

**THE ETHICAL IMPLICATIONS OF  
GENETICALLY MODIFIED PIGS**

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December 5, 2007

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## **Introduction**

The industrialization of farming has caused extreme distress in pigs raised for food. This paper will outline current statutory protections in place for livestock welfare, conditions pigs face on modern factory farms, and how these conditions and genetic selection lead to lower quality pork. This paper will conclude by contending that the United States is beginning to move in the direction of ethically produced meat, and that this trend can continue by educating consumers and encouraging movements like the niche pork movement. Finally, the paper will recommend that the United States follow the lead of the European Union by passing federal criminal statutes that protect the welfare of animals on farms.

### **I. What is a “Genetically Improved Pig”?**

So-called “genetically improved” livestock were created in order to facilitate the massive transition to factory farming that has occurred over the past several decades.<sup>1</sup> Animals are bred

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<sup>1</sup> Nathanael Johnson, *Swine of the Times: The Making of the Modern Pig*, Harper’s Magazine, 47, 53 (May 2006).

to be genetically uniform in order to provide a consistent product for consumers and packers.<sup>2</sup> In terms of hog production, it all began when Joseph Luter III took over Smithfield Foods in 1975.<sup>3</sup> Poultry farms were already vertically integrating and Luter saw an opportunity to offer consumers a uniform product by controlling every stage of production.<sup>4</sup> Packers can enter into marketing contracts with producers that specify a specific quantity of hogs to be purchased on specific dates, with producers being compensated based upon hog carcass weight and leanness.<sup>5</sup> Packers can also enter into production contracts with producers.<sup>6</sup> Under production contracts, packers actually own the hogs from birth, and contract producers to raise them.<sup>7</sup> Packers usually provide the animals, feed, veterinary services, some managerial support, and collect the pigs for market.<sup>8</sup> In return, the producers provide housing, labor, water, utilities, and manure management for a contract fee.<sup>9</sup> Hogs on industrial farms today are leaner than their ancestors of several decades ago, and are subjected to conditions that more resemble an assembly line than a family farm with pigs rooting in the mud.

A side-effect of this increasing trend toward uniformity and the proliferation of vertical integration of packing companies has been the decline of small and mid-sized family farms.<sup>10</sup> In order to compete and gain the coveted contracts, producers must adopt technologies that allow them to stay competitive. It also requires farmers to adopt ethically questionable husbandry

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<sup>2</sup> *Id.*

<sup>3</sup> *Id.* at 52.

<sup>4</sup> *Id.*

<sup>5</sup> Steve W. Martinez & Kelly Zering, *Pork Quality and the Role of Market Organization*, United States Department of Agriculture Agricultural Economic Report Number 83, 1 (October 2004). In 2004, marketing contracts accounted for 69% of hogs sold.

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> *Id.* In 2004, packer owned hogs constituted 17% of hogs sold.

<sup>10</sup> Amy Mosel, *What About Wilbur? Proposing a Federal Statute to Provide Minimum Humane Living Standards for Farm Animals Raised for Food Production*, U. Dayton L. Rev. 133, 145 (2001).

practices such as small cages, tail docking, and lack of exercise or free movement.<sup>11</sup> Farmers who are able to afford such investments often must increase the size of their herds and use mechanized processes for tasks that humans or even the pigs themselves would accomplish in years past. In the process, many smaller farmers have gotten out of the hog farming business. Recently, some farmers have responded to a growing consumer demand for higher quality, ethically-produced, niche pork, which fetches higher prices on the market and allows farmers to raise pigs in more traditional ways.<sup>12</sup>

## II. How it all began

### A. Life Cycle of Pigs/Pork

When sows on many industrial farms give birth, they are transferred to “farrowing crates” that have attached stalls for the piglets.<sup>13</sup> The farrowing crates are extremely small, not allowing sows to turn around or even groom themselves.<sup>14</sup> The piglets only have access to their mother for nursing.<sup>15</sup> Once born, the piglets are subjected to several painful procedures. Soon after birth, their tails are amputated, their teeth clipped, their ears notched, and males are castrated--all without anesthesia.<sup>16</sup> Typically, one-half to one-third of the tail is amputated.<sup>17</sup> One of the main

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<sup>11</sup> David Cassuto, *Bred Meat: The Cultural Foundation of the Factory Farm*, 70 *Law & Contemp. Probs.* 59, 65 (2007).

<sup>12</sup> M. S. Honeyman, et. al., *The United States Pork Niche Market Phenomenon*, 84 *J. Anim. Sci.* 2269 (2006).

<sup>13</sup> Leana Stormont, *Detailed Discussion of Iowa Hog Farming Practices*, Animal Legal & Historical Center, Michigan State University College of Law 1, 4 (2004), <http://www.animallaw.info/articles/ddusiowahogfarming.htm>.

