



# A Review of Contemporary Research into Public Perceptions of Animal Farming

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Prepared for Pax Fauna by Aidan Kankyoku

*This is the second in a series of five reports on a multi-phase messaging study for animal advocates. The full series is summarized at [paxfauna.org/reports](http://paxfauna.org/reports)*

## Overview

The objective of this report is to review existing research exploring public opinion related to the use of animals for food. Determining what is already known about the public's understanding will guide us as we explore new avenues for communication. To that end, we searched academic databases and gray literature to compose a final sample of nearly 70 recent studies analyzed in this report.

This research paints a complicated picture of Americans' relationship to meat and animal farming, perhaps best summed up by one researcher's observation that meat from animals is "simultaneously... deeply popular as well as troubling among the same people." [11] While the public's thinking about meat is often blatantly contradictory, numerous patterns nonetheless emerge from the research which can offer guidance to animal advocates. We offer a brief summary of some representative insights before presenting our findings in full.



## Just the Headlines

- **Americans' relationship to animal meat is defined by contradictory feelings.** Most people simultaneously feel discomfort about what happens to animals along with a deep attachment to meat that is resistant to changes in its price.
- **While Americans tell pollsters that they have relatively low concern about animals in farms, these responses should not be taken at face value.** Qualitative research finds that people are in fact unsettled by the idea of killing animals for food, and actively deploy cognitive strategies to reconcile that discomfort (such as asserting that change is impossible). Animal suffering continues to be the public's leading concern about animal farming.
- **Liberal politics is the strongest demographic predictor of animal-friendly views and behaviors.** Meat reduction is increasing across all demographics, but faster among liberals than conservatives.
- **Animal suffering remains the primary concern people associate with animal meat.** Environmental concerns about animal agriculture do not appear to be widely understood, while health appeals have broad but very shallow appeal. Antibiotics and hormones in meat appear to be an area of significant public concern; advocates could leverage these more in our messaging.
- **People strongly value *naturalness* in relation to food and react with *disgust* when that value is violated.** Naturalness and disgust present opportunities and challenges for animal advocates. The conditions of animals in modern farming can be framed as unnatural to provoke a disgust response which significantly dampens meat appetite. But these objections can also apply to high-tech meat alternatives. And eating animals is still considered highly natural when animals are raised the "right way."
- **The "rise of veganism" is actually the rise of reducetarianism.** Vegans are not increasing in number and remain unpopular. But meat reduction and animal protection are mainstream and increasingly popular.
- **Information about modern animal farming practices is still compelling.** Most people find standard practices deeply objectionable. Advocates should focus less on cases of workers abusing animals and more on standard industry practices. Worker abuse cases are seen as isolated incidents and even feed into a story that the system is working: advocates find occasional abusers, law enforcement steps in, and order is restored. Meanwhile, information about standard practices challenges the premise of animal farming, even when that information is presented on the industry's terms: touring an animal farm was associated with greater disapproval of the industry.



- **Divide the public into base, persuadable, and opposition.** Animal advocates can think of the public in blocs whose discomfort with animal farming is motivated by different values. A quarter to a third is receptive to altruistic appeals, while a larger majority is more responsive to disgust. Understanding the values of these different groups can inform messaging strategy.
- **People are more supportive of changing laws than changing their diet.** Animal advocates can connect with the public by making more asks of lawmakers and fewer asks of consumers. Policy campaigns also have a positive effect on individual meat reduction.
- **Use visual animal-meat reminders to break down the disconnect between meat and animals.** Picturing animals alongside products made from their bodies is a powerful way to remind people of their discomfort and reduce their appetite for meat.



## Sample & Methods

The scope of this review was rather broad, encompassing several sub-topics including perceptions of animal welfare and industry practices; opinions about a range of issues including animal rights, public health, and environment; perceptions of the animal movement; and public reaction to the nascent field of high-tech meat alternatives. Anything which appeared to relate meaningfully to our overall research question was included, with two exclusion criteria: we only included studies that included a sample in the United States (or in Canada due to the high cultural proximity between the two nations), and we excluded studies published prior to 2015 in order to get an up-to-date snapshot of how the American public understands issues tied to using animals for food.

In April 2021, we conducted an extensive search on a variety of databases including Google Scholar, Science Direct, Roper iPoll, and Elsevier for combinations of keywords including *meat*, *animal welfare*, *animal rights*, *slaughter*, *public opinion*, *public perception*, *consumer*, *beef*, *pork*, *chicken*, *fish*, *climate change*, *global warming*, *vegetarian(ism)*, *vegan(ism)*, *plant based*, *cultivated meat* and others (several of these searches returned zero relevant results, especially when excluding research without a North American sample or prior to 2015). We also conducted searches on the websites of animal advocacy organizations known to conduct or write about formal research (Faunalytics, Mercy for Animals, Rethink Priorities, The Humane League, and Animal Charity Evaluators), and emailed researchers at these organizations to request unpublished materials. Over 60 qualifying studies were identified through these searches, and a further 10 or so relevant studies were identified in the citations of the initial studies, based on the title and abstract of the published work. During the course of analysis, about a dozen sources were determined to be irrelevant to our research despite our initial impression, leaving a final sample of 67 sources. Ultimately, the selection of this sample was inherently limited and subjective, and this review should not be interpreted as exhaustive. For analysis, the sources were entered into Taguette, a free and open-source software for coding qualitative research. Using Taguette, the entire sample was coded for patterns and organized into the takeaways described herein. It is worth noting that while progressing through the sample quasi-randomly (alphabetically by the primary author's last name), we reached 96% code saturation (i.e. 53 of the eventual 55 codes were identified) roughly halfway through the sample, and by the final quarter of the sample, new insights enriching these codes were infrequent (i.e. *meaning saturation*). We therefore feel reasonably satisfied with the scope of our sample.

While the number of studies is smaller than we originally anticipated, the range of the sample is quite broad. It includes many surveys, some qualitative studies involving interviews and focus groups, three systematic reviews, and a number of psychological experiments. It



includes studies conducted by animal ag industry organizations and university departments of ag science; animal advocacy organizations and animal rights-motivated researchers at universities; and relatively neutral third-party agencies such as Gallup, Pew, and Consumer Reports. Areas of study include:

- public understanding of animal farming as it intersects with a range of issues including animal welfare, animal rights, antibiotic resistance, pandemics, climate change, labor, individual and public health, and others;
- perceptions of specific animal farming practices, welfare labels, and ag-gag laws;
- opinions of high- and low-tech meat alternatives;
- individual consumer habits relating to animal product consumption;
- public opinion of vegetarians, vegans, and animal advocates;
- and demographic variation across all these topics.

A few patterns are apparent just from looking at a high-level summary of the sample. First of all, apart from occasional isolated questions on mainstream surveys, the vast majority of the sample comes from researchers who are clearly on one side or the other of the battle over animal farming. 39 of the studies in our sample were from animal advocates or others who were clearly motivated to reduce or eliminate animal agriculture, while 8 were from industry-aligned researchers, and those numbers only address researchers who made no attempt to mask their interests. Most (14) of the remainder comprises surveys by Pew, Gallup, or Consumer Reports which are sometimes tangential to the issues concerned in this report. There were some clear differences between studies done from an industry vs. a movement perspective, and the relative paucity of third-party research may represent a weakness in the entire sample. Nonetheless, several patterns are consistent across research regardless of whether it is sponsored by the industry or the movement.

Second, the large majority of research into this topic is quantitative surveys which provide only a relatively superficial and sometimes confusing insight into the public's views. For instance, a majority of people who self-report as vegetarian or vegan also indicate that they ate meat in the last two days. Researchers have presented several possible explanations. We found the qualitative studies (e.g. involving focus groups or longer interviews) in our sample to be rich with insight; we were left with the impression that investing greater resources in qualitative public opinion research would be very fruitful for animal advocates.

