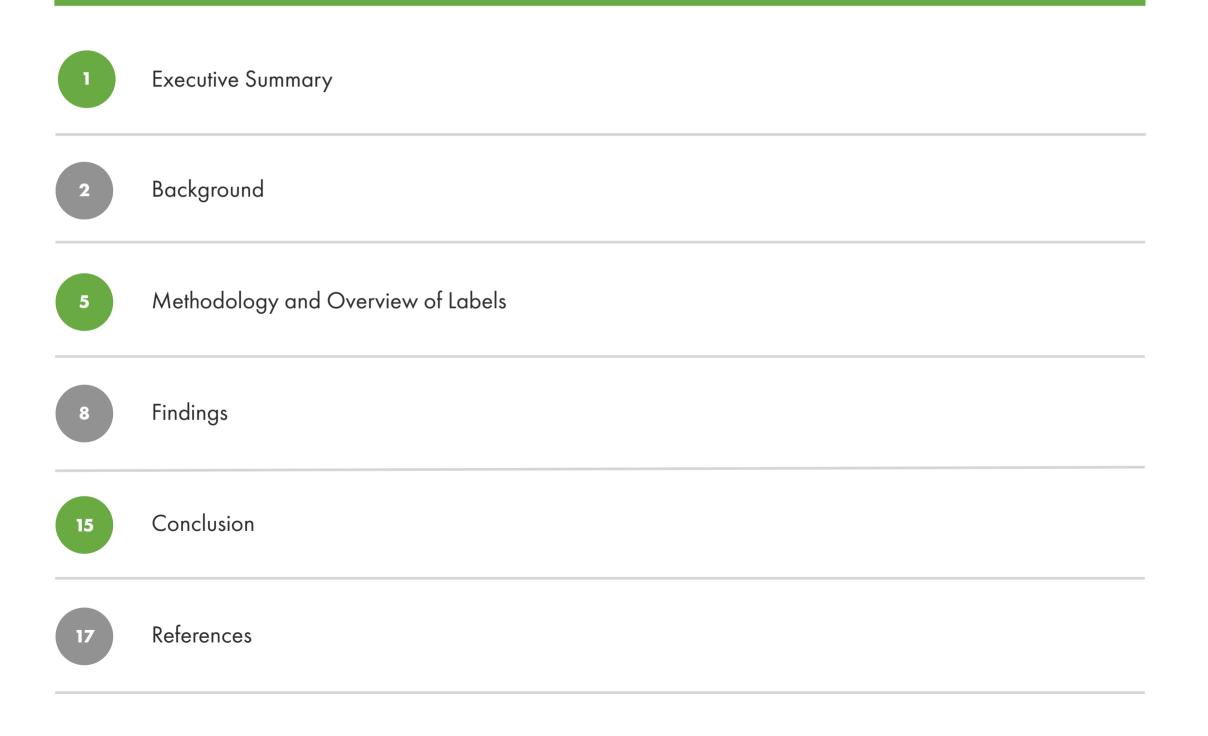
Humanewashing's Effect on Consumers

SURVEY OF CONSUMER BELIEFS ABOUT WELFARE CERTIFICATIONS



DECEMBER 2021

Contents



DECEMBER 2021

Humanewashing's Effect on Consumers

Survey of Consumer Beliefs about Welfare Certifications

EXECUTIVE SUMMARY

Shoppers encounter a wide range of welfare claims on meat, egg, and dairy products. Most of these claims, like "free range" and "humanely raised," are poorly regulated or outright deceptive. Only some offer credible information. Meat producers and retailers often use welfare claims and "green" branding to make animal products appear more humane than they really are, a phenomenon called *humanewashing*, and extensive consumer research has established that shoppers are confused. However, to Farm Forward's knowledge, no prior research has examined the role of specific certifications in this widespread confusion or the extent to which consumers' expectations are being met by these certifications.

