

## **Animal Welfare Concerns Associated with Hatchery Practices and Broiler Breeder Management**

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### **Introduction:**

Animal welfare concerns are continuing to expand and gain favor among the general population throughout the world. This is primarily due to the disconnect that exists between the 98 % of the population in the U.S.A. that lives in urban areas, and the 2 % of the population in production agriculture that feed them. Many of the urbanites equate all animals with the pets that they keep in their homes, and in some cases treat better than their children (Pollan, 2002). Non-companion animals and the reality of animals living and dying, especially to provide meat for human consumption, are no longer a component of our everyday lives. This in turn appears to have led a number of people to the viewpoint that our food-animal production practices are less than humane. Some people who espouse this viewpoint have used it to convince a number of food organizations to adopt the view that animals have the same rights and freedoms that humans (*Homo sapiens*) have. The president of the organization titled "People for the Ethical Treatment of Animals" (PETA) has been quoted as saying that a Pig=Dog=Rat=Boy. I must point out at this point that I have a bias that there is no equality between the different species. Yes, we share the same cellular building blocks of nature (DNA), but so do clams and soybeans. Within this argument I must pose the question, "If we are equal in nature then why, within the last million years have not the animals evolved out of sitting in trees, eating fruit, or scratching in the dirt for meals? The conclusion is that equality of the different plant and animal species does not exist, and no matter how you may decide that it happened, humans hold sway over all other species. This does not mean that there is no moral responsibility associated with man's status, because there is. Mankind certainly has the moral obligation to ensure that the animals under our control are provided a protective environment and adequate care to ensure their welfare throughout their lifetime.

Animal rightists and animal rights advocacy groups are constantly talking about natural behaviors, and how those of us in animal production are forcing animals into environments that are not natural, and which are, therefore, detrimental to the animal's health and wellbeing. I would counter that in reality there is no such thing as a natural behavior left in most of the domesticate animals we use for the production of food and fiber. Domestication and the genetic selection of animals to be more highly adaptable to intensive agriculture is a fairly recent event in the history of man (Craig, 1981). If the amount of time

since the first *Homo sapiens* appeared on earth is equated with 1 minute of time, the time involved for the domestication of animals for food, fiber, and companionship only amounts to 3.2 sec, and for the domestication of the chicken even less time. Ever since chickens came under the influence and subsequent domestication by humans, i.e. approximately 4000 years ago, man has selected them for improved productivity within confinement systems (Craig, 1981). Parenthetically, selection and domestication has allowed man to choose chickens that were adapted to the husbandry practices and confinement systems of the day (Craig and Muir, 1998). In addition, Muir and Craig (1998) have shown that selection against the specific behaviors of feather pecking and cannibalism is actually one means by which the hen's well being can be improved. Chickens have the ability to learn what components of their environment are self-benefiting using a cognitive process (Ewing et al., 1999). However, the level of development of the cognitive process and how it is intertwined with the instinctive responses of the hen are still in question and can be altered by selection and the environments to which the hen is exposed (Zayan and Duncan, 1987). The rapid changes that have taken place over the years in husbandry practices for egg-type stocks including the use of cages and high density, light control, and feeding programs have raised questions as to whether genetic selection in chickens has impacted their behavior and compromised their welfare (Craig and Muir, 1998). Yes, domestic animal behavior began changing the moment man began raising them and selecting them to fit within the housing and management they employed. Not only that, it is very easy to observe that the various strains of chickens are different in their general behavioral response to management. The question is, "Are the behaviors that we see in confinement operations natural?" I would venture to say that they are not natural behaviors. Theoretically these are instinctive behaviors, which through selection have been modified and are displayed by the birds as behavioral releases.

### **Welfare definition and status:**

The welfare concerns facing the Broiler Breeder and Hatchery Industries are not unique, though the practices that may impact welfare associated with each may be. Before discussing the welfare concerns of the animal rights groups for your industry we must establish a common basis for the discussion. A speaker at the Bio-ethical considerations in Animal Production, 2003, posed the view that: The problem we face today is not one of ethics in the use of animals for the production of food and fiber, but rather it is a problem of affluence within the upper income sector of the general public and their lack of understanding of production agriculture.

