



**Global Development and Environment Institute  
Tufts University**

## **Feeding at the Trough**

### *Industrial Livestock Firms Saved \$35 billion From Low Feed Prices*

By Elanor Starmer and Timothy A. Wise\*

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The debate over the 2007 Farm Bill follows a familiar script, one acted out most recently in 1996 when Congress approved the Freedom to Farm Act. With prices high, farmers are portrayed as the greedy beneficiaries of lavish farm programs. Today, the debate takes place in the haze of the ethanol-fueled run-up in corn and soybean prices. Critics argue that in the “food vs. fuel” fight choosing fuel will lead to rising retail food prices, particularly for meat and dairy products. The nation’s largest meat companies are some of the most vocal critics, advocating for policies that would increase corn and soybean production and reduce the cost of feed.

In fact, these same livestock giants, not farmers, have been among the main beneficiaries of U.S. farm policies since 1996. With the elimination of most remaining supply-management measures, the 1996 Farm Bill stimulated widespread overproduction and a drop in commodity prices, often to levels below production costs. Farm subsidies made up only a share of the difference; farm families made up most of the rest with off-farm income.<sup>1</sup> While family farmers’ net incomes stagnated or declined, even with subsidies included, industrial livestock operations were treated to a bonanza of low-priced feed.

Between 1997 and 2005, factory farms saved an estimated \$3.9 billion per year because they were able to purchase corn and soybeans – the main components of most feed mixtures – at prices below what it cost to produce the crops, a reduction amounting to 5%-15% of operating costs. Estimated savings to industrial hog, broiler, egg, dairy, and cattle operations totaled nearly \$35 billion over the nine-year period.

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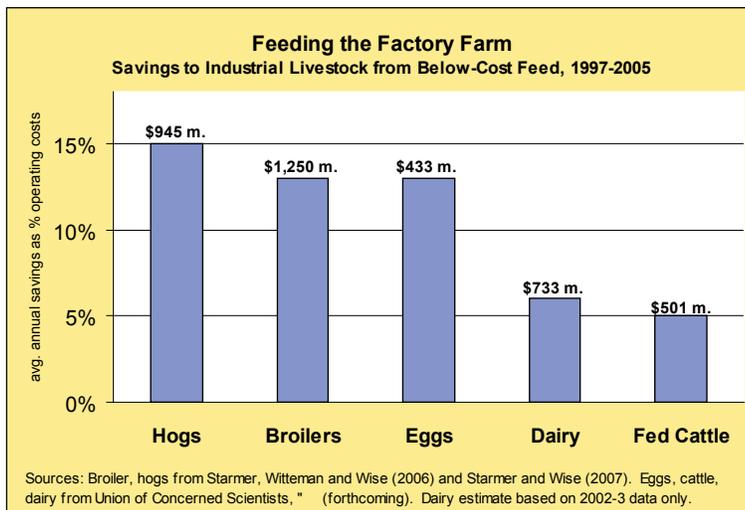
**Policy Brief**

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## The Real Winners of U.S. Agricultural Policies

In the nine years following the passage of the 1996 Farm Bill, corn and soybean production rose 28% and 42%, respectively, and prices fell by 32% and 21%. The bill ended most remaining federal programs to keep commodity production in check, including acreage restrictions, a farmer-owned commodity reserve, and land set-asides. In its place, Congress put the framework for the subsidy system now up for reauthorization. With the new subsidy programs, the cost of farm programs nearly doubled, while farmers' subsidy checks often fell short of making up for the drop in farm prices. In the nine years following the 1996 reforms, corn prices averaged 23% below average farm production costs, while soybeans were priced at 15% below costs.



If farmers weren't benefiting from the new farm policies, who was? The major purchasers of farm products, mostly large-scale agribusinesses. Our research estimates the gains from low commodity prices to one important sector of U.S. agribusiness: industrial livestock operations, better known as factory farms. The graph shows the share of operating costs and the average annual savings to industrial broiler, hog, egg, cattle, and dairy operations. The savings were significant, ranging from \$433 million for laying hens to \$1.25 billion for broilers, representing 5-15% of operating costs.

