

**Comments on Economic Impacts of Proposed Legislation to
Prohibit Beef and Pork Packer Ownership, Feeding, or Control of Livestock**

January 14, 2002

**Collaborating Authors
(Listed Alphabetically)**

Dillon Feuz

Professor
Agricultural Economics
University of Nebraska
(308)-632-1232
dfeuz@unlnotes.unl.edu

John D. Lawrence

Professor and Director ISU Beef Center
Economics
Iowa State University
(515)-294-6290
jdlaw@iastate.edu

Glenn Grimes

Emeritus Professor
Agricultural Economics
University of Missouri
(573)-882-7546
grimesg@missouri.edu

Wayne D. Purcell

Alumni Distinguished Professor
Agricultural and Applied Economics
Virginia Tech University
(540)-231-7725
Purcell@vt.edu

Marvin L. Hayenga

Professor
Economics
Iowa State University
(515)-294-6348
mhayenga@iastate.edu

Ted C. Schroeder

Professor
Agricultural Economics
Kansas State University
(785)-532-4488
tcs@ksu.edu

Stephen R. Koontz

Professor
Agricultural and Resource Economics
Colorado State University
(970)-491-7032
skoontz@ceres.agsci.colostate.edu

Clement E. Ward

Professor
Agricultural Economics
Oklahoma State University
(405)-744-9821
ceward@okstate.edu

Overview and Purpose

Recently, policy makers have proposed laws designed to prohibit beef and pork packer ownership, feeding, or control of livestock for more than 14 days prior to slaughter. The purpose of this document is to provide a brief assessment of the *economic implications* of such policies. Eight expert economists from seven land-grant universities collaborated to produce this joint report. The report is intended to assist policy makers, industry participants, and other interested parties in understanding the economic consequences of such policies.

The legal interpretation of specific wording present in legislative proposals is open for debate and certainly outside the scope of this report. We interpret the proposed policies as prohibiting pork and beef packers from feeding, and from making any arrangement with livestock producers to acquire their livestock more than two weeks prior to slaughter (including contracting, marketing agreements, and any promise of delivery). By implication, producers legally could have no assured market for their livestock prior to the last two weeks before slaughter.

The implications of the proposed legislation have been developed assuming that the term “control” in the amendment to the Senate Farm Bill legislation would prohibit forward contracts that specify genetics, provide for feeding and/or management routines, specify weight or weight ranges, specify yield grades and/or quality grades, etc. Most contracts now in use have such provisions. Additionally, we assume that alliances in which packers participate would also be effectively banned unless the 2 percent of slaughter or the cooperative qualification exclusions apply.

Implications of Prohibiting Agreements

Specific economic impacts of prohibiting alliances, marketing agreements, contracts, partnerships, and other ways to improve vertical coordination in the beef and pork industries include:

1. Threaten the billions of dollars packers (including farmer cooperatives) have invested in product and market development in recent years

Negative trends in beef demand were not reversed until beef packers changed their business models from being low cost commodity operators to producers of quality controlled and convenient new meat products. The proposed legislation would constrain the ability of packers to accomplish the coordination and quality control they need for new branded products and put these important investments at risk.

2. Block independent livestock producers from access to new branded product lines that offer producers a larger share of the consumer’s food dollar and better profit opportunities

In concentrated processing markets, market access is a concern for producers. Contract arrangements with packers and membership in producer alliances with packers are ways for

producers to ensure market access and provide the opportunity to participate in producing branded product lines developed in response to consumer needs (Ward 2001). If contracts that specify genetics, weight ranges, feeding regime, slaughter intervals, etc. would be banned because they constitute packer “control”, producers would have less access to these developing product lines and the added margins coming from them.

3. Limit the role and diminish the gains carcass merit pricing has made

Carcass merit pricing is possible without contracts and marketing agreements. However, part of the benefit of carcass merit pricing for buyers and sellers is having supplies of known quality committed well in advance of harvest. Gains in product development and consistency, meeting consumer demands, are clearly related to the use of carcass merit pricing. This legislation would limit the use of carcass merit pricing by buyers and sellers and damage the strong linkages between supply and quality assurance and branded meat programs.

4. Threaten the economic viability of current and future investments in geographical areas that produce fewer cattle or hogs than needed to maintain efficient and viable packing-processing operations

In deficit producing areas, packers attempt to control supplies of cattle or hogs to keep stable flows of the correct raw material through the plant. Anderson and Trapp (1999) documented a significant increase in per head operating costs when the flow of livestock is not stable, and this important finding is true even if the livestock are “commodity” quality. This legislation could threaten the future of processing operations in the very areas where producers have access to fewer buyers.

