# Consumer Beliefs, Knowledge, and Willingness-to-Pay for Sustainability-Related Poultry Production Practices

## *Egg Survey Report*

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## EXECUTIVE SUMMARY

The purpose of this project is to determine market potential and consumer willingness-to-pay for eggs with different labels, with primary focus on cage-free. In November 2017, a national survey of over 2,000 U.S. egg consumers was conducted. A choice experiment, which simulates retail purchases, was included to compare cage-free egg demand for consumers exposed to different types of information. The core findings of this study are as follows:

- There is a high degree of heterogeneity in willingness-to-pay for cage-free eggs. When provided no additional information, choices imply half of consumers are willing to pay no more than a $0.30/dozen premium for cage-free eggs; however, the mean premium is $1.16/dozen, suggesting a small fraction of consumers are willing to pay sizeable amounts for the cage-free label. Almost 60% of consumers have a willingness-to-pay for cage-free less than $0.40/dozen, but 33% have a value greater than $1.00/dozen.
- If presented with a pair-wise choice between cage-free and unlabeled eggs that are identical in all other respects, cage-free market shares are projected to be 64%, 45%, and 33% when the per-dozen premium for cage-free is $0.00, $0.50, and $1.00, respectively. If cage-free eggs are brown and conventional eggs are white and carry natural and omega-3 labels, the projected market share for cage-free eggs is 41%, 31%, and 26% when the premium for cage-free is $0.00, $0.50, and $1.00 per dozen, respectively. A custom-made tool (downloadable here) enables exploration of market shares under other user-defined scenarios.
- The most important attributes are price and the presence/absence of non-GMO and organic labels. Of mid-level importance is the presence/absence of cage-free and omega-3 labels. Of lower importance is the natural label, egg color, and packaging type.
- Effect of information about cage-free eggs tended to increase mean willingness-to-pay, even for the information condition that was more critical of cage-free eggs. Despite mean willingness to pay increasing, in the two information treatments that used graphics, median willingness-to-pay fell. In general, information tended to increase consumer disagreement about willingness-to-pay for cage-free eggs; the variance of willingness-to-pay increased by a factor of 4 to 6 in the information treatments relative to the control.
- Results reveal multiple market segments consisting of consumers with distinct preferences for egg attributes. Willingness to pay for cage-free eggs tends to increase with household income and fall with the age of the shopper. Willingness-to-pay for cage-free eggs is highest among consumers relatively more concerned about animal welfare, naturalness, fairness, and environment, and lowest among consumers relatively more concerned about price, convenience, and safety. Willingness-to-pay is also correlated with consumer beliefs (and misbeliefs) about egg production. In general, however, demographics, food values, and beliefs only explain a small share of the variation in willingness-to-pay for cage-free eggs across consumers.

Ultimately, the results suggest there is potential for the market-share for cage-free eggs to rise above the current state even at premiums as high as $1.00/dozen. However, even at much more modest price premiums, the potential for cage-free eggs to attain majority market share is unlikely, particularly if conventional eggs advertise other desirable attributes. Completely removing more affordable conventional eggs will significantly increase the share of consumers not buying eggs.

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