

Expert Panel Examines Broiler Farm Video

The Center for Food Integrity's (CFI) Animal Care Review Panel has examined video released this week from West Virginia broiler farms. It is contained in a report produced by the group Compassion in World Farming (CWF).

CFI created the Animal Care Review Panel program to engage recognized animal care specialists to examine video and provide expert perspectives for food retailers, the poultry industry and the media.

The expert panel in this case was comprised of Dr. Patricia Hester, Purdue University; Dr. Sacit Bilgili, Auburn University; and Dr. Bruce Webster, University of Georgia. The three experts viewed the video and provided feedback independently and were given the opportunity to review each other's assessments before the report was finalized.

The video in question was taken at a pair of farms where broilers (chickens grown for meat) are raised under contract with a poultry company. This means the birds are owned by the company and the farmers are paid to house and care for them until they are ready for market.

The video was taken by the farmers with cameras supplied by CWF, which then produced a video report that was posted online. The group declined to make unedited video available to panel members.

General panelist comments:

Housing conditions

Dr. Bilgili: The farm and the housing appeared fair/good from what little can be seen in the video. The chicken houses are dark-out (controlled lighting) with tunnel ventilation, a standard design employed by the industry.

Dr. Webster: The outside of the barns seemed to be reasonably well-kept and in good shape. It was raining so that might have effected interior conditions a bit. On the inside, the litter (an organic material such as wood chips that covers the floor) didn't appear to be in very good condition. There appeared to be quite a bit of caking. You couldn't see a whole lot in the video so it's difficult to draw any broad conclusions.

Dr. Hester: The litter looked like it had been re-cycled. Given the disease problems they were having, they need to remove the old litter and refresh with new unused litter.

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Animal handling

Dr. Webster: The people seen in the video were generally overly-vigorous in walking through the houses and created a lot of disturbance among the birds. They should be moving slowly and gradually in order to cause minimal disturbance. I saw people swinging buckets or other items as they walked through the birds and that's not considered good technique.

Dr. Bilgili: There was no bird handling, per se. In a few scenes, the farmer was rushing through the house to pick up mortality (dead birds). I thought there was too much bird activity/flightiness, which can contribute to the skin scratches and punctures from toe nails, which in turn can be ports of entry of bacteria that cause disease.

Dr. Hester: I did not observe any of the farmers handling the birds in this video.

Animal knowledge and training

Dr. Webster: The farmers appeared to have some knowledge of the diseases that were impacting the birds. There was nothing blatantly obvious to indicate that they were untrained.

Dr. Bilgili: The farmers appeared to have some knowledge about the diseases (dermatitis and enteritis) and skeletal defects, and were able to express their opinions on genetics of the chickens. They also appeared to be disgruntled because of pay and contracts.

Dr. Hester: They were not following the National Chicken Council's welfare guidelines.

In the video, one of the farmers reads a letter from the company that owns the birds stating that only essential people should be allowed in chicken houses. If violated, this would be considered an offense that could lead to termination of the farmer's contract. The video narrator asks, "What are they hiding?"

Dr. Hester: Limiting visitation to only essential personnel is a recommended management practice as it minimizes the probability of a disease outbreak. Stringent biosecurity is one of the best management practices farmers can use to keep flocks free from infectious diseases.

Dr. Webster: Limiting access to these barns is reasonable, especially in light of the Avian Influenza having affected such a large portion of the poultry industry recently. Humans spread the disease. It's reasonable for the company, which owns those birds, to restrict human access to essential people only.

Dr. Bilgili: Biosecurity is extremely critical in commercial animal production facilities where the risks for the introduction of disease agents (for both animals and human pathogens) are too high. This is a common health policy throughout the industry.

The video shows obviously ill chickens described as having gangrenous dermatitis.

Dr. Bilgili: Gangrenous dermatitis is a disease of chickens affecting the skin and subcutaneous tissues of young chickens. The dermatitis is caused by a spore forming anaerobic bacteria (*Clostridium perfringens*, septicum and others). Sudden death is common among the affected flocks. As mentioned earlier, for the disease to occur, there must be a port of entry for bacteria on the skin. The immune-competence of the bird is extremely important to fight this organism. Hence, in most outbreaks there may be an underlying immunosuppressive viral disease (Infectious Bursal Disease). Clostridial spores are very durable and can survive a long time in the environment. Proper cleaning and sanitation of the facilities after a disease outbreak is highly recommended.

Dr. Hester: Gangrenous dermatitis is caused by bacteria such as *Staphylococcus* and *Clostridium*. Lesions are not found inside the bird. Instead, the lesions are located on the surface of the bird in the non-feathered areas such as the abdomen, legs, and flank. The birds decompose rapidly following death.

