

# Legalizing the Meaning of Meat

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*What we call meat has become a contentious issue in the United States. This Article is the first to explore the many dynamics behind meat labeling laws proposed by various state legislatures. It uses food studies methods to place those debates within a larger context of the history of “meat” and plant-based proteins, as well as other food labeling struggles. The Article ultimately argues that expressly recognizing these dynamics can augment sustainable food advocacy efforts in the future.*

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#### INTRODUCTION

Consider the burger.<sup>1</sup> For practical purposes, everyone “knows” what burgers are.<sup>2</sup> Burgers are juicier and more complex in texture than many other fillings;<sup>3</sup> they involve patties that sometimes contain gristle and fat, patties that sometimes contain a range of other items, from bacon to cheese to peppers, and patties that can have crispy fried surfaces or soft steamed surfaces or charred grilled surfaces. But, as burger historian and food writer Josh Ozersky put it, “[l]ike any other symbol, what the burger represents depends on who you ask.”<sup>4</sup>

Likewise, what meat and meat-associated terms like “burger” represent depends on who you ask. That question has recently become a focal point for debates between sustainable food advocates and the livestock industry. Scholars and advocates suggest that reducing consumption of livestock and dairy could be one of the largest ways for consumers to reduce their environmental impacts.<sup>5</sup> To this end, some commentators have urged consumers to shift to eating plant-based, insect-based, and cell-cultured proteins.<sup>6</sup> At the same time, livestock

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1. Apologies to David Foster Wallace. See David Foster Wallace, *Consider the Lobster*, GOURMET, Aug. 2004, at 50, 50, available at <http://www.columbia.edu/~col8/lobsterarticle.pdf> [<https://perma.cc/X2DP-D25B>].

2. Cf. *id.* at 55 (continuing that “[a]s usual, though, there’s more to know than most of us care about—it’s all a matter of what your interests are”).

3. Cf. *id.*

4. JOSH OZERSKY, *THE HAMBURGER: A HISTORY* 2 (2008).

5. See, e.g., J. Poore & T. Nemecek, *Reducing Food’s Environmental Impacts Through Producers and Consumers*, 360 SCI. 987, 992 (2018) (“[I]mpacts of the lowest-impact animal products typically exceed those of vegetable substitutes . . . .”); Damian Carrington, *Avoiding Meat and Dairy Is ‘Single Biggest Way’ to Reduce Your Impact on Earth*, GUARDIAN (May 31, 2018), <https://www.theguardian.com/environment/2018/may/31/avoiding-meat-and-dairy-is-single-biggest-way-to-reduce-your-impact-on-earth> [<https://perma.cc/2P4W-BMEL>] (“Avoiding meat and dairy products is the single biggest way to reduce your environmental impact on the planet . . . .”); see also, e.g., Debra L. Donahue, *Elephant in the Room: Livestock’s Role in Climate and Environmental Change*, 17 MICH. ST. J. INT’L L. 95, 95 (2008) (“Biodiversity can help mitigate climate change and facilitate adaptation to climate change.”); Jonathan Lovvorn, *Clean Food: The Next Clean Energy Revolution*, 36 YALE L. & POL’Y REV. 283 (2018) (discussing the innovations proponents of the clean energy movement have been implementing); Andrew Manale, *Agriculture and the Developing World: Intensive Animal Production, a Growing Environmental Problem*, 19 GEO. INT’L ENVTL. L. REV. 809, 810 (2007) (“Policies are urgently needed to mitigate the damages.”); Kayla Karimi, Comment, *Stopping Livestock’s Contribution to Climate Change*, 36 UCLA J. ENVTL. L. & POL’Y 347, 348 (2018) (“However, one great contributor to global climate change that has been largely ignored is livestock emissions.”).

6. See, e.g., ARNOLD VAN HUIS, ET AL., FOOD & AGRIC. ORG. U.N., *EDIBLE INSECTS: FUTURE*

advocates have been working to keep livestock at the center of the American plate. In August 2018, Missouri became the first state in the United States to regulate the labeling of so-called “artificial meat,” with a statute defining meat as something “derived from harvested production livestock or poultry.”<sup>7</sup> Mislabeling non-livestock or poultry-derived meats would come with a fine or even jail time.<sup>8</sup> Other states have since followed suit, claiming the need to minimize consumer confusion. And in a statement issued in November 2018, the US Department of Agriculture (USDA) and the US Food and Drug Administration (FDA) also approached this issue, proposing that “both the USDA and the FDA should jointly oversee the production of cell-cultured food products derived from livestock and poultry.”<sup>9</sup>

All of these actions are still in development. Various organizations filed a lawsuit against Missouri alleging that the law would mislead consumers and stifle competition from plant-based products.<sup>10</sup> Missouri was reportedly in the process of settling this lawsuit,<sup>11</sup> but now those settlement talks have “crumbled.”<sup>12</sup> The USDA and FDA, in turn, are still “actively refining the technical details of [their] framework.”<sup>13</sup> This Article will be the first to examine in depth these legal actions in a broader food studies context, and argues that these debates actually revolve

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PROSPECTS FOR FOOD AND FEED SECURITY (2013) [hereinafter FAO INSECT REPORT], available at <http://www.fao.org/docrep/018/i3253e/i3253e.pdf> [https://perma.cc/7FML-UU7H] (highlighting the nutritional benefits of insects); Julieta Ramos-Elorduy, *Insects: A Sustainable Source of Food?*, 36 *ECOLOGY FOOD & NUTRITION* 247, 267–68 (1997); Olivier Jamin, *Empowering Consumers and Investors to Choose a Sustainable Future*, 8 *SEATTLE J. ENVTL. L.* 64, 82 (2018) (illustrating the vegetarian movement); Karimi, *supra* note 5, at 349 (discussing changes in legislation that would have the largest impact on the environment); Taylor A. Mayhall, Comment, *The Meat of the Matter: Regulating a Laboratory-Grown Alternative*, 74 *FOOD & DRUG L.J.* 151, 153–54 (2019) (discussing laboratory grown meat).

7. MO. REV. STAT. § 265.494(7) (2019).

8. MO. REV. STAT. § 265.496 (2019).

9. FDA Statement, Statement from USDA Secretary Perdue and FDA Commissioner Gottlieb on the Regulation of Cell-Cultured Food Products from Cell Lines of Livestock and Poultry (Nov. 16, 2018), <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm626117.htm> [https://perma.cc/KC2A-X48F] [hereinafter USDA & FDA Statement] (promoting agency support of cell-cultured food products).

10. See Gina Balstad & Javkhlan Bold-Erdene, *Can You Call It Meat? Lawsuit Takes Issue with Labeling*, *MISSOURIAN* (Oct. 2, 2018), [https://www.columbiamissourian.com/news/local/can-you-call-it-meat-lawsuit-takes-issue-with-labeling/article\\_14d1450e-b13f-11e8-afef-c3a0888f96da.html](https://www.columbiamissourian.com/news/local/can-you-call-it-meat-lawsuit-takes-issue-with-labeling/article_14d1450e-b13f-11e8-afef-c3a0888f96da.html) [https://perma.cc/T6BF-M622].

11. See Baylen Linnekin, *Arkansas' New Food-Labeling Law Is Veg-on-Veg Crime*, *REASON* (Apr. 13, 2019), <https://reason.com/2019/04/13/arkansas-new-food-labeling-law-is-veg-on/> [https://perma.cc/S5H4-6FVG].

12. Kurt Erickson, *Settlement Talks Over Fake Meat Labeling Law Crumble in Missouri*, *ST. LOUIS POST-DISPATCH* (July 3, 2019), [https://www.stltoday.com/news/local/crime-and-courts/settlement-talks-over-fake-meat-labeling-law-crumble-in-missouri/article\\_08aa63fc-38a1-55d3-b1ac-d87857d4b011.html](https://www.stltoday.com/news/local/crime-and-courts/settlement-talks-over-fake-meat-labeling-law-crumble-in-missouri/article_08aa63fc-38a1-55d3-b1ac-d87857d4b011.html) [https://perma.cc/876B-A97U].

13. USDA & FDA Statement, *supra* note 9.

around a struggle to shape the center of our plates. In doing so, the Article will begin to explore not only how definitions have shaped and can continue to shape eater expectations of what constitutes various categories of food themselves, but also how sustainability advocates can leverage these definitions to shape eater perceptions.

Part I of this Article will lay out the stakeholder interests and legal disputes of this controversy, describing the concerns of non-livestock meat analogue producers and the regulations and proposed regulations put in place to limit their marketing efforts. Then, in Parts II and III, this Article will lay out some context behind these disputes, exploring the relationships between eaters and various forms of proteins at the centers of our plate. The Article will then use this underlying background to explain some of the current legal debates by applying a combination of labeling law analysis and food studies analysis to argue that regardless of how these disputes turn out in court, sustainability advocates have a stake in addressing how laws can shape the meaning of food.

#### I. WHAT CONTROVERSIES SURROUND THE DEFINITION OF MEAT?

What is “meat,” really? We use the term “meat” in a variety of ways, from literal to more figurative. The Merriam-Webster online dictionary provides several definitions.<sup>14</sup> First, there is “food: the edible part of something as distinguished from its covering (such as a husk or shell).”<sup>15</sup> Then there is “animal tissue considered especially as food,” including “flesh of a mammal as opposed to fowl or fish” and “flesh of domesticated animals.”<sup>16</sup> Then the dictionary provides more figurative uses, such as “dinner,”<sup>17</sup> “the core of something,”<sup>18</sup> and “favorite pursuit or interest.”<sup>19</sup>

But the term “meat” is intertwined with our beliefs in the role of “meat” as having a particular place on our dining tables, which, in turn, is associated with various values accorded to “meat” over time.<sup>20</sup> That is,

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14. Merriam-Webster creates definitions based on usage. See *How Does a Word Get into a Merriam-Webster Dictionary?*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/help/faq-words-into-dictionary> [<https://perma.cc/4AKM-CKE8>] (“To decide which words to include in the dictionary and to determine what they mean, Merriam-Webster editors study the language as it’s used. They carefully monitor which words people use most often and how they use them.”).

15. *Meat*, MERRIAM-WEBSTER 1b, <https://www.merriam-webster.com/dictionary/meat?src=search-dict-box> [<https://perma.cc/PZSS-SQNJ>].

16. *Id.* at 2a, 2b.

17. *Id.* at 3.

18. *Id.* at 4a.

19. *Id.* at 5.

20. Cf. Iselin Gambert, *Got Mylk?: The Disruptive Possibilities of Plant Milk*, 84 BROOK. L. REV. 801, 805 (2019) (“But as central as milk is to humankind, it is far from clear what ‘milk’ actually is—and what it is not. Dictionary, legal, and cultural definitions are often at odds with each

the real focal point behind this labeling debate revolves less around consumer confusion, and more around a battle for the center of the plate, and perhaps what “the plate” is in the first place. The following Part outlines these labeling debates with a focus on particular stakeholder concerns.

#### A. *The Concerns of Sustainability Advocates*

One of the focal points of non-livestock “meat” marketers has been the environmental benefits of avoiding livestock-based proteins. They have a point. Researchers have found that livestock production contributes significantly to environmental degradation in a number of ways.<sup>21</sup> In a comprehensive study published in *Science* in June 2018, researchers found that

[m]oving from current diets to a diet that excludes animal products . . . has transformative potential, reducing food’s land use by 3.1 (2.8 to 3.3) billion ha (a 76% reduction), including a 19% reduction in arable land; food’s GHG [greenhouse gas] emissions by 6.6 (5.5 to 7.4) billion metric tons of CO<sub>2</sub>eq (a 49% reduction); acidification by 50% (45 to 54%); eutrophication by 49% (37 to 56%); and scarcity-weighted freshwater withdrawals by 19% (–5 to 32%) for a 2010 reference year.<sup>22</sup>

Diets focused on plant-based proteins can also lead to less water<sup>23</sup> and

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other, resulting in legal and cultural battles around the globe that have been dubbed the “milk wars.” (footnote omitted)).

21. See generally Donahue, *supra* note 5; Lovvorn, *supra* note 5; Manale, *supra* note 5; Karimi, *supra* note 5; Poore & Nemecek, *supra* note 5; Carrington, *supra* note 5.

22. Poore & Nemecek, *supra* note 5, at 991; see also L. Baroni et al., *Evaluating the Environmental Impact of Various Dietary Patterns Combined with Different Food Production Systems*, 61 EUR. J. CLIN. NUTR. 279 (2007); Claus Leitzmann, *Nutrition Ecology: The Contribution of Vegetarian Diets*, 78 AM. J. CLIN. NUTR. 657S (2003); Heidi Lynch et al., *Plant-Based Diets: Considerations for Environmental Impact, Protein Quality, and Exercise Performance*, 10 NUTRIENTS 1841 (2018); Lucas Reijnders & Sam Soret, *Quantification of the Environmental Impact of Different Dietary Protein Choices*, 78 AM. J. CLIN. NUTR. 664S (2003); Joan Sabaté J. & Sam Soret, *Sustainability of Plant-Based Diets: Back to the Future*, 100 AM. J. CLIN. NUTR. 476S (2014). But see Peter Alexander et al., *Could Consumption of Insects, Cultured Meat or Imitation Meat Reduce Global Agricultural Land Use?*, 15 GLOBAL FOOD SECURITY 22 (2017) (suggesting that some of these suggested benefits are insubstantial as compared to switching to diets where protein is provided by poultry and eggs); Gabriel Masset et al., *Identifying Sustainable Foods: The Relationship Between Environmental Impact, Nutritional Quality, and Prices of Foods Representative of the French Diet*, 114 J. ACAD. NUTR. DIET 862 (2014); Gabriel Masset et al., *Reducing Energy Intake and Energy Density for a Sustainable Diet: A Study Based on Self-Selected Diets in French Adults*, 99 AM. J. CLIN. NUTR. 1460 (2014); Soret et al., *Climate Change Mitigation and Health Effects of Varied Dietary Patterns in Real-Life Settings Throughout North America*, 100 AM. J. CLIN. NUTR. 490S (2014); Marco Springmann et al., *Analysis and Valuation of the Health and Climate Change Cobenefits of Dietary Change*, 113 PROC. NATL. ACAD. SCI. 4146 (2016).