**Broiler Chickens** – In dollar terms, the largest beneficiaries were industrial broiler chicken companies such as Tyson. Tyson and its three closest competitor firms control nearly 60% of the U.S. broiler market. Their production facilities each house thousands of birds in confinement conditions. With low corn and soybean prices, broiler companies' feed bills between 1997 and 2005 were an average of 21% lower than they would have been if market prices had covered production costs. Because feed constitutes 60% of total broiler production costs, the feed savings lowered the companies' total costs by 13%. We estimate the monetary value of this savings at \$1.25 billion per year between 1997 and 2005, or a cumulative total of \$11.25 billion over nine years.<sup>2</sup> Tyson alone saved an estimated \$2.6 billion; the top four broiler companies together saved \$5.6 billion.

**Hogs** – Industrial hog companies were close behind in their gains from below-cost feed. Factory hog operations saw the price of feed drop to 26% below production costs during the 1997-2005 period. The savings amounted to about 15% of the firms' operating costs. Industrial hog operations housing more than 2,000 animals at a time saved an estimated \$945 million per year, or a total of nearly \$8.5 billion over nine years.<sup>3</sup> Smithfield, which controls nearly 30% of the U.S. pork market, saved an estimated \$2.54 billion on feed in those nine years. Smithfield and its three closest competitors together saved \$4.3 billion.

These feed savings have likely had an impact on the way hogs are produced in the United States. Unlike the broiler industry, which is dominated by large confinement feeding operations, the hog industry still has a significant number of small and mid-sized producers who raise animals and grow their own feed. But that category of producers is rapidly shrinking. As late as 1995, small and mid-sized operations produced the majority of hogs in the United States. By 2005, the share of the U.S. hog inventory in large facilities housing 2,000 or more animals had risen to nearly 80%. Today, more than half of the U.S. hog inventory is housed in facilities holding 5,000 animals or more, compared to about a third of the inventory in 1996.

The implicit subsidy to industrial feed has contributed to the consolidation of factory hog operations. With a 15% discount on operating costs compared to hog farmers who grew their own feed crops, factory farms enjoyed a competitive advantage that did not come simply from their economies of size. Using cost data from the U.S. Department of Agriculture and other published sources, we estimate that mid-sized diversified farms – those with 500-2,000 hogs fed largely by on-farm crops – would have comparable production costs to those of industrial producers if the latter had to pay full cost for their feed. If factory farms also had to pay to mitigate the pollution costs from the excessive amounts of manure the operations generate, mid-sized diversified farms would actually have had lower costs-per-hog.<sup>4</sup>

While our published research has focused thus far on broilers and hogs, the implicit subsidy to feed has provided benefits to other industrial livestock sectors (see table). The Union of Concerned Scientists estimates these gains in a forthcoming report<sup>5</sup>:

Savings to Industrial Livestock from Low Feed Prices, 1997-2005				
Millions of Current U.S. Dollars				
Sector	Feed savings	Operating cost savings	Annual savings	Total savings
Hogs	26%	15%	\$945	\$8,505
Broilers	23%	13%	\$1,250	\$11,250
Eggs	22%	13%	\$433	\$3,897
Dairy	14%	6%	\$733	\$6,597
Fed Cattle	33%	5%	\$501	\$4,509
<b>Total</b>			<b>\$3,862</b>	<b>\$34,758</b>

Broiler and hog estimates from Starmer, Wittman and Wise (2006) and Starmer and Wise (2007) respectively. Egg, cattle and dairy estimates from Union of Concerned Scientists (forthcoming). Dairy estimates based on 2002-3 data.

**Eggs** – Egg production, like the broiler chicken sector, is nearly completely industrialized. Some 255 large companies produce 95% of all U.S. eggs, compared to 2,500 companies just 20 years ago. Laying-hen feed is roughly 55% corn and 30% soybean meal, and feed costs make up about 60% of total egg production costs. Estimates suggest savings to industrial egg producers amounting to 13% of operating costs, for an annual total of \$433 million. Savings from below-cost feed from 1997-2005 are estimated at \$3.9 billion.