Overall, we found less research than we expected to find. We also found very little research which asked similar questions to ours: namely, research into the frames, metaphors, and values that ordinary members of the public use to interpret messages about animal rights, animal farming, and slaughter-free food. While this review yielded countless useful insights for crafting a memorable, persuasive message, it also laid bare the need for a deep, qualitative



investigation of the complex thought processes underpinning Americans' opinion of animal farming.

Interestingly, the studies in our sample which shed the most light on these thought processes were two methodologically identical studies by separate industry-aligned researchers [10,50]. In these two studies, samples of ~300 Americans each were asked a single open-ended question: "What do you consider to be an ideal dairy farm and why are these characteristics important to you?" (In the second study, participants were asked about pig farms.) This simple open-ended question sufficed to draw out a great deal of information about the values and beliefs that govern people's thinking about animal farming, as discussed below. This simple, low-cost qualitative study presents an intriguing model for further qualitative research into public psychology and perceptions, one we hope other movement-aligned researchers might pursue further.

Finally, our sample includes a small number of unpublished surveys by movement-aligned researchers. We were given access to these studies but asked not to share them. We tried to avoid relying on these items since readers cannot see them directly. Generally, their findings are consistent with other studies in our sample, but there are a small number of instances below in which a helpful finding from one or more of these surveys is offered without a citation.



## Patterns & Insights

### Americans' Relationship to Meat

Overall, the existing research reveals a complex portrait of Americans' relationship to meat. There are a few helpful ways to categorize people according to their views and concerns around meat, but as a whole, the population can be described as deeply ambivalent. While meat eating is ubiquitous, decades of advocacy have disseminated enough information into the public that meat "can simultaneously be deeply popular as well as troubling among the same people." [11]

#### **Most people work hard to avoid thinking about slaughter**

On one hand, the perceived universality of meat consumption makes it difficult for consumers to question. Statements like "meat is good for you because everybody like[s] meat" demonstrate how meat eating is "an ordinary and routine habit that [does] not provoke critical reflection, at least not publicly." [11] At the same time, deeper studies rarely encounter people who do not have a pronounced discomfort with killing animals for food. [7,10,11,16,19,28,50] In fact, there is a clear pattern in our research sample where short-form quantitative surveys find low public concern for animals, but longer-form qualitative interviews quickly reveal a more complicated picture: "many people who appear to accept animal farming are in fact deeply conflicted about the morality of killing animals for food." [6] This crucial finding should be front of mind whenever considering findings from short-answer quantitative surveys; in general, we expect these surveys to underestimate opposition to (or at least discomfort with) animal farming.

Robert Chiles documents some of the patterns and strategies people use to diffuse or avoid the cognitive dissonance between their consumption and this internal conflict [11]:

- "In order to cope with their professed uneasiness with animal suffering and death, focus group participants engaging [sic] in several different types of distancing habits and repertoires. This included using neutral words to describe the act of slaughter, mentally dissociating the connection between animals and meat, changing the topic of conversation, and avoiding contact with graphic photos and videos."
- When asked "if he would be interested in going online to learn more about meat production," one participant explained "that he would not want to, as he enjoyed meat and did not want to be turned off from it."
- "Jessica, a white nursing assistant (retired), had a particularly strong emotional response to the topic of animal death. During the focus group, if someone used the word 'slaughtered' or 'butchered', she would correct them and say that she preferred the



word ‘processed’. As the group continued to discuss the topic, she interjected ‘Oh. Let’s not talk about it’. Jessica told me later that if she sees where meat comes from, she loses her appetite. When a neighbour threw a chicken slaughter party, and offered to share his locally sourced chicken, Jessica refused to attend. When I asked her what she thought about the celebratory atmosphere of the event, she replied ‘I think it’s disgusting’. Jessica felt much more comfortable with her routine habit of getting industrially-sourced meat from grocery stores and restaurants: When I go to the grocery store and buy something, that’s not the same. There is no connection as far as my mind is concerned. I blank that out. It’s stupid but I do. I don’t associate the two.’”

Crucially, these statements show the deliberate, conscious efforts people make to avoid receiving new information about the slaughter industry or thinking about what they already know: “Jessica was well aware of the contradiction between her beliefs and everyday consumption habits, and she made efforts to resolve this tension by characterising herself in disparaging ways. At several points in the interview, she described herself as being ‘stupid’, ‘silly’, and ‘too sensitive’.”

In a focus group environment, meat consumers will entertain a discussion about these contradictions for a time. Particularly interesting to advocates should be the beliefs they cite to bring an end to that conversation. These habits function as a psychological emergency release valve, and they appear to play a key role in helping consumers avoid both information about the industry and their own cognitive dissonance. One is appealing to the impossibility of change: “Yeah I could stop eating meat tomorrow but it’s not going to stop how much meat is being produced. It’s either everyone or no one...” [23] Appeals to culture and habit are also common ways to terminate the discussion.

While animal advocates are well practiced in sharing information about the ethical, environmental, and health-related reasons to stop eating meat, most are not as prepared to address these deeper psychological hurdles: *futility*, *culture*, and *habit*. An effective advocate narrative would either penetrate or circumvent these.

Finally, many meat consumers diffuse cognitive dissonance by expressing disdain for vegans and vegetarians (veg\*ns for short): characterizing them as “sadistic,” “judgmental,” and “militant”[19] was a good enough reason not to further question meat eating. Advocates may want to further avoid labeling themselves veg\*n or framing the issue in terms of veg\*nism.

## **Attachment to meat products runs deep and is not limited to taste or price**

The animal movement is currently significantly invested in efforts to bring the price of meat alternatives below the price of slaughtered meat while improving taste. However, existing



evidence suggests that even if taste *and* price concerns could be addressed, significant hurdles would remain for alternative meat adoption.

Regarding price, in a 2015 survey by Consumer Reports [12], women who shop for groceries were asked: “In recent years, food costs have been on the rise. Despite higher prices, which one food item would be the last you’d cut back on buying?” The two leading choices by far were meat (29%) and dairy (26%) products. This means that at least 55% of respondents considered their animal product consumption to be somewhat independent of price fluctuations.

Reaching benchmarks in taste and price may suffice to address the perception that meat eating is *necessary*, but strong cultural attachments based on *naturalness* and *normalcy* remain (‘We eat meat because we just plain eat meat. It’s what we do’.[23]) Indeed, one of the most common reactions to cultivated meat concerns the perception that it is unnatural [5,6], and framing it as a technological feat appears to increase negative feelings towards it [24]. Even among consumers who were aware of, and supported, the social benefits of cultivated meat, many were reluctant to consume it themselves. These feelings of disgust towards cultivated meat place it at a disadvantage in the taste competition against slaughtered meat.

## Demographics & Politics

Newer research in our sample shows that one demographic variable has a dominant association with pro-animal beliefs and behaviors.

### Forget the rest: animal rights is political

Traditionally, a number of demographic factors have been accepted as predicting higher rates of vegetarianism and meat reduction, along with greater concern for animals (what I’ll refer to as AFVB, *animal-friendly views and behaviors*). Women, nonwhites (especially Black), young people, urban and suburban residents, and people with a college degree are more likely to exhibit the beliefs and behaviors promoted by the animal movement, including reporting empathy and concern for animals, reducing meat consumption, and buying plant-based alternatives. As of 2020, however, following a decade of increasing political polarization and demographic political realignment, political leaning has become the strongest association with AFVB [28,51]. When politics are accounted for, racial and regional associations are erased, and associations with gender, age, and education are reduced.

This means not merely that the demographics of the Democratic party base mirror the animal movement’s supporters, but that liberal politics are the main predictor of AFVB. Pro-animal sentiments are now closely correlated with the general cultural divide creeping into so many aspects of American life. Age and gender associations were not totally erased, but were



reduced. In short, the animal movement's supporters are to be found primarily among liberals and Democrats, *especially* young people and women.

