

Confined Animal Facilities in California

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EXECUTIVE SUMMARY

Confined animal facilities, sometimes called factory farms, apply industrial production methods (concentrated production, large capitalization and mechanization – all housed in a factory-like facility) to the raising of animals for human consumption.

While this method of intense production farming has produced certain economic benefits – cheaper and more plentiful products – it has also produced unintended consequences. Many of the concerns over confined animal facilities (CAFs) have centered on hog and poultry operations in the southern, eastern and midwestern sections of the United States. CAFs in California are largely confined to dairies, beef cattle feedlots and the poultry industry.

Confining animals in restrictive spaces produces unique responses. Confinement produces unnatural behavior and living conditions. To keep poultry from harming each other, beak tips may be removed. A percentage of animals that experience this procedure die. Antibiotics are routinely administered to counteract the spread of disease that stress and living in close quarters can promote. Light deprivation is used in some cases to promote increased egg and meat production. Male chickens in egg-producing facilities are disposed of by the thousands.

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Some dairy cows have their tails docked so they do not interfere with mechanized milking equipment. They are given hormones to increase their milk production – sometimes up to ten times what would occur naturally. Beef cattle can spend up to half of their lives in confined feeding pens with 75 to 200 other head of cattle.

Factory farming also produces waste that pollutes surface and groundwater, pollutes the air and harms wildlife habitat. The generation of this waste also impacts human health from the contamination of drinking water with pathogens, to the diminished effectiveness of antibiotics for humans.

Other states, local governments and nations, especially the European Union (EU), have been addressing these issues for some time. California has just begun and is mainly focusing on air and water pollution.

INTRODUCTION

According to the 1997 Census of Agriculture, sales of confined animal species (feedlot beef cattle, dairy, swine and poultry) totaled over \$75.4 billion, more than 45 percent of total farm sales. Federal policies that affect the industry's manure-management costs – e.g., through the Clean Water Act and farm legislation – can have significant economic effects on the livestock and poultry sectors. In addition, a growing number of states are implementing regulations directed specifically at confined livestock and poultry operations.

Farm animal production has steadily evolved from family-farm-sized units to more and more integrated or corporate-sized farm units. This is particularly true for poultry production and more recently for production of swine. The number of beef (fattened cattle) feedlots with over 1,000 animals has stayed relatively stationary.

Constructing larger facilities is more cost-effective on a per-animal basis if not all the external costs are considered. External costs, such as environmental and community effects, are not normally included when the owner of an animal-feeding operation or meat-processing facility calculates the cost of operation.¹ Large concentrations of animals grown in confinement generate large quantities of manure or litter.

Beef cattle, dairy cows, swine, broilers (chickens raised for meat) and turkeys are the primary farm animals produced in the United States. With the exception of beef cattle, these animal species are commonly grown in partial or total confinement systems on concrete floors. This means the manure produced can be more efficiently collected. Beef cows are primarily maintained on pasture and not in confinement. The “finishing” of cattle is done on feedlots where they are normally confined on uncovered dirt.

¹ Richard Hegg, *Legislation in the USA for Confined Animal Feeding Operations*, U.S. Department of Agriculture, p. 2.

Feedlots generally produce a “dry” manure-soil mixture, which means the material can be handled as a solid.

In the United States, much of the controversy over CAFs revolves around the trend in southern, eastern and midwestern states to larger and more specialized hog and poultry-raising operations.

Farm Size

Nationwide, over the last half-century, the number of farms and the total land in farms have decreased, while the size of an average farm has increased. This trend has been less pronounced in California. While the average U.S. farm doubled in acreage between 1954 and 2002, the average California farm increased by about 13 percent.

In 2002, about 80 percent of California farms were less than 180 acres, yet the “average farm” size was 347 acres. These two statistics highlight the fact that a small percent of larger farms account for a large percent of total acreage. These large farms include ranches that graze livestock and that may generate relatively little revenue.

By product sales value, California agriculture is comprised of a large number of small farms, while a small number of large farms represent most of the sales. The 16 percent of California farms with sales of more than \$250,000 in 1997 also represented over 90 percent of total sales value. In 1997, almost 44 percent of California farms sold less than \$10,000 worth of agricultural products.²

CONFINED ANIMAL FACILITIES IN CALIFORNIA

Confined animal facilities in California are largely limited to dairies, beef cattle feedlots and the poultry industry.

Dairy Cattle

California is the No. 1 milk producer in the United States. California’s dairies are highly specialized. As the larger dairies relocate from Southern California to the San Joaquin Valley, existing dairies are pressed to enlarge to keep competitive.

California’s 2,246 dairies and their 1.4 million milk cows produce 3.5 billion gallons of milk each year. Milk production represents 13 percent of all agricultural production in California – over \$4.5 billion in revenues in

² D. Sumner, J. E. Bervejilo, and N. V. Kuminoff, “The Measure of California Agriculture and Its Importance in the State’s Economy,” pp. 68-70, Jerry Siebert, ed., *California Agriculture Dimensions and Issues*, University of California, Giannini Foundation of Agricultural Economics, Division of Agriculture and Natural Resources, 2003.

1998.³ According to agricultural economic experts at the University of California, Davis, while there are some large cooperatives in California, most of the state's dairies are family-owned operations.⁴

The primary concerns with the dairy industry revolve around the management of liquid wastes, the use of antibiotics and growth hormones and their effect on human health and the environment, and humane treatment of dairy cattle. Specifically, large dairy operations produce large amounts of liquid wastes that are stored in retention ponds or lagoons and then applied to cropland for disposal (see the section titled "Environmental Effects," page 14). Concerns have been raised that routinely used antibiotics can find their way into dairy and beef products that may affect human health. Finally, animal welfare advocates have expressed concern over long lactating periods that are artificially induced, abnormal swelling of cows' udders, routine confinement of these animals for long periods and removal of calves from their mothers shortly after birth.

Antibiotics are commonly used in feeding materials until a calf is about four months old to improve growth, reduce the incidence of sores and improve appetite. Veterinary scientists do not recommend feeding antibiotics to adult cows.⁵ Antibiotics have been used for more than 30 years to prevent and treat mastitis (inflammation of the udder), but care must be taken to avoid residues in milk or meat. In 1990, the Milk Industry Foundation tested more than 2 million milk tankers and detected drug residues in only 0.1 percent of them. Delegates at the 23rd National Conference on Interstate Milk Shipment in April 1991 adopted strict measures designed to ensure that no antibiotic residues enter the milk supply. Every load of Grade A milk is screened. If residues are detected, the milk is discarded and violators are not allowed to ship milk for two days. If it is a second offense, the ban lasts four days. If there are three violations in a year, the regulatory agency may revoke the violator's Grade A permit.⁶

Beef Cattle

Almost all breeds of beef cattle can be – and are – raised in California. The dairy sector contributes a significant quantity of steers, culled cows and bulls as animals marketed for beef. Cattle and calves are California's fifth-largest agricultural commodity.