<sup>14</sup> Cassuto, *supra*, at 65.

<sup>15</sup> The lack of contact between sow and piglets is justified by industry claims that the sow must be separate from the piglets in the confining farrowing crate because otherwise she will crush her piglets. This seems to be a result of the small size of the farrowing crate, which does not allow the sow to even turn around, so it would be quite difficult for her not to crush her piglets were they all housed together. Where sows are given the space to “nest and care for their young,” however, piglets are unlikely to be crushed. Stormont, *supra*, at 4.

<sup>16</sup> Cassuto, *supra*, at 65.

reasons for tail docking is that because the pig populations are so dense at these farms, hogs will often bite the tails of other pigs out of frustration, aggression, or boredom.<sup>18</sup> Docking the tails makes the pain less severe and reduces the risk that the injured tail will become infected.<sup>19</sup> The teeth are clipped in order to prevent the piglet's sharp teeth from injuring litter-mates or the mother's teats while nursing.<sup>20</sup> Ears are notched as a means of identification, typically, "several 'v's are cut into the animal's ears with scissors."<sup>21</sup> Finally, male piglets that will not be used for semen production are castrated in order to reduce aggression and to avoid the problem known as "boar taint," where male hormones affect the flavor of meat.<sup>22</sup>

Once the piglets are weaned, which can be from 10 days to four weeks after birth, they are transferred to a nursery until they have reached sufficient weight for the "finishing" stage.<sup>23</sup> The pigs are then transferred to finishing pens where they will gain weight until they reach their market weight, which is typically about 250 lbs.<sup>24</sup> The only time many modern pigs walk more than a few steps, or go outdoors, is when they are transferred for slaughter.<sup>25</sup> Unfortunately, the stressful conditions of the finishing barns and genetics that predispose these pigs to excitability and stress results in some pigs having heart attacks on the walk to the truck.<sup>26</sup> Additionally, some pigs cannot make the walk because of lameness brought on by genetics and living their entire lives on slatted concrete floors.<sup>27</sup> The life of the modern pig is fraught with stress related

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<sup>17</sup> Stormont, *supra*, at 4.

<sup>18</sup> *Id.* at 5.

<sup>19</sup> *Id.*

<sup>20</sup> Stormont, *supra*, at 4.

<sup>21</sup> Tattooing is also sometimes used. Stormont, *supra*, at 5.

<sup>22</sup> Castration is performed without anesthetic. *Id.*

<sup>23</sup> *Info Sheet: Veterinary Services – Swine Nursery Management*, United States Department of Agriculture Animal and Plant Health Inspection Service (2002), <http://www.aphis.usda.gov/vs/ceah/ncahs/nahms/swine/swine2000/Nursermgt.PDF>.

<sup>24</sup> Stormont, *supra*, at 5.

<sup>25</sup> *This American Life: Pandora's Box* (Showtime television broadcast Apr. 26, 2007).

<sup>26</sup> *This American Life*, *supra*.

<sup>27</sup> Johnson, *supra*, at 55.

to the conditions of their confinement, and genetics that predispose many of today's lean varieties of hogs to excitability and stress.

## **B. Overview of the Law**

### **1. Federal Statutes**

State and federal statutes offer little protection for livestock on the farm. Livestock are specifically exempted from the federal Animal Welfare Act.<sup>28</sup> The Humane Methods of Livestock Slaughter Act applies to those livestock slaughtered in slaughterhouses that are part of the Federal Meat Inspection Program.<sup>29</sup> It is designed to desensitize animals from pain prior to having their hooves shackled and their throats cut, but offers no regulations on how animals are to be treated on the farm. The third federal statute related to animal welfare is the Transportation of Animals Act.<sup>30</sup> This law provides that animals shall not be transported for more than 28 consecutive hours without being unloaded for food, water, and rest.<sup>31</sup>

### **2. State Statutes**

The statutory protection of livestock on the farm is left for individual states to determine for themselves. In Iowa, the state with the largest number of swine,<sup>32</sup> all livestock were excluded from the definition of animal in Iowa's animal cruelty laws in 1994.<sup>33</sup> Iowa does have livestock

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<sup>28</sup> The term "animal" means ... ; but such term excludes ... (g) ... (3) other farm animals, such as, but not limited to livestock or poultry, used or intended for use as food or fiber, or livestock or poultry used or intended for use for improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber. 7 U.S.C. § 2132(g)(3) (2006).

<sup>29</sup> "In the case of cattle, calves, horses, mules, sheep, swine, and other livestock, all animals are rendered insensible to pain by a single blow or gunshot or an electrical, chemical or other means that is rapid and effective, before being shackled, hoisted, thrown, cast, or cut." 7 U.S.C. § 1902(a) (2006).

<sup>30</sup> 49 U.S.C. § 80502 (2006).

