

Review of Animal Identification Systems

Written Testimony of the Farm and Ranch Freedom Alliance

to the

United States House of Representatives, Committee on Agriculture,
Subcommittee of Livestock, Dairy, and Poultry

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Judith McGeary, Executive Director
Farm and Ranch Freedom Alliance
8308 Sassman Rd.
Austin, Texas 78747
Phone: 512-243-9404
Toll-free: 866-687-6452

Email: Judith@FarmAndRanchFreedom.org

Web site: www.farmandranchfreedom.org

The Farm and Ranch Freedom Alliance (FARFA) is a non-profit organization headquartered in Austin, Texas. Founded in April 2006, FARFA has over 600 members and over 2,000 subscribers to its mailing list from across the country. FARFA is dedicated to protecting the interests of independent farmers, ranchers, homesteaders, and other livestock owners.

USDA has described NAIS as “one of the largest systematic changes ever faced by the livestock industry.”¹ Despite the scope of the proposed program, the government has not conducted any scientific studies to analyze the design or effectiveness of the NAIS. Nor has the government ever completed a cost-benefit analysis. Rather, the USDA has relied on unsupported, generalized statements that NAIS is necessary to protect the United States against an outbreak of animal disease and that it will help the export market. The discussion below is an overview of the most egregious issues that have been ignored by the proponents of the program.

Background

In the 1980s and 1990s, industry trade groups developed plans for a national electronic animal identification system.² In 2002, the National Institute for Animal Agriculture (NIAA) established a task force to create a national animal identification system.³ The NIAA is a trade organization composed primarily of large agri-business, technology companies, and government bureaucracies.⁴ The NIAA included USDA in its task force to develop a national electronic identification system.⁵

In April 2005, the USDA published the Draft Strategic Plan and the Program Standards for the NAIS. These documents set out a 3-stage program: premises registration, animal identification, and animal tracking, discussed in more detail below. The Plan stated that the NAIS would be mandatory after an initial voluntary period.⁶

After a public outcry, USDA announced in November 2006 that NAIS would be voluntary at the federal level.⁷ The same day USDA made this announcement, it also announced the availability of \$14 million to fund state programs under cooperative agreements. The cooperative agreements with the states include provisions requiring the states to reach specified goals for participation.⁸ The federal funds thus encourage states to adopt mandatory programs, as Wisconsin and Indiana have done,⁹ or to use coercive measures to increase registrations. For example, Michigan now requires all cattle to be tagged with NAIS-compliant RFID tags (and the properties registered), Tennessee has refused disaster relief to farmers whose properties were not NAIS-registered, and Colorado has expelled children from the State Fair livestock show because their parents' properties were not registered.¹⁰

Further, despite referring to “critical mass” as an intermediate goal for participation, the USDA has repeatedly stated that its ultimate goal is to have 100% or “full” participation. It is not plausible that 100% of animal owners, including thousands of people who have livestock as pets, will choose to sign up for this program of their own free will, in time to meet USDA goals. The reality is that states continue to face pressure from USDA to implement mandatory or coercive measures to meet the USDA's goals and to receive federal funds to meet those goals. We urge Congress to halt or restrict the USDA's implementation of NAIS.

I. NAIS will impose significant costs on livestock and poultry owners, including small farmers and pet owners.

The USDA provided a grant to Kansas State University in 2007 to conduct a cost-benefit analysis. Although USDA has the results, it has refused to release the study to date. Instead, the USDA and state agencies continue to spend money on NAIS and expect animal owners to pay costs, while our economy faces a severe recession.

Even just the first step of the NAIS, premises registration, involves significant costs: computer hardware and software to create the database of all animal owners, and the personnel for data entry, management, and maintenance. These costs must be paid either through a fee on the landowner (as proposed in Texas) or with taxpayer dollars.

Animal identification is a separate, costly step. Although the external RFID tags cost \$3, the implantable microchips cost approximately \$20. The cost of actually tagging the animals must also take into account the costs of a veterinarian's assistance (for implantable microchips) or the equipment and labor necessary to precisely place the tags in the correct portion of the ear so that they can be read electronically.¹¹ There is also the potential for human or animal injury in the process, as well as the shrinkage associated with greater handling of the animals.¹² Most farmers and ranchers have very narrow profit margins and will not be able to absorb these costs. Some animals, such as sheep and goats, may be worth as little as \$50 to begin with, making such costs clearly excessive. If leg bands are used to identify poultry at birth, they will require multiple tag changes while they grow to maturity, which could easily mean spending more money on tags than the bird would sell for.