5. Prices of livestock would not increase from the proposed legislation

There is almost no scientific research concluding packer ownership of cattle or packer actions through forward contracting and control of ownership of cattle hurts producers. It is a popular belief that concentrated processing industries have market power enabling processors to reduce livestock prices. But there is almost no evidence of this in the output from a broad and comprehensive research review on this subject (Azzam and Anderson, page 124).

6. Would make it more difficult for producers to obtain financing for their operations

Many financial institutions require a marketing contract for a producer to acquire financing to grow and become more efficient. Improved access to capital for producers would be forestalled by current legislative proposals.

7. Would restrict producer access to packer contracts and other risk management tools

Based on the Lawrence and Grimes (2001) study, the hog producers marketing 1,000 - 50,000 head annually scored the statement “I plan to continue marketing with a contract when my current contract matures” at 4.83 (on a scale of 6 being very important, and 1 being not important at all). In addition, by partnering with processors producers can diversify production return risk by sharing that with processors while sharing part of the processor return.

8. Would reduce U.S. pork and beef industry's competitive advantages in international markets

The pork industries in both Canada and Brazil had an annual growth rate above 6% from 1995 to 2000 (USDA). Both countries are already cost-competitive suppliers of pork. Canada has excess packing capacity and both countries have space for expansion. Canada, Argentina, and Australia stand to benefit from a less competitive U.S. beef industry. Anything that hinders the U.S. beef and pork industries in efficiently meeting consumer needs will favor competing countries.

9. Would give the efficient, vertically integrated, U.S. poultry industry further competitive advantage over pork and beef industries

The U.S. pork and beef industries would lose coordination gains they have recently made while the poultry market would be free to operate in a very efficient, vertically integrated, and coordinated system.

Motivation for Change

The livestock and meat industry is becoming increasingly sophisticated like many other industries. Consumers demand more product choice, higher quality and consistency, assured food safety, and more information about the meat products they buy (Barkema 1993). To meet these evolving demands, beef and pork producers and processors have found it necessary to make substantial investments and marked changes in how they organize and coordinate their businesses. Processors have made enormous investments in value-added processing, food safety assurance measures, product development, and product branding initiatives. Producers have made significant investments and changes in facilities, genetics, and production and marketing management practices to meet the needs of downstream customers. These long-term investments and changes in producer and packer linkages are beginning to show measurable benefits to the beef and pork industries striving to compete more effectively with the poultry sector and international competitors here and in export markets.

Traditional livestock markets relied upon cash live animal markets to coordinate the market system and provide meat products possessing characteristics consumers wanted. However, this method of livestock procurement has provided very poor signals to producers to produce what consumers wanted, resulting in poor coordination of the vertical beef production and marketing system (Lamb and Beshear 1998; Schroeder and Mark 1999; Schroeder et al. 1998).

Problems associated with beef product quality were thoroughly documented in National Cattlemen's Beef Association beef quality audits (Smith et al. 1992 and 1995). Research shows that 20 to 25% of Choice graded steaks and roasts have been too tough to chew -- a critical quality attribute for consumers (Tatum et al. 1999; Lusk et al. 2001). Consumer dissatisfaction was a major reason beef demand decreased nearly 50% from 1980 to 1998 (see Beef Demand Index at www.aaec.vt.edu/rilp). The cash market pricing system simply failed to prompt

producers to make needed changes, or assure necessary supply of livestock possessing desired consumer characteristics.

As price takers, livestock producers bear the brunt of economic pain associated with decreased demand for the final product at the consumer level. Success in global beef and pork markets like the important Japanese market did not occur until the 1990s when contracts, vertical integration, alliances and other means of achieving product consistency and quality control came into use.

The failure of the price system to accomplish such coordination and related quality control is the primary reason that vertical integration, alliances, grids, partnerships, producer-owned cooperatives, and contracts were developed (Ward 2001). Often initiated by producers, vertical alliances are the mechanisms used to improve coordination and quality control and ensure producers are compensated for true value of their cattle or hogs. Beef and pork packer survey results reported by Lawrence, Schroeder, and Hayenga (2001) indicated that in 1999 nearly 60% of hogs and more than 30% of fed cattle were sold to packers under some arrangement other than cash trade. In addition, the survey results revealed that packers produced about 18% of hogs slaughtered and 5% of fed cattle slaughtered. In contrast, nearly all broilers produced are owned by processors.

