"Connecting with the final consumer is essential for sustainability"

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Introduction

In the livestock sector many of the stakeholders work within their confined areas without realising the real objective of their activities. The production of safe food for humans should be a goal for all engaged in agri-food activities and those working in animal genetics, in feed mills and rearing cattle on farms are as much in the food business as those operating processing facilities or running hotels and restaurants. However producing safe food is not the final end game. Food is the fundamental fuel for human health and "you are what you eat" is a true dictum. Diet related disease and obesity related health problems in humans are major public health issues. Human nutrition is key to health so the final objective for the agri-food sector should be to improve human health and all engaged in activities along the food chain should consider themselves in the "human health business". Doctors and nurses are not in the health business; rather they are in the sickness business.

Increasingly primary agricultural output is coming under the spotlight, in both the scientific and general media, for contributing to human health problems. Headlines like "red meat causes cancer", "dairy products clog up your arteries" now join those of "superbugs on farms", to undermine consumer confidence in some of the output from the agri-food sector. We should be focusing on the points of differentiation, in terms of healthy nutrition, that Irish grass fed beef has over the beef of some of our competitors.

In addition to the nutrition and health issue there are four other major areas requiring attention if consumer confidence is to be maintained and these are i) food safety, ii) animal welfare, iii) animal health and iv) the adverse environmental impact of modern farming practices. Beef farmers need to be proactive in addressing all of these or they will help drive consumers towards plant based diets or towards a reduction in the amount of beef in their diets.

Our playing field

The Irish Beef sector is well placed to address all of these consumer concerns and effectively addressing them should give us a competitive advantage in the global market place. We should stop talking about the "Green Image" of Ireland as unlike other countries where the cattle are never outside, most of our animals have a period out on grass. Pictures of animals on lush pasture is a "Green Reality" in Ireland rather than a photo-shopped picture for marketing purposes that is used by some of our competitors.

BSE is fast becoming a distant memory but it clearly highlighted the consequences

of a food safety crisis on an entire sector and it triggered a dramatic reform of the EU food regulations and oversight of the food chain. It also demonstrated that protecting consumer confidence is as important as protecting consumers' health.

For Ireland the minor game is the domestic market but the senior game is on the global stage. In many countries, and even in Ireland, there is a huge disconnect between urban consumers and how their food is produced. Animal welfare is increasingly becoming an issue with consumers. The recent, and on-going, well-resourced 'Go Vegan' campaigns in Ireland should be a salutary lesson to all in the livestock sector that there is no room for complacency and providing ammunition for adverse publicity should be a treasonable offence. A You Tube video showing cruelty to cows in the lairage of a slaughterhouse in the USA led, in February 2008, to a meat processor being forced by the USDA to make the largest meat recall in the history of the USA: 143 million lbs. of ground mince.

Animal welfare is more than an issue of consumer concern as although genetics creates the potential and nutrition delivers on it, poor animal welfare can undermine any gains from the former two. Good animal health status is essential for safe food and stressed animals are more prone to disease and will perform sub-optimally. Often farmers complain about the amount of rules and regulations that they are subjected to but perhaps if they realised that a consequence of non-compliance might be that people might fall ill, or worse, they might find them more acceptable. For example the clean cattle policy is designed to stop meat becoming contaminated with VTEC, a group of bacteria found in cattle faeces that, causes no problems in cattle but, can cause severe illness in humans including kidney failure.

With the arrival of the digital revolution where the conventional media is now feeding off the social media and vice versa there is huge reputational risk associated with adverse publicity. Information, or misinformation, can be globally disseminated before the accuracy of a story can be verified.

The food chain

The food chain is increasingly complex and consumers have been naively convinced that it is a straight line with the words "farm to fork" written into the food legislation in many jurisdictions. The food chain is now more like a maze and even at farm level inputs such as agri-chemicals, animals remedies, animal commodity feed and micro-nutrients are globally sourced. For example, much of the vitamins and minerals currently added to animal rations in the EU currently come from China. This illustrates that we truly live in a global village and a huge interdependency exists between nations when it comes to protecting the food supply. The health of country's citizens often depends on controls in operation in other jurisdictions completely. With our grass-based systems we have a good bit of control over the feed inputs but we also have to have confidence in the non-forage rations we feed. The Dioxin incident in 2008, resulting from contaminated bread

meal, which precipitated a global recall of Irish pork, emphasizes the importance of safe feed.