<sup>31</sup> 49 U.S.C. § 80502(a)(1) (2006). The statute does not apply when animals are transported in vehicles "where they have access to food, water, space, and an opportunity for rest." 49 U.S.C. § 80502(c) (2006).

<sup>32</sup> 17,800 thousand head. National Agricultural Statistics Service: Hogs and Pigs National Statistics, United States Department of Agriculture (2007). Can be found at: <http://www.nass.usda.gov/QuickStats/index2.jsp>.

<sup>33</sup> Pig: Related Statutes, Animal Legal & Historical Center, Michigan State University College of Law (2003), <http://www.animallaw.info/statutes/speciesstatutes/stsppig.htm>.

neglect<sup>34</sup> and livestock abuse<sup>35</sup> statutes however. The livestock neglect statute provides that it is a simple misdemeanor for anyone to deprive livestock of necessary sustenance, fail to provide livestock with care consistent with customary animal husbandry practices, or to injure or destroy livestock in a way that causes pain and suffering in a manner inconsistent with customary animal husbandry practices.<sup>36</sup> The livestock abuse statute specifically exempts owners of livestock and those acting on their behalf, unless the conduct constitutes an offense under the livestock neglect statute.<sup>37</sup> The abuse statute seems to cover only malicious acts: poisoning, shooting, or trapping livestock belonging to another.<sup>38</sup>

While it is encouraging that Iowa has statutes that offer protections for livestock on the farm, the standard adopted in the livestock neglect statute is a confusing one. While it is not likely to be difficult to determine whether livestock are receiving adequate sustenance, it is less clear what exactly constitutes, “consistent with customary animal husbandry practices.” What constituted customary animal husbandry practices in the years before vertical integration, was certainly a far cry from what constitutes customary animal husbandry practices today.<sup>39</sup> So it seems that it must be a shifting standard. What is not clear is who gets to decide what today’s customary animal husbandry practices are.

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<sup>34</sup> Iowa Code § 717.2 (2003).

<sup>35</sup> Iowa Code § 717.1A (2003).

<sup>36</sup> Iowa Code § 717.2(1)(a-c) (2003).

<sup>37</sup> Iowa Code 717.1A(1) (2003).

<sup>38</sup> *Id.*

<sup>39</sup> It should be noted that prior to 1994, the Livestock Neglect statute (then called the cruelty to animals statute) read: “A person who impounds or confines, in any place, [an animal], fails to supply the animal during confinement with a sufficient quantity of food, and water, . . . , or who tortures, torments, deprives of necessary sustenance, mutilates, overdrives, overloads, drives when overloaded, beats, or kills an animal by any means which cause unjustified pain, distress, or suffering, whether intentionally or negligently, commits the offense of cruelty to animals.” Iowa Code Ann. § 717.2 (West 2003).

Perhaps the recent case of *Linn County v. Andrews*<sup>40</sup> can shed at least a sliver of light on the subject. In the case, officers received a report that stated that animals on defendant's farm were being neglected.<sup>41</sup> Upon issuance of a search warrant, sheriff's deputies, an animal control officer, a cruelty investigator, and two veterinarians went to the farm to issue the warrant.<sup>42</sup> It was determined that all of the animals on the farm were being neglected under the statute, specifically, that the animals were being deprived of sufficient food and water.<sup>43</sup> The defendant's challenged this determination.<sup>44</sup> Here, the opinions of the veterinarians on the scene and the corroboration of two other veterinarians led the court to its determination that the treatment of the animals in this case was inconsistent with customary animal husbandry practices.<sup>45</sup> In this case then, the determination of whether the treatment was consistent with customary animal husbandry practices was determined by veterinarians, not by farmers.

Other states have taken tougher stands on animal welfare. In 2002, Florida voters passed a ballot initiative that prohibited pregnant pigs from being kept in enclosures that prevent them from turning around freely.<sup>46</sup> Pregnant sows are often confined to extremely narrow "gestation" crates while they are pregnant.<sup>47</sup> Living in these conditions can cause many physical and psychological problems for sows. The crates encase the sows and iron bars press against their

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<sup>40</sup> *Linn County v. Andrews*, No. 06-0801, 2007 WL 2376614 (Iowa Ct. App. August 22, 2007).

<sup>41</sup> *Id.* at \*1.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> "The testimony of Drs. Campbell and Doll makes clear that none of the livestock, with the possible exception of one cow, were being cared for in a manner consistent with customary animal husbandry practices. The opinions expressed by Drs. Campbell and Doll were confirmed by the testimony of two independent veterinarians who examined some of the horses shortly after the livestock was seized." *Id.* at \*2.

<sup>46</sup> FL. Const. art. X, § 21.