Conservatives should not necessarily be written off. Liberals are generally more than twice as likely to identify as veg\*n, report meat reduction, and support a strong animal rights view. That is a large statistical association, but still means perhaps a quarter to a third of veg\*ns and animal rights supporters are conservative. The animal movement may want to be careful explicitly identifying with one side or another in the broader culture war at the risk of alienating half the country, while leaning into the liberal values that promote pro-animal behavior. On the other hand, getting swept up into that war may be inevitable.

### **Conservatives are generally less empathetic towards animals and more hostile towards veg\*ns, but conservatism is a state of mind**

Politics are the strongest predictor of pro-animal behavior, but political views are highly fluid. As discussed previously, George Lakoff's research has shown how most people possess both liberal and conservative worldviews and can rapidly move back and forth between the two. If liberalism leads to higher AFVB, priming people with a liberal worldview may have the effect of increasing their openness to an animal freedom message. In other words, rather than crafting an appeal based on conservative values, animal advocates should focus on activating liberal values in the persuadable middle and connecting those values to animal freedom. The segment of the public which is rigidly conservative, i.e. whose agreement with conservative views is not responsive to priming or other variables, should likely not be seen as targets for the movement in the near term: conservatives are much more likely to lapse in veg\*nism due to lack of social support and lack of commitment to justice motivations for veg\*nism [18]. Fortunately, political outlook does not seem to have an effect on consumers' response to **nudges or in-the-moment educational interventions** to reduce animal consumption. This suggests conservatives can eventually be brought around through normalization and that it may be more effective to engage with rigid conservatives as consumers rather than as voters, in an exception to the general public.

Furthermore, because conservatives tend to be skeptical of government intervention concerning public health, climate change, and other issues intersecting with animal agriculture, priming liberal frames may be key to driving acceptance of drastic government action.

### **AFVB are increasing across all demographics**

While liberals are more likely to support a strong animal rights position and report reduced meat consumption, both trends are increasing among both liberals and conservatives at similar rates [45,51]. Per Gallup:



*Women remain more likely to support [the statement “animals’ rights should be equal to those of humans”] than men do, but support among both groups has increased by a similar amount since 2008. Similarly, Democrats and Democratic-leaning independents are more supportive of this view than Republicans and Republican-leaning independents are, but both groups have seen an increase from the last time Gallup asked them.*

The same holds true for meat reduction and veg\*n identity. This fact could be especially important to communicate in light of the *dynamic norms* research discussed earlier; it follows that if conservative men hear that other conservative men have been adopting pro-animal views and behaviors, they will be less likely to resist due to social identity compatibility.

## Comparing Concerns

Animal advocates discuss several issues in their messaging about animal farming. Animal suffering, environmental damage, and healthy eating are mentioned most frequently. Less common topics include disease transmission, antimicrobial resistance, and treatment of workers. Each of these can be discussed in a nearly endless number of ways. The research we reviewed sheds light on how the public engages with these different issues. While we discuss these findings first in terms of the general population, it is difficult to make sense of them without dividing the public into the base, persuadable, and opposition categories as we do at the end of this report.

### **Health appeals: broad but shallow**

While “health is the most common reason among [nonvegetarians] to consider eating less meat... people who are motivated by health are not particularly impacted by vegetarian advocacy, in general,” which “may help explain why there continues to be relatively few vegetarians, and why people motivated by health are also least strict...” [25] In other words, health messaging has a broad but shallow appeal. A majority of people say that they prioritize health over altruistic concerns like animal rights or the environment, but those health concerns rarely motivate individual action and are in fact negatively associated with support for political action. There is also evidence that health-focused ads make plant-based food alternatives less appealing [57,63]. Our review supports the conclusion reached by FrameWorks that health appeals are a poor way to build support for political intervention into the food system.

### **Environmental appeals: unfamiliar, and with mixed potential**

Unlike animal suffering, climate change is not an issue most Americans associate with animal farming. A small percentage who are greatly concerned about climate change have discovered



information about the connection, but the public as a whole remains ignorant. Less than 50% believe beef production has an impact on global warming, and only 18% agree that eating a plant-based diet would reduce their environmental footprint “a lot.” [60] In fact, because Americans have heard so much about the environmental impact of cars, and so little about the impact of animal farming, they are prone to reject new information outright. [25] While the public could be made more aware of the environmental impact of animal agriculture, meat reduction may continue to be displaced by more salient strategies such as driving less. [49]

Environmental concerns may be particularly ineffective at changing consumer behavior: 69% say they have not avoided a purchase for environmental reasons even once a year. Many vegetarians and meat reducers indicate that climate concerns are one factor in their meat reduction, but few indicate it is the driving factor [25]: “recent surveys of vegans living in the U.S. yielded very low percentages (2–3.2%) of consumers motivated [primarily] by the environment.” [49] However, such a low number is surprising and warrants further investigation.

Finally, the climate crisis remains an abstract issue for Americans, “a subject which is talked about” rather than “something which is lived” as in many other nations [25]. Aside from the 26% of Americans who are “alarmed” about climate change [62], emotional responses to the issue remain muted and detached. This is a sharp contrast with discussing animal suffering in slaughterhouses, which brings up emotions so intense that the audience can easily shut down.

One messaging strategy might be to balance the emotional overwhelm that often comes from discussing animal suffering with the emotional detachment associated with climate change discourse to engage a productive level of emotional response in the audience. Otherwise, advocates should be aware that further education is required about the environmental links to animal farming. If this connection is mentioned in passing without a robust, causal explanation, the message is likely to be ignored or rejected.

### **Antibiotics and hormones: salient, visceral, and possibly underutilized**

Concerns about antibiotics and hormones in animal farming have reached salience among the general public. In response to open-ended questions about the problems with animal farming, antibiotics and hormones are raised frequently [10,50]. A majority of the public supports a ban on the non-therapeutic or growth-promoting use of these chemicals, [17] and a message focusing on antibiotics was the only one to outperform a standard animal suffering message out of over twenty tested in two movement-aligned studies. [26] Detailed understanding remains limited, as demonstrated by the fact that antibiotics and hormones are closely connected in consumers’ minds, whereas experts see them as different threats.



The public is somewhat knowledgeable. A majority agree that antibiotics are used on healthy animals in order to promote growth and enable more crowded, less sanitary conditions. [8,13] Research identifies four concerns people have with antibiotics: the threat to human health through antimicrobial resistance (AMR), which could be characterized as a public health concern; enabling less humane conditions, an animal welfare concern; artificially promoting growth, a food quality concern; and environmental pollution. Asked specifically about antibiotics, more people are “very” or “extremely concerned” about the risk of antimicrobial resistance and the animal welfare implications, but food quality and pollution are not far behind. Pollution is not an issue experts associate with antibiotics, though it is associated with hormones, potentially further evidence of the fusion of these two issues in the public understanding.

Advocates should be aware that the public still doesn't understand the mechanism by which antibiotic overuse poses a threat. Few consumers can identify that antibiotic overuse leads bacteria to develop resistance through evolution to medically important antimicrobials, causing a risk of preventable human deaths. (Antimicrobial resistance is already blamed for 35,000 deaths in the U.S. annually.) While this lack of understanding does not appear to limit opposition to antibiotic use, it may explain why public support for this message does not extend to a pandemic-focused message.

Crucially, qualitative research suggests that the public relates to antibiotic concerns differently than advocates and experts do. While Americans can identify that antibiotic overuse can create deadly bacteria, their primary concern is more visceral: *disgust* at the idea of ingesting *unnatural*, chemical-saturated meat. [7,10,40,50] When it comes to antibiotics, even animal welfare concerns are tied primarily to feelings of disgust. Consumers link excessive antibiotic use to crowded, filthy conditions, and they are disgusted by the idea of eating food produced in those conditions. A minority is concerned about animal welfare for altruistic reasons, but for most, animal welfare concerns appear to be born out of this disgust. As one consumer explained, they desire high animal welfare because “it ensures that what I’m eating will be of the highest standard and acceptable in both flavor and nutritional content.” [10] Already, a majority of plant-based milk buyers say they do it in part to avoid antibiotics and hormones in dairy milk. [15] All this suggests that antibiotics could play an important role in a message based on the *naturalness/disgust* frame discussed below.

