The Changing Politics And Dynamics Of Food Production

New Report Focuses On Strengths, Weaknesses Associated With The Changes

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When my parents first started farming in the mid 1940's, they raised dairy cows, fed cattle, and kept a few hogs and chickens. By the time I was born about 15 years later, as the youngest of their four children, our livestock mix had changed to a cow-calf operation and about 30 sows. When I graduated from college, livestock were nowhere to be found on the farm.

Why? You could argue something simple such as "shoveling manure wasn't exactly our cup of tea." However, the reality of the situation is much more complex. Raising livestock is hard work that requires a stable, reliable and skilled labor pool. To be financially competitive, operators need to increase productivity and value, and that often means getting larger and more specialized so that you can produce a high-quality, consistent product for consumers. My family decided to focus on establishing a competitive advantage in grains.

I was reminded about how many people look for the simplistic answers about food production during the inauguration ceremonies for President Barack Obama. We hosted out-of-town guests and one of them wanted to talk to me about why so-called "factory farms" were taking over food production. "It's terrible that all of these large, industrial operations are now producing most of our food," he emphasized.

Really? I had questions in return: Is bigger, necessarily bad? What size is a so-called factory farm? What if a farm, like mine, grew larger and was still owned by a family – is that still a cause for concern? What if the cost of your food went down because U.S. farmers were more productive – is that a positive or negative?

erations have changed in size and structure and discuss some of the ramifications – both good and bad. They also explain how simple measures of "average" farm size can be misleading for policymakers. The report is based on recent ERS research, which relies on farm-level data cultivated from the Census of Agriculture, the Agricultural Resource Management Survey, and other livestock surveys.

For example, the Census of Agriculture reports that 105,978 farms sold fed cattle in 2002, and that a total of 28.2 million fed cattle were sold. That means the average number sold is 266 cattle. But that average (the mean farm size) isn't very informative because most farms were much smaller than the average; 91,000 sold less than 100 cattle, and half of those sold less than 10 cattle. In reality, over 20 million of the 28.2 million cattle sold in 2002 came from farms that sold at least 5,000 head.

In 1959, farms producing at least 100,000 broilers in a year accounted for 28.5 percent of production. Today, hardly any commercial growers produce fewer than 100,000 broilers in a year. The industry's basic organization remains unchanged, but production continues to shift to larger operations, from a production locus of 300,000 broilers in 1987 to 520,000 in 2002 and 600,000 by 2006.

Consolidation in the hog and dairy sectors is more pronounced. Half of all 1987 dairy production came from farms with no more than 80 milk cows in the herd. As very large operations (with 1,000 or more cows) grew more common, the locus of production grew to 275 cows by 2002. Shifts in hog production were even more dramatic, according to the authors. In 1987, half of all hogs marketed came from farms that sold no more than 1,200 hogs. That locus rose to 23,400 by 2002, reflecting a major reorganization of production into stages, as well as shifts to larger operations in every stage of production.

Ownership and marketing agreements are changing other aspects of the livestock industry, according to the authors. While most large livestock and poultry farms are family owned and operated businesses, they are becoming more closely linked to input providers and processors through formal contracts, joint ownership of animals, and vertical integration. Tighter vertical coordination can ease management of financial risks and speed the diffusion of innovations, the report points out.

Table 2: Consolidation in livestock production, 1987-2002

	1987	1992	1997	2002
	Production locus (head sold/removed)			
Broilers	300,000	384,000	480,000	520,000
Fed cattle	17,532	23,891	38,000	34,494
Hogs	1,200	1,880	11,000	23,400
	Production locus (milk cows per farm)			
Dairy	80	100	140	275

Note: The production locus measures the size of farm at which half of production came from larger farms, and half from smaller.

Source: Hoppe et al. (2007).

Table 4: Size structure of dairy farms, 1992-2007

	1992	2000	2007
	Percent of cow inventory		
Herd size (milk cows)			
1-49	20.4	12.0	7.4
50-99	29.0	22.0	15.4
100-199	19.0	18.0	13.4
200-499	13.7	16.7	14.9
500-999	8.0	12.0	12.5
1,000+	9.9	19.3	36.4

Note: Herd size refers to all dairy cows on an enterprise, including dry cows but excluding calves, heifers, and bulls.