We commissioned a survey of 1,219 American adults through YouGov, collecting data on consumer expectations and beliefs about both independent and industry certifications on several welfare issues, including access to pasture, genetic modification of animals, the use of physical mutilations, and more. Our findings confirm that the humanewashing tactics employed by retailers and meat, dairy, and egg producers through the use of certifications are as successful as they are cynical. We found that Americans are largely unable to distinguish meaningful certifications from those that exist solely to obfuscate factory farming practices, and that, across the board, all certifications in our survey fell short of consumers' beliefs about and expectations for them. Further, those who regularly seek humanely raised meat are the most susceptible to the effects of this deception.

In this report, we share the findings of our landmark survey and use it as a lens to understand the nature and prevalence of consumer deception surrounding animal welfare certifications and claims. We spotlight Whole Foods Market, which carries products with the Global Animal Partnership label, as an example of how even one of the most-trusted brands misleads consumers and contributes to confusion about welfare claims.

Background

Background

Over the past 30 years—from 1990 to 2020—the global consumption of meat has doubled and is projected to continue rising (Blaustein-Rejto and Smith 2021). Since 99 percent of animals raised for human consumption in the United States are raised on factory farms,¹ the increase in meat production and consumption has implications for the welfare of *billions of animals*.

In response to this increase, rather than investing in improved equipment and significantly better welfare practices, the meat industry has invested millions of dollars in an effort to give its existing practices a veneer of credibility in the eyes of consumers and regulators. A wide array of confusing—and often misleading certifications and labels now appear on product packaging nationwide. Consumers shopping for animal products encounter more certifications and labels than ever before. Some of these labels make specific claims about one component of animal welfare (e.g. "cage-free") or production (e.g. "antibiotic-free"), while others attempt to present a holistic image (e.g. "all natural"), despite such terms being loosely defined and largely unregulated. There are also certifications, such as Global Animal Partnership (GAP) and Certified Humane, that have been created by independent bodies to audit farms to standards that at least minimally exceed standards on conventional factory farms. However, as Farm Forward's previous white paper, "The Dirt on Humanewashing," explores, the animal agriculture industry has begun to capitalize on the credibility conveyed by such certifications, prompting the creation of industry certifications like United Egg Producers Certified and One Health Certified (OHC), which merely require standard industry practices while giving the illusion of improved animal well-being, and in the case of OHC, a holistic sense of health, sustainability, and high animal care (Farm Forward 2020). The result is a confusing array of both independent and industry-backed certifications that consumers are unable to distinguish between, or use to determine whether basic expectations for animal well-being, like pasture access, have been met.

¹ Percentage of confinement farms was calculated by Farm Forward on the basis of USDA data (2019).

Our review of past research on this topic revealed consumers' uncertainty and confusion about some labels, like "all natural," "free range," and "humane." In a survey conducted by Lake Research Partners for the American Society for the Prevention of Cruelty to Animals (ASPCA), for example, 65 percent of respondents believed that "free range" labels on animal products meant that the animals spent most of their time on pasture (ASPCA 2016). In reality, the "free range" label has no legal definition for beef, pork, or dairy, and for birds only indicates some access to the outdoors (USDA 2015). In another poll, only two percent of Americans correctly identified the definition of a "natural" meat label, which most believe indicates that products come from animals raised without hormones or antibiotics (Animal Welfare Institute 2019). In reality, the term deals only with post-slaughter additives and in no way relates to how animals are raised (USDA 2015). Between 70 and 80 percent also believe that the "natural" label should indicate no hormones, pesticides, or genetically modified organisms (Consumer Reports Survey Group 2018).

Yet, to our knowledge, there has been virtually no research on consumers' understanding of welfare certifications like GAP, OHC, and American Humane Certified (AHC)—and the differences between them. Farm Forward commissioned our own study to examine consumers' perceptions of these and other labels, hypothesizing that the proliferation of certifications may make consumers more confused about what these labels actually mean.

Nethodology and Overview of Labels

HUMANEWASHING'S EFFECT ON CONSUMERS

Methodology and Overview of Labels

Farm Forward's online survey was conducted by YouGov from September 3 through 7, 2021. The total sample size was 1,219 adults. The figures have been weighted and are representative of all U.S. adults (aged 18+).

We asked participants a series of questions about three certifications, GAP, AHC, and OHC, depicted in Figure 1, as well as the label claims "antibiotic-free" and "cage-free," to ascertain their expectations for products bearing these labels as well as their beliefs about what these labels actually mean.

