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LIVESTOCK IN FOOD LEGISLATION

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This nation's food policy consists of an amalgamation of government programs and policies that fit under such headings as commodity programs, food assistance, marketing policy, and food safety. Except for dairy, wool, and mohair, livestock are not directly included in agricultural commodity policy and typically are not singled-out in other aspects of food policy. Therefore, the pattern of interactions between livestock and food policy is scattered.

My purpose is to identify what are, and equally important what are not current and emerging food policy issues regarding livestock. I will concentrate on meat animals and fowl.

Livestock in The Food System

The livestock sector provides consumers with a source of energy and protein that is generally considered to be desirable. It provides a degree of stability in the food supply generally not achievable with crops alone. It also provides a nation with greater economic security. But, it also has physiological characteristics which complicate production. Each of these factors affects the interface between this part of the agricultural economy and food policy.

Meat: The end product of the livestock sector is meat; red from beef, pork and lamb; and white from poultry. Meat constitutes about 20 percent of the average American diet and accounts for about one-third of total consumer expenditures on food. Overall, it is the most important source of protein in our diets, and it is obviously considered by most consumers to be a pleasant and tasty source of energy. Demand for meat is more income elastic than is food in general, meaning that, as income goes up, consumers typically increase their purchases of meat more than of other foods. In recent years, consumers have increased their consumption of white meats, which now account for about 30 percent of all meat consumption compared to about 20 percent two decades ago.

Not everyone, however, considers meat to be a premier food. Vegetarians exist, and many others are increasingly concerned about the

implications of meat consumption for human health. Therein lie several policy issues.

Stability: Livestock are an important source of stability in the availability of food. This comes about because (1) livestock store crops from years of plentiful harvests to years of crop shortfalls, and (2) they utilize energy sources as feed that would otherwise go to waste. Simply put, livestock are scavengers.

The crop storage function results from herd building in times of large crops (and presumably low feed prices) and herd liquidation in times of small crops and high grain prices. All things considered, I don't know if this storage function is cheaper than putting grain in the farmer-held reserve, but it certainly puts less drain on the federal treasury. We do know that feed grain consumption in the U.S. was cut by more than 15 million tons in the 1980-81 crop year as livestock numbers were reduced in response to high grain prices associated with the short 1980 crop, and by more than 30 million tons in 1974-75 in response to the same kinds of crop pressures.

The scavenger function is even more straightforward. Obvious is the case of grass and ruminant animals such as cattle and sheep. But poultry and swine are also capable of utilizing fallen grain, plant remains of harvested crops, garbage, distillers by-products and other offal and waste. This makes for a relatively low cost source of protein and energy for the human diet, particularly when grains and oilseeds are in short supply.

Self-sufficiency: Not entirely divorced from the ability to stabilize food supplies is the contribution that livestock make to a nation's self-sufficiency in food and to its economic security. Livestock production is a highly transferrable technology. That is, it is not particularly sensitive to climatic conditions and other geographical differences. If feed is available, livestock of some sort can be grown just about anywhere.

Furthermore, livestock production is an important element of many national economies. It allows land to be used for pasture that is not capable of sustaining crop production, at least with present technology and price relationships. It provides employment for many who have no other opportunity. In many of the less developed nations livestock provide a major source of locomotive power and, through herd building, are a primary means of capital formation and personal savings.

Because livestock are of such importance to national economies, most countries protect their domestic livestock industries through trade barrier policies such as import quotas and duties. As a result, relatively little international trade occurs in livestock or meat. In 1980, for example, livestock and meat accounted for just 11 percent of the total value of all agricultural products in world trade, compared to about 40 percent of the total value of agricultural production. On the

other hand, due to regional imbalances in crop production this does create opportunities for brisk international trade in feedstuffs and a fairly liberal policy on such trade among nations.

Physiology: Livestock are both capital and consumption goods. That is, the product and the machine are one and the same. This results in a short run incongruity between changes in market prices and production. When price increases, for example, the expected production response is an expansion in supply. With livestock, however, the response appears to be the opposite. A price increase signals producers to expand, which causes them to increase their breeding stock by actually withholding product from the market, thus reducing market supply. And vice versa for a price decrease, which brings herd liquidation and thus a bigger supply.

Because of the physiology of the reproduction cycle, it takes up to two years to get the desired production response for swine and four years or more for cattle. This long term production response, combined with the typical desire by public policymakers for quick response to policy initiatives, makes livestock a poor candidate for supply management programs such as those that are used for grains, oilseeds, and many other crops.