Large-scale commercial feedlot operations were essentially developed in California and Arizona in the middle of the 20th century. By 1953, large feedlots had emerged as an important feature of the California landscape,

³ <[http://www.nass.usda.gov/ca/rev/lvstk/407lvsna.htm#Milk Production](http://www.nass.usda.gov/ca/rev/lvstk/407lvsna.htm#Milk%20Production)>.

⁴ Discussion with Dr. Daniel Sumner, agricultural economist, UC Davis.

⁵ <<http://www.nal.usda.gov/awic>>.

⁶ Ibid.

with over 93 percent of cattle on feeds in lots of a capacity of 1,000 or more. Between 1953 and 1963, the number of cattle on feed in California and the capacity of the state's feedlots tripled. At the same time, the average size of the lots soared. By 1963, almost 70 percent of cattle on feed were in mega-lots of 10,000 or more head. Employment of state-of-the-art feedlots and modern science and veterinary medicine, along with favorable climatic conditions, allowed ranchers in California and Arizona to achieve significant efficiencies in converting feed to cattle weight. Since the 1960s, much of the cattle-feeding industry has shifted from California toward the Southwest and the Corn Belt.⁷

According to the California Department of Food and Agriculture and the California Cattlemen's Association, there are 23 to 30 beef feedlots in California and 450,000 head being fed. The U.S. Department of Agriculture Website showed 520,000 cattle on feed for slaughter in California feedlots in July 2004.⁸

As in other animal industries, concerns over the beef industry deal with waste management and the use of antibiotics.

Feed additives for the livestock-feeding industry have been used in the United States for more than 30 years. Antibiotics may be fed to provide protection from disease. These feed additives aid in reducing digestive disturbances that may result from giving high-energy feeds to cattle. The U.S. Food and Drug Administration (FDA) regulate both the type and amount of antibiotics fed to cattle. According to a professor of veterinary science at UC Davis, antibiotics do not show up in beef products when used in accord with FDA standards.⁹

Beef calves are generally de-horned, males are castrated and many animals receive brands. Each of these practices inflicts some transient pain on the animal. Ranchers say there are sound reasons for their use – that these practices provide long-term health and management benefits to the individual animals and their herd or pen mates by alleviating long-term stress from injury and disease.

Beef calves typically remain with and suckle from their mothers until they are about seven months old. They may then move directly to a feedlot, be placed on "backgrounding" diets (diets that contain large amounts of forage such as hay, alfalfa, grass and clover and result in moderate rates of gain) or be fed forages for about a year before they move to feedlots. Calves that

⁷ Jerry Siebert, op. cit. p. 11.

⁸ <<http://www.nass.usda.gov/ca/ravlvstk/407vstb.htm#cattleonfeed>>.

⁹ Personal communication between Dr. Dennis Wilson, UC Davis, and SOR staff, October 7, 2004.

enter feedlots after removal from their mothers will spend 200 to 250 days in feedlots, while backgrounded calves or yearlings will spend only 100 to 140 days in feedlots. These cattle will spend approximately 20 to 52 percent of their lives in CAFs.

California feedlots are not covered or enclosed facilities. Feedlots are typically composed of many pens of cattle that are managed and fed. Cattle are placed in pens with animals of similar age and size, reducing the possibility of animal conflicts. These pens hold between 75 and 200 head of cattle.¹⁰

Poultry

California broiler production is concentrated in the upper San Joaquin Valley. The industry is highly concentrated, with several firms accounting for a large majority of broilers, processed from either company-owned or contract ranches. Processors are fully integrated from placement of chicks at production facilities to the marketing of branded products at retail stores.

The existence of large-scale poultry operations enable the largest plants to decrease labor, overhead and capital costs by 10 percent over those of their smallest competitors. To remain competitive, smaller plants have to either increase their own production, reduce their production costs or switch their product mix to highly specialized products for niche markets.

Many economists believe that scale economies are a driving force in industry consolidation. The scale economies in poultry slaughtering are said to be stronger than in cattle and hogs.¹¹

The poultry industry's issues concern the humane treatment of animals and the use of antibiotics. Animal advocates have expressed concern over de-beaking – cutting or burning off the tip of the beaks of poultry so they cannot injure one another when confined in close quarters – and the amputation of toes and claws of turkeys for the same reason. In addition, advocates feel it is inhumane to confine these animals in buildings for meat production or in racks of individual cages for egg production.¹² This is done by the thousands, or hundreds of thousands, and in many cases these animals live under regulated light conditions. The medical community has also expressed concern over the routine use of antibiotics to counter disease, which is accelerated by close confinement and stress. More and

¹⁰ <<http://www.nal.usda.gov/awic>>.

¹¹ M. Ollinge, J. MacDonald, and M. Madison, "Poultry Plants Lowering Production Costs and Increasing Capacity," *Food Review*, Volume 23, Issue 2, May-August 2000, p. 7.

¹² Personal communication, Lauren Ornelas, director, USA Campaigns, Viva, a California-based animal protection group, September 15, 2004.

more bacteria are becoming resistant to antibiotics, which is limiting the range of therapies that can successfully be used to protect human health. Some groups of farm-animal producers have become somewhat proactive in publishing handling-and-care practices for the treatment of animals. However, these practices are strictly voluntary. One national group supported by the Humane Society of the United States and American SPCA has an active program to certify farms for animal-welfare standards using a third-party assessor.¹³ There are a few farms in California certified by this program.

ANIMAL WELFARE

As animal welfare activists who oppose confined animal facilities see it, animal cruelty is pervasive and routine. CAF farming is viewed as a practice that forces animals into confined spaces intended to maximize profits on selling their flesh, eggs and milk, well ahead of any consideration for their welfare. Members of the agricultural community view their practices in mainly economic terms – more efficient production, less labor costs and less expensive products for the consumer.

Poultry

At the large egg farms, laying hens may be kept in long, darkened sheds for extended periods. Photos made of practices in the egg industry by animal activists show chicks tossed onto conveyor belts, the females diverted one way to be raised for egg production, the males sent another way for disposal. The Tribe of the Heart organization puts the number of male chicks killed nationally by large egg farms at 250 million a year.¹⁴

Up to 125,000 hens at a time occupy the long, narrow sheds typical of the big farms in California.¹⁵ Hens spend one year in the sheds until their egg production days are over and are sold for meat at 18 to 20 months of age.¹⁶

Beak Trimming

Various groups view beak trimming very differently. The animal activist community believes it is an inhumane practice. The poultry industry views it as a necessary practice. The University of California's Cooperative Extension does not take a stance on whether it is a humane practice.

