

## Beef Quality Assurance “Down Under”

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*Editor’s Note: This article is adapted from a briefing paper of the Midwest Agribusiness Trade Research and Information Center (MATRIC), summarizing the findings of an ISU team visit to Australia and New Zealand to study the countries’ quality assurance systems in beef production and marketing. The full text of this paper, “Quality Assurance “Down Under”: Market Access and Product Differentiation,” MATRIC Briefing Paper 02-MBP 1, is available at [www.matric.iastate.edu](http://www.matric.iastate.edu).*



Australia exports approximately 60 percent of its beef production and New Zealand exports 85 percent. Because they depend on a diverse set of export customers, these countries are developing quality assurance programs that differentiate their beef in domestic and global markets and assure that the product is safe and meets individual customers’ needs. Whereas most U.S. producers think of quality in terms of USDA grades (Prime, Choice, Select), Australian and New Zealand supply chains strive to meet the mark of quality as defined by their customers. To break out of the commodity market, supply chains in the two countries typically provide additional information about their products and strive to differentiate them from those of their competitors.

Australia has taken an industry approach to quality assurance by investing producer “checkoff” funds and processor contributions to develop tools and make them available to all Australian supply chains. Quality assurance objectives are clearly identified:

- Demonstration of food safety, including a national identification system and DNA sampling for trace-back
- Proof of quality for export and a long shelf life

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- Determination of customer preferences

The quality assurance system in Australia is voluntary and is led by national government agencies and a single industry entity, Meat and Livestock Australia. Different quality assurance programs require different levels of documentation, depending on market needs. The Australian Lot Feeder’s Accreditation (ALFA) program, for example, is a significant element of the overall program. Because grain feeding is not the norm in Australia, the ALFA program quantifies the term “grain fed” and assures Japanese buyers of the extent that grain feeding was used.

Control systems in Australia consist of a voluntary quality protocol called Cattle Care, used for management in conjunction with the Australian Quality Inspection Service for control of exports to ensure food safety. In response to organochlorine residues found in meat in the 1980s, quality control concepts such as ISO (International Organization of Standardization), Codex Alimentarius, and HACCP (Hazard Analysis Critical Control Points) were used to create Cattle Care. Approximately 25 percent of all Australian herds are raised under this system. AusMeat, an Australian producer-packer consortium, audits the Cattle Care auditors to ensure that standards are being maintained. This system has been expanded to include other species and crop farm usage as well.

Cattle Care meets the ISO 9000 requirement that products be identified and traced to the degree necessary to maintain product integrity using existing infrastructure. For example, the National Livestock Identification Scheme is a trace-back system developed and operated by Meat and Livestock Australia that uses radio-frequency identification tags and a single national database to provide a real-time, online system of individual animal identification. Demand for this program is driven by the European Union, which would not renew Australian export access without a trace-back system. If Japan ever requires a comparable system for imported beef, Australia’s infrastructure is already in place. Other systems, ranging from a tail tag system to radio frequency identification tags with serial number coding, also are in use. In addition, a National Vendor Declaration form is required with each lot of cattle sold, providing information about the seller and production methods.

The Meat Standards Australia grading system is a voluntary quality

assurance program based on research involving 19,000 consumers. It uses a series of objective pre-harvest and post-harvest measures or interventions (for example, cooking and aging) to predict eating satisfaction (such as tenderness, juiciness, and flavor). Meat is graded on a primal or subprimal basis, so it is possible that cuts from the same carcass will have different grades and that a cut could improve in grade based on intervention. Packers, retailers, and restaurants that use the Meat Standards Australia system and make the “guaranteed tender” promise are audited, and blood samples for DNA analysis are taken from each carcass (while it is still identified for the seller) for trace-back on an as-needed basis. The Meat Standards Australia grading system is more complex than the USDA system, provides more information to the buyer and seller, and places greater emphasis on eating satisfaction.

The purpose of these quality assurance programs is to enhance the integrity of Australian beef and its value to the end user. One commonality is that the programs are built with industry and government cooperation but are voluntarily adopted by individual producers or processors. Perhaps most importantly, this investment in expensive research and development of infrastructure allows smaller supply chains to adopt the systems and differentiate their products in the marketplace. In addition, because the programs are voluntary rather than mandatory, supply chains can separate from the commodity market using tangible information and technology to add value to their products.

Unlike the Australian system, quality assurance programs in New Zealand are led primarily by processors based on private entity participation. New Zealand virtually eliminated government subsidies to agriculture in the mid 1980s and has since taken a more individual approach to production and marketing. Firms are encouraged to develop and implement quality assurance programs with their producers and suppliers to meet mar-

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ket demand. Because the quality assurance programs are unique to the processor and some switching costs are involved, New Zealand producers are loyal to their chosen processor.

Government inspectors inspect plants to assure safety and wholesomeness but do not appear to be heavily involved in quality assurance program development or research. New Zealand plants are inspected by each importing country and certified to that country’s standards; in addition, they are often inspected by individual companies to which they sell. If a processor has customers from both the United States and Europe, that processor also has the programs required to ensure access to both markets.