The third step, reporting, will require animal owners to either have electronic readers and computers, or to pay someone else to scan the tags and report. The cost for reporting every movement of every animal will differ, depending on whether the owner has to hire additional labor to help with the paperwork requirements. The list of reportable events is long: the tagging of every animal; regional shows and exhibitions; every sale, whether by private agreement or market; missing animals; predator losses; euthanasia; rendering; and slaughter. The resulting databases will be massive, requiring extensive equipment and personnel. These costs may be directly imposed on the animal owner, or they may be partially hidden by using taxpayer dollars, levies on sales barns, or other methods. But they must be paid somehow.

The Australian Beef Association has estimated that the costs for the Australian program (which covers cattle only) could be as high as \$40 for each animal.¹³ The Association noted that a British parliamentary committee found that Britain's tracking program cost as much as \$69 per animal sold. When multiplied by the approximately 100 million cattle in this country, 9 million horses, 9 million goat and sheep, and millions more included livestock and poultry animals, these costs are staggering.

II. NAIS will not increase food safety.

For many people, the issue of animal health is closely linked to food safety. Yet the NAIS will do nothing to improve the safety of our food supply. Most food-borne illnesses are from bacteria such as salmonella, e. coli, and campylobacter, or the Norwalk viruses.¹⁴ These organisms contaminate food due to poor practices at slaughterhouses or in food handling.¹⁵ The NAIS will not

prevent these problems from occurring. Moreover, because the tracking will end at the time of slaughter, the NAIS will not improve the government's ability to trace contaminated meats once they leave the slaughterhouse and enter the food chain.

In fact, the NAIS will actually reduce food safety. Economies of scale and the provisions for group identification under NAIS will translate to advantages for factory confinement farms. The use of antibiotics in these farms has raised significant health concerns, while significant environmental issues have been linked to the confinement operations' animal management practices. Meanwhile, small farmers who sell their products locally, creating a diversified and totally traceable food supply, will be driven out of agriculture by the costs of NAIS.

Although it is not a widespread problem, the issue of BSE or Mad Cow Disease is of great concern to many Americans. The most effective protection against the human health threat from BSE would be a system of testing every slaughtered cow that enters the food supply, as is currently done in Japan.¹⁶ England and the European Union also test significantly more cattle than does the USDA, which tests only about 1/10 of 1% of our slaughtered cattle.¹⁷ The USDA has justified this low testing rate on the grounds that it estimates that there are only 4 to 7 cows in the entire country that have BSE. Yet the USDA apparently sees no contradiction in pushing for the electronic tagging and tracking of 100 million cows, a process that will not actually detect those few sick ones or prevent them from entering the food supply.

NAIS will do nothing to increase the safety of the American food supply, although it will almost certainly raise the cost of food.

III. NAIS will not improve animal health.

It is critical to recognize that animal diseases, in both wild and domesticated animals, have been part of human existence for thousands of years. The excuse of disease cannot justify every intrusion into citizens' privacy and burdens on their property rights. **But we are not even faced with a true choice between safety and freedom, because the NAIS will not provide any true protection against disease.**

The sole goal of the NAIS is to provide 48-hour traceback of all animal movements. According to the proponents, every animal must be part of the system. Yet the government has not provided any studies or models showing why 48 hours is a magic number nor why 100% of animals must be included. The Farm and Ranch Freedom Alliance submitted requests under the Freedom of Information Act (FOIA) in November 2006 and December 2007, asking for the studies, risk analysis, and other scientific documents used to develop NAIS. USDA has acknowledged receipt of both requests and has provided no objection under FOIA, yet it still has not produced a single study.