Dr. Webster: Gangrenous dermatitis is a devastating disease. I think the disease is worse if the birds are stressed in some way. It is a rapidly progressive and ugly disease.

The video displays this quote from one of the farmers: “Diseased birds are going off to slaughter and can end up on dinner plates.”

Dr. Bilgili: This is a false statement and an exaggeration! During slaughter, broilers are inspected individually and diseased birds are condemned. There is no chance that a diseased bird will end up on a dinner plate.

Dr. Webster: I don’t think there should be a whole lot of public concern in this regard. USDA inspectors at processing plants prevent poultry products having gangrenous dermatitis lesions from entering into the food supply. Poultry products produced by the U.S. poultry industry are safe, requiring only proper handling and cooking before consumption.

Dr. Hester: All broilers are inspected at the processing plant for disease by USDA. Any carcasses showing evidence of disease are removed and designated as unfit for human consumption.

One of the contract farmers states he is not allowed to do anything with the birds unless it’s approved by the company, inferring that he would like to be able to do something to improve the condition of the birds.

Dr. Bilgili: Broiler production systems in the U.S. involve a contractual agreement between the integrator (company) and the individual farmers. Although contracts vary somewhat, typically the company provides the chicks, feed, health and management programs. Farmers provide the rearing facilities and the day-to-day flock husbandry. Companies must control all inputs into their products for traceability purposes and to reduce the risk for chemical residues in meat; therefore, most do not allow any intervention on the part of the grower to control a disease (i.e., administration of chemicals or drugs) without proper approval.

Dr. Webster: As a contractor he is responsible for maintaining the best possible conditions for the birds. I have no idea how often he talks with his service technician or a company veterinarian. But if the birds under his care are having health problems, he should be looking for solutions with his integrator.

Dr. Hester: Providing dry, clean litter is one management tool that can be used to reduce the incidence of gangrenous dermatitis. If there has been a history of this disease in previous flocks, the contract grower or farmer who is responsible for purchasing and managing the litter should not recycle old litter and instead purchase new litter.

In another portion of the video, one of the contract farmers says birds commonly suffer from necrotic enteritis.

Dr. Bilgili: Enteritis refers to inflammation of the intestines by bacterial, viral and parasitic organisms. Enteritis can alter the digestion and nutrient absorption and hence reduce growth and well-being of broiler chickens. The current push to eliminate antibiotic use in poultry production will likely increase enteritis in commercial flocks.

Dr. Hester: Broilers can suffer from necrotic enteritis caused by a ubiquitous bacteria, *Clostridium perfringens*, causing lesion to the intestinal lining. The spores generated by the *Clostridium* can escalate in recycled litter. It is common for necrotic enteritis to recur in contaminated houses that have not been replaced with new litter and properly cleaned.

Dr. Webster: The pathogens that cause necrotic enteritis are similar to the ones that cause gangrenous dermatitis. You might expect the two to appear at the same time. We are in a time when antibiotics are being withdrawn from poultry production and that creates more opportunity for things such as necrotic enteritis to happen. I certainly don't know anything about antibiotic use on this particular farm but there's a lot of emphasis on reducing antibiotic use and that could lead to an increase in these types of diseases.

In another video segment, around twenty dead chickens are shown – some in a bucket, others in a pile next to the bucket. The contractor describes this as the dead chickens collected in one barn.

Dr. Bilgili: Although 20 dead chickens may sound like a lot, given the number of birds reared in one house (about 20,000 depending upon slaughter weight) it is not uncommon to have this level of mortality during an outbreak (dermatitis or enteritis). The rate of mortality during the life of a broiler flock is about three-four percent, almost half of it occurring during the first two weeks.

Dr. Hester: If the flock is suffering from gangrenous dermatitis, an acute and fatal disease, mortality can vary from two to 10 percent.

Dr. Webster: A standard broiler house holds around 20,000 birds so if it's 20 birds that's only about 0.1 percent of the flock. A mortality rate of around four percent over the life of a flock isn't out of the ordinary.

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One of the contract farmers states, “The floor of one of the barns was covered with “bloody poop” and that if “consumers knew how disgusting the conditions are they wouldn’t eat chicken.”

Dr. Webster: If “bloody poop” is seen on the floor there should be concern about coccidiosis (a disease that causes lesions in the gut). I’m not saying it never happens, but I’ve never seen a floor completely covered in the way it was described in this video. Again, we could see more of this type of disease as we move away from using antibiotics in poultry production. The video did not actually show a floor covered in “bloody poop;” it showed just one dropping.