**Feedlot Cattle** – Most beef cattle feedlots feed their cows a ration of at least 70% corn. Feed is a smaller share of total costs than for other livestock (15-20%), since feedlots must also purchase grown animals from cow-calf operations. Nonetheless, low-priced corn still constitutes an important savings for the industry. An estimated 34% of beef cattle in the United States are in feedlots with over 1,000 animals; feedlots owned by the four largest beef companies in the United States (among them Smithfield, ContiBeef, and Cargill) together hold nearly 2 million animals. Large feedlots have received an estimated 5% reduction in their operating costs from low-priced feed worth \$501 million per year, for a nine-year total of \$4.5 billion.

**Dairy Cattle** – It is more difficult to estimate the gains to industrial dairy operations. Feed rations vary widely from region to region and many small and mid-sized family dairies purchase some feed for their animals, so presumably they would also benefit from low feed prices. Feed appears to make up anywhere from 35 to 45% of total operating costs for dairies. While dairy production is still dominated by smaller operations, it is rapidly concentrating; nearly 50% of dairy cattle are in operations with more than 500 cows, compared to less than 25% in 1996. Estimates suggest savings to 500+ head operations from below-cost feed at 6% of operating costs, some \$733 million per year, or \$6.6 billion from 1997-2005.

## Implications for U.S. Farm Policy

Industrial livestock companies have clearly been major winners from policies that lowered feed prices and increased production. The data above suggests that they have collectively saved almost \$4 billion per year since 1997—a total of nearly \$35 billion in nine years. Again, the gap between the low market price of feed and the high costs farmers pay to produce corn and soybeans has been filled by subsidies and by farm families' off-farm income.

These findings suggest that U.S. policies have made industrial livestock operations appear more cost-efficient than they would if feed were properly valued in the marketplace. They also suggest that taxpayers and farm families have, in effect, been subsidizing factory farms' feed purchases. The current run of high farm prices, driven by ethanol demand, changes the economic landscape. Farmers are getting prices that cover their costs of production and may even provide a decent profit. Subsidy levels have fallen significantly with the rise in prices. Meanwhile, industrial livestock firms are, for the first time in a decade, having to pay full costs for their most important input – feed made with corn and soybeans. It remains to be seen whether this change will be enough to tip the balance back towards smaller-scale diversified livestock farms.

Many farmer organizations have called for farm policies that allow them to earn their money in the marketplace, from decent prices rather than from government subsidies. Our research suggests that prevailing policies, which until recently stimulated widespread overproduction while driving down prices, have benefited the agribusiness firms that consume farm products, not the farmers who grow them. They have done so at great taxpayer expense. Farmers and taxpayers would be better served by policies that provide needed government regulation of farm production so as to avoid indirectly subsidizing agribusiness firms.

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<sup>1</sup> See Timothy Wise, "Identifying the Real Winners from U.S. Agricultural Policies," *GDAE Working Paper No. 05-07*, December, 2005:

<http://www.ase.tufts.edu/gdae/Pubs/wp/05-07RealWinnersUSAg.pdf>

<sup>2</sup> See Starmer, Witteman, and Wise, "Feeding the Factory Farm: Implicit Subsidies to the Broiler Chicken Industry," *GDAE Working Paper No. 06-03*, June 2006:

<http://www.ase.tufts.edu/gdae/Pubs/wp/06-03BroilerGains.pdf>

<sup>3</sup> See Starmer and Wise, "Living High on the Hog: Factory Farms, Federal Policy, and the Structural Transformation of Swine Production," *GDAE Working Paper No. 07-04*, December 2007:

<http://www.ase.tufts.edu/gdae/Pubs/wp/07-04LivingHighOnHog.pdf>

<sup>4</sup> See Starmer and Wise, "Living High on the Hog: Factory Farms, Federal Policy, and the Structural Transformation of Swine Production," *GDAE Working Paper No. 07-04*, December 2007:

<http://www.ase.tufts.edu/gdae/Pubs/wp/07-04LivingHighOnHog.pdf>

<sup>5</sup> Union of Concerned Scientists, forthcoming report on subsidies to the CAFO industry.

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