Basic scientific principles and practical experience both establish that the susceptibility of animals to disease and the likelihood of transmission differ greatly depending on the species of animal, the exact disease, and the conditions under which the animals are kept.¹⁸

Non-commercial operations are not immune from disease, but they do not pose the same risks as the commercial facilities. Using poultry as an example, in the 2004 outbreak of avian flu in Texas, the disease was found in a 6,600 bird flock in commercial poultry operation; but despite testing more than 350 nearby non-commercial flocks, no infected birds were found in non-commercial

flocks.¹⁹ In the 2002 outbreak of avian influenza in Virginia, “farm equipment, vehicles and personnel” that moved among commercial facilities caused transmission of the virus.²⁰ An NGO report indicates that the spread of avian flu, including the greatly-feared H5N1 virus, is due to the conditions in confinement poultry operations.²¹ As noted in that report, a USDA report found that, out of 45 outbreaks of avian flu in the country of Laos, 42 of the outbreaks occurred in commercial operations.²²

Despite the clear, scientifically documented differences between production systems and non-industrialized holding of livestock, NAIS treats all owners alike. Under NAIS, a small-scale livestock owner with 10 chickens free-ranging is considered as much of a threat to animal health as a commercial operation with 10,000 chickens living in a crowded building. The farmer raising sheep or cattle on healthy pastures is treated the same as the feedlot with hundreds of animals crowded into small pens. Indeed, the small-scale producers face even heavier burdens than the large commercial operations because of economies of scale and the way the USDA has defined group lot numbers. **This program is precisely the opposite of what is needed to prevent and control disease.**

NAIS may also increase the spread of livestock diseases by creating a new black market. If the NAIS is implemented on a mandatory basis, or creates restrictions on people’s right to buy, sell, or use their animals, it is inevitable that some people will decide not to comply. Since they will be acting illegally, they will be far less likely to seek a veterinarian’s help should a disease problem arise. To understand the potential problem, one has only to look at the outbreak of Exotic Newcastle Disease that occurred in Los Angeles in 2002, a situation that pro-NAIS supporters have repeatedly referenced.²³ The Exotic Newcastle Disease outbreak was started and spread by cockfighting flocks.²⁴ Cockfighting is illegal in California and the roosters were smuggled in from Mexico.²⁵ Thus, the NAIS will actually create conditions that increase the probability of disease outbreaks by undermining the first line of defense: the actions of private individuals and their veterinarians in quickly diagnosing and containing diseases.

There are far more effective ways to address animal diseases than an electronic identification and tracking system. The USDA and the equivalent state agencies have extensive programs in place to monitor, track, and contain disease. These existing programs were analyzed in the Government Accountability Office’s (GAO’s) report on the efforts to protect agriculture from a terrorist attack.²⁶ As acknowledged in that report, the government’s ability to respond to an intentional introduction of livestock disease reflects its ability to respond to natural outbreaks.²⁷

The GAO identified multiple deficiencies in the government programs: many veterinarians lack the training needed to recognize the signs of foreign animal diseases; USDA does not use rapid diagnostic tools to test animals at the site of an outbreak; vaccines cannot be deployed within 24 hours of an outbreak; and current USDA policy requires a complex process for deciding if and when to use vaccines, a process that could be too lengthy during an outbreak.²⁸ The report listed additional “management problems”: a decline in agricultural inspections at ports of entry, which are the first line of defense against the entry of foreign diseases; weaknesses in the flow of critical information among stakeholders; insufficient technical assistance to states for developing emergency response plans; shortcomings in coordinating working groups and research efforts; and lack of integration of agencies’ databases.²⁹ **Notably, the GAO did *not* identify any deficiencies in current mechanisms for tracking animals, or recommend that resources be allocated to create a program such as NAIS.**

Instead of addressing prevention, diagnosis, and treatment of disease, the USDA has spent over \$130 million of taxpayer dollars to develop an electronic tracking system³⁰ and seeks to impose this unnecessary and ineffective system on every person who owns livestock.