23. See C. Leitzmann, *Vegetarian Nutrition: Past, Present, Future*, 100 AM. J. CLIN. NUTR.

energy consumption overall.<sup>24</sup> These environmental gains do not even require eaters to switch to fully vegetarian diets; even partial substitution of non-livestock-based proteins can mitigate the environmental impacts of food production; even halving livestock-based consumption would create significant environmental benefits by “achiev[ing] 71% GHG reduction (a reduction of ~10.4 billion metric tons of CO<sub>2</sub> [equivalent] per year, including atmospheric CO<sub>2</sub> removal by regrowing vegetation) [as compared to the scenario excluding animal products from diet] and 67, 64, and 55% of the land use, acidification, and eutrophication reductions.”<sup>25</sup>

These concerns have become all the more salient after the International Panel on Climate Change issued, on August 8, 2019, a comprehensive report regarding “climate change and land.”<sup>26</sup> As the authors of the report noted, “There has been a major growth in emissions from managed pastures due to increased manure deposition . . . . Livestock on managed pastures and rangelands accounted for more than one half of total anthropogenic N<sub>2</sub>O [another greenhouse gas] emissions from agriculture in 2014 . . . .”<sup>27</sup> Moreover, the report determined that these effects are bi-directional. That is, the authors stated with “high confidence” that “[i]n drylands, climate change and desertification are projected to cause reductions in crop and livestock productivity.”<sup>28</sup> Thus developing alternate sources of protein could also be advantageous for food security.

Proponents of cell-cultured and insect-protein consumption claim that these proteins can create similar environmental benefits to plant-based proteins. In one study of cell-cultured meats, using models of cyanobacteria hydrolysate as the nutrient and energy source for muscle cell growth, diets focused on cell-cultured meats were found to involve significantly lower energy use, greenhouse gas emissions, land use, and water use than most livestock-based meats besides chicken (which had

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496S (2014); Lynch, *supra* note 22; Harold J. Marlow et al., *Diet and the Environment: Does What You Eat Matter?*, 89 AM. J. CLIN. NUTR. 1699S (2009); Reijnders & Soret, *supra* note 22; Sabaté & Soret, *supra* note 22; Poore & Nemerek, *supra* note 5.

24. See Baroni et al., *supra* note 22; Lynch, *supra* note 22; Marlow et al., *supra* note 23; David Pimentel & Marcia Pimentel, *Sustainability of Meat-Based and Plant-Based Diets and the Environment*, 78 AM. J. CLIN. NUTR. 660S (2003); Reijnders & Soret, *supra* note 22; Sabaté & Soret, *supra* note 22; Poore & Nemerek, *supra* note 5.

25. Poore & Nemerek, *supra* note 5, at 991.

26. Intergovernmental Panel on Climate Change Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems (Aug. 9, 2019), available at <https://www.ipcc.ch/srccl-report-download-page/> [<https://perma.cc/YM7R-3YW7>].

27. *Id.* at 11.

28. *Id.* at 16.

even lower energy use).<sup>29</sup> Other studies have found similar results.<sup>30</sup> These studies, however, are contingent on various modeling assumptions about the scale-ability of this technology, as other researchers have pointed out.<sup>31</sup>

Insect-based protein consumption has similar anticipated environmental benefits.<sup>32</sup> As the Food and Agricultural Organization of the United Nations (FAO) pointed out,

[i]nsects promoted as food emit considerably fewer greenhouse gases (GHGs) than most livestock (methane, for instance, is produced by only a few insect groups, such as termites and cockroaches). . . The ammonia emissions associated with insect rearing are also far lower than those linked to conventional livestock, such as pigs. [And b]ecause they are cold-blooded, insects are very efficient at converting feed into protein (crickets, for example, need 12 times less feed than cattle, four times less feed than sheep, and half as much feed as pigs and broiler chickens to produce the same amount of protein).<sup>33</sup>

Other studies have suggested that cell-cultured proteins and insect proteins can create similar environmental benefits. For example, a 2011 study of cell-cultured meats—that is, meats produced in vitro using tissue engineering techniques—“involves approximately 7–45% lower energy use (only poultry has lower energy use), 78–96% lower GHG emissions, 99% lower land use, and 82–96% lower water use depending on the product compared,” at least as “compared to conventionally produced

29. See Hanna L. Tuomisto & M. Joost Teixeira de Mattos, *Environmental Impacts of Cultured Meat Production*, 45 ENVTL. SCI. TECH. 6117 (2011).

30. See Zuhair Fayaz Bhat et al., *In Vitro Meat Production: Challenges and Benefits Over Conventional Meat Production*, 14 J. SCI. FOOD AGRIC. 241 (2015); Mark J. Post, *Cultured Beef: Medical Technology to Produce Food*, 94 J. SCI. FOOD AGRIC. 1030 (2014).

31. C.S. Mattick et al., *Anticipatory Life Cycle Analysis of In Vitro Biomass Cultivation for Cultured Meat Production in the United States*, 49 ENVTL. SCI. TECH. 11941 (2015).

32. See Arnold van Huis & Dennis G.A.B. Oonincx, *The Environmental Sustainability of Insects as Food and Feed: A Review*, 37 AGRONOMY SUSTAINABLE DEV. 43 (2017); Afron Halloran et al., *Comparing Environmental Impacts for Feed and Food as an Alternative to Animal Production*, in EDIBLE INSECTS IN SUSTAINABLE FOOD SYSTEMS 163 (Afron Halloran et al. eds., 2018) [hereinafter EDIBLE INSECTS]; Christian Gamborg et al., *Sustainable Protein? Values Related to Insects in Food Systems*, in EDIBLE INSECTS, *supra*, at 199; DAVID WALTNER-TOEWS, *EAT THE BEETLES!: AN EXPLORATION INTO OUR CONFLICTED RELATIONSHIP WITH INSECTS* 29–48 (2017) (describing environmental benefits of eating insects versus livestock).

33. FAO INSECT REPORT, *supra* note 6, at 2; see also Huis & Oonincx, *supra* note 32, at 48–49 (“When compared to chicken, 1 g of edible protein requires two to three times as much land and 50% more water compared to mealworms. A gram of edible protein from beef requires 8–14 times as much land and approximately 5 times as much water compared to mealworms. Also with respect to greenhouse gas emissions, mealworms have a lower environmental impact than convention livestock systems. Broiler chickens are associated with 32–167% higher emissions, and beef cattle emit 6–13 times more CO<sub>2</sub> equivalents, when compared to mealworms on an edible protein basis.” (citations omitted)).

European meat.”<sup>34</sup> Insect-based protein consumption has similar anticipated benefits.<sup>35</sup>

Producers of plant-based, cell-cultured, and insect-based meat analogues have been parlaying these suggested effects into their marketing efforts. For example, according to a survey conducted in 2017, 31% of consumers chose plant-based foods for environmental reasons.<sup>36</sup> Indeed, the Plant Based Foods Association, an “organization taking a public health approach to getting people to eat more plant-based foods,”<sup>37</sup> takes the stance that “plant-based is better for the environment.”<sup>38</sup>

Individual marketers of plant-based “meats” also focus on these environmental benefits. For example, Beyond Beef, one of the major producers of plant-based meat analogues, markets itself as “positively impact[ing] climate change,”<sup>39</sup> and “address[ing] global resource constraints.”<sup>40</sup> Similarly, Impossible Foods, another major producer of plant-based meat analogues, describes its “mission” as using 96% less land, 87% less water, and contributing 89% fewer greenhouse gas emissions than livestock-based analogues.<sup>41</sup> Quorn, a fungus-based protein producer, also markets itself in a similar manner, describing how “[i]t is now well established that excessive meat consumption and its intensive production are significant contributors to [climate change and health problems related to obesity].”<sup>42</sup>

Cell-cultured meat advocates take similar approaches.<sup>43</sup> For example,

34. Tuomisto & Mattos, *supra* note 29, at 6117. More recent studies, however, moderate some of these earlier suggested benefits as depending on certain assumptions regarding future scaling technologies. Mattick et al., *supra* note 31.

35. See Huis & Ooninx, *supra* note 32.

36. See Elaine Watson, ‘Plant-Based’ Plays Way Better Than ‘Vegan’ With Most Consumers, *Says Mattson*, FOOD NAVIGATOR (Apr. 19, 2018), <https://www.foodnavigator-usa.com/Article/2018/04/19/Plant-based-plays-way-better-than-vegan-with-most-consumers-says-Mattson> [<https://perma.cc/N9S6-LLZE>].

37. See *About Us*, PLANT BASED FOODS ASS’N, <https://plantbasedfoods.org/about/> [<https://perma.cc/U56S-FPNL>].

38. See *Why Plant Based?*, PLANT BASED FOODS ASS’N, <https://plantbasedfoods.org/why-plant-based/> [<https://perma.cc/252L-UM89>].

39. *About*, BEYOND MEAT <https://www.beyondmeat.com/about/> [<https://perma.cc/MBL7-F8KS>].

40. See *id.*

41. See *Mission*, IMPOSSIBLE FOODS, <https://impossiblefoods.com/mission/> [<https://perma.cc/YKF7-L9T8>] (describing how eating one Impossible Burger will utilize less land, and water, and produce less greenhouse gas emissions than a meat burger).

42. *Healthy Planet*, QUORN, <https://www.quorn.us/about-quorn/planet> [<https://perma.cc/W6SS-WCGV>].

43. See Silvia Woll & Inge Böhm, *In-Vitro Meat: A Solution for Problems of Meat Production and Meat Consumption?*, 65 ERNAHRUNGS UMSCHAU 12, 16–17 (2018), available at [https://www.ernaehrungs-umschau.de/fileadmin/Ernaehrungs-Umschau/pdfs/pdf\\_2018/01\\_18/EU01\\_2018\\_Special\\_invitro\\_englisch.pdf](https://www.ernaehrungs-umschau.de/fileadmin/Ernaehrungs-Umschau/pdfs/pdf_2018/01_18/EU01_2018_Special_invitro_englisch.pdf) [<https://perma.cc/L9QT-4M2R>] (presenting research



Memphis Meats, one of the larger developers of cell-cultured meat products, describes on its web page how its products will be “Better For the World.”<sup>44</sup> It claims: “We aim to make meat better for the planet and all of its inhabitants, while using significantly less land and water. At scale, our process will create less waste while dramatically reducing greenhouse gas emissions.”<sup>45</sup> Another cell-cultured meat company, Mosa Meats, also claims that its products will be “Better for Our Planet.”<sup>46</sup> Their page describes various benefits, including lowered greenhouse gas emissions, lowered land use, and avoidance of agricultural runoff.<sup>47</sup> And the newly formed trade organization for cell-cultured meat companies<sup>48</sup>—the Alliance for Meat, Poultry, and Seafood Innovation—has described themselves as “committed to this work because we believe that cell-based/cultured meat, poultry and seafood will be a critical and sustainable component, in partnership with the overall agriculture sector, to meeting increased demand for animal protein as the world’s population continues to grow.”<sup>49</sup>

Insect-based protein marketers also use environmental claims to advertise their food products, although none of them are currently marketing their products as meat substitutes.<sup>50</sup> For example, Exo Protein, one of the main marketers of insect-based protein bars in the United States, markets its bars as providing “Maximum Nutrition, Minimal Resources.”<sup>51</sup> Among the various statistics it delivers, their page notes that cricket protein requires “a tiny fraction of the water that cows do to make the same amount of protein,” and that crickets “produce 1% of the greenhouse gases that cows produce.”<sup>52</sup> Another company, Seek, which

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indicating cultured meat is an environmentally friendly and healthier alternative than traditional meat sources).

44. *About Us*, MEMPHIS MEATS, <https://www.memphismeats.com/home/#aboutus> [https://perma.cc/WG8T-CBK9].

45. *Id.*

46. *Benefits*, MOSA MEATS, <https://www.mosameat.com/benefits> [https://perma.cc/RJX9-45FL].

47. *Id.*

48. See Helena Bottemiller Evich, *Cell-based Meat Companies Join Forces*, POLITICO (Aug. 29, 2019), <https://www.politico.com/story/2019/08/29/cell-based-meat-companies-join-1689710> [https://perma.cc/8YQF-REU5] (identifying the formation of a group made up of food tech startups like Memphis Meats and others and describing the group’s plans).

49. *About Us*, ALLIANCE MEAT, POULTRY & SEAFOOD INNOVATION, <https://ampsinnovation.org/#info> [https://perma.cc/EGB6-45K3].

50. This may change, however, as market surveys suggest that unfamiliar consumers may be more accepting of insect proteins in a preparation such as an insect burger, rather than with the “presentation of visible insects.” Rudy Caparros Megido et al., *Insects, The Next European Foodie Craze?*, in *EDIBLE INSECTS*, *supra* note 32, at 353, 356.

51. *Why Crickets?*, EXO PROTEIN, <https://exoprotein.com/pages/why-crickets> [https://perma.cc/8F5W-MGTP].

52. *Id.*

also sells cricket protein products, describes its protein as less environmentally damaging in terms of water use and greenhouse gas generation.<sup>53</sup> Yet another company, Chirp, which sells cricket protein chips, protein powder, and cookie mix, describes crickets as “the most sustainable protein on the planet,” citing lowered greenhouse gas emissions and deforestation.<sup>54</sup> In sum, a significant part of the marketing focus on non-livestock-based proteins appears to be based on environmental considerations.<sup>55</sup>

### B. *The Advent of “Meat”-Labeling Laws in the United States*

The growing popularity of non-livestock-based proteins appears to be troubling both the livestock industry and states concerned with the livestock industry. That is, a number of states have recently explored meat labeling laws that would restrict the use of the word “meat” to only livestock-based products, with proponents claiming concerns of consumer confusion. Behind these proposals, however, lies a battle for the center of our plates; that is, a battle not for the term “meat” itself, but what “meat” represents to us in our diets.