Dr. Hester: If a treatment exists for a particular disease, animals should be treated as soon as the diagnosis is made by the veterinarian. More stringent management practices should be implemented to reduce further incidences. The fecal blood was most likely due to ulcerative enteritis, which can be treated with a broad spectrum gram positive antibiotic. An ionophore such as monensin (used to prevent coccidiosis) helps reduce the incidence of necrotic enteritis.

Dr. Bilgili: The bloody excrement can be due to hemorrhagic enteritis or coccidiosis. As the farmer indicated, enteritis affect the lining of the intestine and in severe cases there can be blood in the feces. Most companies require the farmers to contact their farm supervisors if there are signs of disease or high mortality for prompt intervention. I have no way of knowing if this was done in this case.

The video shows chickens with leg deformities and struggling to move. One of the contractors says this is normal – that chickens grow so fast they can’t support their own weight and therefore don’t move around much.

Dr. Bilgili: The meat-type chickens (broilers) are bred specifically to grow fast and to deposit a lot of muscle. This is a genetic trait. Breeding programs must balance weight and skeletal robustness. However, given the number of birds involved, there will be birds with skeletal defects and gait problems. These birds should have been euthanized by the farmer early on and not allowed to remain in the flock. Culling sick and wounded birds humanely is a critical component of animal welfare programs that all companies enforce.

Dr. Webster: It’s a problem that was more prevalent in past decades than it is now. It is related to rapid growth. Every flock will have a few birds like that, but it should be a very small percentage. It can get worse if there are disease issues and that could lead back to the litter quality. Birds like this should be humanely culled immediately. I don’t know if they were doing that or letting the birds die on their own.

Dr. Hester: Genetically selecting broilers for rapid growth and broad breast has led to more inactive chickens with leg problems. The genetic stock of broilers shown in the video has been bred for rapid growth rate and increased breast meat yields. These modern strains of broilers are physiologically and genetically distant from the ancestors of the Red Jungle Fowl. Not only have their genetics and physiology changed, but the behavior of these rapidly-growing lines of broiler chickens has also been altered. The metabolic demands for rapid growth

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in broilers are huge, leaving less energy for activity. Broilers spend about 76 percent of their time sitting, seven percent of their time standing idle on their feet, 3.5 percent standing preening, and 4.7 percent of their time standing eating. These chickens have enormous appetites feeding over 50 times in a 24-hour period. They spend about three percent of their day drinking (Weeks et al., 2000, Applied Animal Behaviour Science 67: 111).

One of the contract farmers states, “If there’s one thing I would change, it would be changing the genetics of the birds ... not just breeding them for large breasts ... breed in natural immunities and good bones and joints.”

Dr. Hester: Breeding companies do have slower growing lines of chickens (e.g., CobbSasso and from Hubbard ISA, JA957, JA757, and Rusticbro). Heritage lines or slow-growing chickens are more active than the rapidly-growing genetic lines. They require more feed to gain weight, produce a smaller amount of breast meat, and can take twice as long to reach market weight. It costs the farmer more to raise these types of broilers; therefore, the meat is more expensive at the grocery store or restaurant. It is suspected that the carbon footprint or impact on the environment would be less favorable for the slower-growing chickens. The current demand for these genetic lines are not high among purchasers of chicken meat, which is why the contractor growers (farmers) are asked to use the lines selected for rapid growth.

Dr. Webster: I don’t understand what he’s saying here. Breeders are working hard to build immunity and better bones and joints in these birds. At the same time, you can’t ignore breeding for meat. There has been considerable improvement in leg strength and other metabolic issues in these birds. It’s a much better situation than it was 15 or so years ago.

Dr. Bilgili: There are many genetic strains available to the broiler companies to choose from based on their target markets and business plans. This includes fast and slow growing strains, as well as those with low or high breast muscle yields. Given the expansion of food service and consumer appetite for “white meat,” the “economics” will continue the demand for more breast meat.

The video states, “Collectively, contract chicken farmers have \$5.2 billion of debt with no control of the health or genetics of the birds.”

Dr. Hester: The contract grower provides the acreage, housing and equipment such as the brooders, feeders, drinkers, and ventilation fans. To pay for the construction of the buildings and to purchase the equipment and perhaps the land, most farmers take out a loan. The contract growers pay for the litter, electricity, fuel, and water. The broiler company provides the chicks, feed, necessary medications, and technical advice. They also provide the labor and trucking to haul the live birds to market. The contract grower fee is variable but is typically five to six cents per pound of live weight. Payment per pound is higher for smaller birds or organically-raised broilers. Bonuses are given to those contract growers with less mortality, better feed efficiency, and fewer condemnations at the processing plant. So those farmers who use good management practices that

result in outstanding performance bring in more income. This website discusses a [USDA study of the profits made by contract broiler growers](#), which is generally better than most farm households.