Our <u>previous white paper</u> provides an in-depth review of each of these certifications. Briefly, AHC is a third party-audited animal welfare certification scheme that claims to be the largest in the world, overseeing the welfare of about 1 billion animals (American Humane 2021). According to Consumer Reports, AHC's "requirements for providing animals comfortable living conditions and allowing them to engage in natural behaviors are limited and don't apply to every type of animal" (Consumer Reports 2021). Its standards largely fail to improve conditions beyond industry conventions. Some standard CAFO practices condoned by AHC include crate confinement for gestating and nursing sows, permanent indoor confinement, and dehorning of cows. To become certified, farms are only required to meet 85 percent of the standards—leaving consumers in the dark about whether the most important and basic welfare standards have been met (American Humane Certified 2019). Because of this exceptionally low bar, Farm Forward groups AHC with other agriculture industry-created certifications as a certification "controlled by industry interest."

Figure 1. Global Animal Partnership, American Humane Certified, and One Health Certified Logos







OHC represents the next generation of these industry-controlled certifications, combining greenwashing, healthwashing, and humanewashing through an apparently holistic program. It is the brainchild of major poultry producer Mountaire Farms, which has held the OHC trademark since 2017 and claimed in a recent webinar that a label's purpose is simply to "reduce consumer concerns" about existing products and practices (Ritter 2020). Under OHC, which is featured on grocery chain ALDI's storebrand chicken, farms can either meet AHC standards or National Chicken Council guidelines, which are the bare minimum used throughout the industry, allowing for perpetual indoor confinement and genetic modification of birds for rapid growth, which leads to heart, muscle, and lung ailments (Chen et al. 2017, Bessei 2006, Knowles et al. 2008, Mench 2002).² OHC's environmental standards only require farms to meet existing legal minimums, and the certification allows for the perpetual use of antibiotics (One Health Certification Foundation 2020).

Unlike with AHC and OHC, Farm Forward saw promise in the independent GAP certification and its progressive tiered rating system, even serving on GAP's board for over a decade. But since our resignation in protest in 2020, we have critiqued the certification for catering to industry at the expense of animal welfare. In particular, we have noted that most farms remain at the bottom rungs, Steps 1 and 2, of the program, which are essentially modified factory farms, failing to ensure outdoor access, allowing for genetic modification of birds for rapid growth, and allowing for mutilations like debeaking of birds and burning off calves' horn

tissue (Global Animal Partnership 2020a, 2020b, 2021). In 2018, GAP approved a generic label that lacks a specific Step number, which allows producers to obscure the Step level to which their products are certified. We hypothesized that due in part to Whole Foods' bucolic marketing imagery, shoppers have come to equate these generic-labeled products with the best GAP has to offer, Steps 5 and 5+, despite the fact that these products are extremely difficult to find—many Whole Foods stores don't carry any Step 5 or 5+ poultry products. Our survey presented shoppers with this generic certification label, which GAP calls its "base certification," indicating that it is inclusive of all GAP steps.

² While farmed animals are not "genetically engineered" in the sense that traits from one species are crossed with traits from another species, hyper-intensive breeding techniques have created a number of dramatic changes to the physiology and morphology of contemporary farmed animals. See Farm Forward's <u>blog post</u>, "What Is Hybrid Poultry?", for further information.

Findings

HUMANEWASHING'S EFFECT ON CONSUMERS

T.

Findings

Farm Forward's new survey offers an unprecedented glimpse into consumers' beliefs and expectations surrounding certifications, including independent certifications like GAP, revealing that Americans largely cannot distinguish between independent certifications and those devised by industry. Its findings paint a disturbing picture of rampant humanewashing by even the most trusted retailers, like Whole Foods.