Interestingly, antibiotics are one issue that reduces the public’s trust in farmers. Without priming, people award farming the highest favorability rating of any industry. [48] After answering questions about antibiotic use, however, the public report significantly less trust in farmers. [7] Antibiotics may be an effective way to undermine the authority people otherwise lend to farmers.



## Pandemic links: a bridge too far

Early on in the Covid-19 pandemic, multiple movement-aligned organizations explored messages connecting the suspected zoonotic origin of the virus to factory farming and AMR. Research consistently found no improvement in support for movement goals and a backlash effect against advocates seen as opportunistic. [26] While the public may be more open to pandemic-focused messages now that much of the initial fear and confusion has passed, this finding is consistent with a general trend that less familiar messages increase negative feelings towards animal advocates. After exposure to a familiar message focused on animal suffering, the public reports that advocates are honest and trustworthy, while accusations of opportunism or dishonesty regularly come in response to environmental arguments as well. This doesn't mean it isn't worthwhile to educate the public about pandemic and environmental links to animal farming; rather, advocates should be aware that these messages require much more explanation and are essentially in an education stage, whereas messages focused on animal suffering or antibiotics and hormones are already salient among the public. Advocates who mention pandemic and environmental links in passing without providing a robust, causal explanation of those links risk being seen as unreliable.

## Animals

Overall, animal suffering remains the primary concern people associate with raising animals for food. In recent studies by movement actors testing messages on all these topics and more, standard animal-centered messages performed the highest for building opposition to the industry, support for movement goals, and trust in animal advocates. [17] This is probably due in part to the public's familiarity with animal cruelty messaging.

Research participants focused greatly on one aspect of animal welfare: having enough space to act out natural behaviors was the "most frequently noted characteristic" of a good farm. [10,50,52] Participants object more strongly to cages and various forms of confinement than to practices like tail docking and castration, perhaps "because these are common or known practices for household pets." [16] While participants avoided bringing up slaughter, this likely indicates their discomfort and cognitive dissonance around the topic rather than acceptance of it.

Interestingly, most people think that animal welfare is more important than cost (i.e. that farms should adopt higher welfare standards even if it means raising costs), but they don't think that most other people agree. This means that while concern about animals used for food is widespread, it is perceived as abnormal. Advocates should aim to make this widespread latent support more visible and normal.



## Corporate greed

Treatment of workers was virtually never raised by the public as an issue connected with animal farming, and research has scarcely investigated the public's concern about animal farm and slaughterhouse workers. In one unpublished survey, messages focusing on mistreatment of farm workers and contract farmers performed well. We feel this message merits further investigation.

Some research participants did occasionally mention government and corporate corruption in the animal farming industry. [11] This was another example of contradictory thinking, which some consumers, to their credit, were able to notice. On one hand, "their lack of personal exposure to meat safety problems led them to extrapolate that their go-to companies were legitimate, trustworthy, and socially responsible on a broad array of issues." At the same time, they feel that without other options, they have no choice but to trust meat companies, leaving them with some discomfort. They also assume that large meat companies are buying government influence [23] and that in exchange "government inspectors might tip off companies before they [conduct] audits on production facilities." [11] This was likely reflective of Americans' general distrust of corporations rather than anything specific to animal farming. Thus, while messages focused on corruption may help demonize the industry, they may also cause listeners to lose sight of concerns related specifically to animal farming. In the aforementioned survey, a corporate corruption message performed slightly better than most others, but significantly less well than a standard animal suffering message.

## A golden thread: the naturalness/*disgust* frame

As research participants discussed all of these different concerns across the studies we examined, a pattern emerged indicating fundamental differences between how the public, as opposed to experts, understand animal farming and its associated problems. We called this pattern the *naturalness/disgust* frame.

For experts who have spent years familiarizing themselves with facts about the harms caused by animal agriculture, it can be difficult to understand how people with very limited exposure react to those same facts. Experts (including animal advocates) think in terms of causal chains that often involve trade-offs, for instance:

- Intensive confinement requires preventative (non-therapeutic) application of antibiotics, which leads to the evolution of drug-resistant bacteria that cause deadly, untreatable infections in humans.
- Feeding cows corn instead of grass leads to high digestive methane emissions, but raising them on pastures requires deforestation which may contribute even greater greenhouse gas emissions.



- Promoting slower-growing chickens increases individual welfare but also increases the number of chickens required to meet demand.

While these chains are linked and cofounded in important ways, they are also distinct in important ways. In other words, experts see animal agriculture as a complex system shaped by the decisions of government and industry actors, with specific practices leading to specific harms that matter for different reasons.

The public does not view animal agriculture in this way. While a quarter to a third of the public (the *base*) are more or less receptive to adopting the expert model, a supermajority of people are rooted in a much simpler one. In this information-poor model, all of the aforementioned causal chains are collapsed into a single distinction: there is a *natural* way to produce meat, and there is an *unnatural, disgusting* way to do it. This mental model is an extension of the Small Family Farm/Large Industrial Farm framework, with SFFs and LIFs acting as conceptual peg boards onto which specific real or imaginary animal farming practices are hung.

The *natural* production model is everything most people say when asked to describe an ideal animal farm. Where animal welfare is concerned, the emphasis is on animals being able to act out their natural behavior, with lots of space and access to the outdoors. Hormones are unheard of and antibiotics are only used on individual sick animals. Animals are fed a natural diet. The farm is small, locally owned, and run by a family. Because of these natural practices, the product is high quality:

*... the animals are allowed to roam freely, not confined to pens or cages, are fed an organic or natural diet. [10]*

*... a large designated area where the pigs are free to roam and forage for food as they would normally and naturally. [50]*

*They would not be fed any grain or given any drugs unless absolutely necessary. No hormones. [10]*

*They would consume natural foods, and as a result of a mostly natural lifestyle they would be healthier. [50]*

*... locally owned and privately managed organically. These are important characteristics that show character and inspire confidence in a business. [10]*

*The cows have to be treated properly, free range not locked in pens their whole lives. Good milk comes from happy cows. [10]*



The *unnatural, disgusting* farm is everything the natural farm is not. It is large, crowded, and filthy, and relies heavily on chemicals. Animals are treated like machines. While the public does not mention some of the most graphic scenes often found in farms (such as cannibalism), in other ways their image of the unnatural animal farm is exaggerated:

*... I have seen first hand some dairy farms where the cows are kept in their stalls all day hooked up to the pump machines and it is pretty horrid. [10]*

*I think it is disturbing and horrifying how animals are treated in some dairy farms. [10]*

*We hear too many horror stories. [10]*

From the research we reviewed, it appears that the *naturalness/disgust* frame is the primary lens most people use to view animal farming. People rely on this frame to make sense of the two issues they most commonly raise in association with animal farming: animal welfare, and overuse of antibiotics and hormones. While people work hard to avoid talking about slaughter (leaving us with less data about how people conceptually relate to slaughter), we suspect that disgust is the primary emotion people feel in response to animal slaughter and that there is great potential to generate opposition to animal slaughter by framing it as unnatural.

It makes sense that disgust should be a potent weapon in a cultural struggle over food. Disgust is intimately tied to food choice, and it may have evolved primarily in connection to food choice to protect omnivorous human ancestors from eating unsafe food, particularly carrion. [53] For modern humans, disgust still has a much stronger dampening effect on the desire to eat meat than to eat plants. [53] Disgust is involved in daily decisions about food in a way that altruistic motivations animal activists usually appeal to are not, though physical and moral disgust are closely intertwined. A well-crafted message using the *naturalness/disgust* frame could therefore simultaneously build political support and immediately impact consumer choices. Of course, intentionally or not, animal advocates have already been activating the *naturalness/disgust* frame with their animal cruelty messages.