<sup>47</sup> David Cassuto, *Bred Meat: The Cultural Foundation of the Factory Farm*, 70 *Law & Contemp. Probs.* 59, 65 (2007).

skin, causing sores on the sow's skin.<sup>48</sup> Because the sows are afforded so little freedom of movement in these cages, their leg bones are fragile, and more susceptible to fractures.<sup>49</sup> Pigs are intelligent animals, and do not like to urinate or defecate in the same places where they sleep and eat.<sup>50</sup> Being forced to live in conditions where they have no choice, many sows suffer urinary tract infections and constipation caused by their resistance to voiding in their living areas.<sup>51</sup>

These conditions, like those of other pigs on industrial farms, can result in chronic stress and psychological disorders.<sup>52</sup> With the exception of some states like Florida, most states offer little or no protection for livestock animals.<sup>53</sup> As consumers become more aware of the conditions on these farms, however, it is likely that more ballot initiatives such as Florida's will be passed and that consumers will lobby their legislators for more humane standards for livestock.

### C. The Corporate Farm

#### 1. Vertical Integration

Vertical integration, in which companies control every stage of production in order to turn out a uniform product, was first advanced in the pork industry by Joseph Luter III.<sup>54</sup> The shift from traditional family farming to vertical integration was not an easy transition for everyone. The companies enter into detailed contracts with farmers, dictating everything from

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<sup>48</sup> Leana Stormont, *Detailed Discussion of Iowa Hog Farming Practices*, Animal Legal & Historical Center, Michigan State University College of Law (2004), <http://www.animallaw.info/articles/ddusiowahogfarming.htm>.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> Arizona voters passed a similar ballot initiative in 2006. Ariz. Rev. Stat. Ann. § 13-2910.07 (2007); the Oregon legislature banned gestation crates during the 2007 session. 2007 Or. Laws Adv. Sh. Chp. 722.

<sup>54</sup> Johnson, *supra*, at 52.

carcass weight and maximum level of back-fat to labor, management, and facilities decisions.<sup>55</sup>

Whereas farmers used to know their animals and farming required talent, the new model required less skill, with the company providing a detailed plan outlining every step of the production process.<sup>56</sup> Under these contracts, where farmers must closely monitor “inputs, death rates, and pounds gained per pound of feed,” individual animals are less important than the herd as a whole.<sup>57</sup> Some farmers could not take this type of farming, and got out of the hog business altogether.<sup>58</sup>

According to a report from the Federal Reserve Bank of Chicago, “the number of U.S. farms with hogs shrinks by one-third every five years.”<sup>59</sup> The farms that remain no longer have the protection of a diversified farm; they must maximize profit and minimize risk. In order to stay competitive and to pay for the increased overhead involved in the now high-tech world of hog farming, farmers must produce as many hogs as possible, at the heaviest weight possible, in the shortest amount of time possible. Faced with this situation, many farmers have been forced to sacrifice animal welfare in order to stay afloat. Conditions have snowballed so that now pigs are literally being driven insane from the stress of their living conditions and from the genetics that makes them so lean.<sup>60</sup>

## **2. The Disastrous Genetics of Leaner Varieties of Hog**

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<sup>55</sup> Steve W. Martinez & Kelly Zering, *Pork Quality and the Role of Market Organization*, United States Department of Agriculture Economic Research Service Agricultural Economic Report Number 835, 35-42 (2004), <http://www.ers.usda.gov/publications/aer835/>

<sup>56</sup> Johnson, *supra*, at 53.

<sup>57</sup> *Id.*

<sup>58</sup> Many farmers previously practiced a more holistic method of farming, raising crops and animals, using manure to fertilize fields; the industrialization of the hog industry made running these types of operations much more difficult. *Id.*

<sup>59</sup> Gary L. Benjamin, *Industrialization in Hog Production: Implications for Midwest Agriculture*, Economic Perspectives, Jan.-Feb. 1997, at 2.

<sup>60</sup> Johnson, *supra*, at 50.

As American consumers became increasingly health-conscious, demand for fatty meats, like traditional pork diminished.<sup>61</sup> In response, the National Pork Board launched its “Pork, the other white meat” campaign in 1986.<sup>62</sup> Seizing on this trend, in 1990, Joseph Luter III purchased “exclusive U.S. rights to the genetic lines of extraordinarily lean pigs from the National Pig Development Company.”<sup>63</sup> The ethical problems inherent on current industrial pig farms are partly a result of the movement toward lean pigs.

The genetic uniformity of the pigs makes herds extremely susceptible to disease; since if one pig in the herd lacks immunity to a disease, it is likely that the other pigs in the herd lack it as well.<sup>64</sup> The number of pigs on industrial farms has sky-rocketed, making it more probable that diseases will enter the herds and increasing the process whereby producers add antibiotics and other medicines to their feeds as preventative measures.<sup>65</sup> Finally, lean pigs are more likely to carry the Porcine Stress Syndrome Gene which results in inferior quality, so-called “pale soft exudative” (PSE) meat.<sup>66</sup>

Japan is one of the biggest importers of U.S. pork.<sup>67</sup> Because of the need for pork that will hold up in shipping, and the willingness of Japanese consumers to pay a higher price for a superior product, the Japanese have been buying the best meat from American slaughterhouses.