CERTIFICATIONS OUT OF SYNC WITH CONSUMERS

A core conclusion of the survey is that the improvements to animal welfare indicated by certifications—particularly GAP, OHC, and AHC—are out of touch with consumer expectations and values surrounding animal welfare. On measures like whether animals are raised on pasture, whether animals are genetically modified for rapid growth, physical mutilations, and more, Americans want higher welfare standards on farms and overestimate how much these certifications ensure. **Among our key findings:**

- Forty-five percent of Americans believe that any label that makes claims about high welfare needs to ensure that animals are raised continuously on pasture. We take this to mean that 45 percent of Americans believe that good animal welfare requires animals to have continual access to pasture.
- Thirty-three percent, 32 percent, and 30 percent of respondents thought that GAP, AHC, and OHC respectively mean that

animals are raised on pasture, with 50 percent, 50 percent, and 45 percent respectively believing that they *should* mean this.

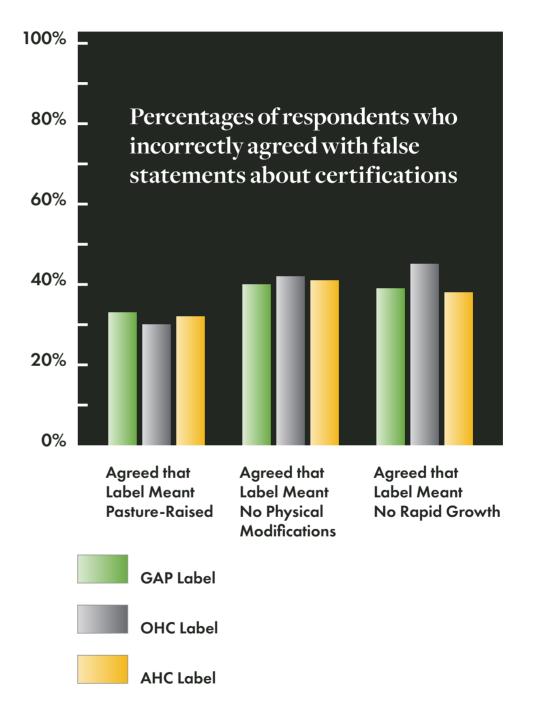
- Thirty-nine percent, 38 percent, and 37 percent of respondents thought that GAP, AHC, and OHC respectively mean that animals are raised with consistent access to the outdoors, with 57 percent, 57 percent, and 52 percent respectively believing that they should mean this.
- Thirty-nine percent, 38 percent, and 45 percent of respondents thought that GAP, AHC, and OHC respectively mean that animals were not genetically modified to grow unnaturally quickly, with 55 percent, 53 percent, and 54 percent respectively believing that they should mean this.
- Forty percent, 41 percent, and 42 percent of respondents thought that GAP, AHC, and OHC respectively mean that animals were subject to no physical modifications by humans, with 54 percent, 55 percent, and 54 percent respectively believing that they should mean this.
- Forty percent, 40 percent, and 42 percent of respondents thought that GAP, AHC, and OHC respectively mean that animals were raised in a farm that exceeds minimum legal environmental standards, with 55 percent, 54 percent, and 54 percent believing that they should mean this.

The reality is that none of the above labels guarantee that these conditions are met for the operations certified under them, and often they are not even close. While some animals certified under GAP, for example, are raised on pasture (Steps 4, 5, and 5+), it is difficult to find those products in stores. A shopper is far more likely to find products from animals—especially chickens and turkeys—who were raised on a modified factory farm than they are to find those from animals who were raised on pasture, had ample access to the outdoors, were not mutilated, and so on. Ironically, in the case of AHC and OHC, these labels on chicken, turkey, beef, or pork products essentially guarantee that the animals lived on a factory farm.

These results reveal a stark difference between what consumers believe to be true, what they believe should be true, and the truth about GAP, AHC, and OHC labels.

Alarmingly, as shown in Figure 2, Americans struggle to tell the difference between GAP, OHC, and AHC. Within often just a few percentage points, similar numbers of people believed incorrectly that GAP, OHC, and AHC all addressed welfare issues like genetic modification for rapid growth, physical mutilations, and access to pasture or the outdoors. These results demonstrate that consumers are largely holding all of these certifications, regardless of whether they are independent or industry-created, to the same standards, and are unable to distinguish among them. This confusion creates the perfect environment for humanewashing.