Take Missouri as an example. On August 28, 2018, the Missouri legislature passed a bill known as the “Missouri Meat Advertising Law.”<sup>56</sup> The Missouri Department of Agriculture issued a public statement describing the state as “the first state to take steps to prevent misrepresentation of products as meat that are not derived from livestock or poultry.”<sup>57</sup> To prevent “misrepresentation,” non-livestock-derived products must “must include a prominent statement on the front of the package, immediately before or immediately after the product name, that the product is ‘plant-based,’ ‘veggie,’ ‘lab-grown,’ ‘lab-created’ or a

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53. *Learn*, SEEK, <https://seek-food.com/pages/learn-cricket-protein-facts-figures> [<https://perma.cc/9RF7-VNYR>].

54. *Why Crickets?*, CHIRPS, <https://eatchirps.com/pages/why-crickets-1> [<https://perma.cc/R8C2-LKS4>].

55. See Melissa A. Baker et al., *Customer Acceptance, Barriers, and Preferences in the U.S.*, in EDIBLE INSECTS, *supra* note 32, at 387, 391 (describing “an important market segment to target [for insect consumption] are those individuals who are environmentally friendly,” and noting that, “[m]ore specifically, edible insects can be targeted to environmentally conscious consumers as they have a low environmental impact”); see also Hui Shan Grace Tan & Jonas House, *Consumer Acceptance of Insects as Food: Integrating Psychological and Socio-cultural Perspectives*, in EDIBLE INSECTS, *supra* note 32, at 375, 380 (“The Dutch participants—whether or not they had tasted insects before—reported motivations to eat that were largely dominated by what they had learned about insects’ nutritional and environmental value.”).

56. See MO. REV. STAT. § 265.494(7) (2019) (prohibiting misrepresentation of cut, grade, brand, trade name, size, or other misrepresentation of a product as meat that is not derived from meat).

57. *Public Statement - Meat Labeling*, MO. DEP’T AGRIC. (Aug. 30, 2018), available at <https://agriculture.mo.gov/animals/meat.php> [<https://perma.cc/93DY-RCRF>].

comparable qualifier.”<sup>58</sup> Moreover, “[p]roducts must include a prominent statement on the package that the product is ‘made from plants,’ ‘grown in a lab,’ or a comparable disclosure.”<sup>59</sup> Various organizations filed a lawsuit against Missouri alleging that the law would mislead consumers and stifle competition from plant-based products.<sup>60</sup> Although Missouri began settlement discussions, these have apparently fallen through.<sup>61</sup>

Other state legislatures are contemplating similar actions. In Nebraska, State Senator Carol Blood has sponsored a bill restricting insect-based, plant-based, or lab-grown food from being labeled as “meat.”<sup>62</sup> In particular, this proposed bill states that “[m]eat means any edible portion of any livestock or poultry carcass or part thereof and does not include lab-grown or insect or plant-based food products.”<sup>63</sup> Similarly, a bill was introduced in Wyoming by Senator Wyatt Agar that would require all “[c]ell cultured or plant based products” to have labels of “containing cell cultured product” or “vegetarian,” “veggie,” “vegan,” “plant based” or “other similar term indicating that the product is plant based.”<sup>64</sup> In Virginia, Delegate Michael Weibert moved to amend the state code on misbranded food<sup>65</sup> to require that consumable products marketed as “meat” made from materials other than that “made wholly or in part from any meat or other portion of the carcass of any cattle, sheep, swine, or goats” be labeled as “imitations.”<sup>66</sup>

Mississippi also passed a law that came into effect on July 1, 2019<sup>67</sup> stating that

[a] food product that contains cultured animal tissue produced from animal cell cultures outside of the organism from which it is derived shall not be labeled as meat or a meat food product. A plant-based or insect-based food product shall not be labeled as meat or a meat food

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58. *Id.*

59. *Id.*

60. See Balstad & Bold-Erdene, *supra* note 10.

61. See Erickson, *supra* note 12 (indicating that settlement talks between Missouri officials and plant-based food companies reached an impasse).

62. See Elaine S. Povich, ‘Fake Meat’ Battle Spreads to More States, PEW (Jan. 25, 2019), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2019/01/25/fake-meat-battle-spreads-to-more-states> [<https://perma.cc/2E2N-NJW7>] (describing the Nebraska law as trying to prevent companies from using “meat” as a label on plant-based, insect-based, or lab-grown products); see also Legis. B. 14, 106th Leg., 1st Sess. (Neb. 2019) (“A bill for an act relating to agriculture; to provide for truth in advertising and labeling in the sale of meat and food plans; to define terms; to prohibit misleading or deceptive practices; to provide a penalty; and to provide an operative date.”).

63. Legis. B. 14, 106th Leg., 1st Sess. § 1(3) (Neb. 2019).

64. Enrolled Act 48, 65th Leg., Gen. Sess. (Wyo. 2019).

65. VA. CODE ANN. § 3.2-5123 (2019).

66. H.B. 2274, 2019 Gen. Assemb., Reg. Sess. (Va. 2019); VA. CODE ANN. § 3.2-5400 (2019).

67. S.B. 2922, 2019 Leg., Reg. Sess. (Miss. 2019).

product.”<sup>68</sup> Penalties for failure to comply with the new labeling law could lead the [state agency] to “direct that such use [as food] be withheld unless the marking, labeling, or container is modified in such manner as he may prescribe so that it will not be false or misleading.”<sup>69</sup>

A lawsuit has already been filed by the Plant Based Food Association and the Illinois-based Upton’s Naturals, Co., claiming that the terms used by plant-based meat manufacturers are not, in fact, misleading.<sup>70</sup> Following this lawsuit, Mississippi proposed amending its labeling law to allow meat-related terms as long as those terms are accompanied by qualifiers like “meat-free,” “plant-based,” “vegetarian,” “vegan,” or similar terms.<sup>71</sup>

Arkansas also passed a similar law, which came into effect on July 24, 2019.<sup>72</sup> This law, known as “An Act to Require Truth in Labeling of Agricultural Products that Are Edible by Humans and for Other Purposes,” goes further than the other states’ meat labeling laws.<sup>73</sup> Not only does it prohibit the use of the term “meat” for “[s]ynthetic product[s] derived from a plant, insect, or other source; or [p]roducts grown in a laboratory from animal cells,”<sup>74</sup> it would also allow the use of the term “rice” only for “the whole, broken, or ground kernels or by products obtained from the species *Oryza sativa L.* or *Oryza glaberrima*, or wild rice, which is obtained from one (1) of the four (4) species of grasses from the genus *Zizania* or *Porteresia*.”<sup>75</sup> It also establishes specific labeling requirements for “beef,”<sup>76</sup> “pork,”<sup>77</sup> and “poultry.”<sup>78</sup> Violation of these labeling requirements could lead to a fine of up to one thousand dollars

68. *Id.* at § 1(4).

69. *Id.* at § 1(5).

70. Emily Wagster Pettus, ‘Bacon Seitan’: Mississippi Has Outlawed Using Meat Terms for Plant-Based Food. *A Vegan Chicago Company Has a Beef with That*, CHI. TRIB. (July 2, 2019), <https://www.chicagotribune.com/business/ct-biz-meatless-product-labeling-lawsuit-20190702-zvygvt22f5bbzdy2gdy7jte7u-story.html> [<https://perma.cc/C759-TE96>].

71. See MISS. CODE ANN. § 75-33-5 (2019) (requiring plant-based food products to be labeled with qualifiers such as “meat free,” “meatless,” “plant-based,” “veggie-based,” “made from plants,” “vegetarian,” or “vegan”); see also Mike Pomranz, *Mississippi Revises Rules for Labeling Plant-Based Meat*, FOOD & WINE (Nov. 11, 2019), <https://www.foodandwine.com/news/mississippi-plant-based-meat-label-rules-imitation-bill> [<https://perma.cc/ZVL3-76TK>] (reporting that Mississippi’s label rules allow meat terms if they are accompanied by qualifiers).

72. See Elaine Watson, *Plant-Based ‘Meat’ Battle Heats Up in Arkansas as Tofurky Challenges ‘Unconstitutional’ Law*, FOOD NAVIGATOR (July 23, 2019), <https://www.foodnavigator-usa.com/Article/2019/07/22/Plant-based-meat-battle-heats-up-in-Arkansas-as-Tofurky-et-al-challenge-unconstitutional-law#> [<https://perma.cc/YS2J-Z69Y>] (describing an Arkansas law that restricts the use of “meaty” terms to products only derived from slaughtered animals).

73. H.B. 1407, 92d Ark. Gen. Assemb., Reg. Sess. (Ark. 2019).

74. *Id.* § 2-1-302(7)(B)(i)–(ii).

75. *Id.* § 2-1-302(15).

76. *Id.* § 2-1-302(2).

77. *Id.* § 2-1-302(12).

78. *Id.* § 2-1-302(14).

for each violation,<sup>79</sup> with each violating item counting as a separate violation.<sup>80</sup> The American Civil Liberties Union, representing the manufacturer of Tofurky, a plant-based meat substitute, filed a legal challenge to this law on July 22, 2019.<sup>81</sup>

Finally, Wisconsin legislators have also introduced similar laws, directed at “truth in [food] labeling.”<sup>82</sup> The trio of bills—Senate Bills 463,<sup>83</sup> 464,<sup>84</sup> and 466<sup>85</sup>—would restrict plant-based producers from using dairy and meat-related terms.<sup>86</sup> But unlike the meat labeling statutes passed or proposed in other states, the Wisconsin statute would allow insect producers to use meat-related terms.<sup>87</sup>

Likewise, the USDA and FDA have announced a proposal to “jointly oversee the production of cell-cultured food products derived from livestock and poultry.”<sup>88</sup> Pursuant to this proposal, the USDA and FDA signed a formal agreement on March 7, 2019, to collaborate on the regulation of such products.<sup>89</sup> In particular, the FDA has committed to focusing on the pre-marketing aspects of cultured meats, including the “initial cell collection and the development and maintenance of qualified cell banks,”<sup>90</sup> “proliferation and differentiation of cells through the time of harvest,”<sup>91</sup> and “inspections and follow-up activities, including taking enforcement action if necessary, to ensure that cell bank and cell culturing facilities are in compliance with [FDA’s] applicable laws and regulations.”<sup>92</sup> The USDA, in turn, would focus on the cell harvests, including “[requiring] that each establishment that harvests cells cultured

79. *Id.* § 2-1-306(a)(1).

80. *Id.* § 2-1-306(a)(2).

81. Complaint for Declaratory and Injunctive Relief at 1, *Turtle Island Foods, SPC v. Soman*, 2019 WL 7546141 (E.D. Ark. Dec. 11, 2019) (No. 4:19-cv-00514) [hereinafter *ACLU Arkansas Complaint*].

82. See Patrick Marley, *Say Goodbye to ‘Soy Milk’ and ‘Walnut Burgers’ If Wisconsin Lawmakers Get Their Way*, WIS. RADIO NETWORK (Oct. 24, 2019), <https://www.jsonline.com/story/news/politics/2019/10/24/say-goodbye-soy-milk-if-wisconsin-lawmakers-get-their-way/4084144002/> [<https://perma.cc/BJ6A-TD4J>].

83. S.B. 463, 2019 Wis. Leg., Gen. Sess. (Wis. 2019).

84. S.B. 464, 2019 Wis. Leg., Gen. Sess. (Wis. 2019).

85. S.B. 466, 2019 Wis. Leg., Gen. Sess. (Wis. 2019).

86. See *supra* notes 83–85.

87. S.B. 464, 2019 Wis. Leg., Gen. Sess. (Wis. 2019).

88. USDA & FDA Statement, *supra* note 9.

89. FDA & USDA, FORMAL AGREEMENT BETWEEN THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES FOOD AND DRUG ADMINISTRATION AND U.S. DEPARTMENT OF AGRICULTURE OFFICE OF FOOD SAFETY (Mar. 7, 2019), available at <https://www.fsis.usda.gov/wps/wcm/connect/0d2d644a-9a65-43c6-944f-ea598aacdec1/Formal-Agreement-FSIS-FDA.pdf?MOD=AJPERES> [<https://perma.cc/3FEA-6YEZ>].

90. *Id.* at 4.A.2.

91. *Id.* at 4.A.3.

92. *Id.* at 4.A.7.

from livestock or poultry subject to the FMIA or PPIA for the purpose of producing human food required to bear the USDA mark of inspection,”<sup>93</sup> “[conducting] inspection in establishments where cells cultured from livestock and poultry subject to the FMIA and PPIA are harvested, processed, packaged or labeled,”<sup>94</sup> and “[requiring] that the labeling of human food products derived from the cultured cells of livestock and poultry be preapproved and then verified through inspection.”<sup>95</sup> Further developments are still proceeding, as the agreement states that the agencies will “develop a more detailed joint framework or standard operating procedure to facilitate coordination of shared regulatory oversight related to the harvest of biological material,”<sup>96</sup> and will “undertake a joint process to identify any changes needed to statutory or regulatory authorities to effectuate the framework established pursuant to this agreement, and will work cooperatively to pursue, or to implement, any such changes.”<sup>97</sup>

In the meantime, US Senator Cindy Hyde-Smith has introduced a statute that would give the USDA primary authority over the regulation of cell-cultured food products.<sup>98</sup> This bill, known as the “Cell-Cultured Meat and Poultry Regulation Act,” would further formalize this division of labor between the two agencies, committing the FDA to oversight over “cell collection, cell banks, and cell growth and differentiation,”<sup>99</sup> and the USDA to oversight over “the processing, preparation, packaging, and labeling of food products.”<sup>100</sup>

This concern over cell-cultured protein has been shared by the Congressional Research Service (CRS), a legislative branch agency which “provid[es] comprehensive and reliable legislative research and analysis that are timely, objective, authoritative and confidential, thereby contributing to an informed national legislature.”<sup>101</sup> The CRS has also conducted a review of the statutory basis for the FDA and the USDA Food Safety Inspection Service (FSIS) to exert jurisdiction over cell-cultured meats.<sup>102</sup> To explain the catalyst for its report, the CRS described how, in early 2018, “the livestock industry and the House

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93. *Id.* at 4.B.2.