Lets level the field of understanding by placing some definitions in your mind as to how we may define the views of those of us involved with animal agriculture, and those of others. I believe that everyone who works with animals or are associated with our food-animal industries are what I would like to define as "Animal Welfarists". Such individuals are concerned for the wellbeing and health

of animals they work with, and want assurances that their animals are humanely treated. If you want to see how many people are interested in this try a simple search of the Internet using “Animal Welfare” as the key words. This comes up with about 743,000 websites related to this subject. An “Animal Rightist” on the other hand is an individual who believes that animals possess the same inherent rights as humans and should not be exploited. With respect to this viewpoint, how would you answer the question “Do animals have rights?” The answer is, of course, yes, we and our elected representatives have endowed all animals with rights through the adoption of anti-cruelty laws, the Animal Welfare Act passed by the federal Congress, and through many other laws that have been passed by state legislatures and local municipalities. Try an Internet search using “Animal Rights” as the key words. You will come up with about 2,310,000 web sites pertaining to this subject.

An “Animal Liberationist” is an individual who believes that all animals should be released from confining situations at all cost and have access to a “Natural” environment in order to pursue their natural behaviors. The FBI has labeled most of these groups as domestic terrorists. Animal Liberation groups have vandalized and burned facilities and assaulted researchers and company executives. Try an Internet search using the key words “Animal Liberation”. You will get about 313,000 web sites listing this as the subject. I will warn you at this point be cautious entering animal liberation sites since some of them use spy ware to invade your computer and spy on you (NABR, 2003). All of the animal rights/ liberation groups you will find on the Internet have a basic guiding philosophy regardless of how they label themselves. Such groups basically hold the philosophical view that any means possible should be used to stop the use of animals for food production, research, education, transportation, recreation, exhibition, or even as pets. PETA President Ingrid Newkirk stated: “If anybody wonders about what's this with all these reforms, you can hear us clearly. Our goal is total animal liberation.” Here are a few of the position statements that PETA and others use to promote their cause

- **Millions of human beings are being killed by hunger and malnutrition because food they could eat is being used to fatten domestic animals**
- **Man tortures and kills millions of animals to look for cures to degenerative and fatal conditions like heart and kidney disease, and cancer**
- **The battle for Animal Rights equates with civil and human rights confrontations this country faced during the 1960's**

These groups are well funded - with the top 27 groups out of about 400 having a budget of \$202,275,108 in 2000. Since 1998 such organizations have enjoyed an average 13% increase in donations annually (Animal People, Dec. 2001).

The animal rights groups have taken a new approach to forcing their minority opinion onto the masses through the development of an Animal Rights Law program at Harvard's Law School. Stephen Wise is coordinating this program. In addition, the Animal Defense League has been founded to litigate alleged cases of animal abuse. They have also filed petitions with the USDA to effect changes to the Animal Welfare Act (AWA) which would affect research on animals. These groups want expanded coverage of the AWA to include agricultural production. In California, Illinois, and Florida they have proposed legislation to ban specific agricultural practices such as the molting of layers in California, and Illinois, and the use of gestation crates for swine in Florida. They won the Florida action, which affected one commercial swine producer. PETA, through their web site and through mailings to elementary schools provides "Educational Materials" to teachers on animal use/abuse in the US. They also provide a tremendous amount of information to the consuming public. The problem is the majority of the information and educational material is really misinformation and fabrication. The problem is commercial animal producers and the scientists who work with animal agriculture have basically been silent on these issues, we just go about producing quality food products without saying a great deal about this issue.

### **Reverting to the Past for Future Production:**

The question is do we want to go "back to the future" for our animal production. I think the better question is could we go back and if we did would the health and welfare of the animals be better. If you look to the past for the answers I believe you will find with overwhelming evidence that no, we cannot revert back to past production practices to produce the amount of human food that we need today. There simply isn't enough land available to produce 8 billion commercial broilers and the broiler breeder flocks required to produce them with a range-based system. I believe the European model is failing, simply because most of the countries in the EEC cannot feed themselves under their current legislated animal production management. Lets look back to 1923, a flock of 356 hens on 5 acres of land, they had more than 247 hens with disease problems. The researcher identified 39 different problems, which included; Ascariasis (55 hens); Heterakis (71 hens); Ascites (5 hens); Coccidiosis (44 hens); Visceral Gout (39 hens); Cannibalism (33 hens). Does anyone really believe that we could go back to that type of production system? The increased use of less intensive production such as aviary systems or houses with access to the outdoors has negative impacts on the hens' health and welfare (Pescatore, 2003). The less intensive systems studied have virtually all resulted in increased rates of cannibalism, internal and external parasites, a number of different disease conditions increases, and decreased feed efficiency.

