzymatic reactions induced by the open air drying method.



SME profiles

Further information on three of the SMEs directly involved in PSB is provided below to give a flavour of how ProSafeBeef can engage with SMEs.



Celtic Pride Limited

Mr Tim Rowe, Director of Celtic Pride Limited talks about the company's work with ProSafeBeef.



http://www.welshmeat.net/celtic_pride_ltd.htm

Tell us about your SME business. What do you do? What is the history of your SME?

Celtic Pride was launched in 2003 as a joint venture between three of Wales' leading Agri-food business'. Castell Howell Foods and Wynstay Group plc set out to develop the Celtic Pride premium beef project to deliver the Celtic Pride philosophy of "taste, value and promise" first promoted by The Welsh Meat Co. This is achieved through:

- Creating a recognised quality assurance scheme.
- Raising the profile of Welsh beef.
- Encouraging farmers to become part of the scheme.
- Supporting, recognising and rewarding (through a premium payment over market price) best practice in production.
- Close working with our two abattoir/processing partners.

The aim of excellence in production has been achieved through close collaboration with farm assurance schemes, the grassland management expertise of the Institute of Biological

and Environmental Studies (IBERS formerly IGER) and the animal nutrition expertise of feed manufacturers Wynstay plc. The supply chain is completed by the "in-house" maturation and processing of the beef carcasses to stringent specifications by Castell Howell. Distribution into retail is carried out by Weddel Swift (a leading meat wholesale company) and by Castell Howell Foods into food service.

How did you/your SME become involved in ProSafeBeef?

Celtic Prides relationship with ProSafeBeef began when IBERS invited us to join them as their SME partner in the project.

What is your role within the ProSafeBeef project? Who do you work alongside?

I work alongside Prof. Nigel Scollan, Dr. Mike Lee and Dr. Sharon Hughes and have found the coming together of science/research and industry interesting and rewarding, I hope they say the same! As I see it, my role is to provide an industrial/commercial viewpoint and direction to the areas of research we investigate.

In your view, why is it important for ProSafeBeef to engage with SMEs?

From an industrial perspective the work we carry out and the time we invest needs to be focused and have real value. We need to be able to demonstrate



tangible benefits to the beef industry by the conclusion of the project. In industry we are acutely aware that products or processes that look good on paper do not necessarily work in practice.

What do you most enjoy about your involvement in ProSafeBeef?

Personally, I have hugely enjoyed the opportunity to observe the science and the process of research in the project, and have been impressed by the scope and the scale of PSB. I am confident that a number of interesting opportunities will arise from it.

What is your vision of how ProSafeBeef can impact upon the beef industry? What can the project do to help your SME business?

This project could be very influential in guiding the beef industry in producing novel, efficient, sustainable and profitable products and processes going forward, possibly even shaping policy changes in certain areas.

What is likely to be the long term legacy of the ProSafeBeef project (beyond the 5 year funding period)?

Communication is the key. The scientific community need to recognise and understand the challenges faced by industry which includes perhaps most importantly industries relationship with the "end user", the consumer. From an industrial perspective, we need to be clear about the messages and information we give the consumer, it needs to be founded in fact not heresay, and backed up by good and meaningful scientific research. The media thrive on confusion which leads to a confused and distrustful consumer. The beef sector cannot afford this.

Ensors Gloucestershire Limited

Mr Chris Glossop (Abattoir Manager) from Ensors Gloucestershire Limited talks about the company's work with ProSafeBeef.



<http://www.ensors-ltd.co.uk/>

Tell us about your SME business. What do you do? What is the history of your SME?

Situated within the picturesque Forest of Dean, the family owned and run company has grown dramatically from its modest beginnings over 70 years ago when a retail butcher's shop was opened by Mr A F Ensor in the rural town of Cinderford. In the 1950's the company diversified the business and entered into the livestock processing industry. The company grew from strength to strength over the next 50 years as it expanded into new areas of enterprise which included primal cutting, meat product manufacturing, catering butchery and retail packing.

The company now owns a multi-species EC licensed abattoir which processes approximately 200 cattle, 1400 pigs

and 500 lambs per week, along with a co-located primal cutting plant. The company also owns a second EC licensed cutting plant which opened in 2002. The Ensor Enterprise Centre site is dedicated to the production of high quality butchery and manufactured meat products for both the catering and retail sectors. The two sites are located in the town of Cinderford, where the business began in 1934, and both facilities are accredited to the highest safety standards.

How did you/your SME become involved in ProSafeBeef?

Our company became involved with ProSafeBeef through our connections with Bristol University.

What is your role within the ProSafeBeef project? Who do you work alongside?