94. *Id.* at 4.B.3.

95. *Id.* at 4.B.4.

96. *Id.* at 4.C.1.

97. *Id.* at 4.C.2.

98. Cell-Cultured Meat & Poultry Regulation Act of 2019, S. 1056, 116th Cong. (2019).

99. *Id.* § 3(a)(1).

100. *Id.* § 3(a)(2).

101. *History and Mission*, CONG. RESEARCH SERV., <https://www.loc.gov/crsinfo/about/history.html> [<https://perma.cc/N59Z-6PX9>].

102. CONG. RESEARCH SERV., REGULATION OF CELL-CULTURED MEAT (Oct. 25, 2018), available at <https://fas.org/sgp/crs/misc/IF10947.pdf> [<https://perma.cc/6Q76-6SBX>].

Appropriations Committee addressed cell-cultured meats,”<sup>103</sup> and how the US Cattlemen’s Association “submitted a petition to USDA asking [the USDA Food Safety and Inspection Service] to establish meat labeling requirements that exclude product not derived directly from animals raised and slaughtered.”<sup>104</sup> As the CRS noted, “[f]ood labeling is often contentious. The dairy industry has long argued that the term milk as applied to plant-based products (e.g., almond and soy milk) is misleading and violates FDA standards of identity for milk.”<sup>105</sup>

The labeling of proteins as “meat” may be especially complicated with respect to insect-based proteins, because insects are generally regarded as “filth” under US food law.<sup>106</sup> As Professor Marie C. Boyd explains, in a comprehensive article on the regulation of insects as food, “the references to ‘filth’ in section 402 of the FDCA include insects and insect fragments.”<sup>107</sup> Moreover, the FDA has issued Compliance Policy Guides that refer to insects as filth.<sup>108</sup>

According to Professor Boyd, however, “[a]nother possibility is that insects used as food or a component of food are ‘food’ under the broad definition of food in the FDCA, which includes ‘articles used for food’ and ‘articles used for components of food.’”<sup>109</sup> She cites numerous examples of how the FDA, at least informally, appears to be open to accepting the use of insects as food or food components.<sup>110</sup>

With respect to labeling foods containing insects as components, the FDA has required more specific labeling for those food products in order to avoid charges of misbranding. For example, for a product labeled “Sugar-Free Hotlix Flavored Candy with Genuine [W]orm,” the FDA issued a warning letter in 1993 “alleg[ing] that the product was misbranded in violation of the FDCA for failing to include an appropriate standard of identity (‘Artificial Tequila Flavored Candy with a Worm or

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103. *Id.* at 1.

104. *Id.* at 2.

105. *Id.* at 2 (noting how in July 2018, the FDA “announced it would review the labeling of plant-based ‘milk’ and ‘yogurt’ products”).

106. See Marie C. Boyd, *Cricket Soup: A Critical Examination of the Regulation of Insects as Food*, 36 *YALE L. & POL’Y REV.* 17, 40–44 (2017) (discussing the FDCA’s definition of adulterated food, which multiple courts have interpreted as including insects and insect fragments); Federal Food, Drug, and Cosmetic Act § 402(a)(3), 21 U.S.C. § 342(a)(3) (2018).

107. See Boyd, *supra* note 106, at 40 (first citing *United States v. Cassaro, Inc.*, 443 F.2d 153, 157 (1st Cir. 1971); and then *United States v. 155/137 Pound Burlap Bags*, 1993 WL 666701, at \*3 (E.D. Va. Nov. 1, 1993)).

108. See *id.* at 40–41 (citing FDA, FDA COMPLIANCE POLICY GUIDE, CPG SEC MANUAL § 555.600 (Mar. 20, 2015), available at <http://www.fda.gov/ICECI/ComplianceManuals/CompliancePolicyGuidanceManual/ucm074559.htm> [<http://perma.cc/9XAL-CN7B>]).

109. See *id.* at 50 (citing Federal Food, Drug, and Cosmetic Act § 201(f), 21 U.S.C. § 321(f) (2018)).

110. See *id.* at 50–52.

with a Mealworm (if a mealworm is used)') and declare the ingredient by its common or usual name ('insect larva' or 'mealworm larva')."<sup>111</sup> But the FDA did not prohibit the marketing of the candy itself as containing worms or insects, and to this date, there has not been significant marketing of insect-based protein in the West as "meat."

### C. *The Similar Developments in the European Union*

Similarly, the European Union (EU), as well as states within the EU, have been addressing the marketing of non-livestock-based proteins. For example, on April 1, 2019, the European Parliament's Agriculture Committee voted to amend its common market organization (CMO) for agricultural products such that "[n]ames that fall under Article 17 of Regulation (EU) No 1169/2011 that are currently used for meat products and meat preparations shall be reserved exclusively for products containing meat. These designations include, for example, steak, sausage, escalope, burger and hamburger."<sup>112</sup> The proposal will go to a vote before the full members of the European Parliament (MEP) in autumn of 2019.<sup>113</sup>

In discussing this proposed amendment, organizations such as Greenpeace and BirdLife insisted that this would "present . . . a blow to sustainable food,"<sup>114</sup> and Laura Sears, individual giving officer at the Vegetarian Society, stated that "[i]f this change puts people off eating vegetarian food through confusion, dislike of the term, or any other reasons, this could impact negatively on us achieving our environmental goals."<sup>115</sup>

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111. See *id.* at 51 (citing Letter from Elaine C. Messa, Dir., Los Angeles District, FDA, to Larry Peterman, Owner, S.S. Lollipop, Warning Letter WL-56-3 (Apr. 28, 1993)).

112. *Veggie Alternatives Cannot Carry Meat Product Names Under New EU Food Labelling Proposal*, ROYAL ENVTL. HEALTH INST. SCOT. (Apr. 2019), <https://www.rehis.com/story/veggie-alternatives-cannot-carry-meat-product-names-under-new-eu-food-labelling-proposal> [<https://perma.cc/HT4G-5PE7>]. See Daniel Boffey, 'Veggie Discs' to Replace Veggie Burgers in EU Crackdown on Food Labels, *GUARDIAN* (Apr. 4, 2019), <https://www.theguardian.com/food/2019/apr/04/eu-to-ban-non-meat-product-labels-veggie-burgers-and-vegan-steaks> [<https://perma.cc/66S3-X9BG>]. This amendment followed a 2017 ruling by the European Court of Justice that plant-based products should not be sold as "milk" or "butter." See Court of Justice of the European Union Press Release No. 63/17, Purely Plant-Based Products Cannot, in Principle, Be Marketed With Designations Such As 'Milk', 'Cream', 'Butter', 'Cheese' Or 'Yoghurt', Which Are Reserved by EU Law for Animal Products (June 14, 2017), available at <https://curia.europa.eu/jems/upload/docs/application/pdf/2017-06/cp170063en.pdf> [<https://perma.cc/6JSK-Z6GH>].

113. See Katie O'Malley, *Campaigners Oppose EU Proposal to Replace Veggie Burgers With 'Veggie Discs'*, *INDEPENDENT* (June 19, 2019), <https://www.independent.co.uk/life-style/food-and-drink/food-organisation-european-parliament-eu-proposal-word-ban-sausage-burger-meat-free-products-a8965176.html> [<https://perma.cc/4Y27-YFT6>].

114. See Boffey, *supra* note 112.

115. O'Malley, *supra* note 113.



However, one Green MEP who sits on the agricultural committee, Molly Scott Cato, appeared to take comfort in the fact that the amendment's development suggested that the meat industry is worrying "about their market being undercut—and that's quite a good sign. There certainly didn't seem to be a lot of consumer demand for [the amendment]."<sup>116</sup> Along different lines, another MEP suggested that once the amendment is in place, it could spur creativity from plant-based food producers into further developing cuisines that are plant-focused, rather than meat-substitute-focused.<sup>117</sup>

This activity within the European Parliament followed earlier actions by France, which on April 13, 2018, passed an amendment to an agricultural bill prohibiting products largely based on vegetable-based ingredients from being labeled as traditional animal products.<sup>118</sup> The original proponent of this legislation was a cattle farmer member of the French Parliament.<sup>119</sup>

Europe addresses the farming of insect protein more explicitly than the United States. That is, in the EU, insect-based proteins for human consumption must comply with the EU Regulation on Novel Foods passed on November 25, 2015.<sup>120</sup> This regulation covers:

[V]arious situations of foods originating from plants, animals, microorganisms, cell cultures, minerals, etc., specific categories of foods (insects, vitamins, minerals, food supplements, etc.), foods resulting from production processes and practices, and state of the art technologies (e.g. intentionally modified or new molecular structure, nanomaterials), which were not produced or used before 1997 and thus may be considered to be as novel foods.<sup>121</sup>

116. *See id.*

117. *See id.*

118. *See* Amendement N°CE2044 du 13 avril 2018, Équilibre dans le Secteur Agricole et Alimentaire [Amendment No. CE2044 of April 13, 2018, Balance in the Agricultural and Food Sector] JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], Nov. 1, 2018, p. 938, available at <http://www.assemblee-nationale.fr/dyn/15/amendements/0627/CIION-ECO/CE2044> [<https://perma.cc/6KG3-CGB9>].

119. Staff & Agencies in Paris, *French MPs Force Vegetarian Food Producers to Mince Their Words*, GUARDIAN (Apr. 19, 2018), <https://www.theguardian.com/lifeandstyle/2018/apr/19/france-vegetarian-foods-no-meat-words> [<https://perma.cc/NDG7-8M46>]; *see also* Rebecca Nicholson, *Jean-Baptiste Moreau Gets One Over on 'Fake Meat'*, GUARDIAN (Apr. 22, 2018), <https://www.theguardian.com/commentisfree/2018/apr/22/jean-baptiste-moreau-gets-one-over-on-fake-meat-veganism> [<https://perma.cc/6U3R-JP8C>].

120. *See* Council Regulation 2015/2283 of Nov. 25 2015, 2015 O.J. (L 327) 1, 2 (EU) [hereinafter EU Regulation 2015/2283] (amending Council Regulation No 1169/2011 (EU) and repealing Council Regulation No 258/97 (EC) and Commission Regulation No 1852/2001(EC)).

121. *What Is the Current Novel Food Legislation?*, EUR. COMM'N (Jan. 1, 2018), [https://ec.europa.eu/food/safety/novel\\_food/legislation\\_en](https://ec.europa.eu/food/safety/novel_food/legislation_en) [<https://perma.cc/ZX6E-2ZPH>].

This legislation created a consultation structure,<sup>122</sup> an application requirement (including various safety reviews),<sup>123</sup> as well as exceptions for “traditional foods from third countries,”<sup>124</sup> and a number of other administrative processes.<sup>125</sup> But while a regulatory framework has been established for such insect-based products, they may still be subject to the labeling restrictions discussed earlier for meat-based products.

## II. A BRIEF HISTORY OF “MEAT” THE UNITED STATES

So why is “meat” in particular such a contentious issue? Although this article addresses meat labeling laws in both the United States and the European Union, this Part will focus on the history of “meat” in the United States, since it has a more traceable history in the development of our country. Thus, to better understand the dynamics of the current “meat debates,” we must look at the history of “meat” in this country. As Maureen Ogle, a historian, writes in *In Meat We Trust: An Unexpected History of Carnivore America*, “[t]o the men and women who settled North America, the idea of a world without livestock was as peculiar, and dangerous, as the notion of a world without God. Therein lay the road to savagery.”<sup>126</sup> To the European settlers, meat represented dominance<sup>127</sup> and civilization.<sup>128</sup>

Meat also provided a relatively stable source of nutrition, as more plant-based diets required more labor to produce, while meat could be dried, preserved, or slaughtered at appropriate periods of time.<sup>129</sup> Indeed, as Ogle chronicles, meat played an especially prominent role in the American diet. “Across Europe, a non-royal was lucky to see meat once or twice a week. A typical [colonial] American adult male, in contrast, put away two hundred pounds a year.”<sup>130</sup>

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122. EU Regulation 2015/2283, *supra* note 120, at 4.

123. Commission Implementing Regulation 2017/2469 of Dec. 20, 2017, Laying Down Administrative and Scientific Requirements for Applications Referred to in Article 10 of Regulation 2015/2283 of the European Parliament and of the Council on Novel Foods (EU), 2017 O.J. (L 351) 64, 65 (EU) [hereinafter EU Commission Implementing Regulation 2017/2469].

124. Commission Implementing Regulation 2017/2468 of Dec. 20, 2017, Laying Down Administrative and Scientific Requirements Concerning Traditional Foods from Third Countries in Accordance with Regulation 2015/2283 of the European Parliament and of the Council on Novel Foods (EU), 2017 O.J. (L 351) 55, 56 (EU).

125. See *What Is the Current Novel Food Legislation?*, *supra* note 121 (detailing authorization and evaluation of novel foods).

126. MAUREEN OGLE, *IN MEAT WE TRUST: AN UNEXPECTED HISTORY OF CARNIVORE AMERICA* 2 (2013).

127. *Id.* (contrasting the ways in which early settlers described the distinction between themselves and Native Americans in part through the European method of settling their cattle).

128. *Id.* at 3 (describing settlers as “priz[ing] livestock as evidence of civilization and sources of wealth”).

129. *Id.* at 3.

130. *Id.* at 4.