For chickens and turkeys bred for meat production, efficiency of the enterprise means mechanically cutting the chicks' beaks back, occasionally

¹³ <<http://www.certifiedhumane.com>>.

¹⁴ Lauren Ornelas, op. cit.

¹⁵ *Egg-Type Layer Flock Core Practices*, California Poultry Workshop, University of California Cooperative Extension, p. 2.

¹⁶ California Poultry Workshop, op. cit.

drawing blood, to prevent the animals in close quarters from pecking each other to death before their optimum meat weight is achieved.

Beak trimming in the hatchery protects chicks from injuring each other. If beaks are to be trimmed, a hot blade trimmer with a blunt blade should be used to notch the upper beak, according to the UC's Cooperative Extension Animal Care Series. An electric spark trimmer can also be used. After a few days, the tip of the beak will separate under these two methods, leaving a trimmed upper beak. This approach leaves the tip of the beak intact until a chick learns to eat and drink. The Animal Care Series does not attempt to set forth specific guidelines for production practices or describe best practices but rather explains why, when and how these practices are used in complex production systems in California.

Trimming may be done once at a very early age (first week of age) or twice (a second permanent trimming at 6 to 12 weeks of age). Proponents say that when done correctly, this provides life-long reduction of feather pecking and injury and also reduces feed waste.

Beak trimming is said to have very minimal effects on the young chicken when performed before six weeks of age. Later trimming tends to affect the birds by depressing feed consumption, resulting in lower body weights during the following weeks. Careful beak trimming requires all parts of the procedure to be adhered to closely. This includes the age of the flock, amount of beak to be removed, sharpness and temperature of the blade and angle of the cut.

Poultry Lighting

Animal activists believe that withholding natural light and manipulating the timing of light is unnatural and therefore inhumane.

UC's Cooperative Extension Animal Care Series has provided the following information to explain standard industry practices regarding lighting for broilers and egg layers:¹⁷

- ♦ *Broilers – Developing pullets of meat-type strains that are exposed to increasing day lengths will begin laying eggs before they have reached optimum body size. This can result in excessive production of small eggs and hens that are more susceptible to prolapse of the oviduct, which often leads to death. To prevent these problems, pullets should be raised on short days (e.g. 8 hours) in a darkened house, or on decreasing day lengths if housed in pen-side housing.*

¹⁷ Again, the Animal Care Series does not attempt to set forth specific guidelines for production practices or describe best practices but rather explains why, when and how these practices are used.

The day length should be increased to initiate lay when adequate body development and age have been achieved. Males should be light-stimulated at least a week before females to assure good fertility of the lay.

- ♦ *Egg-laying flocks – Since many of the inherent chicken responses common to wild birds have been bred out of the domestic chicken, responses to lighting programs are far less pronounced than in the past. Seasonal influences on performance are less noticeable and only small differences are noted between lighting programs of widely divergent descriptions. Nevertheless, all commercial producers use lighting programs. Replacement pullets are commonly reared on constant day-length programs in environmentally controlled housing, or on decreasing day-length patterns in open-type rearing houses.*

Laying flocks are usually boosted to at least 13 hours of light when egg production is desired, with additional weekly increases of 15 to 30 minutes, until a maximum of about 16 hours of total day length is reached.

Foie Gras Production

Besides meat production, ducks and geese are induced to produce enlarged livers for the gourmet delicacy foie gras. To achieve the desired effect, the birds' livers are fattened by prying open their beaks and forcing a tube down their throats, through which a corn mixture is fed into their systems two to four times a day, every day, for periods of two to four weeks. Consequences for the animals include swollen livers which expand the abdomen and make breathing and walking difficult. SB 1520 (Burton), which was signed into law by the governor on September 29, 2004, will ban the practice in California by July 2012.

Animal activists report that lesions and infections to the bill and esophagus occur from the force of inserting the feeding tube. After the forced-feeding period of two or more weeks, the birds are often too weak to stand or flap their wings, they contend. Humane issues have brought about bans or proposed bans on foie gras production throughout most of Western Europe. In the United States, foie gras is produced in only two states: New York produces 80 percent; a farm in the Central Valley produces the rest.

Dairy

For milk cows, efficiency means removing their calves soon after birth and injecting the cows with hormones to expand the udders to maximum milk

production – up to 10 times more than their capacity in nature.¹⁸ Activists' descriptions of mother cows and calves being put in a state of "anguish" or anxiety over their separation are not universally accepted.¹⁹

Spent dairy cows are slaughtered, with most of the meat ground into hamburger – much of it for the fast-food restaurant trade.

Tail Docking

An emerging issue in the United States is the docking of cows' tails. The practice has been limited primarily to cows milked in rotary and parallel parlors to prevent disease, improve hygiene and enhance milking from the rear.

According to a 2002 study in the *Journal of The American Veterinary Medical Association*, "A review of the available literature suggests that the tail docking procedure causes minimal and transient acute discomfort in cattle. The role of chronic pain remains unknown. In facilities with high fly densities, docked cattle have significantly greater fly predation than nondocked cattle. Because most dairies have high fly densities, especially during the warm months, tail docking is detrimental to the cow's welfare and comfort." The study concludes, "Until evidence emerges that tail docking has benefits to animal well-being, health, or public health, *the routine practice of tail docking should be discouraged.*"²⁰ (Emphasis added.)

If a dairy bovine is born male, he is usually shifted from the dairy herd to the veal market. In 1989, 15 percent of California veal calves were raised in "veal crates" which restricted movement.²¹ By 1996, California did not have a veal industry because "no one wanted the challenges involved in veal calf welfare, which animal activists (had) made their premier cause."²²

Currently, there is only one veal production facility in California in Tulare County.²³ This facility does not use "veal crates" but houses calves together in confined pens. The facility, Rancho Vitello, operates according to European Union practices and has modified them to include "emotional" standards.²⁴ The ranch's welfare practices are audited every three months

¹⁸ Lauren Ornelas, op. cit.

¹⁹ <<http://www.nal.usda.gov/awic>>.

²⁰ C. Stull, M. A. Payne, S. L. Berry and P. J. Hulinger, "Evaluation of the Scientific Justification for Tail Docking in Dairy Cattle," *Journal of the American Veterinary Medical Association*, vol. 22., no. 9, pp. 1298-1303, May 1, 2002.