Source: USDA/NASS *Milk Production*, February Issue (1992 and 2000); USDA/NASS *Farms, Land in Farms and Livestock Operations* (2007).

Foodie movement grows

It's no secret that commercial-scale agriculture opponents like this will try to make themselves heard within the new Obama Administration, pushing for local and organic foods, and what they describe as smaller, more sustainable operations. The Minnesota-based Organic Consumers Assn. even went so far as to try to block the Senate confirmation of Secretary Tom Vilsack.

"Vilsack's nomination sends the message that dangerous, untested, unlabeled genetically engineered crops will be the norm in the Obama Administration," said Ronnie Cummins, Executive Director of Organic Consumers Association. "Our nation's future depends on crafting a forward-thinking strategy to promote organic and sustainable food and farming, and address the related crises of climate change, diminishing energy supplies, deteriorating public health, and economic depression."

But others, including several prominent organic food pioneers came to his defense. Their Web site (http://supportvilsack.com) says that OCA's criticism is either out of context, incomplete or "simply false." It features testimonials to Vilsack from Stonyfield Farms CEO Gary Hirshberg; Bob Scowcroft, head of the Organic Farming Research Foundation; and Steve Demos, founder of White Wave Foods, now the Dean Foods subsidiary that has the market-leading Horizon Organic milk brand. Even Wayne Pacelle of the Humane Society of the U.S. also endorsed the pro-Vilsack effort.

The group challenged OCA's claim that Vilsack had a record "of aiding and abetting . . . factory farms and promoting genetically engineered crops and animal cloning." It said that Vilsack advocated local control of siting large livestock facilities but was blocked by Republican legislatures. Vilsack supported biotechnology because its benefits outweigh the risk, the group said, but also promoted markets for organic and natural foods.

Documented trends

A new report by USDA's Economic Research Service (ERS) tries to shed some light on this debate as it pertains to livestock production, documenting the trend toward integration and specialization on farms and ranches across all of the U.S. – fundamental facts that many observers don't seem to understand when they invoke images of Old MacDonald's farm. Sure, there are still many small farms raising some chickens, hogs, or cattle. However, most production is on much larger farms---many of which are still owned and operated by families.

In a new report, "The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks," authors James M. MacDonald and William D. McBride describe how livestock operations have increased productivity, ultimately enabling lower costs of production and lower food costs for consumers. For example, the largest dairy farms (1,000 cows or more) had average costs of $13.59 per hundredweight in 2005, 35 percent below the costs for farms with 100-199 head (estimated $20.82 per cwt).

The broiler industry witnessed similar improvements in productivity. In 1955, when modern integrated broiler complexes were being introduced, the authors noted that it took 73 days to produce the average broiler, which weighed 3.1 pounds, and every 100 pounds of broiler production required 285 pounds of feed and 4 hours of labor. By 1980, it took 52 days to produce a broiler that weighed about 4 pounds, and every 100 pounds of broilers required 208 pounds of feed and 30 minutes of labor.

The report underscores how technology, innovation, and American ingenuity have made our food production system the envy of the world, even though the changes have also created new challenges. Before policymakers start to develop new regulations and fees that impact the competitiveness of the U.S. livestock industry, they should at least read the full report. It's available online at: http://www.ers.usda.gov/Publications/EIB43/ . Δ

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Is bigger better?

Some would argue that bigger isn't always better. The authors note that "Larger farms concentrate animals in small areas, heightening pollution risks from excess manure nutrients in land, water, and air resources. Finally, farmers with large herds or flocks in confined areas are more vulnerable to the rapid spread of animal diseases, which they combat with the widespread use of animal antibiotics. This has led to concerns that such widespread use creates human health risks if animal antibiotics accelerate the development of resistance among human pathogens."

Yet, the report also focuses on some of the positive elements associated with larger operations.

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