

2008-10-07 12:58

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P 2/4

Sara Shields, Ph.D. 

September 30, 2008

Nathan Runkle
Executive Director
Mercy For Animals

Dear Mr. Runkle:

I hold a doctoral degree from the University of California, Davis, in Animal Behavior and have more than ten years of experience as a research scientist, teacher, and consultant in animal welfare, with an emphasis on the well-being of poultry. I have reviewed the video of battery cage egg production sent to me on September 24, 2008, and I have several comments regarding the welfare of birds depicted in the footage.

First, it is well-established in the scientific literature that birds are fully capable of feeling pain and of suffering. All avian species have a highly developed nervous system with complex nociceptive (pain perception) capacity.¹

The video shows personnel swinging birds by the head, grossly twisting the neck, in what appears to be an effort to kill them. While cervical dislocation is an approved method of poultry euthanasia,^{2,3} the technique performed in the video is not cervical dislocation, and is clearly inhumane. It cannot be determined if the wing-flapping movements following this neck twisting procedure are conscious attempts by the bird to regain posture or if they are reflexive reactions, caused by brain stem dysfunction, similar to those that may accompany insensibility when induced by other methods. It is possible that the bird is still alive and conscious, and would likely be in severe pain, while struggling and wing flapping as seen in the video.

It is clear that a few of the birds left in the piles of dead hens are still alive; some show slight body movements and shallow breathing, while others appear to be completely alert. Without access to feed, water, and veterinary attention, these birds are likely to suffer immensely while they slowly die. The euthanasia guidelines for poultry established by the University of California, Davis, Center for Animal Welfare state that confirmation of death by checking reflexive reactions in the head area is critical.⁴ This step has obviously not been performed by egg farm staff.

Several of the video shots show birds suffering from what appears to be cloacal prolapse. The production of large eggs by small birds is one factor that may predispose laying hens to this condition.^{5,6} Laying hens confined to battery cages are not able to lay their eggs in the privacy of an enclosed nest box. Without a secluded, protected space in which to lay her egg, a hen is exposed to potential vent pecking and cannibalism by cage-mates, and this may be a cause of the cloacal hemorrhage depicted in the video.⁷

On large commercial egg farms, veterinary treatment for individual birds is rare, as most practitioners abide by flock health principles. In addition to the hens with prolapsed oviducts, many of the hens in the video show signs of other medical conditions that would require immediate attention, veterinary diagnosis, and individualized care. Others have experienced poor beak trimming treatments, leaving

2008-10-07 12:58

P 3/4

them with permanent beak abnormalities. One hen, filmed in the manure pit, suffers from what appears to be a grossly rotated femur at the hip joint, an injury so severe that she is no longer able to walk.

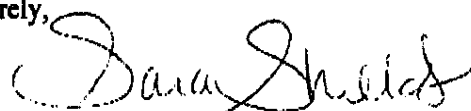
The video also shows several birds who have become trapped in the wires of their cages, or below the feeder. In my experience, this event is not uncommon, and can happen in a variety of different cage designs. Once a hen becomes trapped, she is unable to reach feed and water and will die slowly from her injuries and due to dehydration unless she is freed by a human caretaker.

Typical commercial egg production facilities house tens of thousands of birds under one roof. Industry guidelines stipulate that each caged hen should be afforded just 432.3 cm² (67 in²) per bird.⁸ It is not uncommon for birds to climb on top of each other, as seen in the video, as they vie for space in a crowded cage at this stocking density.

In addition to the injuries, ailments, and obvious suffering depicted, there is also a vast body of scientific knowledge providing ample evidence that battery cages, such as those in the video, are simply inappropriate environments for laying hens in the first place. Battery cages restrict natural hen behavior to such a degree that their ethological needs are frustrated, which may lead to distress and further suffering.^{9,10,11,12,13,14,15} Hens in battery cages cannot engage in normal nesting behavior, dustbathing, perching, or foraging, all of which are important for the well-being of the hen. They are also so severely restricted in the movements they are able to perform that they suffer from skeletal weakness and disuse osteoporosis due to lack of exercise.^{16,17,18,19}

Given the sheer number of birds on a typical egg farm, and the lack of individualized care, suffering and death are common occurrences. In my experience, the ailments and injuries depicted in the video are typical of highly productive caged laying hens. Such conditions are deplorable and reform is desperately needed throughout the egg industry.