The New Zealand meat industry has many small beef or beef/lamb processing plants, but four firms (two of which are cooperatives) are dominant. An example of a private quality assurance program is that of Richmond, Ltd., a stockholder-owned company that is one of the four largest meat processors and the largest beef processor in New Zealand. The Richmond Farm Assurance program allows participating producers to receive a small premium for selling their product to Richmond. Richmond pays independent auditors to conduct on-farm audits. In addition, both plant and on-farm audits are

conducted by Richmond’s large customers, including Marx and Spencer from the United Kingdom and McDonalds and Burger King.

Because New Zealand firms must shoulder the entire burden of investment in development costs, the meat industry may be slower than its Australian counterpart to develop such programs. This may explain some of the differences noted between the two countries’ quality assurance systems. Participants in the New Zealand meat industry have just voted to require identification for traceability purposes in beef and venison. At the same time, New Zealand processors look to their major export customers for minimum requirements for market access, and company-specific quality assurance innovations allow their supply chains to distance themselves from the commodity market.

Australia and New Zealand each have multiple export customers, often with unique demands. Documenting and proving production processes, expected eating experiences, and the unique features of beef products to diverse consumers is critical for these two countries to compete in multiple markets. To a degree, the value of using a quality management system to gain competitive advantage in a specific industry depends on the amount of differentiation of such things as perceived product quality and integrity that is possible among players. In mature industries such as processed meat, even a small differentiation can be enough to provide a competing organization with a decided advantage.

Beef production and marketing are more standardized in the United States than in either Australia or New Zealand. U.S. exports account for less than 10 percent of production, and U.S. consumers largely still trust the USDA to ensure beef safety and to provide quality indicators using quality grades. Consequently, firms have less incentive to differentiate their products based on safety (if it is all safe) or quality (if it is all graded the same). Generally, differ-

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## Meet the Staff: David Hennessy

Professor David Hennessy joined the faculty at the Center for Agricultural and Rural Development (CARD) in the summer of 2001 to provide research on industrialization in agriculture and the role of information in farm-level production decisions and in the provision of safe food. His research also investigates systemic risks in the agricultural sector.

Having received his Ph.D. in agricultural economics at Iowa State University in 1993, he returned to his alma mater as an assistant professor in 1996. David spent the intervening years as an agricultural economist and assistant professor at Washington State University, a time he remembers fondly as having provided him with “a lot of perspective on the profession and on academia in general.”

David’s career in agricultural economics began in his native Ireland at the University College Dublin, National University of Ireland. From a young age, he was interested in organization, in how things function—or don’t function. “It seemed to me to be amazing that the world worked at all when no one seemed to know much beyond an operational level about how things, in general, worked.” He decided to study agricultural economics because it addresses the issues that are important to rural communi-

ties and to farmers, like his father, who still farms part-time.

The autonomy of the farming lifestyle was something David always appreciated, and after 15 months working for the Irish government, he left Ireland for the greater freedom of academic pursuits, enrolling at Iowa State. Along with his father, his mother, two brothers, one sister, two nieces, and two nephews reside in Ireland.

David says he joined CARD because “it is the premier agricultural and natural resources academic research center at a land grant university.” “It has managed to achieve, on a continuing basis,” he says, “the difficult task of combining innovative research with a program of contribution to current and pending policy debates.”

David’s most recent research at CARD explores food production systems that involve many interacting stages and two or more decision makers. He and his co-authors found that leadership by one or more firms in communicating about various actions throughout the production process could bring about an increase in overall food quality. The study suggests that strict control of inputs can raise quality levels of products; however, in practice, many inputs may be difficult for firms to regulate. In addition, the



David Hennessy

authors conclude that because there may be no private incentive for firms to take a leadership role, ultimate liability for breakdowns in a food system may have to be assigned through legislative action.

The Iowa State University College of Agriculture awarded the “Early Achievement in Research” distinction to David for the 1999-2000 academic year. His research is often published in the most prominent professional journals. In addition to his research efforts, he teaches courses in commodity market analysis, business economics, agribusiness management, demand and supply systems, and decision analysis. When he’s not busy with the demands of teaching and research, he fills his recreational time with running, walking, swimming, reading, and movies. ♦

### *Beef Quality Assurance “Down Under” continued from page 5*

entiation is achieved through the sorting of commodity beef for different overall values rather than the production of a non-commodity product. Most U.S. customers are satisfied with the existing commodity system, and risk-averse producers are reluctant to adopt and/or document production practices that increase cost without some assurance of higher revenues in return. Processors continue to rely on post-harvest treatment of commodity

beef to add value by sorting, packaging, preparing, or advertising for changing consumer needs. They need only a safe raw product.

Slowly, and from a small base, some individual supply chains in the United States are breaking away from the commodity model. Perhaps the closest system the United States has to the Australian system is the USDA Process-Verified Beef program. Currently, the program is not widely used but it could be adopted by several supply chains. New differentiated supply chains are focusing on production practices

(“natural,” for example) or genetics and may require additional documentation. Likewise, export markets may require additional information about products before they allow access. These changes may provide U.S. producers with economic incentives to follow the lead of Australian and New Zealand systems. ♦

*John Lawrence is a livestock economist and director of the Iowa Beef Center at Iowa State University. More information about the Iowa Beef Center is available at [www.iowabeefcenter.org](http://www.iowabeefcenter.org).*