However, the *naturalness/disgust* frame is a double-edged sword for animal advocates: many people use this same frame to assess high-tech meat alternatives, especially cultivated meat, and it appears to be the leading source of resistance. If advocates determine that adoption of cultivated meat is important for the eventual elimination of animal farming, they should wield the *naturalness/disgust* frame with care.



## Meat Reduction & Alternatives

Understanding what drives existing meat reduction trends may be crucial to accelerating those trends. Meat alternatives in particular represent an evolving front in the animal movement's messaging campaign. Around 11 of the studies in our sample (or 1 in 6) investigated public perception of meat alternatives specifically. On the whole, they found hopeful as well as concerning signals about the public's willingness to adopt meat alternatives and what else is driving meat reduction among Americans.

### **The “rise of veganism” is actually the rise of reductarianism**

In the early phases of the current research, we found that advocates, journalists, and research participants all described the “rise of veganism,” apparently referring to the sense that veg\*nism has achieved an unprecedented level of social momentum in recent years. Yet surveys find little or no increase in the number of Americans who identify as vegetarian or vegan. [43,51,60] Instead, two other trends could be responsible for this sense of momentum: sensational media coverage of meat alternatives, and a large increase in Americans who say they are eating less meat. [33]

Some studies do find an increase in the number of self-reported vegetarians and vegans over time. However, the most detailed of these [51] found that 60% of veg\*ns also reported eating meat in the last two days. From 2013-2018, the number of self-reported veg\*ns went up, but so did the percentage who said they'd eaten meat in the last two days. The number of people who *don't* identify as veg\*n but say they have *not* eaten meat in the last two days also increased over the same period. This provides further evidence that the momentum of “veganism” is due to people reducing (but not eliminating) their meat consumption, with some of these meat reducers identifying as veg\*n.

Consistent with prior discussion, meat reducers tend to be Democrats, women, and people of color. 70% list health as a major reason; 41% list animal welfare.

### **Animal protection is popular, but veg\*ns are despised**

The *animal protection movement* is overall popular. 68% have a favorable opinion, tied with “workers' rights” as the most popular social cause compared to 59% favorable views of environmentalism, 57% for homeless advocacy, 46% for gay/lesbian rights, and 36% for the pro-life movement. [20] Attempts by opposition groups to paint the movement as “radical” and un-American appear not to have stuck and are seen as hyperbolic, unproductive, immature, and “scummy.” [4]



Vegetarians and vegans, however, remain deeply unpopular. Omnivores view veg\*ns more negatively than several groups which are commonly targets of prejudice, including Black people, immigrants, and atheists: “People also often freely associate negative words with vegetarians, calling them ‘sadistic,’ ‘judgmental,’ and ‘militant.’” [19,35] Negative feelings are stronger towards vegans than vegetarians, and towards veg\*ns motivated by animal suffering or environmental concerns as opposed to those motivated by health. Such feelings are also stronger towards veg\*n men as opposed to women, reflecting the fact that veg\*nism is seen as effeminate. [27] Finally, veg\*n stereotypes are associated with whiteness, wealth, and elitism (contrary to data showing that veg\*nism is significantly more common among people of color and does not correlate with class).

Especially noteworthy is the fact that interventions that increase concern for animals and reduce meat appetite *do not* appear to reduce negative feelings towards veg\*ns, at least not immediately. [19,35] In other words, people continue to despise veg\*ns even as their alignment with the animal movement increases.

There is a stark difference between the public’s favorable views of the animal movement and their negative views of veg\*ns. The rhetoric of veg\*nism activates and reinforces the consumer frame, where strong values of personal choice and autonomy override concern for animals. Where possible, the movement should not present itself as composed of veg\*ns or advocating veg\*nism. As we discuss below, a story about people of all diets coming together to push for dramatic legislative change is both more inspiring and more accessible. Advocates should also work hard to elevate the racial and gender diversity of the movement, without coming across as desperate or pandering.

Because there are some positive associations with vegetarianism,[57] and because negative associations are less strong than with veganism, advocates may want to describe themselves as vegetarian rather than vegan when forced to choose.

## Technology and *naturalness*

The public remains ambivalent about the use of high technology for the production of food. High-tech food has its own support base amongst the public (young, educated, male, high trust in technology and in government regulation), which does not necessarily correlate with concern for animals. As cultivated meat (CM) pioneers are well aware, a large segment of the public remains hostile to genetically-modified crops due in large part to discomfort with high-tech food.

CM is met with a particular kind of ambivalence. People are supportive of the development of CM but are resistant to consuming it regularly themselves. This is apparently because “people typically perceive the benefits of cultured meat as accruing to society, but the



risks accruing to themselves,” a disconnect which “results in some consumers being in favor of cultured meat in principle, but preferring not to eat it themselves.” [6] There does not appear to be a need for messaging to convince the public that CM is overall a safe, responsible technology to develop. The gap between advocates and the public is instead around the appeal of CM for individual consumers.

Numerous studies have investigated public resistance to CM rooted in disgust. [5,6,55,56] Overall, disgust is identified as a central element of opposition to CM, and “perceived unnaturalness... was often at the root of disgust.” Messages focusing on the high-tech nature of CM lead to lower support. Messages attempting to frame CM as natural, or arguing that naturalness should not matter, also reduce support. Arguing that slaughtered meat is unnatural produced better results; information about the personal benefits of CM was most effective.

For the time being, individual consumers trying to reduce meat consumption are more interested in low-tech alternatives. Polling suggests that only 36% of meat-reducers are regularly turning to plant-based meat products, and most would rather eat plant-based than cultivated meat. [6,33,34] Combined with evidence that learning about high-tech meat alternatives (cultivated or plant-based) actually *reduces* animal farming opposition, [24] the research provides some evidence that animal advocates should avoid focusing on novel tech-based meat alternatives when advocating against animal farming.

One exception is that consumers with the highest attachment to meat indicate CM as their preferred meat alternative. While these consumers are not eager to reduce or replace meat in their diet, they may seek out CM when concerns about animal farming reach a higher degree of salience in the public discourse. However, because this group is less receptive to the movement’s message overall, advocates should not significantly alter their message to appeal to them.

## **CM reminds consumers how meat is produced**

There are counterfactuals in the research suggesting CM may be part of an effective messaging strategy against animal farming. First, in the context of meat reduction, most people list health as the major or most compelling reason to be vegetarian. However, in response to open-ended questions about CM, people are much more likely to bring up the benefit of reducing animal suffering. [6,47] Explaining the production process of CM can lead consumers to think about how slaughtered meat is produced, and CM is usually seen as preferable. One hypothesis is that CM creates a psychologically safe container to condemn animal farming without creating an unbearable contradiction with one’s own meat consumption. In that case, CM would be a more productive way to help the public discharge their cognitive dissonance around animal farming and bring them in line with the movement’s goals.



Also, other than individual desire to consume, opinions about CM are largely positive. CM may be more effective than other angles for creating a sense that change away from animal agriculture is possible, or even inevitable. In the aforementioned study showing that learning about high-tech meat alternatives reduces animal farming opposition, the author wondered whether the cause was that consumers exposed to the technology “think the ethical and environmental problems of animal farming will be solved anyway.” [24]

We are curious to see how high-tech meat alternatives appear in our own qualitative research with the public. If we had to make a recommendation based solely on the sample we reviewed, we would recommend that advocates avoid the topic.