Sincerely,



Sara Shields, Ph.D.

¹ Gentle M and Wilson S. 2004. Pain and the laying hen. In: Perry GC (ed.), *Welfare of the Laying Hen* (Wallingford, U.K.: CAB International).

² Beaver B, Reed W, Leary S et al., 2000. Report of the AVMA panel on euthanasia. *Journal of the American Veterinary Medical Association* 218(5):669-96.

³ The Center for Animal Welfare. Undated. *Euthanasia of Poultry: Considerations for Producers, Transporters, and Veterinarians*. University of California, Davis.

⁴ The Center for Animal Welfare. Undated. *Euthanasia of Poultry: Considerations for Producers, Transporters, and Veterinarians*. University of California, Davis.

⁵ Keshavarz K. 1990. Causes of prolapse in laying flocks. *Poultry Digest*, September, p. 42

⁶ Alberta Agriculture Food and Rural Development. 2002. Common laying hen disorders: prolapse in laying hens. www.agric.gov.ab.ca/livestock/poultry/prolapse.html. Accessed April 30, 2008.

⁷ Newberry RC. 2004. Cannibalism. In: Perry GC (ed.), *Welfare of the Laying Hen*. *Poultry Science Symposium Series 27* (Oxfordshire, U.K.: CABI Publishing).

⁸ United Egg Producers. 2008. *United Egg Producers Animal Husbandry Guidelines for U.S. Egg Laying Flocks, 2008 Edition* (Alpharetta, GA: United Egg Producers). www.uepcertified.com/docs/UEP-Animal-Welfare-Guidelines-2007-2008.pdf. Accessed April 30, 2008.

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- ⁹ Appleby MC, Hughes BO, and Elson HA. 1992. Poultry Production Systems: Behaviour, Management, and Welfare (Wallingford, U.K.: CAB International, p. 186).
- ¹⁰ Sherwin CM and Nicol CJ. 1992. Behaviour and production of laying hens in three prototypes of cages incorporating nests. *Applied Animal Behaviour Science* 35(1):41-54.
- ¹¹ Hughes BO. 1983. Space requirements in poultry. In: Baxter SH, Baxter MR, and MacCormack JAD (eds.), *Farm Animal Housing and Welfare* (Boston, MA: Martinus Nijhoff Publishers).
- ¹² Duncan IJH. 1970. Frustration in the fowl. In: Freeman BM and Gordon RF (eds.), *Aspects of Poultry Behaviour* (Edinburgh, Scotland: British Poultry Science Ltd.).
- ¹³ Baxter M. 1994. The welfare problems of laying hens in battery cages. *The Veterinary Record* 134(24):614-9.
- ¹⁴ Wood-Gush DGM. 1972. Strain differences in response to sub-optimal stimuli in the fowl. *Animal Behaviour* 20(1):72-6.
- ¹⁵ Yue S and Duncan IJH. 2003. Frustrated nesting behaviour: relation to extra-cuticular shell calcium and bone strength in White Leghorn hens. *British Poultry Science* 44(2):175-81.
- ¹⁶ Hughes BO. 1983. Space requirements in poultry. In: Baxter SH, Baxter MR, and MacCormack JAD (eds.), *Farm Animal Housing and Welfare* (Boston, MA: Martinus Nijhoff Publishers).
- ¹⁷ Rowland LO and Harms RH. 1970. The effect of wire pens, floor pens and cages on bone characteristics of laying hens. *Poultry Science* 49(5):1223-5.
- ¹⁸ Wabeck CJ and Littlefield LH. 1972. Bone strength of broilers reared in floor pens and in cages having different bottoms. *Poultry Science* 51(3):897-9.
- ¹⁹ Meyer WA and Sunde ML. 1974. Bone breakage as affected by type housing or an exercise machine for layers. *Poultry Science* 53(3):878-85.