Eventually, what began as a homesteading enterprise transformed into its own economy. Ogle traces the development of the cattle-grazing, feeding, and driving enterprise of the Ohio River Valley area of the United States,<sup>131</sup> as well as the 1840 center of pork production in Cincinnati, then sometimes referred to as Porkopolis,<sup>132</sup> a term later “stolen” by Chicago.<sup>133</sup>

Indeed, by the late 1800s, the “American[] prodigious appetite for meat” had become “world-renowned.”<sup>134</sup> This led to the development of vast additional grazing areas out West,<sup>135</sup> which in turn transformed the American landscape not only through the movement of livestock production geographies, but in terms of the US transportation industry.<sup>136</sup> That is, the livestock “stockyard at Chicago was funded primarily by railroad companies, which recognized that livestock represented one of their more lucrative and important categories of freight. . . . Investors, nearly all of them connected to the railroads, built duplicate stockyards at the other end of the line.”<sup>137</sup>

But that transformation also shaped American consumers’ relationship to meat. The more that consumers, especially in cities, became isolated from meat production, the more they came to value their isolation from the sights and smells of livestock slaughter. “[I]n the 1870s and after[,] Americans wanted cities. They wanted meat, too. But they no longer wanted the one in the other. In modern America, the making of meat would increasingly be out of sight and out of mind.”<sup>138</sup>

Ogle also traces the growth of the meat industry in America through the triumph of the meatpacking sector over the American beef market.<sup>139</sup> But while she details the various legal and economic mechanisms used to solidify this dominance, she also recognizes consumers’ roles. “The rising standard of living [in the last thirty years of the nineteenth century] shaped shoppers’ demands, and people in every economic class developed an insatiable appetite for fresh beef. But not just any cuts. Families satisfied with tongue or cheek twenty years earlier now

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131. *Id.* at 10.

132. *Id.* at 11; see also Greg Hand, *Remember, Cincinnati: “Porkopolis” Was Not a Compliment*, CINCINNATI MAG. (Nov. 14, 2016), [https://www.cincinnatiimagazine.com/citywiseblog/remember-cincinnati-porkopolis-not-compliment/?fbclid=IwAR3k\\_ihgN4bEJyIAi\\_kBdrtG6glWzyXFpFYs3lv\\_RIS-Rz60A-dfgB4anYW0](https://www.cincinnatiimagazine.com/citywiseblog/remember-cincinnati-porkopolis-not-compliment/?fbclid=IwAR3k_ihgN4bEJyIAi_kBdrtG6glWzyXFpFYs3lv_RIS-Rz60A-dfgB4anYW0) [<https://perma.cc/RRZ7-8LJJ>] (describing the pervasiveness of swine and their excrement in the streets of Cincinnati in the 1840s).

133. OGLE, *supra* note 126, at 21.

134. *Id.* at 11.

135. *See id.* at 18.

136. *See id.* at 22.

137. *Id.* at 22.

138. *Id.* at 25.

139. *See id.* at 46–49.

demanded finer cuts.”<sup>140</sup> Adding to the desire to reach a perceived better standard of living was also the belief in the late nineteenth century that “linked food to national power and racial superiority.”<sup>141</sup> Ogle describes essays published during that period that linked European and American geopolitical dominance to their meat-rich diets, and Asian “inoffensive nature” to their more grain and plant-based diets.<sup>142</sup> This combination of institutional disconnect, desire for a particular standard of living, and connection with national status led to a sense of entitlement to meat. During this period of time,

[u]rban Americans didn’t care that meat comes from animals, or that food for those animals, like its human counterpart, depends on weather. . . . As far as consumers were concerned, the price of meat was connected only to their own pocketbooks, to an intangible price defined not in dollars or relative to rainfall, but simply as “affordable.”<sup>143</sup>

But eventually the American consumer became more circumspect regarding their approach towards meat. First, Upton Sinclair’s expose on the unfair labor practices and negligible food safety standards of the livestock industry captured the public imagination.<sup>144</sup> Then, the Federal Trade Commission’s series of investigations regarding the anticompetitive practices of the packer industry highlighted suspect economic practices.<sup>145</sup> Finally, various popular nutritionists arose to tout the additional benefits of “vitamins” contained in “once-lowly foodstuffs” over meats.<sup>146</sup>

In response, “[t]he Meat Institute, a packers’ trade Association, and the American National Livestock Association mounted a pro-meat publicity campaign.”<sup>147</sup> They ended up, in the 1920s, persuading the USDA to promote and protect the entire US meat production system, integrating meat promotion with the federal government.<sup>148</sup>

Much of the remainder of Ogle’s comprehensive history explores the ways in which livestock market interests, food safety and food security interests, nutritional interests, and environmental/sustainability interests

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140. *Id.* at 49.

141. *Id.* at 50.

142. *Id.*; *see also* WILSON J. WARREN, MEAT MAKES PEOPLE POWERFUL: A GLOBAL HISTORY OF THE MODERN ERA 50–55 (2018) (discussing 20th century scientific and cultural justifications for meat consumption as vital to human health).

143. OGLE, *supra* note 126, at 67.

144. *See id.* at 75–79.

145. *See id.* at 81–84.

146. *See id.* at 85–89.

147. *Id.* at 88.

148. *Id.* at 89.

spurred throughout the twentieth century.<sup>149</sup> What does Ogle ultimately conclude about the American consumer's relationship to meat?

[That we are] a complicated group, we Americans, and we struggle to reconcile our conflicting desires and passions. On one hand, many of us want meat, lots of it, and we don't care how it's made as long as it doesn't cost much. On the other, some of us are determined to break the chains that bind livestock production and meatpacking to assembly-line processes.<sup>150</sup>

Ogle, consistent with her perspective as a historian, leaves few detailed recommendations for the future, but her recounting of the American history with meat is still relevant in framing how we might approach what foodstuffs we choose to call "meat." First, her historical account suggests that meat presents a particular signifier in the traditional American diet: one of "necessity" in terms of political, power, and cultural identity.<sup>151</sup> Next, it demonstrates that the American consumer's expectations of "meat" are interwoven with various market dynamics. Finally, it highlights how these expectations and desires can be shaped by other concerns, such as food safety, nutritional impacts, and even sustainability issues.

### III. CONSUMPTION OF "MEAT" BEYOND LIVESTOCK-BASED PROTEINS

But livestock-based "meat" has not always been the only ways in which eaters—both American and otherwise—have understood "meat" as a category of food. This Part will first provide a brief history of meats in the context of vegetarian and other limited meat cultures (both generally and within the United States). Then this Part will explore the more recent phenomenon of cell-cultured meats and insect-based proteins.

#### A. *Vegetarian Meats and Meat Analogues*

Vegetarian and other limited-meat cultures have developed around the world for a number of reasons. Some of these are spiritual, others are based on ethics of non-violence, while others are founded on nutritional/environmental concerns.<sup>152</sup> These philosophical foundations are not the focus of this Article. However, the presence of these cultures

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149. *See generally id.*

150. *Id.* at 263.

151. And perhaps, more problematically, in terms of racial identity.

152. *See* TRISTRAM STUART, *THE BLOODLESS REVOLUTION: A CULTURAL HISTORY OF VEGETARIANISM FROM 1600 TO MODERN TIMES*, at xvii–xxvi (2006) (discussing assaults on the consumption of meat from various economic, philosophical, and religious perspectives); *see also* KAREN IACOBBO & MICHAEL IACOBBO, *VEGETARIAN AMERICA: A HISTORY* 104–105 (2004) (describing a number of foundations for vegetarianism, from religious to scientific, ethical, aesthetic, economical, and necessity).

for centuries means that replacements for livestock-based meats—whether plant-based proxies or fully alternative diets—means that humans have been exploring things described as alternative meats for quite some time. This section bypasses any full discussion of the philosophical grounding for vegetarian diets, as well as the development of fully alternative diets, and instead focuses on historical uses of foods used to replace livestock-based meats in traditional cuisines.

### 1. Generally

Modern historical accounts of vegetarian analogues<sup>153</sup> for livestock-based meats tend to be sharply divided between Eastern histories and Western histories. But the short summary is that modern historical accounts of Eastern plant-based analogues tend to reach further back in time than modern historical accounts of Western plant-based analogues, although both have long histories.

Much of the modern historical account of Eastern plant-based analogues focuses on soy, a plant that has a “long history in Asia.”<sup>154</sup> That is, “tofu and its value as an animal-protein substitute were clearly known in China by the time of the Tang Dynasty (618–907 CE), when the people called it ‘small mutton.’”<sup>155</sup>

But vegetarian meat analogues in the East were not limited to soy.<sup>156</sup> As one food expert, Fuschia Dunlop, has explained: “There are records from the Tang dynasty, which is 618 to 907, of an official hosting a banquet serving imitation pork and mutton dishes made from vegetables.”<sup>157</sup> Other analogues include gluten-based analogues<sup>158</sup> and jackfruit-based analogues.<sup>159</sup> Indeed, the names of these analogues

153. By “substitutes analogues,” I mean food matters that could be used in place of livestock-based meats in traditional cuisines of particular cultures.

154. CHRISTINE M. DU BOIS, *THE STORY OF SOY* 26 (2018).

155. *Id.* at 30.

156. See Ruby Lott-Lavigna, *The Origins of Fake Meat Are Rooted in Chinese Cooking*, VICE (Feb. 5, 2019), [https://munchies.vice.com/en\\_uk/article/8xyqqz/the-origins-of-fake-meat-are-rooted-in-chinese-cooking](https://munchies.vice.com/en_uk/article/8xyqqz/the-origins-of-fake-meat-are-rooted-in-chinese-cooking) [<https://perma.cc/M8S8-PD92>] (noting the prevalence of gluten, tempeh, or tofu as substitutes for flesh and describing how alternatives to chicken and other meat products can be traced as far back as Medieval China).

157. *Id.*

158. Lisa Braman, *Seitan: The Other Fake Meat*, SMITHSONIAN (Aug. 25, 2010), <https://www.smithsonianmag.com/arts-culture/seitan-the-other-fake-meat-97622092/> [<https://perma.cc/DLL4-F38U>] (describing seitan, or wheat gluten, as having “been used as a meat substitute for centuries in China and Japan, where it was developed by vegetarian Buddhist monks”).

159. Emily Stephenson, *Behind Jackfruit’s Rise From South Asian Staple to Vegan Trend*, EATER (May 17, 2016), <https://www.eater.com/2016/5/17/11683930/jackfruit-vegan-pulled-pork> [<https://perma.cc/TFK8-XPZW>] (“Jackfruit is grown in many countries, but India—with a vegetarian population in the hundreds of millions—is the only one with a history of using the young

themselves include the term “meat” in other languages. For example, “[i]n Mandarin, mianjin, or wheat gluten, means literally ‘wheat meat.’”<sup>160</sup> Similarly, the Bengali word for jackfruit translates as “tree mutton.”<sup>161</sup>

These analogues were not uniformly eaten by all Asians, however. While Chinese Buddhists often relied heavily on analogues in “temple cuisine,” Japanese Buddhists and Indian vegetarians did not.<sup>162</sup> But when they were consumed, their consumption was related to virtue and frugality. For example,

[t]he earliest known reference to tofu (worldwide) appears in China in the Anecdotes, Simple and Exotic (*Qing yilu*) [in 965] by Tao Ku. It states: When Shi Ji was the magistrate of Qing Yang, he emphasized the virtue of frugality among the people, and discouraged the consumption of meat. Instead he promoted the sale of tofu. But rather than calling it *doufu* (the Chinese name for tofu), he referred to it as “mock lamb chops” or “the vice mayor’s mutton.”<sup>163</sup>

Similarly, in the 1620s, “[a]t a banquet in Ming-dynasty China, a group of Buddhist nuns is reassured: ‘This is vegetarian food made to look like meat. It has come from the temple, and there can’t possible [sic] be any harm in eating it.’”<sup>164</sup>

In the Western World, at least according to William Shurtleff and Akiko Aoyagi, the compilers of a comprehensive history of meat alternatives, the first mention of such alternatives was made in 1852.<sup>165</sup> It was a vegetarian sausage, “composed mainly of red flannel and turnip tops, chopped fine.”<sup>166</sup> This is not to say that vegetarian diets did not exist in the West prior to that; such diets were promoted for similar reasons as in the East. As Tristram Stuart recounts in his history of vegetarian philosophies:

Meat-eating came under fire from a spectacular array of viewpoints in the seventeenth and eighteenth centuries. Revolutionaries attacked the bloodthirsty luxury of mainstream culture; demographers accused the meat industry of wasting resources which could otherwise be used to feed people; anatomists claimed that human intestines were not

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fruit as a stand-in for meat, most often in stir-fries, curries, and a popular rice dish called *kathal ki biryani*. The Bengal word for the fruit translates as ‘tree mutton’ or ‘the meat which grows on a tree.’”).

160. Cathy Erway, *The Buddhist Mock-Meats Paradox*, TASTE (Apr. 25, 2018), <https://www.tastecooking.com/buddhist-mock-meats-paradox/> [https://perma.cc/AKQ3-RCCC].

161. Stephenson, *supra* note 159.

162. Erway, *supra* note 160.

163. WILLIAM SHURTLEFF & AKIKO AOYAGI, HISTORY OF MEAT ALTERNATIVES 5 (2014), available at <http://www.soyinfocenter.com/pdf/179/MAL.pdf> [https://perma.cc/49G4-NMFG].

164. *Id.*

165. *Id.*

166. *Id.*

equipped to digest meat; and travellers to the East presented India as a peaceful alternative to the rapacity of the West. . . . The luxury of *choosing* to abstain from meat may have been restricted to small sectors of European society, but these often drew their inspiration from the underfed poor who seemed to live, and labour, without needing vast quantities of meat.<sup>167</sup>

During World War II, Westerners also began to adopt vegetarian meat analogues for another reason: disruption in traditional food supplies due to the war.<sup>168</sup> To replace the imported meats and livestock whose supply was disrupted by the Germans, the British began to include soy protein in their wartime sausages.<sup>169</sup> But they did not plant their own soybeans. Instead, “they cultivated an extraordinarily close relationship with the emerging soy sovereign, the USA. Winston Churchill assiduously courted the Americans, realizing that they would be an indispensable source both of war materiel and food.”<sup>170</sup>

The United States supported this effort. While soy had been primarily used as a rotation crop before World War II, farmers were encouraged to use the crops to produce soybeans.<sup>171</sup> Indeed, one American World War II pamphlet stated: “Remember—when you grow more soybeans, you are helping America to destroy the enemies of freedom . . . .”<sup>172</sup> What we see in this very brief history of vegetarian meat substitutes is that very similar values have historically been used to valorize both livestock-based meats and vegetarian meat analogues.

## 2. In the United States

Vegetarianism in the United States began with more Christian religious underpinnings.<sup>173</sup> But from early Americans like Benjamin Franklin to Johann Conrad Beissel, a German immigrant who founded

167. STUART, *supra* note 152, at xix.

168. See DU BOIS, *supra* note 154, at 79–81 (profiling disruptions in the supply of meat and milk that forced the Germany, British, American, and Soviet armed forces to turn to soy).

