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Creating Value-Added Opportunity for the Beef Industry and Rural Communities of Illinois

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Innovative, value-added agriculture initiatives generate sustainability for agriculture producers by increasing farm incomes and rural economic development for local communities. The livestock industry has been a source of value-added income for independent agriculture producers for many generations. A vibrant livestock industry can help sustain the viability of rural communities by providing economic stability.

Cattle are raised in all fifty states and are a significant economic driver in nearly every county and rural community in the nation. Direct and indirect employment in, or related to, the production and processing of beef supports over 1.4 million full-time-equivalent jobs in the United States. Nonmetropolitan economies across the U.S. benefited from \$40.76 billion in total gross receipts from the sale of cattle and calves in 2000, accounting for 21 percent of all agricultural receipts and making the beef industry the single largest agricultural enterprise (Otto and Lawrence 2002a).

From a macroeconomic standpoint, the beef industry provides an estimated \$188.4 billion of direct and indirect economic activity throughout the U.S. economy (Otto and Lawrence 2002a). The livestock industry in Illinois created \$2.7 billion in revenue and directly employed more than 37,000 individuals full-time in 1999. The top ten Illinois beef producing counties, as measured by cattle numbers, are predominantly rural (**Table 1**); however, when measured by the total economic output² from the meat and dairy industry, the top ten Illinois counties are located in both rural and

urban vicinities (**Table 2**). As illustrated by these figures, the livestock and meat industry plays a significant role in both rural and urban economic stability throughout Illinois.

Despite this economic impact, the reality facing the U.S. beef industry, according to the National Cattlemen's Beef Association (NCBA) (2003), is that per capita consumption of beef in the U.S. has declined substantially since the early 1980s. The profitability of small to medium size independent cattle producers has been negatively impacted by the decline in live cattle prices over this period of time. Decreased live cattle prices create a lack of demand stability in feed commodities, such as corn and soybeans, which are the primary crops grown in Illinois and the Midwest (Otto and Lawrence 2002a). Even so, the demand for U.S. beef has gradually stabilized and increased since the early 1990s because of increased export marketing (NCBA 2003). This is due to the efforts of the NCBA and state associations, such as the Illinois Beef Association (IBA), that use check-off dollars for beef production.

Livestock produced in Illinois has declined during this timeframe for many reasons, but predominantly due to decreased profit margins for independent producers and environmental issues associated with urban sprawl. Declining livestock numbers can negatively impact rural communities by influencing the viability of grain elevators, feed and seed companies, equipment dealers, farm supply stores, community banks, and the ability of rural communities to maintain essential public services and schools (**Table 3**).

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Table 1. Top Ten Illinois Counties in All Cattle Inventory for January 1, 2002

County	Cattle Numbers
1. Jo Daviess	70,400
2. Stephenson	56,300
3. Carroll	51,700
4. Clinton	51,400
5. Henry	48,700
6. Adams	44,000
7. Ogle	39,300
8. Hancock	36,500
9. DeKalb	33,300
10. Whiteside	32,200

Source: Illinois Agriculture Statistics Annual Report 2002.

Table 2. Top Ten Illinois Counties: Meat and Dairy Complex Total Output

County	Output Total (Million \$)
1. Cook	\$4,489.70
2. Rock Island	\$938.43
3. Cass	\$695.36
4. Ogle	\$547.12
5. Kane	\$494.54
6. Warren	\$457.54
7. Du Page	\$428.33
8. Winnebago	\$397.34
9. Stephenson	\$341.71
10. Lee	\$251.44

Source: Goldsmith and Kim 2002.

Table 3. Economic Effects Associated with the U.S. Cattle Industry, 2000

	Total Sales (Million \$)	Labor Income (Million \$)	Value Added (Million \$)	Jobs
Agriculture	\$51,308	\$9,510	\$13,379	348,332
Mining	1,179	316	757	5,025
Construction	2,413	1,329	1,398	35,464
Manufacturing	66,050	9,452	13,048	258,688
Transportation Utilities	12,011	3,493	6,830	75,576
Trade	15,926	6,705	11,342	229,642
Financial, Insurance, Real Estate	17,999	4,054	13,174	101,027
Services	19,913	10,891	12,952	348,098
Government	1,658	705	807	19,286
Total	188,457	46,455	73,687	1,421,138

Source: Otto and Lawrence 2002b.