Figure 2. Americans Cannot Distinguish Between Independent & Industry Certifications



A HALO OF DECEPTION

When shown a full range of GAP labels, from the generic label all the way through Step 5+, many consumers were unable to tell the difference between Steps or did not understand that standards become progressively stricter. This phenomenon calls into question the effectiveness of GAP's tiering, which was, in theory, designed to help shoppers distinguish highest welfare products from lower welfare options. As outlined previously, the generic label also confused respondents, many of whom believed that the highest standards were indicated by this base level of GAP.

GAP's failure to adequately differentiate between its tiers, and the proliferation of products with no Step indicator at all, create a "halo" for all of the products in the GAP system that may deceive shoppers into believing that all GAP certified products align with their values. This humanewashing tactic benefits the lowest-tier producers at the expense of those in the highest tiers. Low-tier producers appear better than they really are because of the existence of higher-tier products, and because shoppers struggle to differentiate between tiers, they're more likely to be satisfied by purchasing the least expensive option.

Whole Foods is not the only retailer benefiting from humanewashing "halos": because consumers struggle to distinguish between all welfare labels, the proliferation and abundance of welfare certifications has created a halo for animal products as a whole. The existence of high welfare certifications gives consumers a sense that it is possible to find high welfare products when they shop, but that's often not the case. We believe that well-informed and conscientious consumers can make a difference with their dollars and that consumer advocacy is necessary in the fight to end factory farming. However, the responsibility to be well-informed cannot lie with consumers alone —not when so much misinformation and misdirection abound.

The responsibility must lie with retailers like Whole Foods and certifying agencies like GAP to be clear and transparent to their customers that most of the meat that they certify and sell actually comes from factory farms where practices like confinement, mutilation, extreme genetic manipulation, and environmental destruction are commonplace. And if that reality is too unpleasant for Whole Foods' customers to stomach, Whole Foods shouldn't be selling those products at all.

CONSCIENTIOUS SHOPPERS MOST DECEIVED

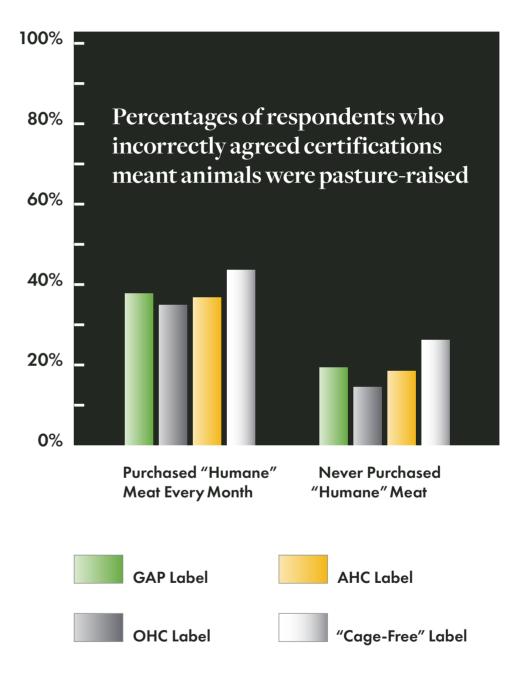
Despite a clear pattern of confusion, many consumers appear confident in their understanding of welfare certifications: more respondents agreed than disagreed both that they considered themselves knowledgeable about food labels and that they seek meat from animals who were raised and killed humanely.

Significantly, those who reported buying humane-labeled meat more often were also more confused about the meaning of certain labels. For virtually all certifications we examined, consumers who purchased humane-labeled products at least once per month agreed with incorrect statements more, often by at least 20 percent, than those who never purchased them, as shown in Figure 3.

Among the most striking differences:

- Of those who buy humane-labeled products at least monthly, 39, 36, and 38 percent believed incorrectly that GAP, OHC, and AHC, respectively, guarantee animals live continuously on pasture, compared with 20, 15, and 19 percent, respectively, of those who never purchase these products.
- Of those who buy humane-labeled products at least monthly, 47, 51, and 48 percent believed incorrectly that GAP, OHC, and AHC, respectively, prevent physical modifications like horn removal, compared with 25, 24, and 27 percent, respectively, of those who never purchase these products.
- Of those who buy humane-labeled products at least monthly, 46, 53, and 45 percent believed incorrectly that GAP, OHC, and AHC, respectively, prevent genetic modification for rapid growth, compared with 29, 29, and 23 percent, respectively, of those who never purchase these products.