There can be no room for shoddy operators as the regulatory surveillance scientists are now able to finger print the bugs with whole genome sequencing and track them back from sick people all the way to the farms of origin. The analytical chemists are now capable of detecting contaminants at parts per billion, and even parts per trillion, so residues in meat, if they are there, they will be identified. If contaminated Irish beef, or beef products, are found in one of our export markets it won't auger well for our reputation.

The more steps in the food chain, the more opportunities that exist for things to go wrong and the more people that are involved, the more likely that one could be a shoddy operator or worse still a criminal. The 2013 EU horsemeat scandal highlighted the vulnerability of our current supply chain and exposed weakness that can easily be exploited by those motivated to engage in criminal activity. This incident highlighted how beef farmers are vulnerable to, and how their commercial viability can be threatened by, illegal activities completely outside their control further along the food chain. Brexit could bring us back to a situation where the UK begins to import more South American beef and with our porous border some of it could come south and masquerade as Irish beef. Every country of origin labelling scandal uncovered undermines the entire beef sector in the eyes of consumers which has commercial consequences for Irish beef farmers. The Bord Bia quality assurance logo, if it's well policed, will help in the retail sector but the food service sector has proved difficult to police in the past.

Reducing the microbial load entering the food chain by implementing herd health initiatives reduces the challenge on food safety management systems and controls in meat processing plants, commercial catering establishments and in domestic kitchens. Intensification of farming systems creates increasing opportunities for disease spread so as herd sizes increase management competencies must increase also. There is a role for the use of antimicrobials and other pharmaceutical agents in livestock production, but they are not a replacement for good husbandry practices and all stakeholders must be aware of when, and how, they should be used appropriately to avoid residues in the food chain and the generation of organisms resistant to antimicrobials.

In addition, everyone needs to be aware of the need for biosecurity measures on farms as the consequences of outbreaks of non-zoonotic diseases which, although they pose no risk to human health, can disrupt the beef trade and damage both commercial interests and consumer confidence (e.g. foot and mouth disease, bluetongue etc.).

Changing consumer lifestyles are creating a demand for more ready-to-cook, and ready-to-eat meals, and the distance to the final consumer from the farms of origin

is getting longer each year. Chicken and bacon have stolen a march on beef in the convenience race.

Life stage nutrition is well advanced by animal nutritionists where for example a pig going for slaughter at 150 days could have eaten 7-9 different diets tailored for the exact nutrient requirement for his life stage e.g. creep feed, first and second stage weaner rations and several grower and finisher rations. In humans, babies are the only life stage that has their growth monitored and receive exactly what they need, breast milk or infant formula. Pre-school infants, pre-pubescent children, teenagers, adults of reproductive age, pregnant and lactating females, the middle aged and the elderly all have very different macro and micronutrient requirements yet they don't have a customised diet. Human nutritionists are beginning to segment the population along their dietary requirements and the beef sector should respond.

The dairy industry is not a milk and butter industry but is an ingredients industry, which generates a broad range of products. The beef industry however has fewer offerings and is focused on primal cuts, mince, offal and hides. But the beef industry could learn lessons from the dairy sector which is capitalising on the increased demand for protein from the infant formula, sports nutrition and nutrition in the elderly sectors. Whey, which had been a waste product of cheese production, and used to be destined for pig rations, has now become highly valuable as a source of bioavailable protein. However the amino acid profile of bovine blood for example far excels that of whey yet the beef sector has yet to capitalise on this increased demand for bioavailable protein.

Nutrition in the elderly is one area where the beef sector could plant where the dairy sector has ploughed. As we get older, we lose muscle mass and are not as robust explaining how you may notice that your parents become smaller as they age. This muscle loss is a natural physiological phenomenon, known as Sarcopenia, and it affects 30% of individuals over 60 years old and more than 50% of those over 80 years old. It contributes to frailty and loss of independence, and increases the risk of falls and fractures, thereby threatening healthy ageing. If you could maintain muscle mass, you could slow down the aging process and a healthy diet will achieve more in this regard than any amount of expensive cosmetics.

Higher dietary protein intakes and a modest amount of exercise are associated with the preservation of skeletal muscle mass and the reduction of effects of age-related sarcopenia. Many older people are not consuming adequate amounts of easily digestible protein so there is an opportunity for the beef sector to contribute to healthy aging. It shouldn’t be too hard to sell a product that slows down the aging process!

The impact of red meat, and derivative of red meat, on the nutritional quality of the human diet via its contribution of protein and key micronutrients is grossly under-appreciated. There are challenges for the Irish beef sector but to survive and prosper it needs to address consumer concerns, respond to consumer demands and market our strengths.