## **Animal Welfare and the Poultry Industry:**

Those of us in the Poultry Industry are typically not vocal in our support of what we do and how we do it in relation to the care we provide our animals. In fact most of us would rather not stand in front of a group of people and discuss the things that we know well, let alone those topics which we may not be as comfortable with. Animal Welfare is one of those topics where we feel uncomfortable, primarily because we may not be familiar with the research being conducted in this area. I believe, however, that this discomfort arises from the fact that this is not an issue of animal welfare but rather an issue of animal rights, which is a philosophical issue rather than one of science. This philosophical debate ranges from that proposed by Tom Regan (1983), that animals do have inherent rights and that they should be allowed to pursue them unobstructed by man, to that proposed by Peter Singer (2001), that intimate relations between all individuals regardless of the species, is the logical progression in the breakdown of specieism. These two individuals are viewed as the founders of the animal rights movement in this country.

Everyone will agree that animals have the following capabilities: vision, sense of touch, sense of smell, sense of taste, the ability to feel pain, and to a degree the ability to learn. The perceptive ability (Cognitive Recognition) that animals may or may not have is the problem that many people have with bestowing rights, equal to those of humans. Can animals, other than humans, reason, envision the future, or evaluate their own existence?

I believe that many people interpret the animal behaviors that they have constant contact with, the same as those performed by humans with the same motivations and for thought (anthropomorphism). As humans, we think about crucial decisions and analyze specific outcomes for their ramifications on our personal lives. By doing this, humans have the ability to change their environmental conditions to better suite their needs. On the other hand most other animals respond to the environment instinctively, based upon thousands of years of selection for survival of the species. Animals appear to be instinctive responders, with learned modifications to deal with their current surroundings. This is one reason wild animals do not adapt well to incursions by humans into their environments.

## **Concerns Associated with Hatcheries:**

There have been a number of animal welfare concerns noted for the hatchery and the movement of the chicks or poults through the hatchery system (Agriculture Canada, Pub. 1757E).

**Handling of Newly Hatched Chicks/Poults** or the way in which the neonatal chick or poult is handled once it is removed from the incubator. These concerns begin with the removal of the chicks from the hatching tray and

separating from the piped embryos, and hatch residue. The key to the humane handling of these young animals is that they are handled gently, that they do not experience severe impacts, and that they are not dropped from high places.

### **Beak Trimming, Dubbing/De-snooding, and Toe Trimming**

(Morphological Alterations) should be avoided if possible. These procedures are also sometimes described a number of different ways: including, elective surgery, amputations, or mutilations. These descriptors vary depending upon who is describing them. Be sure that the equipment used to carry out these procedures is working properly, and be sure that the personnel involved in carrying out these procedures are adequately trained. If these procedures are not needed they should be eliminated from the chick processing procedure.

Another concern for the animal welfare groups is associated with the **disposal of cull or non-saleable chicks/poults** (euthanasia). This is also described as some groups as murder and genocide. The three methods used for this in hatcheries include **maceration, vacuum with impact plate, and carbon dioxide**. All of these can be acceptable provided they are done according to your Standard Operating Procedure (SOP) and the equipment is functioning properly. The end result of this process should be evaluated rigorously since the animal welfare concerns are so high. The same can be said related to the **disposal of Unhatched Embryos**. Live pips and the embryos that have not hatched are being by the animal rights groups the same as cull chicks. As such, they should be disposed of in a similar manner with constant checking of the results to ensure that no live embryos survive. Rapid cooling and freezing are acceptable means of euthanizing unhatched embryos.

Chick **Transport** is another area of concern for animal welfare groups. Items that need to be monitored include: the cleanliness of the chick boxes and pads, handling of the chick boxes, temperature of the transport truck, ventilation in the transport truck, and avoid exposure to excessive stress and noise, and the duration of the delivery trip. If these components are monitored and maintained then both good chick quality as well as bird welfare are ensured.

### **Concerns Associated with Broiler Breeders:**

Broiler breeder flocks do not garner the same level of scrutiny, as do the table egg laying flocks. However, as with all commercial poultry operations the primary concerns are related to the housing and maintenance of such flocks. These concerns are associated with bird density and the space allocations provided for the feeders and waterers. **Bird Density** deals with the floor space allocation per bird. The space allocations recommended for litter and slat/litter houses are 3 and 2 sq. ft./bird, respectively (Bell and Weaver, 2002). Bird density, whether excess or not enough can and will impact the behavior of the birds, which can also negatively impact the welfare of the birds. The behaviors to watch for are cannibalism, excessive feather pecking, and fear related behaviors

such as avoidance and escape responses or flock hysteria. Many of these behaviors are readily observable by producers and if noted should be discussed and measures should be taken to rectify them. Space at the **feeder** should be such that all of the birds in a pen are capable of eating at once. In skip-a-day feed restriction programs this may be especially important. If space is not adequate there may be observable increases in aggressive behaviors. Inadequate feeder space will not necessarily result in injury to the subordinate animals, but will influence the subordinate birds ability to obtain adequate nutrition, and will result in non-uniform body weights and poor productivity. In many instances it may only be a single bird dominating a feeder. The birds in a flock utilize **water space** differently. I have never observed aggressive behaviors associated with water consumption. As long as watering space does not limit water consumption, watering space is not an area that needs to be controlled. Hens will typically stand around a cup or nipple drinker and take turns drinking. **Nesting space** is also important in breeder operations. If this space is inadequate there will be an increased number of floor eggs. Inadequate nesting space can also lead to egg breakage and an increase in egg eating. The height of the nests from the floor (> 20 in.) is also thought to increase the potential for the development of hysteria.