169. See *id.* at 79–80 (“Britain had previously depended on overseas imports for 70 per cent of the population’s calories. But Nazi submarines attacked civilian vessels in the Atlantic, hindering the flow of food. Fewer ships could reach Britain—so each had to brim with readily obtainable, compact, nutrient-dense foodstuffs. The public had to eat unfamiliar items, including much soy protein. Soy flour became a main ingredient in wartime sausages, though the British did not really enjoy them.”).

170. *Id.* at 80.

171. See *id.* at 82–83 (“Previously, farmers had often allowed soy to grow for a time and then ploughed it under as a soil-enriching ‘green manure.’ But with the wartime government promising to buy soybeans in great quantities, always at or above a reasonable price, farmers let their soy plants mature to produce beans.”).

172. *Id.* at 83.

173. See IACOBBO & IACOBBO, *supra* note 152, at 1 (“The seeds of the modern vegetarian movement were firmly planted in the nineteenth century by Christians. Vegetarianism in the United States dates to even before it was a nation.”).



the Seventh-Day Adventists in Pennsylvania, vegetarians were present during the foundations of the United States.<sup>174</sup>

But they did not always seek to create meat analogues. In one documented meal by Benjamin Franklin, hosting George Washington, Benjamin Rush, and John Hancock, “Franklin served cucumber, a pot of butter, a jug of spring water, a loaf of bread, lettuces, leeks, a cheese, and foaming beer ‘more brisk than strong.’”<sup>175</sup> Even in the earlier 1800s, when books like William Andrus Alcott’s *Vegetable Diet*<sup>176</sup> were read by the public, the dietary focus appeared more on eating a variety of grains and vegetables versus providing suggestions for meat analogues.<sup>177</sup> Even a prominent vegetarian meal covered by the *New York Daily Times* in 1853 seemed to provide few direct meat analogues:

Vegetable soup, tomato soup, rice soup, farinacea, Graham bread, mixed-fruit cake, fruitbread, apple biscuit, wheat-meal cakes, moulded rice, corn blanc mange, moulded wheaten grits, vegetables, baked sweet potatoes, stewed cream squash, pastry, mixed-fruit pie, pumpkin pie, fruits, melons, apples, peaches, pears, grapes, pineapples, cooked fruits including plum jelly and baked apples, relishes consisting of coconut custard and fruited ice cream, and a beverage of pure cold water.<sup>178</sup>

It was John Harvey Kellogg who most advanced the marketing of vegetarian meat analogues in America.<sup>179</sup> “After developing additional meat substitutes, Kellogg formed the Sanitas Nut Food Company in 1889.”<sup>180</sup> The Sanitas products were described in relation to livestock-based meats. Nuttose, for example, “was largely made from nuts, and it had the consistency of cream cheese. The food, according to company literature, ‘exhibited none of the objectionable qualities of flesh meat’ with ‘no toxins.’”<sup>181</sup> Similarly, Nuttelene—also nut-based—“was billed as a ‘delicate white meat as dainty and juicy as the breast of a spring chicken.’”<sup>182</sup>

Kellogg’s motivation for developing these plant-based analogues was this:

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174. *See id.* at 1–3 (profiling famous eighteenth-century vegetarians in the thirteen colonies).

175. *Id.* at 2 (citations omitted).

176. WILLIAM A. ALCOTT, *VEGETABLE DIET: AS SANCTIONED BY MEDICAL MEN, AND BY EXPERIENCE IN ALL AGES INCLUDING A SYSTEM OF VEGETABLE COOKERY* (1838).

177. *See id.* at 42–43 (suggesting a diet of “abstaining from animal food” and consuming wheat bread, fresh butter, potatoes, beans, and esculent roots).

178. *Id.*; IACOBBO & IACOBBO, *supra* note 152, at 84–85.

179. IACOBBO & IACOBBO, *supra* note 152, at 128–33; *see* SHURTLEFF & AOYAGI, *supra* note 163, at 6 (“1895–1899 Charles Dabney interests Dr. John Harvey Kellogg in developing substitutes for meat.”).

180. IACOBBO & IACOBBO, *supra* note 152, at 128.

181. *Id.* at 128.

182. *Id.* (citation omitted).

In dropping meats from the dietary it was difficult at first to find a satisfactory substitute because for so many generations meals had been built around meats and to most people a meal without meat as its center was unthinkable. . . . In biologic living we left out the meat, left out all the condiments, coffee and tea, and what was finally left was very plain and tasteless for those who were accustomed to high flavors.<sup>183</sup>

That is, Kellogg's recognition of the special meaning that "meat" holds for many eaters drove him to create foods that could take the same place.

Others have followed in promoting vegetarian meat analogues. The counterculture of the 1960s and 1970s looked to vegetarianism as a counterweight against traditional values it deemed harmful.<sup>184</sup> During this period, Stephen Gaskin, founder of a prominent vegetarian commune, worked to purchase 1000 acres of woods eventually known as "The Farm."<sup>185</sup> In 1976, commune members used soybeans grown on The Farm to produce "soy products such as soy burgers, soy loaf, and soy sausage. The community built a soy dairy that churned out soy milk, soy yogurt, and soy ice cream."<sup>186</sup>

Since then, vegetarian-meat substitutes have grown exponentially. A short timeline in *Mother Jones* documents this progress.<sup>187</sup> Vegetarian burger substitutes abounded, and producers explored innovations such as "mushroom in origin" meats.<sup>188</sup> But it wasn't until fairly recently that plant-based meat substitutes were developed that were difficult to distinguish—in terms of mouthfeel and taste—from livestock-based meats.<sup>189</sup> As one scholar noted,

[t]ofu and seitan have been around for centuries. These were not on the mainstream radar—the stuff hippies eat. For Tofurky and Morningstar

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183. *Id.* at 129 (citation omitted).

184. *See id.* at 169–93 ("The tide had been against vegetarianism during the meat-laden, macho 1940s and 1950s. Then the 1960s came rushing in, turning upside down common meanings in the culture, such as what it meant to be an American, and what it meant to eat meat.").

185. *Id.* at 174.

186. *Id.* at 175.

187. Matt Connolly, *Timeline: A Short and Sweet History of Fake Meat*, MOTHER JONES <https://www.motherjones.com/environment/2013/12/history-fake-meat/> [<https://perma.cc/U6JM-AVZ8>].

188. *Id.*; *see also* *A Brief History of Fake Meat*, PAC. STANDARD (Jun. 14, 2017), <https://psmag.com/news/a-brief-history-of-fake-meat> [<https://perma.cc/4YY9-8ML2>] (profiling burger substitutes from the Gardenburger in 1985 to the Impossible Burger in 2016).

189. PAC. STANDARD, *supra* note 188; *see also* Kat Thompson, *What's the Difference Between Impossible Foods and Beyond Meat?*, THRILLIST (June 20, 2019), <https://www.thrillist.com/eat/nation/impossible-burger-vs-beyond-meat> [<https://perma.cc/MYT4-DSJ9>] ("Beyond Meat and Impossible Foods are two companies who have gone above and beyond to seemingly do the impossible: make meatless meat actually taste like . . . meat."); *see also* Post-University of California Los Angeles/Santa Barbara Environmental Law Workshop Informal Taste Test Between Carl's Jr. Beef Burgers and Impossible Burgers (Aug. 9, 2019) (photos on file with author who had, alas, already flown out of town) (demonstrating that a number of participants misidentified which was the beef burger and which was the Impossible Burger).

[earlier producers of plant-based burgers], customers were more vegans and vegetarians, not mainstream consumers. They weren't trying to compete with meat on taste . . . Impossible and Beyond are not an outgrowth of Tofurky. Their aim is to mimic meat as closely as possible. They are trying to supplant meat entirely.<sup>190</sup>

### B. Cell-Cultured Meat Analogues

Cell-cultured meats are a more recent phenomenon than the plant-based livestock meat analogues outlined above. That is, it wasn't until the last few years that lab-grown meats have begun to appear potentially viable as a commercial product.<sup>191</sup> Unlike plant-based meat analogues, they are developed through the collection of stem cells from animal muscle, and multiplied through processes that allow those cells to differentiate into fibers that can form a sort of muscle tissue.<sup>192</sup> One pioneer in this industry, Mosa Meat, says that "one tissue sample from a cow can yield enough muscle tissue to make 80,000 quarter-pounders."<sup>193</sup>

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190. Laura Reiley, *Veggie Burgers Were Living an Idyllic Little Existence. Then They Got Caught in a War Over the Future of Meat*, WASH. POST (Aug. 25, 2019), <https://www.washingtonpost.com/business/2019/08/25/veggie-burgers-were-living-an-idyllic-little-existence-then-they-got-caught-war-over-future-meat> [https://perma.cc/45X3-WUNH]; see also Joe Cruz, *New Plant-Based "Impossible Veal" Bleeds, Cries Out for Mother During Slaughter*, HARD TIMES (Aug. 28, 2019), [https://thehardtimes.net/culture/new-plant-based-impossible-veal-bleeds-cries-out-for-mother-during-slaughter/?fbclid=IwAR3zu8L0dPGFBjIOy\\_JbxdSaXac112RwRXWN9TCReNdplakDzox6zQoiJc](https://thehardtimes.net/culture/new-plant-based-impossible-veal-bleeds-cries-out-for-mother-during-slaughter/?fbclid=IwAR3zu8L0dPGFBjIOy_JbxdSaXac112RwRXWN9TCReNdplakDzox6zQoiJc) [https://perma.cc/L567-4X5V] (reporting, satirically, that "Impossible Foods will focus heavily on marketing towards people who refuse to eat vegetables because they did not come from a living animal that died suddenly and tragically at the hands of bone-crushing machines"). What would Josh Ozersky, author of *The Hamburger: A History*, see *supra* note 4, and all-around general historian of burgers, make of this new round of plant-based burgers? We will never know, as he died on May 4, 2015, drowning after a seizure. Julia Moskin, *Joshua Ozersky Drowned After a Seizure, Autopsy Shows*, N.Y. TIMES (May 27, 2015), <https://www.nytimes.com/2015/05/28/dining/joshua-ozersky-drowned-after-a-seizure.html> [https://perma.cc/4DRB-KBEU].

191. See G. Owen Schaefer, *Lab-Grown Meat: Beef for Dinner—Without Killing Animals or the Environment*, SCI. AM. (Sept. 14, 2018), <https://www.scientificamerican.com/article/lab-grown-meat> [https://perma.cc/QV2R-ACQJ] ("Meat grown in a laboratory from cultured cells is turning that vision into a reality. Several start-ups are developing lab-grown beef, pork, poultry and seafood . . . And the field is attracting millions in funding. . . . A number of the start-ups say they expect to have products for sale within the next few years. But clean meat will have to overcome a number of barriers if it is to be commercially viable.").

192. *Id.*

193. *Id.*

Proponents of such lab-grown meat cite potential benefits including for lowering environmental impacts,<sup>194</sup> raising nutritional profiles,<sup>195</sup> and even promoting more ethical consumption from an animal rights framework.<sup>196</sup> This is not to say that such products are economically viable just yet, “[g]etting to a price consumers would be willing to pay at a restaurant is still at least five to 10 years away, according to several CEOs of the leading cultured meat companies.”<sup>197</sup>

The production methods for such lab-grown livestock-meat analogues can vary. But in general they start with creating what is known as a bioreactor (basically a sterile vat that provides controllable conditions for cell growth) to grow the cultured meats.<sup>198</sup> Then the lab-grown meat enterprise must acquire livestock stem cells, taken from living animal muscle, with satellite cells—which are “responsible for muscle regeneration after injury”<sup>199</sup>—being the most promising type of stem cells for this use. After that, the producer must proliferate those cells by basically attaching the cells to a three-dimensional scaffold that—when the cells are grown—can mimic the structure of livestock-harvested meats.<sup>200</sup> Finally, the cells must be stretched and further grown so that they can be harvested as commercially viable products.<sup>201</sup>

But readers who think of food categories in terms of taste and mouthfeel might ask, what does this food taste like? At least according to

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194. See Mayhall, *supra* note 6, at 153–154, 160–61 (“[M]odern meat production has a large and overall negative effect on the environment. Some of these negative effects would be significantly reduced, perhaps completely eliminated, if meat is grown in a laboratory.”); Damian Carrington, *World’s First Lab-Grown Steak Revealed—But the Taste Needs Work*, *GUARDIAN* (Dec. 14, 2018), <https://www.theguardian.com/environment/2018/dec/14/worlds-first-lab-grown-beef-steak-revealed-but-the-taste-needs-work> [https://perma.cc/AXW8-LYJA]; David Parry, *Cultured Meat Seems Gross? It’s Much Better Than Animal Agriculture*, *CONVERSATION* (Feb. 27, 2019), <http://theconversation.com/cultured-meat-seems-gross-its-much-better-than-animal-agriculture-109706> [https://perma.cc/K98F-STAT].

195. See Mayhall, *supra* note 6, at 155–56, 161 (“In the future, each product could potentially be cultivated with modified vitamin and mineral content, making lab meat a healthier alternative to its traditional counterpart.”).

196. See *id.* at 161 (articulating the vast opportunities for lab-based meat alternatives); see also Carrington, *supra* note 194 (describing sponsorship of animal rights activist groups such as the People for the Ethical Treatment of Animals); Parry, *supra* note 194; Olga Khazan, *The Coming Obsolescence of Animal Meat*, *ATLANTIC* (Apr. 16, 2019), <https://www.theatlantic.com/health/archive/2019/04/just-finless-foods-lab-grown-meat/587227/> [https://perma.cc/3C7Y-3K8R].

197. See Erin Brodwin & Katie Canales, *We Tried the First Lab-Grown Sausage Made Without Killing Animals. It Was Smoky, Savory, and Tasted like Breakfast*, *BUS. INSIDER* (Sept. 22, 2018), <https://www.businessinsider.com/lab-grown-clean-cell-meat-photos-taste-review-2018-9> [https://perma.cc/5QRF-ZDXU] (documenting the tasty progress made in lab-grown meat alternatives).