IV. NAIS will not protect against bioterrorism.

The USDA's claim that the NAIS will protect against bioterrorism is equally flawed. In 2005, the Government Accountability Office (GAO) reported on the efforts to protect agriculture from a terrorist attack.³¹ The GAO identified multiple deficiencies in the government programs: many veterinarians lack the training needed to recognize the signs of foreign animal diseases; USDA does not use rapid diagnostic tools to test animals at the site of an outbreak; vaccines cannot be deployed within 24 hours of an outbreak; and current USDA policy requires a complex process for deciding if and when to use vaccines instead of slaughtering animals, a process that could be too lengthy during an outbreak; and the number of inspections of agricultural imports has actually decreased since 2001.³² Notably, the GAO did *not* identify any deficiencies in current mechanisms for tracking animals, or recommend that resources be allocated to create a program such as the NAIS.

While the GAO report did not identify NAIS as important in controlling animal disease, the report highlighted what may happen after the government traces animals back. Current USDA policy calls for "depopulation." Stripping away the euphemisms, this means that the government will kill all susceptible animals, domestic and wild, within a 10 kilometer radius of wherever the infected animal has been.³³ Healthy animals will be killed, whether or not the disease is fatal to animals or transmissible to humans. If the disease spreads beyond the initial quarantine zone, the government will continue to expand the kill zones.³⁴ This policy is wasteful, will drive many small farmers out of business, and increases the risk of terrorism by creating an unnecessarily high-profile target.

All of these issues make the U.S. vulnerable to bio-terrorism, and none will be addressed by the NAIS. In fact, as noted by the GAO report, **the concentration of our food supply makes it vulnerable to attack** "because diseases could spread rapidly and be very difficult to contain. For example, between 80 and 90 percent of grain-fed beef cattle production is concentrated in less than 5 percent of the nation's feedlots."³⁵ The NAIS was developed by and for large producers, and will only lead to increased corporate control and consolidation of our nation's food, as small producers are driven out. This in turn increases our vulnerability.

V. NAIS is not justifiable as a market program.

The USDA has also stated that the animal identification program is necessary to help the export market.³⁶ This rationale obviously applies only to food animals, not most American horses, nor our parakeets, parrots, llamas or alpacas, all of which are included in various states' NAIS plans.

With respect to food animals, the issue of the export market could easily be addressed by a voluntary program, supported by the affected meat exporters. Such a program would allow the market to determine how valuable it is to track animals from birth to death. Any farmer that wishes to export animals or food to other countries could enroll in the program. In turn, exporters could refuse to buy from anyone who was not also enrolled in the tracking program. Interestingly, the U.S. imports significantly more beef than it exports,³⁷ raising a question as to the true value of the export market to the economy as a whole.

From the perspective of the domestic market, this program could simultaneously be used to create a label that might then demand a premium from concerned consumers, similar to the organic certification program.

Although the USDA has claimed that the program is currently “voluntary” and “market driven,” the facts do not support this. USDA has spent over \$130 million to develop this program, and requested another \$33 million this year. It has provided over \$45 million in grants to the states and tribes between 2004 and 2008 and over \$5 million to industry organizations in 2007-08.³⁸ Several states, at USDA’s urging, have either adopted or proposed mandatory portions of the program. This is not a market-driven program.

Neither the export market nor the domestic market requires a mandatory program that includes every single livestock animal in the country. The free market should be allowed to function.

VI. NAIS has significant technological problems.

Although the USDA has claimed that NAIS is “technology neutral,” the USDA’s documents specify that RFID tags will be the means for identifying cattle and the Equine Species Working Group has similarly specified that microchips will be the default means for identifying horses.³⁹ RFID technology, like any electronic device, is subject to problems that do not exist with traditional identification methods such as branding or tattoos. Depending on the security of the technology used, one can clone microchips, infect them with viruses, or reprogram them.⁴⁰ The specific type of microchip recommended by the Cattle and Equine Species Working Groups, the ISO 11784/11785 chip, is particularly vulnerable to reprogramming because it is based on a “recipe” that any manufacturer can follow.⁴¹ That recipe produces chips that can be programmed in the field before they are applied to the animals, or even reprogrammed after they are in the animal.⁴² It is impossible to reliably trace an animal if someone can change its identity at any time.

Significantly, the ISO 11784/85 chip is *not* the type of microchip that has been generally used in horses, dogs, or cats in the United States for private purposes, and it emits on a different frequency, 134.2 kHz, rather than standard 125 KHz. Thus, most of the scanners and microchip readers in the U.S. today will not read or even detect these ISO chips. Every animal handling facility will have to buy expensive new scanners in order to comply with the USDA- and ESWG-recommended technology.