Meat food safety attributes and quality traits are increasingly complex and often not detectable visually or at line speed in processing plants. Therefore, formal relationships among livestock producers and processors that specify desirable traits and the payoffs for supplying them are needed to assure the process and product. For example, some branded products promote claims regarding how the animal is raised (e.g., hormone usage, antibiotic use, welfare practices); this requires clear agreements on how the animal is raised, and an assured market that will pay for the extra work or costs incurred by producers (and the extra costs in the distribution system to keep them separate from other products). Such specialized systems are coordinated through marketing contracts that prescribe genetics, nutrition, health management, production practices, and/or facilities to achieve the level and type of quality that consumers demand. This level of control and related coordination improves the predictability of the final product to processors and, importantly, consumers. Alliances and marketing agreements were necessary to assure these product attributes.

The increasing use of contract linkages in the beef and pork industries is attributable to the advantages to both parties, from contracts willingly signed by both parties. A recent survey of beef and pork packers identified the ability to secure higher quality animals and a more consistent quality as the most important reason motivating use of marketing contracts and/or livestock ownership (Table 1). Improved product quality and consistency followed by assuring food safety and operational efficiency were the greatest motivations for packers to enter into marketing contracts with producers (Lawrence, Schroeder, and Hayenga 2001). Organizational advantages like contracts and ownership by processors clearly contributed to increased efficiency and improved competitiveness of the poultry sector over the past 30 years. Current proposals take those competitive tools away from beef and pork industries. Current proposals also do not appear to even allow farmer cooperatives to get into processing at sizes necessary to realize economies of scale and compete effectively.

Table 1. Packer Motivation for Increased Pork and Beef Marketing Contracts, 1999.^a

	Pork	Beef
Reduce plant operating costs by improving plant scheduling	3.5	2.9
Secure higher quality animals	4.0	4.0
Secure more consistent quality of animals	4.3	4.0
Assure food safety	3.8	3.0
Long run price risk management	3.0	2.8
Week-to-week supply/price management	3.5	2.2
Reduce costs of searching for animals to procure	3.5	2.3
Able to purchase animals for lower price	2.3	1.8

^aScale of 1 to 5, 1=not important to 5=very important

Source: Reported by Lawrence, Schroeder, and Hayenga (2001)

Motivations for producers entering contracts, alliances, and cooperatives are somewhat different. They believe that they are better paid for the quality of their animals and see advantages from reduced price risk (Table 2). Access to premiums for carcass quality is a significant motive for producers striving to increase product quality. Producers want access to carcass data as well to further improve their production management. Hog producers that have contracts are pleased with contracts and believe that they have been treated fairly by their packer partner (Lawrence and Grimes 2001). All producer survey respondents, including both those involved with contracts, and those without contracts, perceived contracts negatively impacted hog prices. They also felt contracts should be monitored more closely by USDA. However, these producers did not support making contracts between producers and packers illegal (Lawrence and Grimes 2001).

Table 2. Advantages and Disadvantages of Marketing Contracts Reported by Hog Producers with Marketing Contracts^a

Size Class 1,000 Hd	Advantages				Disadvantages		
	Access to Capital	Increased Price	Allowed for expansion	Allowed to be in business	Reduced price risk	Locked out of higher prices	Not treated fairly by packer
1-2	2.25	3.75	2.14	2.91	3.14	2.19	1.84
2-3	2.85	3.71	2.18	2.90	3.67	2.30	1.77
3-5	2.76	3.89	2.11	2.95	3.61	2.53	2.18
5-10	3.46	4.13	2.96	3.47	4.29	2.57	2.20
10-50	3.35	3.85	2.73	3.55	3.50	2.51	2.06
1-50	3.00	3.90	2.47	3.18	3.73	2.45	2.04

^aScale of 1 to 6, 1=not important to 6=very important

Source: Lawrence and Grimes (2001)

Ward and Bliss (1989) completed a survey of cattle producers roughly a decade ago and more recently, Schroeder et al. (1998) conducted in-depth in-person interviews with several cattle producers confirming findings of Ward and Bliss. Only preliminary results are available from the most recent survey that was completed in the fall of 2001 (Ward 2002a). These studies found motivations for cattle feeders to enter into contractual arrangements with beef packers included improved price risk management, access to more financing options, guaranteed buyer for cattle, improved opportunity for carcass quality premiums, obtaining carcass information, and reduced marketing costs (Table 3).