198. See Mayhall, *supra* note 6, at 159.

199. *Id.*

200. *Id.* at 159–60.

201. *Id.* at 160 (describing the process of creating lab-grown livestock meat).

two reviewers of New Age Meats's<sup>202</sup> sausage, during a tasting which displayed photographs of Jessie the pig, from whom the cell biopsies were extracted, "[t]he flavor was smoky and savory. The texture was distinctly sausage-like. It tasted like meat."<sup>203</sup> More significantly, the reviewers added, "[t]hen again, it is meat."<sup>204</sup>

In a different tasting, this time of a lab-grown steak (a more difficult product to create as a livestock-meat analogue, since producers cannot rely upon physical food processing to replicate textures) by Aleph Farms of Israel, a co-founder of Aleph Farms described the results of the tasting as demonstrating that the analogue is "close and . . . tastes good, but we have a bit more work to make sure the taste is 100% similar to conventional meat . . . . But when you cook it, you really can smell the same smell of meat cooking."<sup>205</sup>

### C. *Insect-Based Meats*

The consumption of insect-based proteins, or entomophagy, might seem novel to those of us in the West, but it has a long history throughout the world.<sup>206</sup> As Professors E.M. Costa-Neto and F.V. Dunkel put it, "[f]rom the earliest Chinese annals to Mexican codices, through the chronicles of naturalists and travelers and the old papyrus of ancient Egypt, we have records of insect-eating peoples."<sup>207</sup> Consumption of locusts has been documented in the Middle East as early as the eighth century BC, where they were carried on sticks to royal banquets.<sup>208</sup> Aristotle also wrote about eating cicadas, describing his preference for eating females after copulation, as they were full of eggs.<sup>209</sup> Even now, researchers estimate that over three thousand ethnic groups in 130 countries worldwide consume insects as "essential elements of their diet."<sup>210</sup>

The particular role of insects in peoples' diets varies from people to people, location to location, and period to period. That is, for some

202. Brodwin & Canales, *supra* note 197.

203. *Id.*

204. *Id.*

205. Carrington, *supra* note 194.

206. See E.M. Costa-Neto & F.V. Dunkel, *Insects as Food: History, Culture, and Modern Use Around the World*, in *INSECTS AS SUSTAINABLE FOOD INGREDIENTS* 29, 29 (Aaron T. Dossey et al. eds., 2016) (noting the 307 ethnic groups and 130 countries where insects constitute an essential element of the diet.); see also *FAO INSECT REPORT*, *supra* note 6, at 40–41 (describing insect consumption in the past and as a part of ancient religions); cf. WALTNER-TOEWS, *supra* note 32, at 168–93 (discussing the variety and history of insect-eating cultures).

207. See Costa-Neto & Dunkel, *supra* note 206, at 40.

208. See *FAO INSECT REPORT*, *supra* note 6, at 41 (noting that servants were thought to have carried locusts to royal banquets in the palace of Assurbanipal).

209. *Id.* (quoting Aristotle's description of consuming female cicadas).

210. Costa-Neto & Dunkel, *supra* note 206, at 40.

people, insects are a staple part of their diets; for others, a more supplemental part; and for even others, mostly used as flavoring. For example, members of the Adi community in North-East India specifically harvest different types of insects at different seasons throughout the year, and eat them either alone or as ingredients in other dishes.<sup>211</sup> In contrast, the Inuit people ate, as a sort of supplemental treat, *Oestridae* larvae collected in the hides of caribou that they were already hunting for meat and fur,<sup>212</sup> although this practice has faded over time.<sup>213</sup> And in Vietnam, essence of the giant water beetle is extracted to be used as a flavoring in soups.<sup>214</sup> Even more broadly, in Oaxaca, Mexico, even today, a great variety of insects are harvested and consumed, with the insects sold in markets, restaurants, and companies.<sup>215</sup> Some of these insects (for example, crickets, or *chapulines*) are eaten alone, with spices, or as prepared foods in moles and tacos, while others (such as flying fleas or *chicatanas*) are used primarily as sauce ingredients.<sup>216</sup>

Unlike plant-based and cell-cultured proteins, however, insects appear to have rarely been described, at least traditionally, as “meat.” For example, the FAO, in a paper entitled *Edible Insects: Future Prospects for Food and Feed Security*, included a saying among the Yansi of the Democratic Republic of the Congo: “As food, caterpillars are regulars in the village but meat is a stranger,” suggesting such a distinction.<sup>217</sup> Other accounts of traditional cuisines involving insects also discuss eaters talking about insects by their individual names, rather than under some general category of “meat.”<sup>218</sup>

This may change as producers contemplate ways to market insect-based foods in the United States and Europe. A number of researchers

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211. Karsing Megu et al., *An Ethnographic Account of the Role of Edible Insects in the Adi Tribe of Arunachal Pradesh, North-East India*, in *EDIBLE INSECTS*, *supra* note 32, at 35, 48–49 (discussing the seasonal variability of distinct insect species in diets).

212. Maria Pontes Ferreira et al., *Insect Consumption in the Arctic*, in *EDIBLE INSECTS*, *supra* note 32, at 19, 23–25.

213. *Id.* at 24.

214. Mike Sula, *Add the Scent of Wild Water-Bug Love to Your Dips and Sauces*, CHI. READER (Mar. 25, 2014), <https://www.chicagoreader.com/Bleader/archives/2014/03/25/add-the-scent-of-wild-water-bug-love-to-your-dips-and-sauces> [<https://perma.cc/4PY7-6JQ3>]. I added this citation as a pure note of tribute to my mother, who waxes fondly about this taste from her youth. I have yet to try it.

215. Marianne Shockley et al., *Edible Insects and Their Uses in North America; Past, Present and Future*, in *EDIBLE INSECTS*, *supra* note 32, at 55, 58.

216. *See id.* at 57, 59 (describing Oaxacan eating habits). Also, yum.

217. FAO INSECT REPORT, *supra* note 6, at 21.

218. *See generally* Ferreira et al., *supra* note 212 (discussing Inuit reverence for natural life and the limited, particular categories of insects consumed by the Inuit); *see also* Megu et al., *supra* note 211, at 37 (“The way an individual animal is named is a reflection of its general perception and utilization.”); Shockley et al., *supra* note 215, at 56–60 (discussing varied and evolving indigenous consumption of insects around the world).

have found that “invisible inclusion of insects in a preparation (i.e., pizza with insect protein or insect-based burgers) appear to trigger less aversion than the presentation of visible insects.”<sup>219</sup> Consumers seem to desire insects in a more meat-like sensory form.<sup>220</sup> Indeed, in a tasting session proposing hybrid insect-based burgers (half mealworm and half either plant-based or meat-based burger), “participants rated the insect-based burger’s taste and appearance between a fully meat burger and a fully vegetable burger with a preference for the meat hybrid product.”<sup>221</sup>

Indeed, this is borne out by studies of Dutch consumers of insect-based convenience foods who appeared to use them as meat substitutes even though they were not necessarily marketed specifically as such.<sup>222</sup> More accurately, though, they appeared to use them as meat substitute substitutes, considering insect-based foods as more comparable to vegetarian meat substitutes rather than meats themselves.<sup>223</sup>

#### IV. HOW LABELS CAN SHAPE “MEAT”

##### A. Examining the Claims of Labeling Confusion

Proponents of the labeling laws described in this Article all focus on claims that such requirements are necessary to avoid consumer confusion—that is, consumers may be confused by plant-based proteins, cell-cultured proteins, and insect-based proteins if they are somehow labeled either as “meat” or terms otherwise traditionally associated with livestock-based products, such as “burgers” or “sausages.” But claims of consumer confusion, in both US and EU law, have a long regulatory history of being limited by speech protection doctrine and other legal considerations. The following sections outline this history with respect to food law.

##### 1. A History of US Approaches to Food Confusion

In the United States, constitutional free speech protections and governmental attempts to restrict or require particular food labels on the basis of consumer fraud or confusion exist at odds with each other.<sup>224</sup> That is, government attempts at either requiring or restricting labels on food are limited by First Amendment concerns. Much of this history is

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219. Megido, et al., *supra* note 50, at 356 (citations omitted).

220. *Id.*

221. *Id.*

222. See Tan & House, *supra* note 55, at 379–80 (summarizing the results of a study of Dutch consumers).

223. *Id.*

224. See Patrick Meyer, *The Crazy Maze of Food Labeling and Food Claims Laws*, 92 ST. JOHN’S L. REV. 233, 249–52 (2018) (describing First Amendment case law restricting attempts to regulate food labels and claims).

outlined in a recent, comprehensive article by Professor Patrick Meyer entitled *The Crazy Maze of Food Labeling and Food Claims Laws*.<sup>225</sup>

Under US case law, the First Amendment protects economic speech because,

[a]dvertising, however tasteless and excessive it sometimes may seem, is nonetheless dissemination of information as to who is producing and selling what product, for what reason, and at what price. So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions.<sup>226</sup>

Nevertheless, the First Amendment need not wholly eliminate governments' abilities to limit advertising. As the Supreme Court stated in *Virginia State Board of Pharmacy v. Virginia Citizens Consumer Council, Inc.*,

[o]bviously, much commercial speech is not provably false, or even wholly false, but only deceptive or misleading. We foresee no obstacle to a State's dealing effectively with this problem. The First Amendment, as we construe it today, does not prohibit the State from insuring that the stream of commercial information flow cleanly as well as freely.<sup>227</sup>

Subsequent decisions have further clarified this line between impermissible and permissible government restrictions on economic speech. In particular, the Supreme Court developed a four-part test in *Central Hudson Gas & Electric Corp. v. Public Service Commission of New York*.<sup>228</sup> In this test, courts must evaluate (1) whether the speech is unlawful or misleading,<sup>229</sup> (2) whether there is "a substantial interest to be achieved by restrictions on commercial speech,"<sup>230</sup> (3) whether the restriction "directly advance[s] the state interest involved,"<sup>231</sup> and (4) whether "the governmental interest could be served as well by a more limited restriction on commercial speech . . . ."<sup>232</sup>

What this has meant for regulators—from federal regulators such as the FDA, to state regulators such as the ones described earlier in this Article—is that to limit or compel certain food labels, regulators must either establish that certain labels are misleading in some way, or craft

225. See *id.* at 249–50 (outlining the history of US food labeling and health law claims).

226. See *Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 765 (1976).

227. *Id.* at 771–72.

228. See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 566 (1980) (outlining the four-part test).

229. *Id.* at 563.

230. *Id.* at 564.

231. *Id.*

232. *Id.*



requirements that advance a substantial state interest in a manner that directly advances that interest without being more restrictive than necessary. This has led regulators to base their labeling restrictions on claims that consumers are somehow being “confused” or “misled” by certain labels.

But simply establishing that certain prohibited labels may mislead consumers is not enough for a requirement to survive First Amendment muster. In *Pearson v. Shalala*, the Court of Appeals for the District of Columbia clarified that even restrictions on food labels described as “misleading” may be unconstitutional if the labeling restriction does not provide a reasonable fit between the goal of protecting consumers from being misled and the extent to which labels are regulated.<sup>233</sup> The FDA had, in this case, attempted to restrict manufacturers of nutritional supplements from making four specific types of health claims on its labels:

- (1) Consumption of antioxidant vitamins may reduce the risk of certain kinds of cancers.
- (2) Consumption of fiber may reduce the risk of colorectal cancer.
- (3) Consumption of omega-3 fatty acids may reduce the risk of coronary heart disease. [And]
- (4) .8 mg of folic acid in a dietary supplement is more effective in reducing the risk of neural tube defects than a lower amount in foods in common form.<sup>234</sup>

The agency rested its decision on two interests: “protection of public health and prevention of consumer fraud.”<sup>235</sup>

While the court rejected the FDA’s public health claim on the basis that the agency had provided no evidence that the nutritional supplements directly threatened consumer health,<sup>236</sup> the court also agreed that “the government would appear to advance directly its interest in protecting against consumer *fraud* through its regulatory scheme.”<sup>237</sup>

But the court also found that the FDA had failed to establish that a complete prohibition on these claims was the only way that the agency could protect consumers from potential fraud, a requirement under the fourth prong of the *Central Hudson* test.<sup>238</sup> The makers of the dietary supplements had presented *some* credible evidence supporting its health claims, even though the FDA disagreed with the weight of that scientific evidence.<sup>239</sup> Thus, the FDA’s goal could be accomplished by requiring a disclaimer, such as “The FDA does not approve this claim,” rather than

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233. *Pearson v. Shalala*, 164 F.3d 650, 656 (D.C. Cir. 1999).

234. *Id.* at 652 (internal quotation marks omitted).

235. *Id.* at 655–56.

236. *Id.* at 656.

237. *Id.*

238. *See id.* (noting the possible hardships of requiring the FDA to seek pre-approval).

239. *Id.* at 658–59 (describing the credibility of the evidence that was rejected by the FDA).

barring the use of such health claims altogether.<sup>240</sup> The US District Court for the District of Columbia, in a subsequent case, *Whitaker v. Thompson*, interpreted *Pearson* as holding that “the complete ban of a claim would be approved only under narrow circumstances—where there was little-to-no scientific evidence in support of the claim *and* where the government could prove that the public would still be deceived by the claim even with the use of accompanying disclaimers.”<sup>241</sup>

What this means for these meat labeling laws is that courts will have to first weigh the government interest in protecting consumers from confusion resulting from labeling plant-based, cell-cultured, and insect-based products as “meat.”<sup>242</sup> This may entail evaluating the actual existence of any consumer-based confusion regarding the label. Given the history of the use of the term “meat,” though, this may be difficult for at least plant-based meat substitutes in the United States, as the term “meat” (as well as related terms, such as “burger”) has long been used for plant-based substitutes, as seen earlier.

Evaluating prohibitions on the use of the term “meat” for cell-cultured and insect-based products, however, may be more complicated. Cell-cultured meats are novel, and any consumer confusion would have to be evaluated with respect to the ways in which the products will eventually be marketed. The same goes for insect-based products, since there is relatively little history regarding the use of meat-related descriptions for them.