²¹ *Los Angeles Times*, July 12, 1989, Metro Section.

²² *Feedstuffs*, October 18, 2004, p. 18.

²³ Personal Communication, Carolyn Stull, Veterinary Extension Specialist, UC Davis, October 13, 2004.

²⁴ Emotional standards are standards that go beyond science-based standards, such as allowing for tethering of calves, to accommodate the concerns of consumers and activists.

by Farm Animal Care Training & Auditing LLC. These calves are processed in Merced and then shipped to Strauss Veal in Wisconsin, where the veal is distributed to restaurants on the East and West Coast.²⁵ Other than these calves, most of the male bovines from California dairies are sent to feedlots for two to six months and then slaughtered and sent to the Japanese market.²⁶ There may be some small-scale veal production at individual small farms. Veal crates are not currently used but still exist at some locations.

Attempts at Reform in a Shifting Social Climate

Among CAF critics are many who argue that animal cruelty is not necessary, that profit and humane treatment in animal farming can be compatible. To cite one such conclusion, a 1991 study from the University of Minnesota written by Marlene Halverson, now a farm animal economics adviser for the Animal Welfare Institute, a certifying organization, stated:

[T]here is no reason why a technologically advanced society such as ours cannot design and manufacture technologies which will meet important welfare criteria for the animal, and be profitable for the farmer, if we have the motivation to do so. In this, I believe, lies an attainable middle ground. Those who advocate abstention from animal use are in the minority. The majority of those individuals who express concern, who sit down in front of a piece of chicken, or beef, or port, simply are interested in knowing the animal led a reasonable life.²⁷

As stated in one example from the study, experiments with hog farming in Sweden showed that pregnant sows produce bigger litters when treated humanely and permitted a roomier environment than sows cooped up in “gestation crates” before giving birth. The author notes that the industrialized hog-meat producers still are able to claim an economic advantage by apportioning less space per animal than the Swedish experiment’s alternative. However, the advantage declines and potentially disappears when environmental and health risk factors are drawn into the equation.²⁸

Another trend line, suggested in the same study, is a widening appreciation of the welfare that animals that are raised for human consumption deserve.

²⁵ *Feedstuffs*, op. cit.

²⁶ Personal Communication, Carolyn Stull, op. cit.

²⁷ M. Halverson, *Farm Animal Welfare: Crisis or Opportunity for Agriculture?* University of Minnesota, Department of Agriculture and Applied Economics. Copyright September 1991.

²⁸ *Ibid.* The study format, available on the Internet, does not number pages. For this citation, see subheading, “The Andersson System.”

Then-current initiatives on behalf of humane animal treatment “may mark a sea change in the value structure of Western society,” said the study, adding:

Indications are that a new social imperative regarding the human-animal relationship is forming characterized by a less objectified, more intuitively caring view of nonhuman animals and, indeed, of the natural environment itself . . . Moreover, this subjective viewpoint is increasingly characterized by sympathy, a willingness to accept on faith that nonhuman animals are capable of subjective experience, experience quality of life and that humans have a responsibility to provide for the quality of life of animals under human care and dominion.²⁹

This “new social imperative” has found acceptance in Europe to the extent that the EU has mandated a number of measures on behalf of food-animal welfare. As early as 1989, the Common Agricultural Policy of the European Parliament reflected amendments that stated, in part: “Priorities on investment aids to agriculture in the EC [European Union, later called the EU] [aim to] preserve and improve the natural environment and animal welfare by preventing undesirable intensive farming.” This advisory also stated that government investment support was

“not to be extended to investments aimed at increasing production capacity but rather at improving the quality of production facilities and improving health and hygiene on stock farms and animal welfare.³⁰

Today in this country there are signs of a fledgling shift in public sympathy toward the treatment of animals on production-line farms:

- ◆ The nationwide Whole Foods grocery chain declares on its Website:

Our standards ensure that the beef and poultry we sell are:

- ▶ *Raised without added hormones.*
- ▶ *Raised without antibiotics.*
- ▶ *Never fed animal by-products.*

²⁹ Ibid., penultimate page of text section.

³⁰ European Parliament Minutes, *Amendments to Regulations Concerning Adjustment of Agricultural Structures*, October 27, 1989.

- ▶ *Raised by farmers and ranchers who care about the animals and the environment in which they live.*
- ▶ *Closely monitored by Whole Foods Market from the farm to our stores to ensure compliance with our strict animal welfare and food safety quality standards.³¹*

A representative of Whole Foods at its headquarters in Austin, Texas, told SOR the company is actively engaged in pursuing further avenues to ensure the humane treatment of animal products sold in its stores.³²

- ◆ From an August 2002 statement by the grocery chain Trader Joe's, with more than 100 stores in California:

Currently, the agricultural industry is developing guidelines that will enable the American Humane Society or another independent agency to certify cruelty-free growers. This is still in its early stages and will take time to accomplish.

Unless and until such time as a duck farmer can show certification by a reputable and independent agency that his/her operation is a cruelty-free grower, Trader Joe's will discontinue the sale of duck meat.³³

- ◆ The People for the Ethical Treatment of Animals organization (PETA) states that McDonald's and other fast-food restaurant chains have taken "first steps" but "not nearly enough" toward ensuring humane treatment of the animals used in their products. For its part, McDonald's states on its Website:

McDonald's cares about the humane treatment of animals. We recognize that our responsibility as a purchaser of food products includes working with our suppliers to ensure good animal handling practices.³⁴

A McDonald's Customer Satisfaction representative told SOR that talks between the company and PETA broke down without progress, but that McDonald's is an "industry leader in animal welfare," requiring humane standards of all its meat suppliers.³⁵

³¹ <http://www.wholefoods.com/products/list_meat.html>.

³² SOR interview with Elizabeth Frye, public affairs representative, September 2004.

³³ <http://www.traderjoes.com/products/duck_meat.asp>.

³⁴ <<http://www.mcdonalds.com/search.html>>.

³⁵ Personal communication with SOR staff, September 8, 2004.

- ♦ As another example of attitudinal changes among for-profit enterprises, several restaurants in the Bay Area are experimenting with veal provided by Niman Ranch in Wisconsin. Niman buys from family farms where calves live in fields and feed on grass, rather than the alternative of confined spaces and chemical additives. Restaurateurs are reportedly pleased with the result despite the different color and texture of the veal.³⁶

ENVIRONMENTAL EFFECTS

The operation of confined animal facilities can cause both air and water pollution. Such pollution can affect the air we breathe, our drinking water (both surface and groundwater), bodies of water used for recreation and irrigation, and wildlife habitat.