## Animal Farming

Only 1.5% of Americans are employed in agriculture, an all-time low. [16] People have limited knowledge of the practices used in modern animal farming, and they object to some of these practices more than others. Overall, however, increased knowledge of modern animal farming leads to greater opposition, even when the information is presented by industry-aligned sources, leading industry proponents to conclude that “educational efforts by the agricultural industries to bring public views in line with industry practices will not be successful.” [7]

### Exposure creates opposition

In response to efforts by advocates to problematize modern animal farming practices, many industry proponents have turned to education. They hope that by increasing the public’s understanding of why these practices were adopted, they can win back public support. Research suggests that these efforts are having a more complicated effect: “Farmers have argued that the lay public lacks information and familiarity with pig farming issues, and therefore have unrealistic opinions. However, it has been argued that simply increasing people’s information may not change this scenario, given that increased knowledge of animal agriculture in general, specific practices, or having visited a farm appears to increase, rather than decrease, concerns regarding the welfare of agricultural animals.” [7,16,50]

For instance, a study by Purdue University [16] investigated the effect of agritourism, or visiting farm facilities, on people’s opinion of animal farming. The result is polarizing. Farm visitors were more likely than the overall sample to report having reduced meat consumption in the last three years due to animal welfare concerns or to describe themselves as vegetarian and vegan. Visitors were also significantly more likely than the general population to agree that “castration (neutering) of male pigs, confining hogs indoors, using farrowing and gestation crates, housing sows in group pens, ear notching for identification, tail docking and teeth clipping seriously reduced the animal welfare of pigs.”



There were some trends in the opposite direction. For instance, farm visitors were more likely to believe two false views about animal welfare in modern agriculture: that pigs are treated with antibiotics only when sick, and that most pigs in the U.S. are raised on farms with less than 100 total pigs. The data suggests farm visits increase support for animal farming among a minority, but decrease it overall. We hypothesize that the effect of the visit is dependent on the individual's predisposition, as we discuss in the section below on base, opposition, and persuadables.

For now, this belies a tentative hypothesis we had that oversaturation of animal cruelty footage had reduced the efficacy of information exposure. We have not seen any evidence that being presented with too much information, or the 'wrong' information, reduces long-term support for the movement's goals. On the contrary, advocates may even want to consider encouraging the public to engage in agritourism, as this would be the most accessible way for large numbers of people to gain firsthand experience of modern farming. However, we would like to establish the backlash effect of agritourism with greater certainty before making this recommendation.

### **Standard practices are repellant; extraordinary cases are confusing**

With undercover investigations, animal advocates often focus on superfluous cases of violence, especially workers assaulting animals. Research suggests this may be both unnecessary and counterproductive.

First, considerable evidence shows that the public is sufficiently turned off by the industry's standard practices. Crowding, confinement indoors, and the act of slaughter itself are all disturbing for the general public. In fact, industry-aligned researchers in our sample repeatedly reached the conclusion that efforts by the industry to educate the public about these practices would backfire. For instance, visitors to an agritourism destination depicting modern pig and dairy cow practices were significantly more likely to report having reduced meat consumption in the last three years due to animal welfare concerns or to describe themselves as vegetarian or vegan [16]. Visitors were also significantly more likely than the general population to agree that practices demonstrated on the farm such as "castration (neutering) of male pigs, confining hogs indoors, using farrowing and gestation crates, housing sows in group pens, ear notching for identification, tail docking and teeth clipping seriously reduced the animal welfare of pigs." In the words of industry researchers reflecting on their own findings:

*Farmers have argued that the lay public lacks information and familiarity with pig farming issues, and therefore have unrealistic opinions. However... simply increasing people's information may not change this scenario, given that*



*increased knowledge of animal agriculture in general, specific practices, or having visited a farm appears to increase, rather than decrease, concerns regarding the welfare of agricultural animals. [50]*

*These results contribute to a growing body of literature indicating that educational efforts by the agricultural industries to bring public views in line with industry practices will not be successful. [7]*

If standard industry practices are enough to repel a large portion of the public, many of the superfluous abuses documented by animal activists have the opposite effect. In the previous report in this series, we discussed a finding by the FrameWorks Institute that the intermittent appearance of food system issues in the news actually gave people more confidence in the system, because when the media moved on from the story, they assumed the problem had been solved. Our sample corroborates this pattern and extends it to animal cruelty on farms in particular: “The infrequency and fragmentation of certain article categories can lead people to assume that well-publicised labour [sic], environmental, animal welfare, and food safety issues are unusual events rather than symptoms of broader problems.”[11] The following exchange with a focus group participant is representative:

*Q: So what sort of led you to the conclusion that most farms are responsible or proper?*

*A: I guess I really don't have any facts on it. I could probably look up some. I feel more – You don't hear that much about farms. You'd hear about it on the news, if farms were something completely unpractical, like torturing an animal. I feel like you'd definitely hear about that on the news. But for how much meat is processed every day and how many animals are slaughtered every day, it's kind of bad sounding. But you don't really hear that much. . . I feel like it would be a huge deal if companies were just killing and – Like if they found out. . . it would be all over the news: 'Companies were killing immorally'.*

*Q: So it's sort of like the fact that maybe once a year you'll see on the news like undercover video or something, 'workers abusive' or something like that. If that was coming out every day, maybe it would be more widespread?*

*A: Oh yeah. That would be way, I would probably have a way different opinion on eating meat. Happening every day, that would be awful, torturing animals. Like once a year, I feel like is definitely, once or twice a year is definitely manageable. Because that really means that no one really does it. Especially if there was more publicity on it.*



This suggests that the industry has an effective response when it claims that abuses revealed by an undercover investigation are isolated incidents. As we discuss in the next report in this series, the media often credulously repeats this argument. While advocates insist that these abuses are in fact widespread, the very way they conduct and release these investigations provides the industry with an effective rebuttal and functions to obscure many of the standard industry practices the public already finds repellant. Because these abuses are often superfluous to the production process, viewers can be repelled by them while at the same time comforting themselves that most farms produce meat without those particular kinds of violence. This may even have the effect of making otherwise repellant industry practices seem more tolerable by comparison. Meanwhile, crowding, indoor confinement, and slaughter are all inextricable features of modern animal agriculture which alone could suffice to turn the public further against the industry.

Overall, this suggests that advocates focused on public opinion should take aim at common practices the industry itself admits to, rather than abuses which go above and beyond those standards. Even when the industry presents these practices on its own terms, the public is repelled. Advocates should target these structurally necessary practices to challenge the very legitimacy of animal farming. Advocates must also help the public see these as persistent issues rather than intermittent ones.

### **Transparency represents a catch-22 for animal farmers**

As evidence accumulates that “educational efforts by the agricultural industries to bring public views in line with industry practices will not be successful,” [8] proponents of animal farming are faced with a dilemma: learning about ag-gag laws significantly reduces the public’s general trust in farmers, enough to shift the public from an overall attitude of trust towards one of distrust, as well as increasing support for animal welfare regulations. [46] This loss of trust in farmers occurs across demographics, including those otherwise most trusting and supportive of animal farming. Additionally, “awareness of ag-gag laws negatively impacted perceptions of the current status of farm animal welfare as well as the perception that farmers do a good job of protecting the environment.”

Ag-gag laws appear to be a potent messaging tool for animal advocates; the fact that most people remain unaware of them only means there is greater potential to build support through education around them. Advocates should highlight the industry’s efforts to suppress dissent, especially in order to undermine the trustworthiness of industry proponents and spokespeople.



## Base, Persuadables, Opposition

Apart from associations with liberalism, age, and gender, there are patterns that emerge among the public specifically relating to their views on using animals for food. We hypothesize that these patterns can be organized into three categories: the base, the persuadables, and the opposition. This model explains what would otherwise be strange contradictions in some of the research in our sample. Importantly, these segments respond to different stimuli in different ways. Neutral (i.e. non-activist) exposure to modern animal farming practices may lead one group to be more comfortable with those practices, while at the same time drawing condemnation from another. [16]

In many cases, these patterns are more useful to advocates than variables such as liberalism, gender, and age. While liberalism is strongly associated with pro-animal beliefs and behaviors, many of these associations are still marginal, and many liberals do not belong to the animal movement's base, while a nontrivial number of conservatives do. The large majority belong to the persuadable middle. We discuss the features of these three categories and the implications for messaging.

### The Base

The base are the people who agree with the strong animal rights view that “animals deserve the exact same rights as people to be free from harm and exploitation.” They make up between 25% and 32% of the population. [25,45] Most of them are not vegetarian or vegan, but nearly all veg\*ns reside here.