Increasing Value-Added Profitability Through Source Verification

While embarking on value-added initiatives, future-minded livestock producers are expanding the horizon of their operations and making a positive impact on their profit margin while contributing to the revitalization of their rural communities. These value-added initiatives involve breeding and raising cattle to meet consumer preferences and providing this documentation at the retail counter. In order to provide this desired information, challenges for cattle producers who do not have source verification management practices in place include implementing a system which tracks animals throughout all segments of beef production. This ability to trace livestock involves knowing the past performance, health, and genetics of an animal from birth, through the feeding stage, to the packer, post harvest, and ultimately on to the consumer.

The potential Country of Origin Labeling (COOL) regulations, set forth by the 2002 Farm Bill and

implemented by the USDA, requires a detailed animal identification and recordkeeping system to verify the source and ownership of animals as they progress through each phase of production.

Source verification within the agriculture industry could bring value-added benefits via the maintenance of an animal's health and performance history. By capturing premiums associated with a specific trait, production method, and origin verification, increased profits could be ahead for future-minded Illinois cattle producers. Source verification should allow progressive beef producers to take a proactive and value-added approach to their marketing scheme, rather than a reactive approach.

² This impact analysis was determined by the total economic output and employment associated with the production and processing within the meat industry (Goldsmith and Kim 2002).

Country of Origin Labeling (COOL)

The increased need for source verification associated with the federally implemented COOL regulations will challenge the livestock industry. The logistics of this regulation are monumental and yet to be determined. Initially mandated to take effect on September 30, 2004, funding for COOL was withheld in June 2003 to delay its implementation so as to determine a feasible approach for compliance by U.S. livestock producers and the meat industry. The COOL regulations will require all beef, pork, and lamb sold at the retail level to carry a label verifying that the product comes from an animal born, raised, and slaughtered in the United States. This proposed regulation is a result of recent concerns about bioterrorism and the potential devastation of a costly disease outbreak among cattle in the U.S. such as Foot and Mouth Disease or Bovine Spongiform Encephalopathy (BSE), commonly known as Mad Cow Disease.

The meat packing industry will require livestock producers to provide the following:

- Third-party verified documentation of the country where purchased livestock were born and raised
- A signed legal affidavit with each load of livestock stating there is a third-party verified audit trail in place that identifies the country where the livestock in each load were born and raised

- Access to records to allow random producer audits to satisfy the customers of meat packers, verifying that an accurate audit trail is in place and verified by an acceptable third party
- Protection from liability incurred as a result of producer noncompliance (COOL Standards 2003).

Considering the consequences of a major animal health epidemic and other negative implications associated with not knowing the origin of the livestock, the COOL regulations should ensure efficient and timely eradication measures. The European Union (EU), United Kingdom (UK), Canada, New Zealand, Australia, and Uruguay have similar standards in place for their retail food industry. Countries that export beef products to the EU and the UK are required to have mandatory source verification to comply with these standards (Golden and Shaddock 2000).

The poultry and food service industries, such as the restaurant trade, are exempt from compliance with COOL regulations. At the retail level, COOL regulations hinder the USDA grade labeling of imported meat products. More detailed information about the mandatory USDA COOL regulations is available at the USDA's Agricultural Marketing Services website: <www.ams.usda.gov/cool>.

Consumer Response to Country of Origin Labeling (COOL) Regulations

Potential value-added revenue earnings resulting directly from impending COOL regulations depends on consumer approval and, ultimately, their willingness to pay more for this information. Researchers at Louisiana State University (Schupp and Gillespie 2000) surveyed 2,000 Louisiana households to determine the acceptance of mandatory COOL of fresh beef at the retail level. The researchers found that nearly 93 percent of the respondents approved of mandatory labeling of beef in grocery stores. Eighty-eight percent of the consumers in this study also wanted restaurants to identify the source of the beef served. Eighty-six percent of respondents said that U.S. produced beef is superior to imported meat, while the remaining 14 percent of respondents stated that U.S. beef is equal in quality to imported meat (**Table 4**).

In 2002, a study to determine U.S. consumer willingness to pay for source-verified beef was conducted by Colorado State University and the University of Nebraska–Lincoln (Umberger, Fuez, Calkins, and Sitz 2003). Consumers from Chicago and Denver participated in an experiment to determine the amount they were willing to pay for “Guaranteed USA: Born and Raised in the U.S.” labeled beef. Demographic data on gender, socioeconomic status, household statistics, and COOL preference were also collected. The results were positive in that 73 percent were willing to pay an 11 percent and 24 percent premium for steak and hamburger, respectively, with a USA label. The qualitative responses from participating consumers included food safety concerns, preference for added information at the retail counter about the source of the product, a desire

to support U.S. producers, and a belief that U.S. beef was of higher quality. Through a validated auction experiment, the research concluded that Chicago consumers were willing to pay \$0.48 and \$0.36 in premiums for USA labeled steak and hamburger, respectively (**Table 5**).