CAFs generate waste that include manure, wash water, corral runoff, stormwater runoff, irrigation runoff, spoiled feed materials, runoff from feeds, dead animals, bedding and cleanup compounds. These wastes may be stored in areas such as corrals, in waste piles and/or retention ponds or lagoons. The wastes are generally then applied to on-site cropland or transported elsewhere for cropland use.

In California, large dairy operations and their waste pose the most immediate threat to air and water. There has been an increase in large dairies moving from Southern California to the Central Valley. As this occurs, existing dairies feel the need to expand to meet the competition, but too often are expanding on land that may not be large enough or suitable for the increased number of cows.³⁷ For example, in November 2003, the Associated Press reported a “mega-dairy” near Dixon – Heritage Dairy – spilled 1.3 million gallons of liquefied manure and urine into local waterways that ran over neighboring properties and eventually spilled into the Sacramento River. Heritage Dairy is permitted to hold up to 6,000 head of cattle.

Most poultry facilities are dry-manure operations. Broiler and egg-production facilities confine the birds under a roof. Manure is removed from the roofed areas and usually transported offsite. Some egg-production facilities have a flush system that collects wastewater in lagoons. The wastewater is then applied to cropland.³⁸

³⁶ K. Severson, “Niman strives to make veal an acceptable choice,” *San Francisco Chronicle*, September 8, 2004, p. 1F. San Francisco and nearby restaurants: Acme Chophouse, Zuni Café, Hayes Street Grill, Chez Panisse.

³⁷ Personal communication, Central Valley Regional Water Quality Control Board staff, September 21, 2004.

³⁸ Central Valley Regional Water Quality Control Board staff report, *Options for Regulating Discharges from Confined Animal Facilities*, October 2002, p. 2.

Animal wastes applied to croplands can provide water and nutrients. However, if not properly managed, these applications can result in nuisance conditions and discharges to surface water and groundwater. Likewise, polluting air emissions can occur from waste piles and lagoons. Studies in the United States and Europe have shown that these farms have the potential to contribute large amounts of nitrogen to the atmosphere as ammonia, through ammonia volatilization. Once ammonia is volatilized, it can be deposited onto land up to 300 miles away.³⁹

Water Pollution

Lagoons and application of liquid waste to croplands can cause water pollution, fish and other wildlife kills, degradation of wildlife habitat and contamination of drinking water supplies. Lagoons can break, spill or fail, sending wastewater into streams, rivers or estuaries. Liquid waste can be over-applied or inappropriately applied to farm fields with runoff into streams, rivers or estuaries or seepage into groundwater.

Nutrients

While nutrients are essential for plant and animal life, excessive amounts can be harmful. Nutrients can cause excessive algae and other microorganisms in surface water, thus lowering the dissolved oxygen levels and causing fish and other organisms to die. Nitrates can cause groundwater to exceed water-quality objectives,⁴⁰ making the water unfit for human consumption. Nutrients have caused severe pollution problems in 44 of the coastal areas examined by the National Academy of Sciences' Research Council, including California.⁴¹

Heavy Metals and Salts

Manure may contain trace elements of arsenic, copper, selenium, zinc, cadmium, molybdenum, nickel, lead, iron, manganese, aluminum and boron. Some of these elements are added to animal feed as growth stimulants; others are present in pesticides applied to livestock. Heavy metals and salts are transported to the environment by way of wastewater. The Chino Basin in Southern California, once the No. 1 milk-producing area in California and home to 300,000 cows in 50-square miles, has groundwater contaminated with high levels of dissolved salts and nitrates.

³⁹ Natural Resources Defense Council, *Cesspools of Shame: How Factory Farm Lagoons and Sprayfields Threaten Environmental and Public Health*, July 2001, p. 37.

⁴⁰ Water quality objectives are water quality standards that are adopted in regional water boards' basin plans that guide the issuance of requirements in various permits issued by these boards.

⁴¹ Minority Staff of the U.S. Senate Committee on Agriculture, Nutrition and Forestry, *Animal Waste Pollution in America: An Emerging National Problem*, Washington D.C. December 1997, p. 3.

These flow into the Santa Ana River, which is used as a recharge source for the Orange County drinking water aquifer.⁴²

Trace elements of metals and salts from animal manure present risks to human health and ecosystems. Manure runoff contaminated with trace elements can end up in water bodies where the metals become more concentrated as they make their way up the food chain. Heavy metals can accumulate in sediments, aquatic biota and plant and animal tissue. Reproductive and immune systems of many aquatic and avian species may be harmed.

Air Pollution

According to the Central Valley Regional Water Quality Control Board, dairies have come under scrutiny because of the industry's size and because dairy emissions can contribute to air pollution. For instance, the total San Joaquin Valley herd increased from about 477,000 milking cows in 1980 to nearly 1.3 million by 2003.⁴³

- ◆ Cows and their manure produce organic gases, some of which react with other agents to form ozone. In the presence of ultraviolet light (sunlight), the reactive organic gases chemically interact with combustion byproducts such as oxides of nitrogen from, for example, exhaust from gasoline or diesel engines to form ozone. No one knows how much reactive organic gas dairy cattle produce and no reliable estimate of it for California dairies exists.⁴⁴
- ◆ Dairies contribute to formation of fine particulate matter. Cows emit ammonia in urine and decomposing manure. This ammonia reacts with nitric acid compounds in the atmosphere to form very fine particles of ammonium nitrate.⁴⁵
- ◆ Cows walking on dry soil and manure kick up dust, directly emitting some fraction of respirable particulate matter (known as PM10). Current estimates of just how much are uncertain, as they are based on dairy research performed in another state and compared with beef cattle feedlots, which are managed quite differently than dairies.⁴⁶

⁴² M. Frey, *Spills and Kills: Manure Pollution and America's Livestock Feedlots*, Clean Water Network, Izaak Walton League of America and Natural Resources Defense Council, August 2000, p. 45.

⁴³ California Department of Food and Agriculture, California Agricultural Statistical Service <<http://www.nass.usda.gov/ca>>.

⁴⁴ *Air Emissions Action Plan for California Dairies*, Ad Hoc Subcommittee of the San Joaquin Valley Air Pollution Control District, May 2003, p. 3.

⁴⁵ *Ibid.*, p. 3.

⁴⁶ *Ibid.*, p. 4.