<sup>68</sup> In his presentation at the 2004 National Swine Improvement Conference in Ames, Iowa, food

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<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 48.

<sup>65</sup> *Id.*

<sup>66</sup> Steve Martinez & Kelly Zering, *Pork Quality and the Role of Market Organization*, United States Department of Agriculture Economic Research Service, Economic Report Number 835, 9 (2004), <http://www.ers.usda.gov/publications/aer835/>

<sup>67</sup> Dale Leuck, Mildred Haley, & David Harvey, *U.S. 2003 and 2004 Livestock and Poultry Trade Influenced by Animal Disease and Trade Restrictions*, United States Department of Agriculture Economic Research Service, 11 (2004), <http://www.ers.usda.gov/publications/LDP/JUL04/LDPM12001/LDPM120-01.pdf>.

<sup>68</sup> Johnson, *supra*, at 54.

scientist Ken Prusa said that he thinks American consumers are increasingly willing to pay a premium for quality as well, and predicted the end of “commodity pork.”<sup>69</sup> If this demand increases on the part of American consumers, and Japanese demand is consistent, the market for quality pork products will increase. Since quality of pork is related to the stress-level of pigs on the farm, conditions will improve as well.

### **III. The Life of the Genetically Improved Pig**

#### **A. “AI”**

Modern pigs no longer procreate in the traditional way. Today, 90% of farms use artificial insemination to impregnate their sows.<sup>70</sup> The alternative is no longer efficient and no longer safe. By using artificial insemination, producers reduce the disease risk that comes when a genetically dissimilar pig comes in contact with another pig that is part of a genetically uniform herd. It is more cost-effective to simply purchase boar semen from one of the many genetic companies offering that offers this service now.<sup>71</sup> Additionally, and perhaps most importantly, AI allows producers to give meatpackers what they want: uniform herds that provide consumers with uniform and predictable pork products.<sup>72</sup>

#### **B. Disease Vulnerability**

Genetic uniformity comes at a cost however. When farmers have a herd of swine that are essentially alike genetically, and live in such close proximity to one another, the risk of disease

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<sup>69</sup> *Id.*

<sup>70</sup> Johnson, *supra*, at 48. When I first heard of this process, and learned that boars and sometimes even sows need to be manually stimulated by humans in order for this to occur, I wondered whether the human to pig stimulation constituted bestiality. According to Iowa law, this practice is not bestiality. Iowa Code § 717C.1 (2003).

<sup>71</sup> Mark J. Estienne & Allen F. Harper, *Using Artificial Insemination in Swine Production: Detecting and Synchronizing Estrus and Using Proper Insemination Technique*, Virginia Cooperative Extension Publication Number 414-038 (2005), <http://www.ext.vt.edu/pubs/swine/414-038/414-038.html>.

<sup>72</sup> Johnson, *supra*, at 51.

annihilating the entire herd is real. If one pig gets sick, and lacks the resistance to the disease, it is likely that the other pigs that have the same father lack the resistance as well.<sup>73</sup> As a result, some farmers go to extreme measures to protect their herds from disease.

While working on a piece for Harper's magazine, Nathanael Johnson visited the Sleezer Fertility Clinic in Aurelia, Iowa to see how modern pigs live.<sup>74</sup> The Sleezer farm houses sows and boars, but the groups are held in barns three miles apart to reduce the risk that wind will blow pathogens between the two barns.<sup>75</sup> The perimeter of the farm is marked by a chain-link fence that is topped with razor wire to prevent animals and humans and the germs they carry with them, from trespassing on the farm.<sup>76</sup> Only one family member enters the boar barn in order to reduce the risk of transmitting pathogens, and anyone who enters the sow barn must wear protective clothing to shield the sows from their germs and to protect themselves from the heavy stench of ammonia in the barn.<sup>77</sup> The image of happy pigs rolling in the mud is gone, replaced by row upon row of identical animals in a sterile environment surrounded by humans in biohazard suits.<sup>78</sup>

### C. Living Quarters

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<sup>73</sup> Johnson, *supra*, at 48.