To provide feedback from the industry point of view and I work alongside partners in Pillar 3.

In your view, why is it important for ProSafeBeef to engage with SMEs?

The importance of SMEs involvement in the ProSafeBeef project is to ensure that innovations and new technologies get a chance to work in industry.

What do you most enjoy about your involvement in ProSafeBeef?

I most enjoy being part of the research and development projects, this enables

Ensors to provide the practical environment to carry out trial and development work for universities, and also having the opportunity to meet with colleagues in different locations within Europe.

What have you learned so far from your experiences of the ProSafeBeef project?

I have learned that work on any new project within the meat industry takes a lot of time and commitment. The research teams are very dedicated people.

What is your vision of how ProSafeBeef can impact upon the beef industry? What can the project do to help your SME business?

I think the biggest impact that a single ProSafeBeef project could have on the beef industry is the novel approach to pre skinning hide treatment that is being developed at the University of Novisad. A hygienically produced carcass is paramount.

What is likely to be the long term legacy of the ProSafeBeef project (beyond the 5 year funding period)

The long term legacy of the ProSafeBeef project I hope will be safer beef production throughout the industry, not just in beef plants that chose to be part of the project.



Staff at Ensors Gloucestershire Limited

Greifen-Fleisch

Mr Walter Kienast, Managing Director of Greifen-Fleisch talks about the company's work with ProSafeBeef.



<http://www.greifen-fleisch.de/>



Mr Walter Kienast

Tell us about your SME business. What do you do? What is the history of your SME?

The origin of our company, the slaughterhouse, was founded

back in 1889. The today Greifen-Fleisch GmbH (GFG) started as a private limited liability corporation in 1992. However as a meat processing factory we can look back at a longtime tradition under the rules of the Pomeranian butchery. As a modern, EU-licensed enterprise for the production of meat products and sausages (EV-Nr. 1360), the Greifen-Fleisch GmbH satisfies the high standard EU directives and the newest demands concerning environment protection and hygiene exemplarily.

Our enterprise works under the directives of the quality management system IFS International Food Standard (Version 5). In this QMS a system of operational self-control (HACCP) is integrated. All top-quality products from our house have been rewarded with DLG prices. Every year since 2002 our company has been granted the "Price of the Best" in silver, and since 2006 in gold for more than 15 years of outstanding product quality.

How did you/your SME become involved in ProSafeBeef?

In collaboration with the FBN Dummerstorf (partner 10) GFG produced from the carcasses of bulls special



sausages like German corned beef, tea sausages and Feuerli (a hot small sausage). The recipes for the sausages have been developed and the sensory analyses have been done before starting the production. From each carcass, one sample of the three different sausages was transported back to the FBN. The FBN analysed all sausages for the fatty acid composition and CLA isomers contribution.

What is your role within the ProSafeBeef project? Who do you work alongside?

Greifen-Fleisch GmbH is the SME of partner 10 (FBN). The enterprise GFG develops new innovative products for nutrition-conscious consumers.

In your view, why is it important for ProSafeBeef to engage with SMEs?

The advantage of this collaboration in the EU project is the high flexibility of SMEs and the closed cooperation with scientists. They can react very fast on the research and market demands.

What do you most enjoy about your involvement in ProSafeBeef?

The aim of the EU project to improve the nutritional and eating quality of beef and beef products while assuring safety for the consumer is very important. Our enterprise has the same production aims. The exchange of ideas, scientific results and knowledge at the EU

meetings and the discussions with our partner FBN are very fruitful and helpful.

What have you learned so far from your experiences of the ProSafeBeef project?

For us it was new to know that there are different methods to accumulate n-3 fatty acids or CLA isomers or to increase the vitamin contents in the muscle of bulls, steers or heifers.

What is your vision of how ProSafeBeef can impact upon the beef industry? What can the project do to help your SME business?

The production of beef with enhanced beneficial fatty acids is very important for human nutrition. After the successful completion of this EU project we will continue with the production of novel and functional beef products. Our enterprise was already dealing with enhancing the n-3 fatty acid concentration in pastries from pork more than 10 years ago.

What is likely to be the long term legacy of the ProSafeBeef project (beyond the 5 year funding period)?

The long-term result of the collaboration in this EU project will be the ambition of the production of healthy beef products from cattle produced under natural conditions by feeding special rations to the animals.

