

## **Animal Management**

Profitability and Sustainability come into play immediately when trying to answer the question of whether we should feed antibiotics and hormones to our farm animals, not when they are sick but as a way to maintain the health of animals and increase their weight gain as fast as possible. Animal production for the year 2012 was 29M cattle, 68M hogs, 250M turkeys, and 8.4B chickens.<sup>1</sup> This is the number of animals we now birth, raise, feed, and slaughter in order to feed our population and meet the needs of other world markets.

It never used to be this way. During the Depression in the 30's, the US farmer was luckier than most other Americans since he usually had sufficient resources to put food on the table. Farming was a small independent business which, if well managed and if the weather cooperated, required little overhead. Animals were pastured at home in fields. Cows ate grass, chickens scratched for seeds in the barnyard, and pigs ate slops.

After World War II, farming began to change dramatically. Hybrid corn was introduced, and farmers realized that growing just one or two crops was more profitable, and the more money they made the more land they could buy. Animals began to be sold or contracted out to feedlot operators for fattening up on corn. The danger of disease increased, however, as animals were raised in close proximity to each other and given food difficult to digest for grass eaters. In order to keep animals healthy, low levels of antibiotics were introduced, as well as hormones to accelerate weight gain. The faster they got fat the less corn they needed. It was an economical trade off. <sup>2</sup>

The growing consolidation of the animal industry divided the operation into two distinct phases: farmers raised the animals on traditional farms and industrial processors "finished" or fattened them on feedlots of varying sizes. The majority of feedlots contain fewer than 1000 animals, but finish only a small percentage of cattle. Those with over 1,000 cattle finish 80-90%, and a few lots hold up to 32,000 or even more. <sup>3</sup>

Even greater consolidation has taken place in the dairy sector. In 1940, 76.4% of all farms included cows for milking. As of 1997, that number was down to just 6.1%. While the number of cows kept primarily for milking dropped from around 24 million in 1940 to about 9 million in 2000, milk production has risen steadily as a result of more efficient milking technology, advances in animal nutrition and health, and biotechnological interventions in breeding and pharmacology. <sup>4</sup>

Factory farmers became successful by consolidating operations supported by scientific and technological advances in animal management, economies of scale, and the demand by the public for attractively priced meat products. The downside was the negative impact of CAFCOs (concentrated animal feeding operations) on local communities, e. g.,

surface water contamination of lakes, streams, and ponds from pathogens such as growth hormones, antibiotics, chemicals used as additives to manure or to clean equipment; leakage from corn silos, waste odors and insect infestations. 5 Other impacts have been a number of health issues and less economic viability for rural farm families.6 CAFCOs also enjoy other economies besides those of size. Federal subsidies on corn and soy make buying feed much cheaper for feedlot operators than for mid-size farmers who have to grow their own. 7 Feedlot operators also receive direct subsidies through the Environmental Quality Incentives Program (EQUIP) for financial and technical assistance which has paid for waste management systems for new or expanding CAFCOs. 8

Better management of animal waste systems is an ongoing problem faced by CAFCOs, but size is an important factor. If the average farm in the past was too small, optimum size for a CAFCO could turn it into a better neighbor. Land is capable of absorbing just so much waste. It is important to pay attention to the carrying capacity of land. Even well managed waste production pollutes neighboring lands, streams or crops in a severe storm. In addition, traces of antibiotics, hormones, pesticides and other additives are found in the large pools or lagoons where fecal matter is collected and treated before it soaks in, runs off or is sprayed over crops to get rid of it.

There are conflicting ideas on what constitute best practices for the animal management industry. Factory farmers maintain that a combination of small, medium, and larger farms are unable to raise the number of animals needed to feed present demands. Other farmers have had second thoughts however. They want the autonomy of having their own operation, often sustainably based, without the worries of having to use antibiotics, hormones or chemicals on animals or even in crops or the soil. Many farmers have found they no longer need to use pesticides by relying on natural sustainability practices and diverse plantings.

In 2014 we continue to fatten animals on big industrial feedlots (almost all cattle, chickens, and hogs by the year 2000 were raised this way). Since disease can decimate an operation without the use of constant low level antibiotics, and since hormones provide the fastest way to the slaughterhouse and monetary return for the operators, antibiotics and hormones have become the preferred way to insure the life and safety of animals in feedlots.

The FDA has, however, reacted to public pressure and moved to cut use of antibiotics in food-producing livestock, according to a recent widely publicized article which states:

The agency has been under pressure from consumer groups and some members of Congress in recent years to grapple with the problem of micro-organisms that don't respond to the current panoply of powerful antibiotics and other antimicrobial drugs. It is widely believed that a prime reason for the proliferation of these bugs is that antibiotics such as penicillins and tetracyclines have been overused on U.S. farms for as long as half a century.