Contemporary Policy Issues

The preceding discussion indicates that meat animals have not and are not likely to receive much direct policy consideration as farm commodities *per se*. Furthermore, even though meat import quotas regularly revisit the trade policy agenda, the worldwide pattern of trade protection for domestic livestock industries appears to be so well fixed that little substantive change is likely. Indeed, discussions of meat import policy focus almost exclusively on marginal changes in quotas, consistent with whatever the current state of affairs happens to be in the domestic wholesale meat and slaughter animal markets.

Most of the food-related public policies which impact on livestock markets do so indirectly, through longer term effects on supply costs and/or consumer demand. For example, feed grain policies and environmental regulations affect the cost of producing livestock and thus the long run market supply, while policies regarding such things as dietary guidelines and product quality affect consumer demand.

Indeed, the most pressing policy issues are found in these areas. On the supply/cost side, I have grouped the current and emerging issues into three categories: animal welfare, environment, and the cost of feed. On the demand side my categories are: human nutrition and health, food wholesomeness, and product standards. There are, in addition, a number of policy issues concerning the marketing system which bring together these supply and demand forces, including such things as market news, monopolization, pricing behavior and other trade practices.

Animal Welfare: The nation is now in the midst of its third wave of public concern over the humane treatment of animals. As early as 1873 a federal law was passed which was intended to alleviate cruel treatment of livestock when in transit on railroads. This was replaced by a more effective measure in 1906, known as the 28-hour law, which specified minimum resting, feeding and watering requirements for livestock after 28, or in some cases 36 hours in transit. While this substantially reduced cruel treatment during transit, public sentiment turned to the possibilities for cruelty during slaughter. Concern peaked in the 1950s, resulting in the Humane Slaughter Act of 1958 which prescribes humane methods for slaughter.

More recently, public attention has been focused on the concept that confinement of livestock during production constitutes inhumane treatment. Tangential concerns with such practices as castration and branding without anaesthetic are also frequently thrown in for good measure. The development of this as a public issue in the United States has trailed Western Europe by 10 or 15 years, where several countries have passed legislation limiting confinement feeding and other practices, where courts of law have ruled against farmers for such things as keeping laying hens in battery cages, and where all 21 countries are now seeking a common policy. The issue is certain to persist.

Earlier humane treatment movements were either efficiency positive (i.e. reduced shrink and death loss with improved transit practices) or efficiency neutral (i.e. killing practices). The current movement, however, has most appearances of being efficiency negative. Confinement feeding was adapted because it increased productivity. It has brought larger production units that realize scale efficiencies. A yet unanswered question is, how will such efficiencies be balanced against this growing concern over the psychic health of domesticated animals?

Environment: The public has long been concerned about reducing or minimizing degradation of our natural environment through the pursuit of economic gain. At one extreme are the strict preservationists who would allow no disturbance of this environment regardless of needs of society. A large body of environmental regulations and policies already exists which places limits on such environmental distortion. Much of this affects livestock production practices and costs.

Obvious in existing policy is disposal of livestock effluent, particularly run-off from feedlots. Water pollution from confinement livestock production has already been proscribed, and much of the cost of compliance has worked its way through to the market supply function. But, this is perhaps just the proverbial "drop in the bucket." Concerns about air pollution from confinement production facilities are widespread in areas where these are upwind from housing developments. Noise pollution is also of concern in similar situations.

Policies are currently being put into place which limit livestock producers ability to control wildlife that prey on domestic animals. For

example, witness the banning of compound 1080 as a coyote predacide. Right-to-farm laws are emerging in many states to help preserve some existing production practices, but their effectiveness is yet to be tested.

Cost of Feed: Roughly one-third of the cost of producing meat animals is for feed: more for poultry, less for cattle. About 60 percent of the feedgrains produced in this country is fed to our domestic livestock. Thus, the feedgrain and livestock sectors are closely interlocked. Because of this, the indirect impact of a change in the price of feedgrains on domestic consumers, through livestock products, is about 10 times as great as the direct impact. K. L. Robinson (*Unstable Farm Prices: Economic Consequences and Policy Options*, *Am. Jour. Agr. Econ.* 57: 5) calculated that a 2 cent per lb. change in feedgrain prices directly affected per capita food expenditures by \$2.68 and indirectly, through livestock, by \$29.00 annually.

The markets for feedgrains and other feedstuffs such as oilseed meals are inexorably influenced by farm commodity and international trade policies. Price supports, grain reserves, and export promotion are key elements. In the past decade, these policies have been oriented largely toward international markets and expansion in export sales. Given the vagaries of world grain and oilseed markets, this has increased instability in both the availability and price of feed for domestic livestock feeders. The result has been greater uncertainty in the livestock sector, which translates into higher production costs.