The problems with the microchips and readers are only the beginning. The USDA has set out its vision of multiple public and private databases, capturing all of the reportable “events” for every animal in the system, with the USDA creating a metadata portal to use for its purposes.⁴³ The technological aspects of setting up such huge databases are daunting. Along with the technological requirements, there will be literally hundreds of millions of opportunities for human error in this system. Moreover, integrating databases is far from a simple task. Indeed, despite the emphasis on inter-agency cooperation since 9/11, the GAO’s 2005 report on agriculture and terrorism noted that the federal government still had not integrated its own databases.⁴⁴

The technology companies that make microchips, software, and manage databases could make billions of dollars under NAIS. Yet, there is no evidence that they could deliver reliable 48-hour traceback of unique animal identification.

VII. NAIS will impact the entire economy, for the benefit of a handful of corporations.

The ultimate cost of the NAIS goes beyond the billions in direct costs discussed above. Some people who currently own animals will choose to sell or slaughter their animals rather than submit to such an intrusive government program or to violate their religious beliefs. Many other animal owners will be forced to sell because of the expensive and time-consuming requirements. The USDA estimates that there are approximately 1.4 million premises with livestock in the US. While this number is daunting enough, it significantly underestimates the true numbers of people who will be affected. USDA's estimate is based on who responded to the 2002 Agriculture Census, which excludes millions of horse owners, homesteaders, and those who keep livestock as pets. In fact, Massachusetts reports that it has already registered twice as many properties as had been reported under the census! And even the USDA census reflects the fact that the majority of animal owners are small farms and ranches, not large commercial operations that can pass on the costs of the program.

If a significant portion of livestock owners dispose of their animals, or simply let their flocks and herds dwindle because of cost and labor under NAIS, there will be wide-reaching effects throughout the economy. Businesses that sell feed and supplies to small producers may go out of business. Local feed mills may also close. Real estate prices could be depressed even more as large numbers of rural land parcels are put up for sale.

While many people will suffer severe economic burdens under the NAIS, the large agri-business and technology companies will profit from the increased export of food products and massive demand for microchips, software, and databases. These companies played a key role in developing the NAIS. For example, executives for large technology companies such as Global Vet Link sit on the board of directors of the NIAA, the trade group that established the working groups in 2002. Other entities who are proponents of NAIS will benefit from managing the databases, such as the associations (i.e. NCBA and American Farm Bureau) that have joined together to form the United States Animal Identification Organization (USAIO) to manage the "industry-led animal movement database."⁴⁵

VIII. NAIS will burden citizens' property rights and civil liberties.

If the state implements the program on a mandatory basis or using coercive methods, the NAIS imposes heavy burdens on people's freedoms and rights, raising multiple Constitutional issues.

The NAIS will establish a huge, permanent database of citizens' real property (the homes and farms where animals are kept) and personal property (the animals themselves), and potentially make it criminal to own those animals without registration of farms and animals. Individuals will be required to report each animal's movements, every sale, and every slaughter. **Since animals do not move themselves, this means reporting the individuals' own movements.** Ownership of livestock is a traditional activity that has been practiced throughout history without government surveillance. There is no more justification for imposing reporting requirements on animal owners than on the owners of any other common property, such as tools. Moreover, this plan will heavily burden individuals' ability to raise food for themselves and their families. The NAIS will therefore burden people's Fifth and Fourteenth Amendment rights.

Further, having collected information on people's private homes and property, the NAIS fails to protect this information. If the information is held by the government, individuals face massive intrusion into their lives and, potentially, the use of the information for taxing and other purposes. If the information is held by private companies, individuals will be vulnerable to competitive misuse of their information or sale of their information, a serious problem that has already occurred in many other areas.

The NAIS also poses First Amendment problems. Some groups, such as the Amish or Mennonites, have well-known religious objections to registrations and technological devices. Other groups also believe that they are prohibited from participating in this program due to scriptural prohibitions.

The proposed system may also violate the Fourth Amendment's protections against unreasonable searches and seizures, the equal protection clause, and constitutional restrictions on the taking of property.