Dairy-industry air pollution is of concern primarily because of public health issues. Two health-related criteria pollutants are linked to dairies: ozone and particulate matter. Both pollutants are regulated under the federal Clean Air Act and National Ambient Air Quality Standards. Dairies produce these pollutants directly (PM10/dust) or contribute to their formation through release of precursors such as ammonia and reactive organic gases.

Studies have also shown that lagoons emit toxic airborne chemicals that can cause inflammatory, immune, irritation and neurochemical problems in humans. The emissions are a result of the decomposition of liquid manure by anaerobic bacteria during storage and treatment. This process releases hundreds of volatile organic compounds including hydrogen sulfide, ammonia, dust, endotoxins and methane.⁴⁷

Ammonia

Up to 80 percent of a lagoon's nitrogen may change from a liquid into a gas. This process also causes nitrogen to be released into the atmosphere when liquid manure is applied to cropland. By contrast, dry manure only loses 15 to 40 percent of its nitrogen to the atmosphere.⁴⁸

Hydrogen Sulfide

Hydrogen sulfide is a gas that can cause eye, nose and throat irritation, diarrhea, hoarseness, sore throat, cough, chest tightness, nasal congestion, heart palpitations, shortness of breath, stress, mood alterations, sudden fatigue, headaches, nausea and, at high concentrations, sudden loss of consciousness, comas, seizures and even death.⁴⁹

Carbon Dioxide

Organic matter in livestock manure is converted to carbon dioxide and methane during anaerobic decomposition. While not highly toxic, carbon dioxide is a greenhouse gas and at high concentrations can contribute to oxygen deficiency in animals and humans.

Methane

Methane is also produced by the anaerobic decomposition in lagoons and from cropland application and is released into the air. Methane is not toxic except at very high levels. Methane is a greenhouse gas and the federal Environmental Protection Agency (EPA) estimates that 13 percent of the total U.S. methane emissions came from livestock manure in 1998.⁵⁰

⁴⁷ Natural Resources Defense Council, op. cit., p. 17.

⁴⁸ Ibid.

⁴⁹ Ibid., p. 18.

⁵⁰ C. Nelson and J. Lamb, *Final Report: Haubenschild Farms Anaerobic Digester*, The Minnesota Project, St. Paul, MN, December 2000, p. 3.

CONFINED ANIMAL FACILITIES' EFFECTS ON HUMAN HEALTH

There is increasing evidence that factory farming can be harmful to human health. Health consequences result from the transmission of hormones, microbials, pathogens and chemicals through animal food products, farm wastes and drinking water. CAFs employ large quantities of chemical and biological products to enhance farm production that may be transferred to humans. The waste streams of farms may also expose humans to unhealthy or dangerous agents.

Hormone-Enhanced Meat Production

Since the 1970s, hormones have been used extensively in the production of beef and milk in the United States. As many as two-thirds of cattle raised in the United States are treated with hormones. The U.S. Department of Agriculture (USDA) and FDA have approved the use of six hormone growth promoters in the cultivation of beef and one hormone to increase the production of milk. The hormones are typically injected or implanted directly in cattle.

A number of studies indicate that growth hormones may act as reproductive toxins and may cause cancers. These studies are challenged by the USDA, but are supported by a number of other nations. There is more compelling evidence that use of recombinant Bovine Growth Hormone, which is used to extend the milk production cycle of dairy cattle, is carcinogenic.⁵¹ The recombinant growth hormone stimulates production of another hormone called Insulin-Like Growth Factor 1 (IGF-1), a naturally occurring hormone-protein in both cattle and humans. Elevated levels of IGF-1 in humans have been associated with breast and colon cancer.⁵² Separate studies found that men with elevated levels of IGF-1 are four times more likely to develop full-blown prostate cancer than are men with normal levels.⁵³

Diminished Effects of Medical Antibiotics

The intensive use of antimicrobials (including antibiotics) is an integral feature of industrial animal agriculture. Over 40 percent of the antibiotics sold in the United States are used in agriculture, more than 80 percent by

⁵¹ D. N. Challacombe and E. E. Wheeler, "Safety of Milk from Cows Treated with Bovine Somatotropin," *The Lancet*, September 17, 1994, vol. 344, p. 815.

⁵² S. E. Hankinson, et. al., "Circulating Concentrations of Insulin-like Growth Factor 1 and Risk of Breast Cancer," *The Lancet*, May 9, 1998, vol. 351, pp. 1393-1396.

⁵³ J. M. Chan, et al., "Plasma-like Insulin Growth Factor 1 and Prostate Cancer Risk," *Science*, January 23, 1998, vol. 279, pp 563-566.

A summary of all available evidence of the public health hazards of rBGH milk from 1985-1998, nearly 100 peer reviewed and published papers are available at the University of Illinois, School of Public Health, Chicago, IL. Described in *The Ecologist*, vol. 28, No. 5, September 1998.

weight for growth promotion in animal production and 20 percent for control of animal diseases. Scientists now believe that agricultural use of antimicrobials is linked to the evolution of multiple drug resistant bacteria and the loss of efficacy of drugs important to human medicine.⁵⁴

Since antibiotics were developed, bacteria have steadily evolved that resist antibiotic treatment. Due to widespread antibiotic overuse in agriculture and in medicine, the spread of resistance has intensified. For some infections, only one or two medicines remain a treatment “of last resort.” For example, staphylococcal bacteria, a common source of infection and cause of life-threatening infections in heart valves and toxic shock, has become completely resistant to treatment by penicillin. Many strains are also resistant to newer antibiotics such as methicillin or vancomycin.⁵⁵

Meat producers in the United States routinely put low levels of antibiotics into feed given to healthy animals, both to spur faster growth and to compensate for the stress of industrial-scale conditions on large farms. The Union of Concerned Scientists estimates that livestock producers in the United States use roughly 25 million pounds of antimicrobials in agricultural animals, compared to just 3 million pounds in human medicine.⁵⁶ Antibiotics are also used to fight disease in animals and the majority of the 17 antibiotics used to promote growth or treat livestock are identical or very similar to drugs for human treatment.⁵⁷

Concern about antimicrobial resistance has led scientists and public health officials to advocate curbs on antibiotic use in animal agriculture. The Centers for Disease Control and Prevention and the American Medical Association have concluded that use of antimicrobials in animals has adverse human health consequences and are targeting reduced animal use to slow the spread of antibiotic resistance.⁵⁸

⁵⁴ S. Levey, “Multiple Resistance – A Sign of the Times,” *New England Journal of Medicine*, May 7, 1998, vol. 338.

S. Rankin and M. Coyne, “Multiple Antibiotic Resistance in Salmonella,” *The Lancet*, June 6, 1998, vol. 351.

⁵⁵ V. Perreten, et al., “Antibiotic Resistance Spread in Food,” *Nature*, October 23, 1997, vol. 389.