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> Disease risk is also a reason that these pigs must be raised indoors. This is couple with the fact that the leaner varieties also the lack the necessary back fat to survive Iowa winters. *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> This is also where the antibiotic controversy comes in. Many producers put low doses of antibiotics in the animal's feed every day. This helps ward off disease, and helps animals to grow larger in shorter periods of time, but also raises concerns about antibiotic resistance. *Antibiotic Use in U.S. Livestock Production*, Animal and Plant Health Inspection Service, [http://www.aphis.usda.gov/vs/ceah/cei/taf/emerginganimalhealthissues\\_files/antiresist.antibiouse.pdf](http://www.aphis.usda.gov/vs/ceah/cei/taf/emerginganimalhealthissues_files/antiresist.antibiouse.pdf).

The restrictive conditions of gestation crates were discussed in the state statutes section. It is thought that restricted movement allows the sows “to carry more fetuses to term.”<sup>79</sup> In his book, *Dominion*, which was published in 2002, Matthew Scully tells of his visit to a gestation area at a Smithfield Farms<sup>80</sup> facility in North Carolina.<sup>81</sup> He observed tumors on the legs of some of the sows “the size of half a soccer ball.”<sup>82</sup> A Smithfield Farms representative told Scully that although the sow with the tumor would likely die before giving birth, it was no problem, because Smithfield had technology that allowed them to harvest babies from the wombs of dead mothers.<sup>83</sup> This sort of callous attitude toward the suffering of animals is the result of a system that values increased yields over a quality product. It is also the sort of conduct that outrages consumers. Smithfield, the largest hog production company in the United States has since vowed to phase out gestation crates. This is a giant step forward for animal rights and for corporate responsibility. As consumers are becoming increasingly aware of the conditions faced by the animals they eat every day, corporations will be forced to make more changes like these for the benefit of our food animals.

**D. Treatment affects taste: acidity**

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<sup>79</sup> Leana Stormont, *Detailed Discussion of Iowa Hog Farming Practices*, Animal Legal & Historical Center, Michigan State University College of Law (2004), <http://www.animallaw.info/articles/ddusiowahogfarming.htm>.

<sup>80</sup> Smithfield Corporation, the owner of Smithfield Farms, is the largest pork producer in the United States. In January 2007, Smithfield announced that it would phase out gestation crates over the next decade. *HSUS Praises Smithfield Move to End Confinement of Pigs in Gestation Crates*, Humane Society of the United States’ Factory Farming Campaign (2007), [http://www.hsus.org/farm/news/pressrel/smithfield\\_gestation\\_crate\\_phase\\_out.html](http://www.hsus.org/farm/news/pressrel/smithfield_gestation_crate_phase_out.html).

<sup>81</sup> Robyn Mallon, *The Deplorable Standard of Living Faced by Animals in America’s Meat Industry and How to Improve Conditions by Eliminating the Corporate Farm*, 9 Mich. St. U. J. Med. & L. 389, 405 (2005).

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* at 406.

Despite all of the changes to the pork industry over the past decades, as a result of genetics and stressful living conditions, pork actually tastes worse than it used to.<sup>84</sup> It began when farmers began breeding pigs to be leaner. While the leaner varieties of pigs are more attractive to health-conscious consumers, and can fetch a better price for farmers because of the lower fat content, some of the leaner varieties are genetically predisposed to Porcine Stress Syndrome which causes the phenomenon of pale, soft, exudative (PSE) meat.<sup>85</sup> PSE meat has many undesirable qualities including “poor eating quality after cooking.”<sup>86</sup> Genetics does not tell the entire PSE story, however. It is acknowledged that stress related to handling conditions on the farm and at the slaughterhouse can result in the acidity associated with PSE as well.

Professor and livestock expert Dr. Temple Grandin has studied pig stress extensively.<sup>87</sup> She recommends that animals be given adequate space and that they not be handled roughly.<sup>88</sup> She also recommends that animals raised in confinement be provided with more environmental stimulation.<sup>89</sup> Her studies have shown that pigs that had more positive interaction with humans, that were given toys, and that were not kept in complete light or darkness, were less excitable and easier to handle than other pigs and reduced incidence of PSE.<sup>90</sup> Pigs are intelligent animals,<sup>91</sup> and in spite of their love to root in the mud,<sup>92</sup> pigs are also clean animals. Pigs do not like to void or urinate near the areas where they live or eat. As previously mentioned, this also causes

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<sup>84</sup> Johnson, *supra*, at 53. Excitability caused by genetics and poor handling in production can also lead to difficulty in humanely handling pigs at slaughter. David Wolfson, *Beyond the Law: Agribusiness and the Systemic Abuse of Animals Raised for Food or Food*, 2 *Animal L.* 123, 134 (1996).

<sup>85</sup> Martinez, *supra*, at 9.

<sup>86</sup> *Id.*

<sup>87</sup> <http://www.grandin.com/temple.html>

<sup>88</sup> Temple Grandin, *Methods to Reduce PSE and Bloodsplash*, 21 *Allen D. Leman Swine Conference* 206-209 (1994), <http://www.grandin.com/references/swine.html>.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> Leana Stormont, *Biological Information, Terminology, and Hog Production Phases*, *Animal Legal & Historical Center Michigan State University College of Law* (2003), <http://www.animallaw.info/articles/biushog.htm>.