**Feed and water restriction programs** are a means of controlling body weight in fast growing high feed consuming breeder birds (Bell and Weaver, 2002). Such programs go hand in hand, one to restrict feed intake, and the other to limit growth rate. Water restriction is also used to prevent the birds from consuming excessive amounts of water in an attempt to satisfy their desire for more food. Water restriction also helps maintain better litter conditions. Thus, monitoring of behavior with regard to feed and water consumption can provide insight into the hen's wellbeing.

**Beak trimming** (morphological alterations) should be avoided if possible. However, development of abnormal behaviors such as cannibalism or excessive feather pecking may warrant beak trimming at a later age. In this case the hens welfare would be enhanced through the use of beak trimming.

### **Challenges Facing the Poultry Industry:**

The poultry industry today is faced with a number of challenges. We must remember that less than 2 % of the U.S. population is involved in production agriculture. The primary interaction of most of our citizens with animals is through the family pet, and most people are not faced with the reality of producing animals for human meat consumption. This means that there is a growing disconnect between the consuming "public" and the production of their food. Nancy Beal, Exec. Food Ed., BH&G Magazine said it all when she stated that the public's "concepts of good animal welfare are colored by their own human welfare - How would I feel if I were a chicken?" The problem is after many years working with chickens, I am sure that most of us would tell you that we don't know how chickens feel. There is also an estimated 2 % of the U.S. population

associated with the hard-core animal rights/liberationist movement in this country. That 2% is extremely well funded through donations from the “public”. This is an exploitable component of the animal rights movement’s tactics in presenting misinformation. In addition, the vegetarians, anti-animal use activists and liberationists, and environmentalists are combining efforts and spreading their portrayal of modern agriculture practices as bad or inferior.

How to combat misinformation from the animal rights and other groups by utilizing the funding that agriculture puts towards public education is difficult. In addition, there are laws and regulations dealing with animal care and the environment. The first step that has been undertaken by all sectors of the poultry industry is the adoption of animal production standards and programs. These programs include on farm auditing of animal care practices. Most, if not all of the major grocery store and restaurant chains have adopted or will be adopting some form of standards, which they require their producers to utilize. The next two things we need to do are to develop and foster strong customer relations. A close linkage with our customers is important for two reasons. First, it allows your customer to know how you as the producer are doing things with respect to animal care; second, it allows these organizations to honestly and accurately rebut any animal welfare concerns that their customers may have. Regardless of what we think, the influence of the animal rightists groups on the public’s attitudes do influence their buying decisions at the grocery store and in the nation’s eating establishments.

The good news is 90 % of the American public think farmers and ranchers are an essential part of the American life and 88 % of the public thinks we do a good job of producing healthy food at a reasonable price (AIF Public Opinion Survey, 1998). In addition, farmers and ranchers have a high trust ranking from the consumer for animal welfare and food safety and nutrition.

### **What Needs to be Done:**

Each of you needs to work to get your company to develop and adopt animal care standards. This should include animal care training programs for all employees. Such programs should include good animal care practices, and should include monitoring to make certain that the information received is put into practice. Animal welfare is serious business, and as long as common sense prevails there shouldn’t be any problems. People working with the animals in your company need to be aware that they have a moral obligation to treat the animals in their control in a humane manner. This means being aware of what chickens in distress look and act like, and be willing to suggest ways to improve the welfare of the animals at that point in the production chain.

Communication to the consumer about what you are doing and how you do it is also important. The lack of understanding by the public concerning animal production and animal care today has created the ability of the animal

rights groups to garner public support. Be sure your business is doing its part in providing good animal care, and certify this through outside audits. Train your people in acceptable animal care practices. Education of your employees needs to include an understanding as to why animal care is important, and of the company policies with regard to animal care. In reality your employees are your representatives to the community.

In this day and age, no matter how good everything is running at the business you must plan for a crisis. It only takes one piece of video or one picture in the paper to tarnish your reputation for good animal care. Develop a communications plan to address questions asked of the company by appointing a spokesperson so there is a single voice from the company. Participate in the community because the public's perception of your company can have a positive impact on any animal care issues reaching the media.

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