Table 4. Reasons for Consumers Rating United States (U.S.) Beef Superior or Equal to Imported Beef and for Restaurants Required to Label, 1999.

Response	Percentage
U.S. beef rated superior to imported beef	86.0
Concern with purity of imported beef	18.5
Concern with safety of beef	21.3
Concern with imported beef carrying disease	19.1
U.S. beef of higher quality than imported beef	41.1
U.S. beef rated equal to imported beef	14.0
U.S. and imported beef often mixed	23.9
Both U.S. and imported beef of equal quality	13.0
U.S. government assures wholesomeness of both U.S. and imported beef	63.0
Restaurant beef should be labeled by country-of-origin	87.9
Won't patronize restaurants handling imported beef	31.0
Will eat only U.S. beef on the menu	54.2
Would patronize restaurants handling imported beef	5.3
Other	9.5

Source: Schupp and Gillespie 1999.

Combining the U.S. origin label with farm production information such as the “all natural” status and animal welfare practices used, in conjunction with the state, town, and perhaps even the producer’s name on a branded beef

product, should potentially increase consumer confidence and their willingness to pay a premium for the additional information.

With recent reports of Mad Cow Disease and Foot and Mouth epidemics in foreign countries, along with concerns over bioterrorism since September 11, 2001, source-verified beef that has been born, raised, and slaughtered in the U.S. should also likely increase consumer confidence. The demographic and socioeconomic status of consumers may ultimately impact added premiums gained as a result of the COOL regulations.

Table 5. Surveyed Populations Willing to Pay Premiums for Country-of-Origin Labeling of Steak and Hamburger

	Steak			Hamburger		
	Premium ^a \$/lb	% Premium	% Population ^b	Premium ^c \$/lb	% Premium	% Population ^b
Chicago	\$0.48	12.0%	67.4%	\$0.36	24.3%	67.4%
Denver	\$0.36	9.1%	83.0%	\$0.36	24.3%	81.1%
Overall	\$0.42	10.5%	72.9%	\$0.36	24.3%	71.8%

^a Premium is the most that a participant would be willing to pay per pound in addition to the \$4.00/lb of steak price.

^b Percent of the population willing to pay a premium for country-of-origin labeling of steak or hamburger.

^c Premium is the most that a participant would be willing to pay per pound in addition to a \$1.50/lb hamburger price.

Source: Umbarger et al. 2003.

Retail Beef Branding Opportunities

As a collective effort among independent cattle producers, alliances and New Generation Cooperatives (NGCs) have been formed across the U.S. to capture a larger portion of the value from cattle in the post-farm marketing ladder. By promoting their interests beyond the farm gate, cattle producers have provided themselves and their community with more financial viability than simply accepting the live market bid at a local livestock auction. Profit margins are expanding as cattle producers move from being production specialists to marketing specialists. They are developing astute business skills and are targeting consumer preferences while adapting their production schemes to meet those preferences. Cattle producers are realizing higher profit margins because consumers have shown a willingness to purchase beef products of higher quality and consistency at a premium.

Consumers consistently make food purchasing choices with specific lifestyles in mind. More sophisticated and health conscious consumers express a growing concern

about the origin, quality, and safety of the food purchased and consumed. High-end consumers seek and are willing to pay a premium for high-quality beef with increased marbling, which leads to an improved eating experience due to enhanced flavor and tenderness. There are also consumers who are willing to pay a premium for leaner beef, such as Laura’s Lean Beef (2003), as well as for an all natural product that is hormone and antibiotic-free, found with the Niman Ranch (2003) program. Likewise, there are diverse ethnic considerations that drive consumer preferences. Growing public concerns about animal welfare, or cruelty-free standards, will likely lead to prospective premiums paid by discerning consumers. The National Pork Board (2003) has released the Swine Welfare Assurance Program (SWAP), a voluntary welfare education program for producers, in response to this growing concern.

Independent cattle producers have pursued these value-added marketing initiatives individually; however, a substantial investment is required to facilitate these

direct marketing ventures. Considerations involved with developing a retail strategy include identifying a niche and its production implications, performing market research, developing a label, advertising, locating a slaughter facility, and complying with inspection standards—not to mention the investment of time and labor (Sahad 2001).

How do independent producers prepare financially to start these marketing initiatives? Independent producers who

form cooperatives, or alliances, and conduct strategic planning and visioning as a collective unit have had some success. As a producer-owned NGC, outside funding is made available because of a 501(c)(3) status. The Illinois Value-Added Rural Development Center (www.value-added.org) in the Illinois Institute for Rural Affairs facilitates these initiatives through technical assistance and research.