Conclusion

Most of the people who will be impacted by NAIS are still unaware of it. When voters who own livestock, horses, and poultry find out the burdensome nature of the program, they will wonder why Congress created it, or allowed the USDA to implement it without clear statutory authority. We urge you to support your voters' interests by halting the NAIS.

NAIS is an intrusive, burdensome program that will not provide any real protection against animal disease or bioterrorism. The program is not justifiable on either philosophical grounds or a cost-benefit analysis. To the extent that tracking is a benefit to the market, it should be a voluntary, market-driven program paid for by the participants.

Sincerely,

Judith McGeary, Esq.
Executive Director
Farm and Ranch Freedom Alliance
8308 Sassman Rd
Austin, Texas 78747
Phone: 512-243-9404
Toll-free: 866-687-6452
Judith@farmandranchfreedom.org
www.farmandranchfreedom.org

Notes

¹ USDA Press Release No. 0120.06 (Apr. 6, 2006).

² *See, e.g.*, Proceedings of the 1994 Livestock Identification Consortium, online at <http://animalagriculture.org/Proceedings/1994IDProceedings.asp>

³ Draft Strategic Plan, United States Department of Agriculture, Animal and Plant Health Inspection Service (published Apr. 25, 2005) (hereinafter “Draft Plan”) at 4.

⁴ The list of NIAA members is available at <http://animalagriculture.org/aboutNIAA/members/memberdirectory.asp>.
Draft Plan at 4.

⁵ Draft Plan at 8-9.

⁶ USDA, National Animal Identification System (NAIS): A User Guide and Additional Information Resources (Version 2.0, December 2007) (hereinafter “User Guide”).

⁷ *See, e.g.*, USDA, Announcement of Cooperative Agreements for Implementation of the National Animal Identification System (NAIS) (Nov. 22, 2006) (hereinafter “Cooperative Agreement Announcement”) at 1 (“Applications must present well-defined measurable outcomes and total allocation of funding will be dependent upon achieving projected results with a mid-year assessment.”).

⁸ Wisconsin and Indiana have implemented mandatory premises registration. *See* Wis. ATCP Rule 17.02; 345 IAC 1-2.5. State agencies in Texas, Vermont, and Pennsylvania have proposed mandatory regulations under NAIS and only withdrawn them after intense public outcry.

⁹ USDA has expressly approved of coercive tactics, such as requiring participation in NAIS to be tied to existing programs. *See* User Guide at 7. USDA’s 2007 call for applications for cooperative agreements also allows for data mining. *See* Cooperative Agreement Announcement at 12. Numerous anecdotal reports have also surfaced of individuals being told that the state program was mandatory (even when no regulations had been adopted), told that they had to register in order to attend a show or sell their animals at public auction, or other threats.

¹⁰ For example, paying a vet in the Central Texas area to implant a microchip in a horse costs between \$60 and \$80, based on a phone survey. For the external tags, an applicator is needed and the tag is supposed to be placed in a precise ¼ area of the ear. *See* Michigan University Extension, Bulletin E-2967 (July 2006).

¹¹ A presentation by Kansas State University researchers conducting a cost-benefit analysis of NAIS under a grant from USDA, included the following “cost categories” for implementation of NAIS for cattle: RFID tags, RFID technology, labor (associated with each category), shrink, animal injury, human injury, depreciation, and opportunity costs.

¹² Australian Beef Association, Submission to the Queensland Government Relating to the National Livestock Identification System Regulatory Impact Study (2005).

¹³ *See* Centers for Disease Control and Prevention, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm#mostcommon (website last checked May 8, 2006). *Campylobacter*, *salmonella*, and *e. coli* are all found in the intestines of animals, so that contamination occurs during the slaughter process. The Norwalk viruses are believed to spread primarily from one infected person to another, through handling of food by infected kitchen workers or fishermen.

¹⁴ *See* Centers for Disease Control and Prevention, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm#mostcommon (website last checked May 8, 2006). “Meat and poultry carcasses can become contaminated during slaughter by contact with small amounts of intestinal contents. Similarly, fresh fruits and vegetables can be contaminated if they are washed or irrigated with water that is contaminated with animal manure or human sewage. ... Later in food processing, other foodborne microbes can be introduced from infected humans who handle the food, or by cross contamination from some other raw agricultural product.”

