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Miyun Park, Vice President  
The Humane Society of the United States  
Farm Animal Welfare  
2100 L St NW  
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Ms. Park,

I am a veterinarian and Professor of Veterinary Medicine (Emeritus) at the University of California. I have over 33 years of experience which includes extensive experience with chickens and the impact of housing on their welfare.

You contacted me concerning certain questions you had about a videotape of chickens at an egg production facility. My comments below are based on examination of this footage as well as personal experience and scientific knowledge about the impact of housing on chickens. Although the scientific literature on this subject is extensive, I have included a few citations for emphasis.

The videotape shows white leghorn hens living in extremely crowded conditions within wire cages arranged in what appears to be a battery design. I could not determine the number of hens per cage, but each cage I saw was extremely crowded. Because of this, the hens were not able to move normally nor would they be able to assume normal postures or exercise. Rest would be difficult because movement of one necessarily caused a major disturbance to all in each cage I viewed. As is typical for hens housed in this fashion, the lack of exercise will lead to a high prevalence of painful broken bones due to osteoporosis and a syndrome known as cage layer fatigue.<sup>1,7,13,15,16</sup> Even if this producer is modifying the hens' diet in an attempt to deal with this, such modification only reduces and does not eliminate the problem. Simply allowing exercise usually will eliminate these conditions.<sup>22</sup>

Although none of the hens in the video appeared to be dead, some of the hens appeared to be moribund, unconscious or semi-conscious. They were being trampled by the others in their cage. It is possible, also, that they were experiencing a phenomenon known as learned helplessness.<sup>8,18,20,21</sup> They may have gone down and struggled in vain to get up. Some apparently became trapped between openings in the cage or the bars surrounding them. After a certain period of time, despite being in extreme distress and being trampled by the others in the cage, they would give up and discontinue struggling because they have *learned* that they are *helpless*. Their suffering would continue, but they would be unable to do anything about it.

Based on what I saw, leaving the helpless hens under those conditions almost certainly would lead to their death, probably a lingering one. On the other hand, if these hens could have been removed from the