<sup>92</sup> Pigs frolic in the mud in order to regulate their body temperatures because they lack sweat glands. *Id.*

distress on industrial farms, because pigs are typically housed in small cages that rest on slatted floors.<sup>93</sup> This forces the pigs to excrete in their living areas which causes distress as well as physical problems for some pigs that resist excreting in their areas.<sup>94</sup> Absent the stimulation that an intelligent animal requires, particularly when combined with poor handling conditions and lack of adequate space, intelligent animals like pigs become distressed.

## V. Suggestions for Change

There are two primary mechanisms for change in the animal food industry: government and the consumer. Government can initiate change by instituting more strict regulations and animal welfare standards, by creating tougher enforcement standards, and by imposing harsher penalties on producers who fail to follow guidelines. The European Union has taken a proactive stance on the animal welfare issue. Beginning in 1974, European legislation has been promulgated not only to protect the welfare of animals during transport and at slaughter, but on the farm as well.<sup>95</sup> The European approach to animal welfare represents a workable and incremental approach to improving animal welfare standards that the United States could use as a model for developing our own federal protection for food animal welfare.

Consumers have arguably the loudest voice in this debate. When consumers show that they are willing to pay a little more for meat that is produced according to ethical standards, producers will have incentive to abandon the highly mechanized systems they use today. Unfortunately, for many producers, it is not so easy. They have invested much in new infrastructure in order to stay competitive, and have taken on significant amounts of debt, so that the risk of going to a new production system could be a risk they cannot afford to take. Even within the current system, however, there is room for improvement. Producers could adopt some

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<sup>93</sup> Johnson, *supra*, at 50.

<sup>94</sup> *Id.*

<sup>95</sup> *Action Plan on Animal Welfare 2006-2010*, (COM) (2006) 13 (Jan. 23, 2006).

of the suggestions of Dr. Temple Grandin such as using lighting to replicate actual daylight and night, providing pigs with environmental stimulation in the form of toys, allowing for positive pig/human interactions, and using genetics to breed less excitable pigs.<sup>96</sup>

#### **A. Consumer Demand & Niche Pork**

The most important force for change in the food animal welfare debate is the consumer. If consumers demand that food animals be treated humanely, producers will be forced to give the consumer what they want. The easiest way for consumers to communicate this message is by seeking out products that are produced according to ethical standards. Unfortunately, these standards are currently self-imposed and self-regulated, so it is difficult to be sure that the product is actually produced with animal welfare in mind. According to the USDA, current scientific guidelines about humane treatment of animals are regulated only through voluntary third party audits and are not mandated.<sup>97</sup>

A mandatory certification system would give consumers confidence that the ethical claims made by producers are backed up by government oversight, and would give them the resources they needed to determine exactly what each claim means.<sup>98</sup> A legitimate concern of mandatory labeling is that it could further increase the cost of these products. If consumers are confident that they can trust the claims made by manufacturers, however, the market for these products is likely to expand and offset the increased costs.<sup>99</sup>

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<sup>96</sup> Temple Grandin, *Effect of Rearing Environment and Environmental Enrichment on the Behavior of Neural Development of Young Pigs*, (1989) (Ph.D. dissertation, University of Illinois).

<sup>97</sup> *Animal Welfare Audits and Certification Programs*, United States Department of Agriculture, [http://awic.nal.usda.gov/nal\\_display/index.php?info\\_center=3&tax\\_level=2&tax\\_subject=170&level3\\_id=0&level4\\_id=0&level5\\_id=0&topic\\_id=1782&&placement\\_default=0](http://awic.nal.usda.gov/nal_display/index.php?info_center=3&tax_level=2&tax_subject=170&level3_id=0&level4_id=0&level5_id=0&topic_id=1782&&placement_default=0).

<sup>98</sup> *Certification and Education Programs: Current Status of Farm Animal Welfare*, Future Trends in Animal Agriculture – United States Department of Agriculture, 14 (2005), <http://www.nal.usda.gov/awic/pubs/FTAAProceedings/ProceedingsSept2005.pdf>.

<sup>99</sup> *Id.* at 18.

The niche pork movement in the United States is attempting to bring high quality, humanely produced pork products to consumers. Niche pork comprises several movements. Some farmers are focused on bringing back heirloom breeds, like Berkshires, known for superior taste and quality.<sup>100</sup> The Berkshire breed went out of fashion as the leaner varieties were promoted as being healthier and cheaper, but the Berkshire is becoming a favorite of consumers seeking meat with higher quality attributes.<sup>101</sup> The Berkshire is just one of the breeds making resurgence as consumers begin to realize the low quality of the low cost pork found in their supermarkets.