¹⁵ *See* Congressional Record—House at H4270 (June 8, 2005) (comments of Congressman Kucinich); *See also* Final Report, Japan-United States Working Group, Section 1(1)(iii) (Japan’s BSE Measures) (July 22, 2004) (“Based on Article 14 of the Abattoirs Law, only animals that pass ante-mortem and post-mortem inspections are approved for slaughter and dressing for use as edible meat. ... cattle of 0 months or older (all ages) are subjected to BSE testing during this post-mortem inspection.”).

¹⁶ The U.S. tested a little over 176,000 cows for BSE in 2004 and tested fewer than 700,000 cows *total* between June 2004 and March 2006, a period of almost two years. *See* News Release, Statement by USDA Chief Veterinary Officer John Clifford (DVM) Regarding Positive BSE Test Results (Mar. 13, 2006). Between 32 and 35 million cattle are slaughtered each year in the U.S., so the USDA has been testing approximately 1% for BSE. *See* USDA, Livestock Slaughter 2003 Summary (35.5 million cattle); Livestock Slaughter 2004 Summary (32.7 million cattle); 2005 Summary (32.4 million cattle). In contrast, the European Union countries tested more than 8 ½ **million** cows just in

2003, and tested over 6 million in just the first 9 months of 2004. See U.K. Food Standards Agency, Results of BSE testing in the EU, <http://www.food.gov.uk/bse/facts/cattletest>; Results of BSE testing in EU in 2004, <http://www.food.gov.uk/bse/facts/cattletest2004>. In 2006, the USDA announced that it was reducing testing by 90%.

¹⁸ The health problems caused by confinement or industrial management systems have been well documented in the scientific literature. See, e.g., Cravener, T.L., W.B. Roush, and M.M Mashaly, *Broiler Production Under Varying Population Densities*, POULT. SCI. 71(3):427-33 (1992); M.R. Baxter, *The Welfare Problems of Laying Hens in Battery Cages*, VET. REC. 134(24):614-19 (1994); D. Herenda and O. Jakel, *Poultry Abattoir Survey of Carcass Condemnation for Standard, Vegetarian, and Free Range Chickens*, CAN. VET. J. 35(5):293-6 (1994); T.G. Nagaraja and M.M. Chengappa, *Liver Abscesses in Feedlot Cattle: A Review*, J. ANIM. SCI. 76(1):287-98 (1998); T.G. Nagaraja, M.L. Galyean, and N.A. Cole, *Nutrition and Disease*, VET. CLIN. N. AM. FOOD ANIM. PRAC. 14(2):257-77 (1998); D.H. Tokarnia, J. Dobereiner, P.V. Peixoto, and S.S. Moraes, *Outbreak of Copper Poisoning in Cattle Fed Poultry Litter*, VET. HUM. TOXICOL. 42(2):92-5 (2000)

¹⁹ News Release, Texas Animal Health Commission (Apr. 1, 2004).

²⁰ E-Digest Volume 2, Number 11, *Issues Faced in the 2002 VA AI Outbreak*; paper presented by Dr. Bill Pierson, at the 2002 Poultry Health Conference sponsored by the Ontario Poultry Industry Council.

²¹ Genetic Resources Action International (“GRAIN”), *Fowl Play: The Poultry Industry’s Central Role in the Bird Flu Crisis* (Feb. 2006) (hereinafter “GRAIN Report”).

²² GRAIN Report (quoting USDA, *Laos: Poultry and Products—Avian Influenza*, GAIN Report, U.S. Department of Agriculture (Mar. 16, 2005)).

²³ See, e.g., News Release, Texas Animal Health Commission (Feb. 28, 2006).

²⁴ R. Scott Nolen, *Exotic Newcastle Disease Strikes Game Birds in California*, JOURNAL OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION NEWS (Nov. 15, 2002)

²⁵ See News Release, Texas Animal Health Commission (Jan. 1, 2003) (“END likely was initially introduced into Southern California through illegal importation of infected birds.”); Congressman Elton Gallegly, *Smuggling Cockfighting Roosters a Conduit to Bird Flu*, SANTA BARBARA NEWS-PRESS (Dec. 11, 2005).