The impact has probably fallen disproportionately on the cattle industry and less on poultry, due in large part to differences in reproduction physiology which makes the adjustment process slower and thus much more difficult for the former. This differential increase in cattle production costs may also explain some of the switch in consumption from beef to chicken.

The point: there is an indirect but very important link between public policies that affect feedstuffs and the role of livestock and meat in the domestic food market. My judgment is, this link has been largely ignored in the past 10-12 years by policymakers, livestock producers, and consumers. We as policy educators bear much of the responsibility for that ignorance.

Human Nutrition and Health: Perhaps the most contemporary current and emerging issue is concern over the relationship between meat consumption and human health. Recent attention has focused on cancer, but numerous life-shortening diseases are periodically linked to the ingestion of various food substances. The implications of such relationships, at least for many public officials, are clear: unless you favor cancer or some other dreaded disease, you have little choice but to favor dietary modification. Often, this gets translated into proposals for dietary guidelines or even outright proscription of offending food products.

The most recent articulation of this was the latest diet report from the National Academy of Sciences, entitled, "Diet, Nutrition and Cancer." This report from reputable scientists said that there may be a connection between cancer and what we eat. It went on to recommend certain dietary changes, including a reduction in salt cured, salt pickled and smoked foods such as sausages, smoked ham, bacon, bologna and hot dogs. Understandably, this kind of recommendation doesn't make the livestock and meat industries very happy. It garnered about the same industry reception as have previous reports on the deleterious impacts of fats and cholesterol.

People do change their eating habits over time. Consumption of animal fats and high cholesterol foods has declined in recent years. How much is due to health considerations is not known. Establishing precise diet-disease relationships is exceptionally difficult due to the large number of variables involved, many of which aren't controllable. An important question is, how much certainty is necessary as a basis for policy decisions?

Food Wholesomeness: Not unrelated to the preceeding issue is the question of food safety. In particular, does meat contain contaminants such as diseased tissue, additives such as nitrosamines or sulpha drugs, or food-borne disease such as botulism?

In 1906, Upton Sinclair published his novel, *The Jungle*, which portrayed labor exploitation and unwholesome operating practices in the nation's meatpacking industry. This excited the public's imagination, which resulted in enactment of the Federal Meat Inspection Act of 1906. Ever since, the meat industry has been in the forefront of food safety issues. Incidentally, in observing this outcome, Socialist Sinclair lamented that he had "aimed at the public's heart, but hit its stomach instead."

Among the contemporary policy issues bound up in this area are: (1) random instead of continuous inspection of meat processing (currently proposed by USDA) and of livestock slaughtering (not currently proposed), (2) respecification of the Delaney clause, reflecting modern capability to detect additives, from the current "no risk" prohibition to an "acceptable risk" criterion, and (3) determining the appropriate balance in the use of livestock medication such as sulfa drugs between keeping animals healthy and preventing build-up of drug resistance among meat consumers.

Product Standards: Livestock and meat quality grades and product standards have become institutionalized over the past 50 years. The wholesale trade has relied on USDA grades or modifications thereof for much of their dealing in livestock and a good share of their dealing in carcass beef. Consumers have relied on grades for a portion of their beef purchases, particularly retail cuts in grocery stores and in many restaurants, and on USDA product standards for many processed meats such as hot dogs and bologna.

While there are no consumer grades for retail meat *per se*, “choice” beef has taken on an identity as a preferred product among consumers. This has periodically prompted various industry proposals to modify standards so that more product can be so labelled. Pressures for such change seems to mount whenever profit margins disappear for cattle feeders. Others from time to time advocate a system of consumer-oriented grades for meats that would be tied to attributes such as tenderness, flavor, and palatability. The need for wholesale or trade grades has diminished with the steady expansion in direct, private trading where transaction-specific product descriptions are both feasible and satisfactory. But, the value of replacing these with consumer grades, for which the costs are high and benefits widely dispersed and of unknown magnitude, has not yet been demonstrated.

Product labeling is also of concern. Mechanically deboned meat provides one example. Regulatory changes have recently been made to require identification of such product as part of the ingredient label. These changes, however, are as controversial as was the original regulation requiring product-name identification. Nutritional labeling also has many advocates, while others are concerned that this enhances the image or acceptability of fortified or fabricated meats at the expense of “the real thing.”

Concluding Comment

There is not one succinct set of policy issues concerning livestock in food legislation. But, there are indeed numerous food and farm policy issues that evolve from and/or impact on the livestock sector. Because these are scattered over a wide variety of concerns and topics, it is perhaps more difficult to mount an effective policy education program regarding livestock. Likewise, it offers a fertile field, given the range of unresolved issues, and one that has been barely scratched by policy educators in recent years.