Summary

As high-quality U.S. beef has taken the lead on the international front, these markets have come to play a more prominent role in industry growth and prosperity. As a result of the globalization of agricultural commodity marketing, Asian and European community markets have created a demand for U.S. raised beef and other valuable agricultural commodities. These overseas countries are requiring a broadened awareness of the source and production practices used to raise their consumable products. As rural communities develop a strategy by getting involved in the global economy, international value-added beef initiatives could provide a positive return on investment. On the domestic front, U.S. consumers, particularly in urban areas, are becoming more conscious of their food selection and purchasing habits.

As a rule, new business ventures involve the risk of failure. The process of building a business requires three essential elements for success:

1. Sufficient equity

2. A market for the product

3. Effective management (Acker 2002)

Collaboration on these efforts with other cattle producers has been shown to increase the sustainability of direct marketing business ventures. Collaboration should initiate the value-added business venture by developing a clear strategy for devising a detailed business plan, monitoring success by attainable objectives, selecting qualified personnel to implement the project, and pursuing outside investors to join the project. Not only do these value-added ventures involve collaboration between agricultural producers, but the most successful coalitions also incorporate local economic development agents into their initiatives. Drawing from the resources of various agencies can create numerous rewards for the initiative by assisting in the viability of the beef producers involved and the rural communities to which they contribute.

References

- Acker, D. 2002. *Success factors for organizing and operating new agribusinesses or for entering into joint ventures*. Macomb: Illinois Institute for Rural Affairs, Western Illinois University.
- Agricultural Marketing Service (AMS), U.S. Department of Agriculture (USDA). 2003. Country of Origin Labeling (COOL) standards. In *2002 Farm Bill provisions*. Available online: www.ams.usda.gov/. Downloaded: October 7, 2003.
- All cattle inventory of the top ten counties in Illinois. 2002. *Illinois agricultural statistics summary*. Available online: www.agstats.state.il.us/annual/2002/02079.htm. Downloaded: August 11, 2003.
- Golden, B. L., and J. A. Shadduck. 2000. *The role of retinal imaging in source verification*. Fort Collins: Colorado State University, Department of Animal Sciences. Available online: <http://ansci.colostate.edu/ran/beef/blg002.html>. Downloaded: May 21, 2003.

- Goldsmith, P. D., and J. Kim. 2002. *The economic impact of Illinois's livestock industry: Supply-chain linkages* (Special Report #95). Urbana-Champaign: University of Illinois at Urbana-Champaign, College of Agricultural, Consumer, and Environmental Sciences. Available online: <www.ace.uiuc.edu/faculty/goldsmith/livestock8_02.pdf>. Downloaded: August 2002.
- Illinois Value-Added Rural Development Center. 2003. Available online: <www.value-added.org>.
- Laura's Lean Beef. 2003. Available online: <www.laurasleanbeef.com>. Downloaded: August 6, 2003.
- National Cattlemen's Beef Association (NCBA). 2003. *Average annual per capita consumption of meat*. Available online: <www.beef.org/documents/NCBA_STATS_Feb2003.XLS>. Downloaded: May 20, 2003.
- National Pork Board. 2003. Available online: <www.porkboard.org>. Downloaded: August 8, 2003.
- Niman Ranch. 2003. Available online: <www.nimanranch.com>. Downloaded: August 6, 2003.
- Otto, D., and J. Lawrence. 2002a. *Economic impact of the United States beef industry*. Ames: Iowa State University, Department of Economics.
- Otto, D., and J. Lawrence. 2002b. *IMPLAN model to determine the economic impact of the United States beef industry* (Extension Publication). Ames: Iowa State University.
- Sahad, C. 2001. *U.S. branded beef . . . These are changin' times* (Industry Note, Food and Agribusiness Research, Issue 033-2001). New York: Rabobank International.
- Schupp, A. R., and J. M. Gillespie. 1999. *The Country-of-Origin Labeling of fresh beef: Its present and future*. Baton Rouge: Louisiana State University, Department of Agricultural Economics and Agribusiness.
- Umbarger, W. J., D. M. Fuez, C.R. Calkins, and B.M. Sitz. 2003. *Country-of-Origin Labeling of beef products: U.S. consumers' perceptions*. Presented at the 2003 FAMPS Conference, "Emerging Roles for Food Labels: Inform, Protect, Persuade." Available online: <www.rcalf.com/COOL/COOL%20Beef%20Products%20-%20Consumers%20Perception%20Survey.pdf>. Downloaded: May 12, 2003.

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