PRESS RELEASE

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Coalition for Sustainable Egg Supply Preliminary Research Results Released

Differences in Worker Health and Safety, Food Safety Illustrated in Flock One Analysis

Kansas City, MO. (Sept. 26, 2013) – Preliminary analysis of CSES Flock One research results for Worker Health and Safety, Food Safety and Egg Quality was shared at the Coalition's annual meeting on September 25 in Bloomington, Minn. These findings show that workers in the cage-free aviary house were exposed to higher levels of dust and bacteria than those working in the conventional cage or enriched colony house. They also bring clarity to the question of egg quality, as it was not impacted by hen housing system. This illustrates the multiple variables that must be considered when evaluating the sustainability of different egg production systems.

Research on the sustainability of different production systems conducted by the Coalition for Sustainable Egg Supply (CSES) will help inform policy makers, egg producers, food industry stakeholders and consumers who purchase eggs. The research project is studying five aspects of sustainable egg production in conventional, enriched colony and cage-free aviary housing systems. Preliminary research results for the Animal Health and Well-Being, Food Affordability and Environment aspects of the research were released in 2012. CSES does not promote any specific housing system, but encourages informed decision making by stakeholders across the food system.

"Currently, the egg industry lacks comprehensive commercial-scale research evaluating the various aspects of sustainability," said Dr. Joy Mench, Professor of Animal Science at University of California-Davis and co-director of the CSES research. "Evaluating the impact of hen housing systems based on these different variables will help provide the necessary research that is ethically grounded, scientifically verified and economically viable, and ultimately in alignment with the desires of consumers."

"Completing the analysis of data from the first of two flocks and the addition of preliminary findings in these areas is a significant milestone in understanding the impacts and tradeoffs associated with each system," said Dr. Janice Swanson, Professor of Animal Welfare at Michigan State University and co-director of the CSES research. "What we observe here and in future data will greatly increase the knowledge about sustainable egg production available to egg producers and those responsible for making purchasing decisions."

Worker Health and Safety Findings

Understanding differences in air quality and job requirements in different types of laying hen housing is important for providing a safe work environment. Depending on their size, airborne particulate matter inside hen houses can make its way into workers' airways, with smaller particles being deposited deep into the lungs. Endotoxins (bacterial toxins) can promote airway irritation and inflammation, as well as decreased lung function.

Among the three types of housing studied, the cage-free aviary system had consistently higher inhalable particle and inhalable endotoxins concentrations in spring, summer and winter. Workers who had been in the aviary system had fewer changes in lung function between the beginning and end of work shifts than those in other systems, though not significantly so.

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Many of these issues can be managed by workers wearing an approved respiratory mask (masks were available to all workers during the study). Less frequent mask use is significantly associated with lower lung function. Average mask use was higher for workers in aviary housing, which may have protected them from greater respiratory consequences than had they not worn them.

Understanding that specific job tasks can have an impact on worker health and safety, ergonomics were also evaluated, assessing the movements necessary to perform job functions in each of the barns and identifying possible risks. In the conventional and enriched colony systems, loading and unloading of cages during population and de-population require extreme body positions, including squatting for an extended time. In the aviary system, gathering eggs that had been laid on the floor also requires extreme body positions, while crawling and lying on the floor expose the worker to potential respiratory hazards and infection hazards to the hands and the knees.

Food Safety and Quality Findings

Measures of food safety and egg quality were taken as well. The quality of the eggs was assessed shortly after they were laid using multiple parameters, which were and found not to be impacted by hen housing system. Eggs from the three systems were further assessed at four, six and 12 weeks of cold storage to determine if housing system impacted the rate of egg quality decline. Findings showed that hen housing system did not impact the rate of egg quality decline. Therefore, current egg quality standards written for conventional egg production should adequately define egg quality for eggs from commercial cage-free aviary and enriched colony cages.

Researchers also looked at the effect of housing type on hens' immune systems and vaccination effectiveness. An effective immune response can result in a better resistance to invasion and colonization of Salmonella into tissues including ovary and eggs. Two methods were used to measure antibody levels of each flock and analyzed to determine immune status. Antibody response in hens did not differ between housing systems; however, significant seasonal differences were noted.

Researchers will finalize analysis of the research data on behalf of the Coalition in 2014 with a final report available in 2015.

For a complete overview of the Flock One research and preliminary results, including Animal Health and Well-Being, Food Affordability, Environment, Worker Health and Safety, and Food Safety and Quality, please visit http://www.sustainableeggcoalition.org/

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Coalition for Sustainable Egg Supply (CSES) Background

The Coalition for Sustainable Egg Supply (CSES) is a multi-stakeholder group collaborating on a commercial-scale study of housing alternatives for egg-laying hens in the U.S. The Coalition's research will result in meaningful science-based data that will help guide future egg production and purchasing decisions.

First flock preliminary findings from Environment, Animal Health and Well-Being and Food Affordability were released during the 2012 CSES Annual Meeting. This year, the Coalition has released the most recent preliminary findings from the first flock of the study, including research on Worker Health and Safety and Food Safety. Flock Two data for each of these elements of sustainability are still being analyzed and will be shared in a subsequent report. Initial findings begin to offer some insight into the variables to be considered in selecting different hen housing systems.