Further reading of the FDA's published guidance makes it plain that reduction is voluntary, but agency officials do expect major makers of animal drugs to comply". 9

FDA oversight of animal feed by the Center of Veterinary Medicine (CVM) includes regulation, manufacture and distribution of food additives and drugs given to livestock as well as companion animals. All prescription and over the counter drugs are listed in its Green Book on a monthly basis. The approval process involves evaluation of research conducted by the drug's sponsor, including a review for (1) safety to the animal and food products made from the treated animal; (2) effectiveness; (3) impact on the environment; and (4) safety of the people administering the drug or who may come into contact with the drug.<sup>10</sup> To prevent drug residues in animal-derived foods from entering the food supply, FDA approval specifies a withdrawal time, i. e., a waiting period following administration of a drug to the time the animal may be slaughtered or milk may enter the food supply.<sup>11</sup> Many of the antimicrobials are the same as those used on humans and when used in feed as well they have contributed to antibiotic resistant bacteria."<sup>12</sup>

Use of rendered animal materials in feed has been associated with increased levels of bacteria, antibiotic resistant bacteria, and prions, (protein agents associated with Bovine spongiform encephalopathy, BSE, or Mad Cow Disease).<sup>13</sup> &<sup>14</sup> In 1997 FDA prohibited the use of most mammalian protein in the manufacture of animal feeds given to ruminant animals. In 2008 the FDA additionally prohibited the use of clearly defined, high-risk cattle tissue in all animal feed. <sup>15</sup> Debate continues, however, on the efficacy and sufficiency of current regulations and inspections.<sup>16</sup>

1 "Charts and Maps," National Agricultural Statistical Service, [http://www.nass.usda.gov/Charts\\_and\\_Maps/](http://www.nass.usda.gov/Charts_and_Maps/)

2 "Antibiotic Resistance: Agencies Have Made Limited Progress Addressing Antibiotic Use in Animals," GAO, September 2012, p. 6,

<http://www.gao.gov/new.items/d11801.pdf>

3 Flynn J. Adcock, Darren Hudson et al., The Global Competitiveness of

the North American Livestock Industry, CHOICES 21(3), pp. 171–176, 2006, <http://www.choicesmagazine.org/2006-3/animal/>

4 The Changing Landscape of U.S. Milk Production,” Don P. Blayney, June 2002 USDA, p. 2–3, <http://www.ers.usda.gov/publications/sb-statistical-bulletin/sb978.aspx>

5 & 6 Carrie Hribar, Understanding Concentrated Animal Feeding Operations and Their Impact on Communities, National Association of Local Boards of Health, 2010, p. 5, [http://www.cdc.gov/nceh/ehs/Docs/Understanding\\_CAFOs\\_NALBOH.pdf](http://www.cdc.gov/nceh/ehs/Docs/Understanding_CAFOs_NALBOH.pdf)

7 & 8 Elanor Starmer and Timothy A. Wise, “Feeding at the Trough: Industrial Livestock Firms Saved \$35 Billion from Low Feed Prices”, Global Development and Environment Institute, Tufts University, 2007, <http://www.ase.tufts.edu/gdae/Pubs/rp/PB07-03FeedingAtTroughDec07.pdf>,

9 U.S. NEWS: FDA Moves to Cut Use of Antibiotic in Food-Producing Livestock Dec. 11, 2011

10. FDA, Animal Health Literacy, “From an Idea to the Marketplace: The Journey of an Animal Drug through the Approval Process,” <http://www.fda.gov/downloads/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/UCM221613.pdf>,

11. FDA, Approved Animal Drug Products-Green Book, <http://www.fda.gov/AnimalVeterinary/Products/ApprovedAnimalDrugProducts>

12. “From an Idea to the Marketplace: The Journey of an Animal Drug through the Approval Process,” FDA, <http://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm219207.htm>

13 Amy R. Sapkota, Lisa Y. Lefferts, Shawn McKenzie, and Polly Walker, “What Do We Feed to Food-Production Animals? A Review of Animal Feed Ingredients and Their Potential Impacts on Human Health,” Environmental Health Perspectives, 115:5, May 2007, pp. 665–667, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1867957/pdf/ehp0115-000663.pdf>

14. Sapkota, op. cit., p. 666.

15. FDA, “Feed Ban Enhancement: Implementation Questions and Answers”, updated June 5, 2009,

<http://www.fda.gov/AnimalVeterinary/GuidanceComplianceEnforcement/ComplianceEnforcement/BovineSpongiformEncephalopathy/ucm114453.htm>

16 Trevor Stokes, "Are USDA Assurances on Mad Cow Case 'Gross Oversimplification,'" NBC [News.com](http://www.nbc.com), May 2, 2012