Gas stunning reduces rejects in spent hen processing

The commercial egg industry should consider making use of controlled atmosphere stunning for spent hens. This will not only decrease the number of rejects, but will also improve hen welfare.

Handling spent hens often causes a high rate of bone breakages.

Slaughtering spent hens is not as easy as slaughtering broilers. The birds are more active and more frequently display broken legs, wings and/or damages caused by poor stunning. Bruce Webster, Extension Poultry Scientist at the University of Georgia in Athens, GA, USA, has seen several cases and has noted his view on the issue in their monthly newsletter called "Poultry Tips". He advises processing companies to consider controlled atmosphere stunning instead of electrical methods.

Unlike the broiler industry, where individual companies often maintain ownership of flocks through farm production and processing, commercial egg flocks sent for slaughter are sold to a fowl processing company. The farmer or the processing company catches the hens from the farm and transports them to the processing plant. Once ownership of the birds is transferred, egg producers typically do not see themselves as being responsible for the welfare of the hens. They, according to Webster, also do not seem to care about what happens to spent hens after that.

Bone problems

Caged egg-type laying hens easily develop osteoporosis and have been found to have high rates of bone breakage after being removed from cages. Each handling step thereafter adds to the numbers of hens with broken bones, especially during shackling and stunning. Strong muscle contractions during electrical stunning are also known to induce more bone breakage, which is unlikely to be a welfare problem, but does affect product quality and the number of rejects.

"Spent hens also differ from broilers in that they are much more active, agile and reactive to disturbance," comments Webster, "Modern electrical stunning systems for chickens have been designed for broilers and when properly adjusted are effective for these birds. A market weight broiler is heavy and not physically fit. It is unable to struggle for long in a shackle and after a short time hangs passively as it travels toward the stunner. Unless broilers are disturbed just before the stunner to make them struggle, they typically make good electrical contact when first presented and are immediately stunned."

In Webster's experience, the situation is more variable for mature birds, such as spent hens. They are more likely to struggle in the shackle and lift their bodies away from the stunner bath, reducing the probability of making good electrical contact with the stunner. They can also flex their necks so that the head is not the first part of the body to contact the stunner, and the bird gets a pre-stun shock. Additionally, such birds can receive more than one pre-stun shock before being captured by the stunner. Since the head is not a part of the electrical contact, these shocks do not stun the bird. Pre-stun shocks tend to make hens even more mobile in the shackles, enabling some to miss the stunner altogether by riding up on the bodies of adjacent birds.

Breeder hens too

The problems of bone breakage and pre-stun shocks, according to Webster, make controlled atmosphere stunning (gas stunning) an option that fowl processors should seriously consider for spent commercial laying hens.

Many spent hens have at least one broken bone by the time they reach the shackling station, and no doubt experience pain when picked up. All gas stunning systems stun birds before they are placed in the shackle, thus eliminating fear, stress, pain, and further injury at during handling. Gas stunning eliminates pre-stun shocks. Although most fowl processors take many spent breeders, which do not suffer from bone fragility, eliminating pre-stun shocks would still make gas stunning an attractive option, at least from an animal welfare point of view.

Incidentally, the job of shackling birds becomes much easier for handlers as well. Why should this be the concern of the egg industry? "The bone fragility and reactive capability of spent layers at the stunner create serious animal welfare problems," explains Webster, "The general public probably will not appreciate the significance of the ownership transition from egg company to fowl processor, and I believe will hold the commercial egg industry responsible for whatever happens to spent hens. Egg producers will be seen as having the foresight to know what happens to hens after flocks are removed from farms. Since the animal welfare problems described above can be alleviated by controlled atmosphere stunning, this technology may benefit public perception of the egg industry. It may also be possible that fowl processors could achieve some improvement in product quality by reduction of bone breakage."

Raising awareness

Perhaps the commercial egg industry can directly do little to influence the practices of the fowl processing industry. On the other hand, as Webster states, an effort by egg producers and egg industry associations might be productive to engage the fowl processing industry in dialogue to raise awareness of the importance of spent hen welfare to the egg industry as a whole. Together they should discuss standards for fowl processing that would match those for other aspects of egg production, as outlined in national animal husbandry guidelines, like that of the US Egg Producers. As part of this, fowl processors could be encouraged to consider the merits and feasibility of the different controlled atmosphere stunning systems on the market.

In his concluding remarks, Webster notes that these suggestions apply specifically to the slaughter of spent commercial laying hens and spent heavy fowl. Other poultry industry sectors do not necessarily have the same problems, and controlled atmosphere stunning may not offer the same benefits for them. ■