The base is differentiated by a definable set of values. These values inform their priorities concerning animal farming and lead them to respond differently to advocate messages. The following values appeared in association with pro-animal views in studies from both industry and advocate perspectives [3,7,25]:

- Self-transcendence
- Equality
- Peace
- Beauty
- Open-mindedness
- Agreeableness
- Inner harmony



	Base (25-32%)	Persuadables (62-75%)	Opposition (3-10%)
Values	Self-transcendence, equality, peace, beauty, open-mindedness, agreeableness, inner harmony	Not cohesive	In-group dominance, tradition/conservatism, submission to authority, social conformity, human superiority
Feelings towards animal ag	Actively conflicted, already reducing consumption, avoidant	Primarily avoidant, concealing discomfort and dissonance	Favorable
Motivation	Altruistic (animals and environment more compelling)	Indifferent (health most compelling, but not convincing)	Preserving status quo, tradition, the familiar
Strategy	Mobilize with ethical appeals, especially focused on animal suffering	Activate disgust towards animal ag, convey veg*nism as an emerging norm	Isolate and provoke in order to repel persuadables

Each of these was predictive of greater concern for animals, discomfort with industry practices, responsiveness to advocate materials, and openness to reduce or eliminate meat consumption, especially for ethical reasons.

The base relates to the issue of animal farming altruistically. Though they consider their health important, they list animal rights and the environment as the most compelling reasons to consider a vegetarian diet, and list health as third. [25] They are responsive to ethical and social appeals on both a long-term and short-term scale. For instance, they are more likely to choose a plant-based meal if the advertisement emphasizes altruistic benefits [63], and many of them have reduced meat consumption, or aspire to do so [34], because they have retained and organized information they've learned about the slaughter industry.



Some find environmental concerns more compelling, while others are more concerned with animal rights; however, these two subgroups demonstrate mostly the same values [25] and respond similarly to advocate messages. The differences between them should not be exaggerated.

## The Opposition

The opposition are a small minority who are obstinately resistant or actively hostile to the animal movement's goals. With dismissive views such as "animals don't need much protection... because they are just animals," the opposition makes up as little as 3% of the population [45], or perhaps as much as 10%.

In the studies we reviewed, strong opposition was particularly associated with beliefs and values measured in two standardized psychological scales: Right-Wing Authoritarianism and Social Dominance Orientation. [18,34] Those beliefs and values include:

- Gender bias and preference for traditional gender roles
- Desire for one's in-group to dominate other groups and preference for inter-group hierarchy in society
- Submissiveness and loyalty to authority figures
- Preference for social conformity and resistance to social change
- Motivation to preserve traditions and preference for the familiar (neophobia)
- Perception that out-groups generally pose a threat

Unsurprisingly, speciesism and human superiority views are also highest among this group.

The opposition is basically unreceptive to animal advocate messages. They unabashedly dismiss animal welfare concerns: "As cruel as it might be I'd consider the best pig farm to be one that can stuff as many pigs into as small a space as possible while maintaining decent cleanliness. The higher the efficiency, the lower the cost for me." [50] The opposition is not concerned with *naturalness* in food production, prioritizing cost and efficiency above all else, and therefore they do not have a disgust reaction to images of animal cruelty, use of antibiotics and hormones, food safety concerns, or pollution. Indeed, they are confident that global warming is not happening at all. [61] They may not be concerned with their own health, or they may be convinced that animal products are important for a healthy diet, or both.

Overall, the opposition is essentially unreachable because they are not concerned with any of the issues animal advocates might message about. Even a *dynamic norms* message will likely have little or no effect on the opposition, due to their social environment occupied by other late adopters and laggards; for the foreseeable future, their lived social experience will belie any claim that meat reduction and vegetarianism are becoming the default.



## The Persuadable Middle

The persuadable middle is not a cohesive unit and, as such, cannot be characterized by any shared values. Instead, it should be understood as the remainder left over between the base and the opposition: people who have not engaged with the issue enough to take a position, or whose values do not predispose them towards one position or the other.

As with most other political issues [64], the vast majority (between 62% and 75%) of the population falls into this middle category whose relationship to the issue of animal farming is best described as indifferent. When asked, these persuadables reveal complex, contradictory, disorganized beliefs about the issue, in part because they haven't thought much about it before:

*Never really thought about meat like this in-depth though – it's kinda cool thinking about something so much in your life that you never thought about before – It's kinda weird thinking about – I've never got this much in depth of something I eat literally almost every day... It's like usually I just don't think about it – I think if it looks good or not – I don't usually go more for like – I just eat it. [11]*

Others have thought about it enough to know that they don't want to think about it anymore, and they employ several strategies to avoid engaging with the topic (as described earlier).

The persuadable middle provides “moderate majority” answers such as “animals deserve some protection from harm and exploitation, but it is still appropriate to use them for the benefit of humans.” They also account for the overall majority who say that health is the most persuasive reason to consider a vegetarian diet or reduce meat consumption. Crucially, this does not mean that they consider it to be particularly persuasive, merely the most persuasive of the three reasons [25]. Though they are repelled by many realities of modern animal farming, the persuadables have yet to be persuaded that veg\*nism or meat reduction are worthy of their attention.

Additionally, the views of the persuadables should not be seen as static. On one hand, this group is much less receptive than the base to animal advocates' current messaging. On the other, they have invested very little thought into the issue, and their views are not well formed, a fact most of them are quick to admit.

## Messaging across categories

Often, messages can be targeted to a particular audience, but sometimes it is desirable to have a message which can be put in front of the general public. In that case, an effective message should excite the base, persuade the middle, and antagonize the opposition. [64] The



opposition is essentially unreachable, but provoking a strong backlash from a small minority can heighten the tension around an issue, attracting attention and making advocates seem reasonable, thus propelling moderates toward them. Meanwhile, it is important to use a message which reaches and wins over the large majority while also exciting and motivating the base to increase their commitment.

The base is stirred by altruistic messaging focusing on animal suffering (especially the act of slaughter and the confinement of animals in unnaturally small spaces) or social harms from animal farming. What kind of message could move the persuadables? New research demonstrates some promising leads. The persuadables are not motivated by altruism in relation to animal farming, and health is not a compelling motivator for individual or political action. *Disgust*, however, is a visceral emotion closely tied to food choice which has been shown to affect many consumers who are otherwise indifferent to animal advocate messages. The *dynamic norms* strategy discussed earlier may also be particularly effective on the persuadables. Furthermore, both disgust- and dynamic norms-based messages would be compatible with an animal-centered message that would appeal to the base. We will be investigating these strategies in the next phase of our research.

## Messaging Tactics

Finally, the research we reviewed reveals insights about specific language and other messaging devices.

### Animal-related beliefs and values

We were particularly interested in identifying the language the public themselves use to rationalize their support for the animal movement's goals. The following is typical of the public's vocabulary when discussing animal protection [2,4,10,50]:

- Treat animals with "positivity," "fairness," and "kindness"
- Prevent "undue harm" and "unnecessary suffering"
- Grant them "respect and dignity"
- Enable them to lead "natural lives" or being in "harmony with nature"
- Describing animals as "vulnerable" and "innocent"

Additionally, the following beliefs about animals, especially particular species, were most strongly correlated with support for the movement's goals [3,7]:

- Attributing *personality* to animals
- Believing that animals "are more intelligent than people give them credit for"
- Believing that animals are *beautiful*
- Attributing mind, intelligence, and emotion to animals



- Belief that animals' capacity to suffer is similar to humans

Of these, belief in animals' capacity to suffer is already widespread and a frequent focus of advocate messages, as is attribution of mind, intelligence, and emotion. While we think advocates would do well to continue with these appeals, this research also suggests some relatively novel appeals are underutilized: *personality* and *beauty*. The attribution of *personality* had a particularly strong correlation to movement support. Advocates could focus more on the unique personalities of individual animals from the farming industry. We also highlight the difference between attributing intelligence to animals and believing they are “more intelligent than people give them credit for;” the latter implies that our current relationship to animals does not reflect their actual intelligence, and as such needs to be changed.