Dr. Webster: The statement implies debt is bad and that these farmers are enslaved by it. This debt can also be considered an investment. It's intended to create economic opportunity. That size of debt just means we have a large industry in the United States. In reality, many contract growers do quite well. Additionally, it's not true that they have no control over the health of the birds. Contract farmers are responsible for maintaining the best environment possible and maintaining the condition of these houses the best they can.

Dr. Bilgili: Given the number of chicken farmers in the U.S. and the high cost of new fully-equipped chicken houses, this number is not surprising. Again, this is a contractual agreement between the company and the farmer. I assume most farmers sign on to grow chickens with the knowledge of their responsibilities and limitations. Most farmers finance land and/or chicken houses as part of the contract. In reality, it is the signed contract with a company that allows them to borrow as it serves as collateral for the loan.

Based on your review of this video, do you have any thoughts on how these operations could improve?

Dr. Hester: These farms need to implement a twice daily bird health monitoring program that includes culling and euthanasia of any age chicken that is suffering and in distress. This includes the humane euthanasia of young chicks and older chickens with severe leg problems. It is obvious from the video that the farmers did not implement a rigorous culling program as there were older chickens in the flock that had been retained with severe leg problems. These lame chickens should have been humanely euthanized weeks earlier, yet the farmers allowed them to continue their suffering. The National Chicken Council's welfare guidelines explicitly state that chickens with "stunted growth and obvious gait defects that limit an individual bird's ability to move about or access feed and water for normal growth and development are humanely euthanized."

Dr. Webster: They need to slow down as they walk through their houses. One of the factors that might contribute to gangrenous dermatitis is the scratching that occurs as the birds get excited and step on each other. I don't know anything about the lighting program used on these farms, but typically you would keep the lights low in order to keep the birds calm. If you have the lights turned up as you walk through a barn, as was seen in this video, the birds aren't going to remain calm. Better quality litter might also reduce the leg problems.

Dr. Bilgili: The diseases (dermatitis and enteritis) as well as the skeletal issues mentioned in this video are not new to the industry. Health and management programs are designed to control these problems at all levels, as they cost money to the companies. Companies utilize farm supervisors to interact with the farmers almost weekly to implement these programs and to reduce flock morbidity and mortality. Better communication between the company, technical personnel and the farmers should help a lot in this respect.

Animal Care Review Panel program

Video investigations at livestock and poultry farms have heightened public attention on animal care issues. In an effort to foster a more balanced conversation and to provide credible feedback to promote continuous improvement in farm animal care, CFI created the Animal Care Review Panel program.

The Panel operates independently. Its reviews, assessments, recommendations and reports will not be submitted to the poultry industry for review or approval. CFI's only role is to facilitate the review process and release the panel's findings.

About the Experts

Dr. Patricia Hester

Purdue University

Dr. Hester has been on the Purdue University faculty since December 1976. Her B.S. in Poultry Science and Ph.D. in Poultry Physiology are from North Carolina State University. Dr. Hester has been a member of the United Egg Producer's scientific advisory committee on animal welfare since its inception in 1998 and currently serves as chair. Dr. Hester served as President of the Poultry Science Association (PSA) in 2005, was named a PSA Fellow in 2009 and received the Poultry Welfare Research Award in 2010. In 2009, she received the North Carolina State University Distinguished Alumni Award from the College of Agriculture and Life Sciences.

Dr. S. F. Bilgili

Auburn University (retired)

Dr. Bilgili received his DVM degree from Ankara University in Turkey; M.S. from Oregon State University; and Ph.D. from Auburn University, where he joined the Department of Poultry Science in 1985. His responsibilities include developing and implementing a variety of extension/outreach and research programs in the areas of processing, food safety, meat wholesomeness and animal welfare. He has authored numerous articles in scientific and trade journals, and has been invited to speak at many national and international meetings. Dr. Bilgili serves on several industry and academic committees, and editorial review boards. He has served as the President of the Poultry Science Association and as a member of the Board of Directors of the Federation of Animal Science Societies.

Dr. Bruce Webster

University of Georgia

Dr. Webster is Professor and Extension Coordinator, Poultry Science Department, University of Georgia. He received his M.S. and Ph.D. from Canada's University of Guelph. His fields of specialization include Poultry Behavior, Animal Welfare, and Environmental Management and he is active in the study of animal behavior and welfare with the purpose of developing practical solutions to legitimate animal welfare concerns. Dr. Webster has contributed to a number of national committees addressing animal welfare and has served as chairman of the Animal Care Committee of the Poultry Science Association. He has provided advice on poultry care and welfare to food retailers and is a member of the International Society for Applied Ethology.

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