⁵⁶ Union of Concerned Scientists, Food and Environment Update: Bipartisan Antibiotics Legislation Introduced in Congress, 1998, available at <www.ucsusa.org/food_and_environment>, p. 1260.

⁵⁷ World Health Organization, “The Medical Impact of the Use of Antimicrobials in Food Animals,” report of a WHO meeting, Berlin, Germany, October 1997.

⁵⁸ Centers for Disease Control and Prevention, The CAUSE, Winter Quarter, vol. 2, January 1998, available at <www.cdc.gov/ncidod/dbmd/cause/jan98>. Centers for Disease Control and Prevention, et al, “A Public Health Action Plan to Combat Antimicrobial Resistance,” January 2001, available at <www.cdc.gov>.

Exposure to Pathogens

Recently, scientists and policymakers have become more concerned about the presence of pathogens, microorganisms that are a potential source of infection for humans, in livestock waste and wastewater. Pathogens from agricultural sources have become a concern as the number of vulnerable individuals (elderly, infants or persons with compromised immune systems) increases. The federal EPA has reported that bacteria and viruses such as E-Coli, cryptosporidium, salmonella and giardia found in dairy waste can contaminate drinking water, causing acute gastroenteritis and fever, kidney failure and even death.⁵⁹ Other studies have shown that infectious diseases from manure can result from direct contamination of water, a change in levels of nutrients in the environment or a transfer of drug-resistant pathogens infecting the human population.⁶⁰

A recent study done for the Centers for Disease Control and Prevention found chemical pollutants and pathogens in farm reservoirs could move through soil into land or water sources some distance from where manure was stored or applied.⁶¹

Elevated Levels of Nitrates

Manure contains high levels of nitrogen that changes into nitrates in soil. Once an elevated level of nitrates is established, the nitrates may move through the soil and accumulate in water supplies. Elevated levels of nitrates can cause human health risks, especially to children under the age of five, the elderly and individuals with weakened immune systems.⁶² Infants who drink nitrate-contaminated water may be at risk for methemoglobinemia, or “blue baby syndrome,” which can cause developmental disabilities or even death. In some cases, elevated levels of nitrates have been linked to spontaneous abortions.⁶³ High nitrate levels may also foster the growth of harmful organisms such as pfiesteria, a toxin which in air or water causes skin irritation, short-term memory loss and other cognitive impairments. Increased levels of nitrates may be the result of lagoon reservoir seepage, lagoon spills or leaks or the misapplication of manure onto agricultural land.⁶⁴

⁵⁹ U.S. Environmental Protection Agency, Environmental Assessment of Revisions to the National Pollutant Discharge System, January 2001, EPA-821-B-01, p 2.

⁶⁰ W. Simpkins, et al., “Hydrogeologic Settings of Selected Earthen Waste Storage in Iowa,” Report to the Legislature of Iowa, Iowa State University, Ames, IA, January 1999.

⁶¹ D. Norris, “Animal Factories, Pollution and Health Threats to Rural Texas,” Consumers Union, Austin, TX, May 2000, p. 14.

⁶² Minority staff of the U.S. Senate Committee on Agriculture, Nutrition, and Forestry, “Animal Waste Pollution in America,” Washington, D.C., December 1997, p.2.

⁶³ U.S. Environmental Protection Agency, Report on the EPA/State Feedlot Workgroup, Office of Wastewater Enforcement, Washington, D.C., September 1998, p.17.

⁶⁴ Natural Resources Defense Council, op. cit., p. 23.

CALIFORNIA AND FEDERAL LAW RELATED TO CONFINED ANIMAL FACILITIES

California and federal statutory and regulatory law address some of the issues related to confined animal facilities – either directly or indirectly. This section describes animal-cruelty laws, water-pollution and air-pollution laws that could be used to regulate these practices.

Animal Cruelty

California Penal Code Section 597 is the principle statute addressing animal cruelty. This section makes it a crime to maliciously and intentionally maim, mutilate, torture or wound a living animal.

Furthermore, this section also makes it unlawful to torture, torment, deprive of necessary sustenance, drink or shelter, cruelly beat, mutilate or cruelly kill any animal, or subject any animal to needless suffering, inflict unnecessary cruelty, abuse an animal or fail to provide an animal with proper food, drink or shelter. Violation of these provisions is a wobbler, punishable by imprisonment in a state prison or county jail, and/or a fine of up to \$20,000.

State law also makes it a misdemeanor to fail to provide an adequate exercise area for animals confined in an enclosed area.⁶⁵

Although these laws apply on their face to farm animals and the treatment of animals in confined animal facilities, enforcement using such tools has been minimal. Similar federal statutes and those of some other states contain exemptions for farm animals.

There are several federal statutes and regulations regarding the transit and slaughtering of livestock, but federal statutes do not govern the protection of livestock on farms. For example, the U.S. Animal Welfare Act expressly exempts animals used to produce food or fiber from its protections.⁶⁶

For comparison, New Jersey has adopted a somewhat more expansive approach than California. New Jersey has established minimum humane standards for the raising, keeping, care, treatment, marketing and sale of domestic livestock and procedures for the enforcement of those standards. According to Joy Mench at the Department of Animal Science at UC Davis, the New Jersey standards largely codified existing industry practices.⁶⁷ Within the New Jersey regulations, certain treatments may be withheld for

⁶⁵ California Penal Code Section 597(t).

⁶⁶ U.S. Code, Title 7, Sections 2131-2156.

⁶⁷ Discussion with Joy Mench, Animal Science Specialist, UC Davis.

food safety considerations (for example, antibiotics, anti-inflammatory medicine and analgesics).⁶⁸

Water Pollution

The federal Water Pollution Control Act of 1972 as amended in 1977, also known as the Clean Water Act, limits waste discharges from water-polluting sources.⁶⁹ The authority to enforce these limits has been delegated to the states.

At the state level, water pollution is governed by the Porter-Cologne Water Quality Act. Under this act, regional water boards are required to regulate the discharge of wastes that could affect the quality of the waters of the state to ensure protection of the beneficial uses of both surface water and groundwater and the prevention of nuisances.⁷⁰

Regional water boards use this law to require dischargers to obtain a “national pollutant discharge elimination system” permit or a waste-discharge requirements permit, both of which come with specific requirements. Some regional boards are now developing regulations to apply these permits to confined animal facilities.