An interesting topic of further research would be whether the *beauty* belief is connected to the *naturalness/disgust* frame. If so, depicting animals as beautiful beings in their natural habitat could be a poignant disgust-generating foil to the way animals are used in farms.

### ***Rights and welfare paradigms don't reflect public thinking***

While a minority describe “animal rights” as a more radical orientation, for most people, the phrases “animal rights,” “animal welfare,” and “animal protection” imply basically the same thing. [4] Overall, the research suggests that the public's mental model does not resemble either the conventional “rights” or the conventional “welfare” model particularly closely.

On one hand, some rights language is confusing and distracting. Legal rights jargon (e.g. “nonhuman animal, bodily liberty, and bodily autonomy”) is criticized as “unclear and overly academic,” and conjures images of “an elephant in a civil court room” and slippery-slope scenarios whereby keeping dogs and cats would be tantamount to slavery. [4] On the other hand, the public finds corporate welfare campaigns uninspiring at best. They are incredulous that seemingly small changes to farming practices should take years to implement, and essentially reject advocates' assertion that these changes are a productive step in the right direction. In the words of a movement-aligned researcher, “a significant group of people do not accept the premise of cagefree campaigns improving welfare for hens.” [1,30]

While the public rejects the niche language of animal rights theory, they have an appetite for much more tangible, transformative action than the kind sought in corporate welfare campaigns. This is not to say that corporate campaigns are not worthwhile, merely that they do not appear to be an effective instrument for shifting public opinion.



## Campaigns to change laws are exciting and accessible, and cascade to personal behavior

While corporate welfare campaigns fail to capture the public's imagination, there is evidence that campaigning to change laws is more inspiring. [30] Research in our sample investigated public support for a broad range of laws, from the moderate (requiring labels for antibiotics) to the radical (outlawing slaughterhouses or animal farming completely). Unsurprisingly, there is greater support for less drastic legal changes, but support is encouragingly high across the board. Advocates should be aware that public support for drastic legal changes is high, and should identify appropriately ambitious legal targets in order to gain the public's respect and attention.

Such campaigns also provide an accessible ask for the public. More people are willing to sign a petition calling for greater regulation of animal agriculture than are willing to change their diet. We suspect that the same would hold true for a more ambitious petition given the high degree of support (48%) some surveys found for banning slaughterhouses. [28,44] There is even evidence that learning about pending legislation protecting farmed animals increases people's desire to reduce meat consumption. [30] Campaigns to change laws thus represent an inspiring yet accessible way to bring the public into alignment with the animal movement.

Qualitative studies find that many consumers are, in fact, aware of the role that social structures play in their food choices: "Our system here in the United States, our food infrastructure is not geared to favor it. It is almost like vegetarianism and, you know, veganism is something you can afford." [23] This explains data suggesting that many people would be open to changing those structures (as voters) without immediately changing their own purchasing habits (as consumers).

Voting is an important way Americans engage with issues outside of the consumer frame. Engaging with the public as *voters* rather than as *consumers* helps them think systemically and see a role for the government in solving problems. To promote systemic, political thinking, advocates should refer to the public as voters and make asks which activate a voter frame (e.g. signing an official petition, calling their representatives) rather than consumer asks (boycotting a company or changing their diet).

This analysis does not address the strategic merit of campaigns to change laws, only their efficacy for public messaging.

## Some government actions are more popular than others

In general (that is, not concerning animal farming) the public tends to be least supportive of policies they view as restrictive. Instead, they prefer the government to make more information



available to consumers, and to invest in and subsidize good behaviors. [21a,61] While this pattern holds for animal farming, there is generally remarkably high support for drastic government actions. Between one third and one half of Americans support a ban on slaughterhouses even as they understand that such a ban would make meat unavailable. [28,44] One third favors a complete ban on animal farming.

Using subsidies to encourage transformation has higher support, ranging from 60% to 80% depending on the policy. [61] The public perceives the government as having near-limitless resources and a very small minority is concerned about the cost of policies they support. However, there was evidence of affirmation bias in relevant samples, with a surprising 47% in favor of “expanding offshore drilling for oil and natural gas off the United States coast.”

Advocates may want to consider stacking these policy demands. High support suggests it is not too early for advocates to be forthcoming about their ultimate goal of ending animal agriculture. Doing so may be seen as honest and increase trust in advocates. Naming a popular intermediate policy goal (such as one involving redirection of government funds) at the same time may serve to further reduce opposition.

### **Images cut straight to the heart (and stomach)**

Several studies investigated the effects of different kinds of imagery on concern for animals and desire to eat meat. In particular, some studies demonstrated the ability of images to reinforce certain frames and associations, and especially to directly influence visceral emotions such as disgust. Two visual strategies were particularly effective for activating disgust towards meat: reinforcing the connection between animals and meat, and between meat and filth.

Simply picturing an animal alongside images of meat (as opposed to images of meat alone) significantly reduces people’s desire to eat meat, specifically by increasing their empathy for animals and their distress about killing animals for meat. [19] These meat-animal reminders function through *disgust*. Importantly, the images used in two studies (examples shown below) were at least neutral depictions of both meat and animals; it would be easy to imagine seeing these images in a meat advertisement. This is further evidence that disgust for meat and slaughter is just underneath the surface and can be rapidly mobilized to decrease attachment to meat.



Animal advocates often depict animals, in both favorable (e.g. sanctuaries) and unfavorable conditions (e.g. factory farms). However, advocate materials do not frequently picture meat. Indeed, many animal advocates use language intentionally chosen not to connect animals with meat. This research suggests that the meat-animal connection is a locus of significant discomfort for consumers, such that even a neutral reminder can elicit significant distress. In that case, advocates should be more willing to describe and depict meat. Further research could compare the effect of meat-animal reminders using happy vs. distressed animal images and appetizing vs. unappetizing meat images. More disgusting images may have a stronger effect, or they may be seen as hyperbolic.

Another study placed images of food items alongside images meant to alert participants to the presence of dangerous pathogens: “an infected boil, an infected toe, a toilet covered with bodily wastes, or a pile of vomit.” [53] Consistent with the evolutionary role of disgust in helping omnivores avoid contaminated food, and the much greater risk of contamination from carcass than plant matter, these images had a negative effect on participants' desire to eat meat, but not vegetables. These images may also have a role to play in advocates' visual messaging. Because they activate subconscious associations and visceral feelings, pathogen cues could even be compatible with a message overtly focused on animal suffering.

### Highlight veterinarians

Veterinarians are given by far the most credibility amongst the public when it comes to information about animal welfare, followed by a tie between animal protection groups and farmers. [20] In addition to using ag-gag laws to erode trust in farmers, animal advocates should appoint veterinarians as spokespeople as often as is practical. Further research could investigate the effect of arguing that veterinarians supporting the slaughter industry are betraying their ethics, in order to undercut the authority of industry-aligned vets.



## Describing plant-based food

When it is necessary or appropriate to describe vegetarian diets, focus on the *colorfulness* and *naturalness* of plant-based food. Avoid describing food as “vegan” (reads as *different from me*), “healthy” (*unsatisfying*), or “meat-free” (*less of what I like*). [57]



## Conclusion

The research in our sample supports some of the messaging strategies advocates currently use, challenges others, and points towards some promising new ones.

Animal suffering remains the most salient issue connected to meat and animal farming. Most Americans are more distressed by this suffering than they let on, and there are many things advocates can do to activate that distress, such as using images to viscerally remind people that meat comes from animals. Advocates should leverage the disgust people have with modern animal farming to turn them against it.

Understanding how the base, persuadables, and opposition respond differently to messages can help advocates move each group in the right direction. A single narrative can appeal to the altruistic side of the base, activate disgust in the persuadables, and provoke a productive backlash from the opposition.

Finally, this report highlights several unanswered questions for further research, by this team and others.

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