Upcoming events: dates for the diary

ProSafeBeef 4th Annual General Assembly

ProSafeBeef 4th Annual General Assembly, Aberystwyth, Wales, UK on the 6th to the 7th of October 2010. ProSafeBeef will host a conference on "Improving the Quality and Safety of Beef and Beef Products for the Consumer in Production and Processing" overviewing the latest research findings emanating from the from the project. The conference will include oral and poster presentations illustrating recent outputs from ProSafeBeef in the areas of risk assessment, pathogen control, novel beef products and processes and consumer attitudes to beef safety and novel technologies. The conference will also include a half day industry focused workshop showcasing technologies and innovations stemming from the project, with presentations, practical demonstrations, and an opportunity for stakeholders to meet directly with the researchers. For more information and registration details/forms please go to www.prosafebeef.eu.

Langford Food Industry conference

The 13th annual Langford Food Industry conference "Nutrition and climate change: major issues confronting the meat industry in 2010" will be held on the 30th June and 1st July 2010. The conference aims to present a balanced view on the two main issues confronting the meat industry: what are the implications of meat consumption and production for the health of consumers and the environment? Eminent speakers will examine the evidence on nutrition and climate change. We will also hear what steps are being taken to ameliorate the problems, how meat consumption is changing in Britain and other countries and how meat contributes to our culture. For further details see: <http://www.vetschool.bris.ac.uk/langford/contedu/CPD2010/Langford-food-ind-2010.pdf>

International Congress of Meat Science and Technology (ICoMST) 2010

The 56th ICoMST meeting will be held from the 15th–20th August 2010 in Jeju, Korea. Latest developments in meat science and innovative technologies will be presented and international issues which impact the future of meat will be discussed. The main theme of the congress is "Meeting of the East and West in Meat Science and Culture". Declan Troy will give a keynote lecture entitled "The consumer perception of meat quality and the role of science in the meat industry". For further details see: <http://www.icomst2010.org/>



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Upcoming events: dates for the diary

New issues in meat quality in cattle

The 61st Annual Meeting of the European Association for Animal Production will be held from the 23rd–27th August 2010 in Heraklion on the island of Crete. The theme of the Meeting is “Impact of food demand, quantity and quality wise, on Animal Production”. Dr Jean-François Hocquette of INRA-Centre de Clermont-Fd/Theix, will be hosting a session entitled ‘New issues in meat quality in cattle’, on Monday 23rd from 8.30am–12.30pm. For further details see: <http://www.eaap2010.org/>

22nd International ICFMH Symposium, FOOD MICRO 2010

The **22nd International ICFMH Symposium – FOOD MICRO 2010**, “Microbial Behaviour in the Food Chain”, will take place at Bella Center, Copenhagen, Denmark from the 30th August to the 3rd September 2010. Special emphasis will be on how microbes respond to changes in their environment and the congress will address applied and fundamental aspects of microbial behaviour in: Food fermentation and spoilage; Adverse environments; Risk assessment; Food production; and the intestinal tract. The event will include a joint EU Program Seminar on 3rd September 2010. The seminar will be structured around presentations highlighting scientifically areas and results from PathogenCombat, ProSafeBeef and BioTracer, and will take

place in the Faculty of Life Sciences (KU-LIFE), University of Copenhagen, Thorvaldsensvej 40, 1871 Frederiksberg C between 8:30–16:15. The registration deadline is the 15th of July 15, 2010 with a registration fee of 50 Euros. For full information, registration details and the final programme please go to <http://www.foodmicro.dk/index.php?id=3874>.

IPA, the World Food Process and Packaging Exhibition

IPA, the World Food Process and Packaging Exhibition, October 17th to 21st, 2010 – Paris-Nord Villepinte Exhibition Center – NEW Hall 7.

The IPA promotes responsible production and sustainable development with this specific forum focusing on the latest scientific research and innovations in

these areas. The IPA brings industry and research together through a programme of special events dedicated to foresight and innovation as an opportunity for direct engagement between leading researchers and food industry professionals looking for new solutions. On Tuesday the 19th of October there will be an Innovation and Research Forum highlighting new technological advances in food processing and packaging emanating from EU Food research projects *ProSafeBeef*, PathogenCombat, Truefood, Icare, and FRISBEE. For more information please go to the new IPA 2010 website: www.ipa-web.com or contact the IPA Communication/Press Service: Valerie.dissaux@comexposium.com.

ProSafeBeef, Advancing Beef Safety and Quality through Research and Innovation: European Framework Programme 6: (FOOD-CT-2006-36241)

More Information

For more information on *ProSafeBeef* please visit our website at www.prosafebeef.eu or contact Robert Mooney, Project Manager, at robert.mooney@teagasc.ie.

ProSafeBeef is an Integrated Project supported under the 6th Framework Programme of the European Union.

It involves 41 leading research and industrial organisations working in 18 different countries.

ProSafeBeef is a five year project which commenced on March 1st 2007.



Ashtown Food Research Centre