Figure 3. Conscientious Meat Consumers are Most Susceptible to Humanewashing



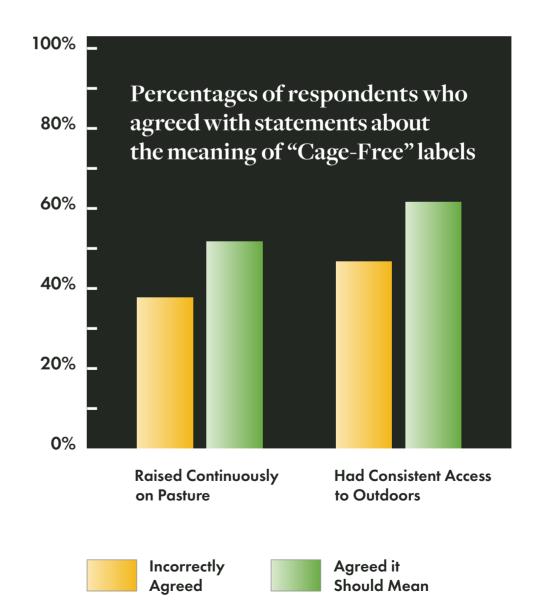
CAGE-FREE CONFUSION

For more than a decade, the farmed animal protection community has advocated for the elimination of some forms of intensive confinement, including small cages for egg-laying hens (also known as battery cages). As of 2021, more than 2,000 food brands have now committed to transition away from battery cages (Open Wing Alliance 2021). However, the imagery that accompanies "cage-free" claims often depicts "happy animals" roaming on pasture, but "cage-free" does not actually mean "pasture-raised." The reality of cage-free operations is that while multiple birds are no longer housed in tiny cages, birds are still confined indoors for their entire lives, usually in crowded and unhealthy conditions. Past research into consumers' understanding of the "cage-free" label is limited, but our hypothesis was that the proliferation of cage-free claims may have contributed to consumer confusion—conflating cage-free operations with the much rarer farms where birds are raised on pasture.

The results of our survey, as depicted in Figure 4, confirmed our suspicions. We found that more than 50 percent of Americans believe that cage-free labels should mean that hens spend their whole lives on pasture, while 62 percent believed cage-free labels should at least guarantee consistent outdoor access (notably, only 9 percent disagreed with this statement). Regarding what the cage-free label actually guarantees, 38 percent believed it ensures that birds spend their whole lives on pasture, and 47 percent believed birds have consistent outdoor access. In reality, "cage-free" merely refers to the absence of battery cages within an indoor, industrial-scale operation.

Many respondents also attributed other welfare improvements to cage-free labels: 24 percent believed that the label guarantees no antibiotic usage, 27 percent believed that it prohibits modifications like debeaking, and 18 percent believes it prevents the culling of day-old male chicks within the egg industry. In reality, none of these conditions are met in conventional cage-free operations.

Figure 4. Misconceptions & Expectations Around "Cage-Free" Labels



These findings are particularly concerning when considered alongside the premium prices consumers pay for cage-free eggs that fail to meet their expectations. As of December 2021, the USDA reports the average cage-free egg retail price to be \$2.63 per dozen, more than double the \$0.99 per dozen average for conventional eggs (USDA 2021). Ultimately, perpetuating this confusion offers industrial agriculture a growth opportunity. In 2019, egg giant Cal-Maine's specialty eggs, including cage-free eggs, comprised nearly a quarter of its sales, with revenue from specialty shell eggs having increased by nearly 5 percent from the previous year. Further, Cal-Maine had increased the price of its specialty eggs by 2.1 percent over the year prior. Cal-Maine declared, "Specialty eggs remain a primary focus of our growth strategy" (Cal-Maine Foods 2019).

15

Conclusion

Conclusion

The vast majority of American consumers are victims of humanewashing: deceptive marketing tactics used by meat producers and retailers to mislead shoppers about animal welfare, often in order to charge premium prices.