Another part of the niche pork movement is exemplified by Niman Ranch Pork.<sup>102</sup> The Niman Ranch Company operates out of Iowa and does a solid business, buying about 2,500 pigs per week from 400 producers in 2005, and has experienced an annual growth rate of 40% for several years. Niman Ranch producers must follow guidelines set out by the Animal Welfare Institute. The guidelines set out generous space requirements for pigs, and require that pigs be given access to the outdoors at all times. Gestation crates, slatted floors, and tail docking are prohibited by the regulations.<sup>103</sup> Since many niche pork producers are small farmers, access to technology can be a problem, but several universities have ongoing research into alternative swine production systems.<sup>104</sup> The Niman Ranch Company's method of production is certainly a viable alternative to commodity pork, and is beginning to take hold in the modern market. In fact, The Niman Ranch supplies pork to the national restaurant chain, Chipotle Mexican Grill, which proudly advertises its commitment to providing consumers with high quality, ethically

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<sup>100</sup> M. S. Honeyman, et. al., *The United States Pork Niche Market Phenomenon*, 84 J. Anim. Sci. 2269, 2271-72 (2006).

<sup>101</sup> *Id.*

<sup>102</sup> Honeyman, *supra*, at 2272.

<sup>103</sup> *Animal Welfare Approved Standards for Pigs*, Animal Welfare Institute, (2006-2007), <http://www.awionline.org/farm/standards/pigs.htm>.

<sup>104</sup> Honeyman, *supra*, at 2273.

produced meat through its “Food with Integrity” program.<sup>105</sup> The commitment that Chipotle has made toward providing customers with a quality product at a reasonable price shows that it can be done: high quality, humanely produced meat does not necessarily come at the expense of prices that are out of reach for the average consumer.

## **B. The European Model**

European countries and the European Union (EU) have strengthened their Animal Welfare standards, and have specific regulations designed to protect the welfare of pigs on farms.<sup>106</sup> Strict regulations are placed on gestation crates, mandating that sows be given ample space, and requiring that most sows be placed in group pens with ample space and access to food for most of the time before farrowing.<sup>107</sup> The EU prohibits pigs being kept in total darkness.<sup>108</sup> Pigs must be housed in areas where they can comfortably rest and lie down, and must be able to see other pigs.<sup>109</sup> Resting areas must be comfortable and adequately drained.<sup>110</sup> Tail docking and tooth clipping are prohibited except in cases where it can be shown that failing to perform these procedures on other animals has caused injury, and if tooth clipping is to occur, it must be done within 7 days of birth.<sup>111</sup> Castration must be carried out with anesthetic.<sup>112</sup> While these do not amount to sweeping changes, they recognize that pigs are animals that are deserving of respect and humane treatment. Sensory deprivation and abuse will not be tolerated in the

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<sup>105</sup> Chipotle Mexican Grill, FWI, Pork, [http://www.chipotle.com/#flash/fwi\\_fare](http://www.chipotle.com/#flash/fwi_fare).

<sup>106</sup> Council Directive 91/630 (1991).

<sup>107</sup> Council Directive 91/630, art. 12, chp. II, 1991 O.J. (L 340) (EC).

<sup>108</sup> Council Directive 91/630, art. 12, chp. I-5, 1991 O.J. (L 340) (EC).

<sup>109</sup> Council Directive 91/630, art. 12, chp. I-8, 1991 O.J. (L 340) (EC).

<sup>110</sup> Council Directive 91/630, art. 12, chp. I-11, 1991 O.J. (L 340) (EC).

<sup>111</sup> Council Directive 91/630, art. 12, chp. I-4, 1991 O.J. (L 340) (EC).

<sup>112</sup> Council Directive 91/630, art. 12, chp. I-3, 1991 O.J. (L 340) (EC).

European Union, and the European Parliament continues to take action to protect livestock from inhumane treatment.<sup>113</sup>

### **Conclusion**

Ultimately, the changes necessary to create ethical conditions for food animals will likely result from a combination of government and consumer demands on producers. The best solution would come in the form of a mandated labeling system that gives consumers confidence and access to information about what the labels mean and how the labeling standards are regulated. The complete absence of federal statutory protection for farm animals is inexcusable, but consumers are beginning to show the market that they are willing to pay a little more for more quality. This trend is evinced by Smithfield gestation crate phase-out, the ballot initiatives passed in Florida and Arizona, and the popularity of Chipotle Mexican Grill's food with integrity program. As these trends continue to take hold, the animals we eat every day will begin to get the respect they deserve.

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<sup>113</sup> *Communication from the Commission to the European Parliament and the Council on a Community Action Plan on the Protection and Welfare of Animals*, COM (2006) 0013 final (Feb. 28, 2006).