In addition, the State Water Resources Control Board has adopted regulations setting statewide minimum standards for confined animal facilities. These regulations govern the minimum standards for manure, wash water and storm water runoff from confined animal facilities.⁷¹

Air Pollution

The Federal Clean Air Act requires the development of National Ambient Air Quality Standards⁷² and requires local air quality districts to adopt local programs for issuing operating permits to major stationary sources of air pollution. Local air districts that have failed to achieve ozone and PM10 standards are required to submit implementation plans to the federal EPA on how they will achieve attainment within a specific period of time.⁷³

SB 700 (Chapter 479, Statutes of 2003), which deals with agricultural air pollution, specifies how California will conform to federal and state air pollution laws. Prior to the adoption of SB 700, California law had exempted

⁶⁸ 36 New Jersey Reg. 2637(a).

⁶⁹ U.S. Code Title 33, Chapter 23.

⁷⁰ Water Code, Section 13000 et seq.

⁷¹ California Code of Regulations, Title 27, Sections 22560 – 22565. These regulations were last updated in 1997.

⁷² U.S. Code Title 42, Chapter 85.

⁷³ Ibid.

agricultural sources from requirements to obtain air permits. This had resulted in a conflict between state and federal law and California faced sanctions if it failed to correct the problem. SB 700 defined “agricultural source,” removed the restriction from state law that prevented air districts from requiring permits for agricultural sources, required emission-control regulations in areas that have not attained National Ambient Air Quality Standards for PM10 and required permits and emissions mitigation for confined animal facilities.⁷⁴

International Laws

For comparison purposes, this section identifies several non-binding international regulations.

Many industrialized nations have adopted laws and regulations on farm animal welfare that go beyond those in the United States. The EU has ratified three conventions from the Council of Europe protecting farm animals, two dealing with the protection of animals during transport and slaughter and one addressing the welfare of animals on farms.

With regard to the on-farm care and treatment of animals, guidance may be sought from the European Convention for the Protection of Animals Kept for Farming Purposes. This convention establishes the fundamental rights of animals kept for farming. The convention especially applies to “intensive stock farming systems,” which are defined as farming operations in “which animals are kept in such numbers or density, or in such conditions, or at such production levels, that their health and welfare depend upon frequent human attention.”⁷⁵

The EU has also adopted several laws stemming from these conventions that phase out and ban practices that are permitted in the United States. The EU has banned the use of battery cages for laying hens by 2012,⁷⁶ veal crates for calves by December 31, 2007, and gestation crates for pregnant

⁷⁴ Health and Safety Code Sections 39011.5, 39023.3, 40724-40724.7, 40731, 42301.16-42301.18, 42310 and 44559.9.

⁷⁵ <<http://conventions.coe.int/treaty/en/Treaties/Html/087.htm>>. Information concerning the transport and slaughter of animals may be found by accessing the following: The European Convention for the Protection of Animals During International Transport, <<http://conventions.coe.int/Treaty/en/Treaties/Html/065.htm>>; and The European Convention for the Protection of Animals for Slaughter, <<http://conventions.coe.int/Treaty/EN/Treaties/Html/102.htm>>.

⁷⁶ Effective January 1, 2003, the law bans the installation of new battery cages. The 2012 date is to eliminate all existing battery cages. Council Directive 99/74/EC Chapter II Article 5.2 <http://europa.eu.int/eur-lex/pri/en/oj/dat/1999/1_203/1_20319990803en00530057.pdf>, <<http://www.publications.parliament.uk/pa/cm200203/cmselect/cmenvfru/779/779.pdf>>, p. 12.

sows by 2013, among other practices.⁷⁷ Individual countries within the EU must adopt the minimum standards of the intergovernmental body, but may create more extensive rules. In one such example, Norway has explicitly outlawed beak clipping, beak burning and other CAF practices.⁷⁸

In July 1998, the EU adopted a Council Directive “concerning the protection of animals kept for farming.”⁷⁹ Article 3 required member states to “make provisions to ensure that the owners or keepers take all reasonable steps to ensure the welfare of animals under their care and to ensure that those animals are not caused any unnecessary pain, suffering or injury.”

In June 1999, the Standing Committee of the European Convention for the Protection of Animals Kept for Farming Purposes adopted the following recommendations:

- ◆ *Carry out normal feeding and drinking movements (for ducks and geese).*
- ◆ *Methods of feeding and feed additives which cause distress, injury or disease to the ducks or may result in development of physical or physiological conditions detrimental to their health and welfare shall not be permitted.*
- ◆ *Sudden changes in the type or quantity of feed and feeding procedures shall be avoided.*
- ◆ *Countries allowing foie gras production shall encourage research on its welfare aspects and on alternative methods which do not include gavage (force feeding).*
- ◆ *Until new scientific evidence on alternative methods and their welfare aspects is available, the production of foie gras shall be carried out only where it is current practice and then only in accordance with standards laid down in domestic law. In any case, the competent authorities shall monitor this type of production to ensure the implementation of the provisions of the recommendation.*

The last recommendation effectively banned force feeding in all EU member states except France and Hungary. In January 2004, the EU announced that France and Hungary would have to find alternative methods to the force feeding of ducks and geese for foie gras production within 15 years.

⁷⁷ Council Directive 91/629/EEC Article 3.4 <<http://europa.eu.int>>.

⁷⁸ Norway’s Animal Welfare Act Section 13.5, <<http://oslovet.veths.no/act.html>>.

⁷⁹ 98/58/EC.

Recent State and Federal Legislation

Recently, bills in California and elsewhere sought animal welfare reforms. A few such measures may be of interest:

California

AB 732 (Hancock), would have prohibited the use of veal crates or gestation crates that prevent calves or pregnant pigs from turning around freely, laying down or grooming themselves. The bill also mandated feeding calves diets that contain a sufficient amount of iron. The bill died in the Assembly Agriculture Committee.

Federal

H.R. 2932 and S.1460 would have prohibited the nontherapeutic use of antibiotics in animal farms with the goal of maintaining antibiotics' effectiveness in combating bacteria. These bills were referred to committee in July 2003, but no further action has been taken.

Other States

Florida voters passed a 2002 ballot initiative, amending the state constitution, which prohibited the use of gestation crates for pregnant pigs to allow those pigs to be able to turn around freely. The law, according to United Press International, caused the two largest pig farms of the state to get out of the business.⁸⁰

The New Jersey Senate passed a bill (S.1478), later blocked by the Assembly, that demanded the humane treatment of calves intended for veal production.

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⁸⁰ *Florida Citizen Initiatives to be Limited*, United Press International, March 31, 2003, <<http://www.upi.com/view.cfm?StoryID=20030331-112243-4069r>>.