Our survey corroborates a growing body of research conducted by the APSCA, Consumer Reports, and others, providing damning evidence that humanewashing has succeeded in persuading consumers that *any* animal welfare claims ensure humane treatment of animals. Many Americans cannot distinguish between sham certifications like OHC and independent certifications like GAP, much less discern that the conditions on farms certified to the highest GAP tiers do not also apply to the lowest, which are simply factory farms.

Evidence of the welfare "halo" bestowed by GAP's best products onto its worst extends beyond "premier" grocers like Whole Foods. The grim reality is that more than 99 percent of animal products—even most certified products—come from factory farms, and producers and retailers use deceptive humanewashing schemes to fool well-meaning shoppers into buying them.

Farm Forward has always recognized, and for over a decade participated in, welfare certifications that strive to improve conventional industry practices. Our new survey has confirmed our fears that the effects of humanewashing are pervasive: certified products do not align with the most commonly held consumer beliefs about, and expectations for, animal welfare practices.

We hope these findings are catalyst for retailers like Whole Foods to commit to honest labeling on their shelves. Our survey outlines clear and consistent consumer expectations: the desire for animals to be raised on pasture, free from genetic modification and physical mutilations. For now, very few animal products, including those certified by welfare labels, tick all of these boxes, and the few that do are difficult for most consumers to find.

References

American Humane. 2021. "History." Accessed December 9, 2021. <u>https://americanhumane.org/about-us/history</u>.

American Humane Certified. 2019. Broiler Chickens Animal Welfare Standards Audit Tool. <u>http://</u> <u>www.humaneheartland.org/index.php?</u> <u>option=com_content&view=article&id=3&Itemid=106&jsmallfib=</u> <u>1&dir=JSROOT/</u> <u>Animal+Welfare+Audit+Tools&download_file=JSROOT/</u> Animal+Welfare+Audit+Tools/Broiler+Chickens+Audit+Tool.pdf.

Animal Welfare Institute. 2019. Consumer Perceptions of Farm Animal Welfare. <u>https://awionline.org/sites/default/files/</u> <u>uploads/documents/fa-</u> consumer_perceptionsoffarmwelfare_-112511.pdf.

ASPCA. 2016. 2016 Labeling Survey. <u>https://www.aspca.org/</u> <u>sites/default/files/aspca-2016_labeling_survey.pdf</u>.

Bessei, W. 2006. "Welfare of Broilers: A Review." World's Poultry Science Journal 62 (3): 455-466. <u>https://www.cambridge.org/</u> <u>core/journals/world-s-poultry-science-journal/article/welfare-</u> <u>of-broilers-a-review/E48ED32BF130ABE53B0614EED5FEBBB6</u>.

Blaustein-Rejto, D., and A. Smith. 2021. "We're on Track to Set a New Record for Global Meat Consumption." *MIT Technology Review*, April 26, 2021. <u>https://www.technologyreview.com/</u> 2021/04/26/1023636/sustainable-meat-livestock-productionclimate-change.

Cal-Maine Foods. 2019. "Cal-Maine Foods Reports Third Quarter Fiscal 2019 Results and Announces \$148 Million of Expansion Projects to Increase Cage-Free Capacity." <u>https://www.sec.gov/</u> <u>Archives/edgar/data/16160/000001616019000030/</u> <u>calm3q19pressrelease.htm</u>.

Chen, C. Y., Y. F. Huang, Y. J. Ko, Y. J. Liu, Y. H. Chen, R. L. Walzem, and S. E. Chen. 2017. "Obesity-Associated Cardiac Pathogenesis in Broiler Breeder Hens: Development of Metabolic Cardiomyopathy." *Poultry Science* 96 (7): 2438-2446. <u>https://</u> <u>www.sciencedirect.com/science/article/pii/</u> S0032579119314385.

Consumer Reports. 2012. Meat on Drugs: The Overuse of Antibiotics in Food Animals & What Supermarkets and Consumers Can Do to Stop It. <u>https://advocacy.consumerreports.org/wpcontent/uploads/2012/06/</u> CR_Meat_On_Drugs_Report_06-12.pdf.