Table 3. Summary of Incentives for Cattle Producers to Enter into Contracts and Marketing Agreements with Beef Packers

Contract Type	Cattle Feeder/Feedlot Benefits
<u>Forward Contracts</u>	<ol style="list-style-type: none"> 1. Reduce price risk if cattle are hedged or flat priced 2. Obtain favorable financing 3. Ensure a buyer for cattle 4. Reduce marketing cost
<u>Marketing Agreements</u>	<ol style="list-style-type: none"> 1. Premiums for some cattle quality characteristics 2. Obtain carcass information 3. Ensure a buyer for cattle 4. Reduce marketing costs
<u>Packer-Owned Feeding</u>	<ol style="list-style-type: none"> 1. Increase feedlot utilization 2. Improve packer to feedlot relationship

Source: Summarized from Ward and Bliss (1989) and Schroeder et al. (1998).

One of the important benefits of contracts and marketing agreements is their impact on risk. Marketing agreements and contracts between beef packers and cattle feeders can serve as a risk management tool. Some forward contracts that establish price reduce price risk for both cattle feeders and beef packers. Some contracts enable cattle feeders to obtain more favorable financing terms (Ward and Bliss 1989). Having a buyer identified in advance assures cattle feeders of a timely market outlet. Feedlots have about a two- to three-week period over which they can most effectively market fed cattle (Anderson and Trapp 1999). Therefore, risk of lost profit for cattle feeders from not selling cattle at the optimum time is reduced if a buyer is lined up well in advance.

Cattle producers also realize reduced costs through entering into contracts and marketing agreements with packers. One significant cost benefit of formula pricing is that it reduces costs associated with daily price discovery for feedlot managers (Schroeder et al. 1998). These costs include considerable time collecting, analyzing, and monitoring short-term fed cattle market conditions as well as on-going time spent negotiating prices with packers.

Carcass merit or value-based pricing has become increasingly prevalent for cattle and hogs. Cattle feeders expect to increase their use of grid pricing in the future according to the most recent survey (Ward 2002a). Nearly all marketing contracts, alliances, partnerships, and cooperatives use grid pricing. Producers receive valuable data on their cattle and hogs to assist them in better managing their production operations (Ward, Feuz, and Schroeder 1999). They receive clearer signals regarding what packers and consumer want. And they are rewarded for what they bring to market. Producers who supply the types of animals that provide products consumers want are rewarded, while those that do not are penalized. The rapid shift to value-based marketing would not have occurred had the earliest marketing contracts not incorporated this pricing method into the contractual arrangements

Price Impacts from Contracting

The proposed legislative solution stems from the contentious issue of the price effects from contracting in various forms. The motivation to contract, both by buyers and sellers is clear. Several positive impacts are also clear, as discussed in the preceding sections. Coordination and quality control via non-price means including contracts and vertical alliances have facilitated a modernization of the fresh beef and pork offerings that has helped reverse a 20-year decline in consumer demand. Producers are more nearly compensated for true value of their livestock and they have the opportunity to share in the added consumer dollars being paid for branded and quality assured products. But these benefits are not always easy to identify and measure, and the price impacts of contracting and market agreements on specific transactions are not always clear to producers and industry observers.

Contracting and vertical integration are commonly referred to as captive supplies. Several economists have addressed captive supplies from theoretical and empirical perspectives. A recent summary of all such research suggests some theoretical support for negative price effects and empirical evidence on price impacts have usually been negative but small (Ward 2002b). Some studies have found small, positive price effects associated with contracting. None of the impacts have approached what the Department of Justice and Federal Trade Commission use as a regulatory standard to assess non-competitive behavior. No empirical estimates of long-run impacts of captive supply have been conducted and the long run impact could be positively associated with livestock prices given the significant cost reductions packers can realize from improved supply coordination as estimated by Anderson and Trapp (1999).

Conclusion

Reversing the negative trend in consumer demand, process verification, the need for quality control, improved food safety assurance, and producer's wanting an opportunity to benefit from adding value to their output have motivated processor-producer agreements stipulating production practices and premiums and discounts for quality variation. This has become the standard as agriculture moves from raw low-value commodities to value-added products. The uncertainty in scheduling and pricing through traditional cash market transactions limits investment in product development and adding value both on the farm and beyond the

farm gate. Long-term formal linkages reduce risks and the cost of borrowing for those that upgrade facilities and equipment to meet the changing needs of domestic and global consumers. Prohibiting such linkages will result in reduced coordination, efficiency, and global competitiveness of the beef and pork sectors.