²⁶ United States Government Accountability Office, GAO-05-214, *Homeland Security: Much is being done to protect agriculture from a terrorist attack, but important challenges remain* (Mar. 2005) (hereinafter “GAO Report on Agriculture”).

²⁷ The GAO Report on Agriculture repeatedly refers to the government’s response to outbreaks, “whether natural or intentional.” See, e.g., GAO Report at p.26. The Report’s conclusion explicitly states: “By overcoming these challenges, the United States will be in a better position to protect against and respond to a disease outbreak, whether natural or intentional.” *Id.* at p.56.

²⁸ GAO Report on Agriculture at p.6-7.

²⁹ GAO Report on Agriculture at p.7-9.

³⁰ Steve Stecklow, *U.S. Falls Behind In Tracking Cattle To Control Disease*, Wall Street Journal (June 21, 2006).

³¹ United States Government Accountability Office, GAO-05-214, *Homeland Security: Much is being done to protect agriculture from a terrorist attack, but important challenges remain* (Mar. 2005) (hereinafter “GAO Report on Agriculture”).

³² GAO Report on Agriculture at p.6-7.

³³ GAO Report on Agriculture at p.13 n.12 & p. 31.

³⁴ GAO Report on Agriculture at p.31.

³⁵ GAO Report on Agriculture at p.1.

³⁶ See Transcript of Secretary Mike Johnns Remarks to the National Cattlemen’s Beef Association Annual Meeting—Denver, Colorado (Feb. 3, 2006), <http://www.usda.gov/wps/portal> (Home/Newsroom/Transcripts and Speeches) Release No. 0060.06.

³⁷ <http://www.ers.usda.gov/data/meattrade/BeefVealYearly.htm>

³⁸ <http://www.usaspending.gov/>

³⁹ Draft Program Standards at p.20; Equine Species Working Group Recommendations to USDA, Recommendation #13 (May 24, 2005). See also

<http://www.horsecouncil.org/equine%20id%20website/AHC%20ESWG%20Microchip%20Paper%209.23.05.htm>

⁴⁰ See Annalee Newitz, *The RFID hacking underground*, Wired, www.wired.com/wired/archive/14.05/rfid_pr.html; John Markoff, *Study says chips in ID Tags are vulnerable to viruses*, New York Times (Mar. 15, 2006); In a university study in the Netherlands, a group of scientists showed that it was possible to create a self-replicating RFID virus. Rieback, M.R., B. Crispo and A. Tanenbaum, *Is your cat infected with a computer virus?*, Vrije Universiteit Amsterdam, Computer Systems Group.

⁴¹ See Draft Program Standards at p.20; Equine Species Working Groups Recommendation, Recommendation #13 (May 24, 2005))

⁴² For example, an ad in a Swedish newspaper stated: “We offer a new chip service. We will change the ID number of the ‘Kennel club’ type chip according to your wishes. Inexpensive. Easy. Fast. Total discretion. Also sale of ISO programming units.” Sveriges Storsta Morgontidning (Feb. 18, 1998). In 1998, ISO received a formal petition calling for revisions or suspension of the standards, and identifying multiple flaws in the ISO 11784/85 standard, including the lack of unique ID codes. See letter from Gosstandrat of Russia, Committee of Russian Federation for Standardization, Metrology and Certification, to Rudolf Zens, Secretary, SC 19 (Mar. 2, 1998) at <http://www.rfidnews.com/images/3-2-98.gif>. See also The Controversial ISO 11784/85 Standard, ISO 11784/85: A Short Discussion, at www.rfidnews.com/iso_11784short.html. ISO 11784/85 "Standard" with Blemish: A discussion of the ISO standard for RFID: its provenance, feasibility and limitations at www.rfidnews.com/iso_11784.html (website last checked July 1, 2006).

⁴³ USDA, Integration of Private and State Animal Tracking Databases with the NAIS (released Apr. 6, 2006).

⁴⁴ GAO Report on Agriculture at p.7-9.

⁴⁵ Animal Identification, Government Affairs Center, National Cattlemen’s Beef Ass’n (Apr. 3, 2006) at <http://hill.beef.org/newview.asp?DocumentID=15053>