Consumer Reports. 2021. "Seal: American Humane Certified." Accessed December 9, 2021. <u>https://</u> <u>www.consumerreports.org/food-labels/seals-and-claims/</u> <u>american-humane-certified</u>. Consumer Reports Survey Group. 2018. Natural and Antibiotics Labels Survey. <u>https://advocacy.consumerreports.org/wp-</u> <u>content/uploads/2018/10/2018-Natural-and-Antibiotics-</u> <u>Labels-Survey-Public-Report-1.pdf</u>.

Farm Forward. 2020. The Dirt on Humanewashing. <u>https://</u> res.cloudinary.com/hyjvcxzjt/image/upload/v1609362305/ resource/undefined-the-dirt-on-humanewashing-farmforward-1609362294.pdf.

Global Animal Partnership. 2020a. 5-Step Animal Welfare Pilot Standards for Laying Hens. <u>https://globalanimalpartnership.org/</u> wp-content/uploads/2020/05/G.A.P.s-Animal-Welfare-Pilot-Standards-for-Laying-Hens-v1.1.pdf.

—. 2020b. 5-Step Animal Welfare Standards for Chickens Raised for Meat. <u>https://globalanimalpartnership.org/wp-content/</u> <u>uploads/2020/05/G.A.P.s-Animal-Welfare-Standards-for-</u> <u>Chickens-Raised-for-Meat-v3.2.pdf</u>.

 -. 2021. 5-Step Animal Welfare Pilot Standards for Dairy Cattle. https://globalanimalpartnership.org/wp-content/uploads/ 2021/07/G.A.P.-5-Step-Standards-for-Dairy-Cattlev1.0-20210707.pdf.

John Zogby Strategies. 2021. John Zogby Strategies Poll of US Adults 1/29/2021. <u>https://johnzogbystrategies.com/wp-</u> <u>content/uploads/2021/03/Frequencies-FoodID-0129211.pdf</u>. Knowles, T. G., S. C. Kestin, S. M. Haslam, S. N. Brown, L. E. Green, A. Butterworth, S. J. Pope, D. Pfeiffer, and C. J. Nicol. 2008. "Leg Disorders in Broiler Chickens: Prevalence, Risk Factors and Prevention." *PLOS ONE* 3 (2). <u>https://journals.plos.org/</u> <u>plosone/article?id=10.1371/journal.pone.0001545</u>.

Mench, J. A. 2002. "Broiler Breeders: Feed Restriction and Welfare." World's Poultry Science Journal 58 (1): 23-29. https://www.tandfonline.com/doi/abs/10.1079/ WPS20020004.

One Health Certification Foundation. 2020. One Health Certified Chicken Standards. <u>https://onehealthcertified.org/wp-content/</u>uploads/OHC_Standards_Chicken_V1C_June_2020.pdf.

Open Wing Alliance. 2021. Cage-Free Egg Fulfillment Report. https://assets.ctfassets.net/ ww1ie0z745y7/7LBx1MFSgifcMlsmNwD4jJ/ 26522cc56a245261c775ee17d160c0d9/OWA-cage-freeegg-fulfillment-report-R2.pdf.

Ritter, G. D. 2020. "Webinar: Strategies to Market Modern Poultry Production Practices." WATTAgNet: Chicken Marketing Summit Webinar Series.

USDA. 2015. "Meat and Poultry Labeling Terms." Accessed December 9, 2021. <u>https://www.fsis.usda.gov/food-safety/</u> <u>safe-food-handling-and-preparation/food-safety-basics/meat-</u> <u>and-poultry-labeling-terms</u>.

- . 2019. 2017 Census of Agriculture. National Agricultural Statistics Service. <u>https://www.nass.usda.gov/Publications/</u> <u>AgCensus/2017/Full_Report/Volume_1, Chapter_1_US/</u> <u>usv1.pdf</u>.
- –. 2021. Egg Markets Overview. December 3, 2021. <u>https://www.ams.usda.gov/sites/default/files/media/</u>
 <u>Egg%20Markets%20Overview.pdf</u>.