References

- Anderson, J.D. and J.N. Trapp. *Estimated Value of Non-Price Vertical Coordination in the Fed Cattle Market*. Research Bulletin 2-99, Research Institute on Livestock Pricing, Virginia Tech, Blacksburg, VA. 1999.
- Azzam, A.M. and D.G. Anderson. *Assessing Competition in Meatpacking: Economic History, Theory, and Evidence*. United States Department of Agriculture, Packers and Stockyards Programs, GIPSA-RR 96-6, May 1996.
- Barkema, A. "Reaching Consumers in the Twenty-First Century: The Short Way Around the Barn." *American Journal of Agricultural Economics* 75(1993):1126-1131.
- Lamb, R.L. and M. Beshear. "From the Plains to the Plate: Can the Beef Industry Regain Market Share?" Federal Reserve Bank of Kansas City, *Economic Review*, Third Quarter 1998 <http://www.kc.frb.org/publicat/econrev/ermain.htm>.
- Lawrence, J. and G. Grimes. *Production and Marketing Characteristics of U.S. Pork Producers, 2000*. Staff Paper No. 343, Department of Economics, Iowa State University, August 2001.
- Lawrence, J.D., T.C. Schroeder, and M.L. Hayenga. "Evolving Producer-Packer-Customer Linkages in the Beef and Pork Industries." *Review of Agricultural Economics* 23(2001):370-385.
- Lusk, J.L., J.A. Fox, T.C. Schroeder, J. Mintert, and M. Koohmaraie. "In-Store Valuation of Beef Tenderness." *American Journal of Agricultural Economics* 83(2001):539-550.
- Research Institute on Livestock Pricing website: www.aaec.vt.edu/rilp/.
- Schroeder, T.C. and D.R. Mark. "How Can the Beef Industry Recapture Lost Consumer Demand?" Paper presented at the Western Section American Society of Animal Sciences Symposium, Provo UT, June 9, 1999.
- Schroeder, T.C., C.E. Ward, J. Mintert, and D.S. Peel. *Beef Industry Price Discovery: A Look Ahead*. Research Bulletin 1-98, Research Institute on Livestock Pricing, Virginia Tech, Blacksburg, VA. March 1998.

- Smith, G.C., J.W. Savell, R.P. Clayton, T.G. Field, D.B. Griffin, D.S. Hale, M.F. Miller, T.H. Montgomery, J.B. Morgan, J.D. Tatum, and J.W. Wise. *The National Quality Beef Audit*. Colorado State University, Ft. Collins and Texas A&M University, College Station for the National Cattleman's Beef Association. 1992.
- Smith, G.C., J.W. Savell, H.G. Dolezal, T.G. Field, D.R. Gill, D.B. Griffin, D.S. Hale, J.B. Morgan, S.L. Northcutt, and J.D. Tatum. *The National Quality Beef Audit*. Colorado State University, Texas A&M University, College Station, and Oklahoma State University for the National Cattleman's Beef Association. 1995.
- Tatum, J.D., K.E. Belk, M.H. George, and G.C. Smith. "Identification of Quality Management Practices to Reduce the Incidence of Retail Beef Tenderness Problems: Development and Evaluation of a Prototype Quality System to Produce Tender Beef," *Journal of Animal Science* 77(1999):2112-2118.
- Ward, C.E. *Beef Industry Alliances and Vertical Arrangements*. Oklahoma State University Extension Facts WF-563, December 2001.
- Ward, C.E. "Survey Says..." *Beef*. Beef Feeder section, February 2002a.
- Ward, C.E. "A Review of Causes for and Consequences of Economic Concentration in the U.S. Meatpacking Industry." *Current Agriculture, Food & Resources Issue* 3(2002b):1-28.
- Ward, C.E. and T.J. Bliss. *Forward Contracting of Fed Cattle: Extent, Benefits, Impacts, Solutions*. Research Bulletin 4-89, Research Institute on Livestock Pricing, Virginia Tech, November 1989.
- Ward, C.E., D.M. Feuz, and T.C. Schroeder. *Formula Pricing and Grid Pricing Fed Cattle: Implications for Price Discovery and Variability*. Research Institute on Livestock Pricing, Research Bulletin 1-99, January 1999.
- Ward, C.E., M. Hayenga, T Schroeder, J. Lawrence, and W. Purcell. "Contracting in the U.S. Pork and Beef Industries: Extent, Motives, and Issues." *Canadian Journal of Agricultural Economics* 48(2001):629-639.