Courts’ approach to these meat labeling laws are further complicated by the US Supreme Court’s recent jurisprudence on compelled speech, that is, particular “speech” required of individuals or organizations due to government regulations. In a number of cases, the Supreme Court has noted that “[b]ecause the compelled subsidization of private speech seriously impinges on First Amendment rights, it cannot be casually allowed.”<sup>243</sup>

The labeling laws at issue here—prohibiting the use of the term “meat” for non-livestock-based “meats”—seem to fall under this doctrine. The laws would require plant-based, cell-cultured, and insect-based protein producers that want to market their products as “meat” or using “meat”-

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240. *Id.* at 659.

241. *Whitaker v. Thompson*, 248 F. Supp. 2d 1, 13 (D.D.C. 2002).

242. *Cf.* ACLU Arkansas Complaint, *supra* note 81, at 4 (stating that “[t]here is no evidence that consumers are confused about the ingredients or source of plant-based meats”).

243. *Janus v. Am. Fed’n of State, Cty., and Mun. Emps., Council 31*, 138 S. Ct. 2448, 2464 (2018) (finding various levels of scrutiny for compelled speech); *see also* *Masterpiece Cakeshop, Ltd. v. Colo. Civil Rights Comm’n*, 138 S. Ct. 1719, 1744 (2018) (Thomas, J., concurring in part) (stating that “[f]rom the beginning, this Court’s compelled-speech precedents have rejected arguments that ‘would resolve every issue of power in favor of those in authority’”).

related terms to use additional labels distinguishing themselves from meat, thereby compelling speech in the form of labeling. Under the proposed state statutes, plant-based, cell-cultured, and insect-based protein producers are in the position of either relabeling their products as avoiding the term “meat,” or finding some other way to pass labeling muster under the various statutes.

The complaints raised in challenges against these laws reflect these compelled speech concerns. As noted earlier, plant-based protein producers have filed legal complaints alleging First Amendment violations by the Missouri, Mississippi, and Arkansas labeling statutes.<sup>244</sup> The complaint in the Missouri lawsuit, raised by Turtle Island Foods, the company that produces Tofurky products, alleges both lack of actual consumer confusion<sup>245</sup> and violations of the First Amendment.<sup>246</sup> Similarly, the complaint filed against the Mississippi statute, raised by Upton’s Naturals and the Plant-Based Foods Association, described violations of free speech by, among other things, “banning honest, accurate, and non-misleading descriptions of Plaintiffs’ products” and “irreparably harm[ing] consumers by denying them access to useful information about lawful goods in the marketplace.”<sup>247</sup> And the complaint filed against the Arkansas statute, raised also by Turtle Island Foods, addressed First Amendment concerns of “truthful[] packaging”<sup>248</sup> and “burden[ing] these companies at the behest of in-state livestock and poultry producers who do not wish to compete against plant- and cell-based meat purveyors.”<sup>249</sup>

## 2. A History of EU Approaches to Food Confusion

While the EU and states within the EU attempting to regulate food labeling do not have the same underlying doctrinal free speech concerns with the First Amendment, labeling concerns nevertheless still revolve around claims of consumer “confusion.” This is because much current EU labeling law in this area is governed by the EU Food Information Regulation, Regulation No. 1169/2011.<sup>250</sup> This regulation states that:

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244. See *supra* Section I.B. (discussing the advent of meat labeling laws in the United States).

245. Complaint for Declaratory and Injunctive Relief at 6–8, Turtle Island Foods, SPC v. Richardson, 2019 WL 7546586, at \*6–8 (W.D. Mo. Sept. 30, 2019) (No. 2:18-cv-04173).

246. *Id.* at 18–19.

247. Complaint for Declaratory and Injunctive Relief at 17, Upton’s Naturals Co. v. Bryant, No. 3:19-cv-00462 (S.D. Miss. July 1, 2019).

248. ACLU Arkansas Complaint, *supra* note 81, at 13.

249. *Id.* at 15.

250. Council Regulation 1169/2011, 2011 O.J. (L 304) 18, 19 (EU) [hereinafter EU Food Information Regulation]; see also Ignacio Carreño & Tobias Dolle, *Tofu Steaks? Developments on the Naming and Marketing of Plant-Based Foods in the Aftermath of the TofuTown Judgement*, 9

According to Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety (3) it is a general principle of food law to provide a basis for consumers to make informed choices in relation to food they consume and to prevent any practices that may mislead the consumer.<sup>251</sup>

With respect to labeling, the EU Food Information Regulation states that “[f]ood information law should prohibit the use of information that would mislead the consumer in particular as to the characteristics of the food, food effects or properties, or attribute medicinal properties to foods. To be effective, that prohibition should also apply to the advertising and presentation of foods.”<sup>252</sup>

In particular, this regulation allows states in the European Union to adopt laws that comply with the requirements of the EU Food Information Regulation. This includes allowing states to adopt laws that prohibit producers from misleading consumers

- (a) as to the characteristics of the food and, in particular, as to its nature, identity, properties, composition, quantity, durability, country of origin or place of provenance, method of manufacture or production;
- (b) by attributing to the food effects or properties which it does not possess;
- (c) by suggesting that the food possesses special characteristics when in fact all similar foods possess such characteristics, in particular by specifically emphasising the presence or absence of certain ingredients and/or nutrients;
- (d) by suggesting, by means of the appearance, the description or pictorial representations, the presence of a particular food or an ingredient, while in reality a component naturally present or an ingredient normally used in that food has been substituted with a different component or a different ingredient.<sup>253</sup>

This all came to a head in the *TofuTown* case, reviewed by the Court of Justice of the European Union.<sup>254</sup> In this case, the EU Court of Justice held that

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EUR. J. RISK. REG. 575, 581 (2015) (“The issue is not about having plant-based, innovative products on the market, but ensuring that consumers are not misled or confused . . .”).

251. See EU Food Information Regulation, *supra* note 250, at ¶ 4 (explaining that having proper procedures in matters of food safety allows customers to make informed decisions regarding the food they consume).

252. See *id.* at ¶ 20 (noting that misleading information should be prohibited by food information laws).

253. See *id.* at Art. 7, ¶ 1(a)–(d) (discussing fair information practices).

254. Case C-422/16, *Verband Sozialer Wettbewerb eV v. TofuTown.com GmbH* (June 14, 2017) [hereinafter *TofuTown*], <http://curia.europa.eu/juris/document/document.jsf?docid=191704&doclang=EN> [<https://perma.cc/8F4J-K2HU>].

Article 78(2) and Annex VII, Part III, to Regulation No. 1308/2013 must be interpreted as precluding the term ‘milk’ and the designations reserved by that regulation exclusively for milk products from being used to designate a purely plant based product in marketing or advertising, even if those terms are expanded upon by clarifying or descriptive terms indicating the plant origin of the product at issue, unless that product is listed in Annex I to Decision 2010/791.<sup>255</sup>

The Court based its decision on a regulation that allowed the use of the term “*crème de riz*”<sup>256</sup> for French rice creams, but did not appear to address the “rice cream sprays” at issue in the case. Rather than focusing on any concerns about consumer confusion (or lack thereof) the EU Court of Justice primarily addressed the advertising of soymilk as “milk” as an issue of regulatory interpretation. Moreover, as Prof. Iselin Gambert noted, the regulatory interpretation was based on the EU objective of supporting “the economic conditions for the production and marketing as well as the quality of dairy milk and related products.”<sup>257</sup> Thus underlying the resolution of this dispute was the protection of the dairy industry, rather than any concerns about or support regarding consumer confusion.

### *B. What Underlies Claims of “Meat Confusion”*

As seen in the discussions above, support for claims of actual consumer confusion, although the purported basis behind various meat labeling laws and regulations, appear sparse, and not well-supported by historical usage of these terms. What instead lies behind these battles is a struggle for, as John Harvey Kellogg put it, the “center”<sup>258</sup> of our plates.

This is not a new struggle. Similar battles have already been fought over foods that hold a certain place in our diets. Take the battle between butter and margarine.<sup>259</sup> In some sense, butter and margarine hold similar places in our food repertoire: fats that we can use to spread on foods like bread, crackers, and waffles, as well as ingredients in baking and roasting and pan-frying. Thus, the margarine industry posed a threat to the butter

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255. *TofuTown*, *supra* note 254, ¶ 52.

256. *Id.* ¶ 36.

257. Gambert, *supra* note 20, at 832 (citing *TofuTown*, *supra* note 254, ¶ 43).

258. See IACCOBO & IACCOBO, *supra* note 152, at 129 (quoting Kellogg, who noted that “to most people a meal without meat as its center was unthinkable”).

259. See, e.g., Geoffrey Miller, *Public Choice at the Dawn of the Special Interest State: The Story of Butter and Margarine*, 77 CALIF. L. REV. 83, 108–109 (1989) (describing the battles between the dairy industry and the margarine industry); see also Rebecca Rupp, *The Butter Wars: When Margarine Was Pink*, NAT’L GEOGRAPHIC (Aug. 13, 2014), <https://www.nationalgeographic.com/people-and-culture/food/the-plate/2014/08/13/the-butter-wars-when-margarine-was-pink/> [<https://perma.cc/5U3B-NMYQ>] (“Margarine, its foes proclaimed, threatened the family farm, the American way of life, and the moral order.”).

industry, which was built around dairy producers,<sup>260</sup> since they were struggling for consumer demand for relatively similar places in our diets. This led to dairy industry pressure to create a number of what Professor Geoffrey Miller termed “antimargarine statutes” that were protective of the dairy/butter industry.<sup>261</sup> Such statutes started off as labeling statutes. As Professor Miller put it:

These first-generation antimargarine statutes ostensibly countered the problem of palming-off by requiring proper labelling, prescribing penalties for fraudulent misrepresentation, or both. The original Wisconsin law, for example, required that imitation butter made with tallow (beef fat) be labelled “oleomargarine” in half-inch letters, and, if made with lard, be labelled “butterine.” Some statutes required hotels, restaurants, and boarding houses to post public notices if they served margarine to guests.<sup>262</sup>

When courts, enforcement agencies, and even consumers failed to respond to these labeling statutes in a manner sufficient to stop margarine competition,<sup>263</sup> dairy/butter producers began to lobby for even more stringent statutes to suppress margarine competition, succeeding in lobbying states such as Maine, Michigan, Minnesota, Missouri, New Jersey, Ohio, Pennsylvania, and Wisconsin to prohibit the in-state manufacture of margarine.<sup>264</sup> Nevertheless, even the intent of butter promotion behind these manufacturing prohibition statutes was defeated by dormant commerce clause concerns, as out-of-state producers of margarine could still market their products to those “anti-margarine” states.<sup>265</sup>

Ultimately, one major loss for the dairy/butter industry<sup>266</sup> arose, which led that industry to seek recourse in the federal sphere, leading to the passage of the Oleomargarine [Tax] Act.<sup>267</sup> Although ultimately repealed

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260. See Miller, *supra* note 259, at 105–29 (discussing how the dairy industry responded to the threat of margarine).

261. See *id.* at 108–11 (explaining how the dairy industry used legislation to limit the margarine industry).

262. *Id.* at 109 (citations omitted).

263. See *id.* at 110–11 (“Even when prosecutions did occur, margarine distributors could afford to simply pay their fines and continue in business.”).

264. See *id.* at 113 (“Not surprisingly, most of the states enacting prohibitory legislation were among the nation’s leading dairy states in 1886.”).

265. See *id.* at 116 (explaining the difficulties of preventing out-of-state producers of margarine from shipping the product to anti-margarine states).

266. *People v. Marx*, 2 N.E. 29, 34 (N.Y. 1885) (finding an anti-margarine law unconstitutional); see also Miller, *supra* note 259, at 117–18 (identifying the origins of the Oleomargarine Tax Act).

267. Oleomargarine Act, 24 Stat. 209 (Aug. 2, 1886), as amended by the Act of May 9, 1902, 32 Stat. 1941. The form of a tax, rather than prohibition, was apparently chosen to avoid difficulties. See Miller, *supra* note 259, at 120 (discussing the goals of the Oleomargarine Act).

in 1950,<sup>268</sup> Congress eventually passed the Oleomargarine Act in 1886 after much lobbying by the dairy/butter industry. Though structured around fraud and revenue-generation,<sup>269</sup> even Congressional proponents of the Act acknowledged that the driver behind the tax was to support the dairy/butter industry.<sup>270</sup> This saga, despite occurring in a somewhat different political and economic situation from now, bears remarkable similarities to the ongoing developments with respect to “meat” labeling. As with the “meat” labeling laws, the dispute appears to be focused on retaining particular places in eaters’ diets, rather than actual confusion.

Take also the recent disputes about the labeling of “milk” within the United States and the European Union.<sup>271</sup> In the United States,

over two dozen congressmen sent a letter to the [FDA] . . . to . . . [use existing FDA food identity laws to] prohibit plant milk companies from using the word “milk” on their labels because it is “misleading to consumers, harmful to the dairy industry, and a violation of milk’s standard of identity.”<sup>272</sup>

As Professor Iselyn Gambert explains, after a number of losses by the dairy industry regarding “milk-based” labeling before federal courts,<sup>273</sup> the letter by the Congress members “unapologetically frames its arguments around a pathos-driven narrative designed to elicit sympathy for the plight of American dairy farmers.”<sup>274</sup> As of now, any proposed regulations from the FDA are at an impasse. The FDA did promulgate a request for “information on labeling plant-based products with names that

268. Oleomargarine Act, Pub. L. No. 81-459, 64 Stat. 20 (1950) (repealing the tax on oleomargarine).

269. See Miller, *supra* note 259, at 123–24 (explaining the lengths the dairy industry went to in order to limit the margarine industry).

270. See *id.* at 124–25. (“I fly the flag of an intent to destroy the manufacture of the noxious compound by taxing it out of existence.”).

271. See Gambert, *supra* note 20, at 805–17; (stating that in both the United States and the EU limit “milk” to animal products); see also Kathleen Justis, Note, *Lactose’s Intolerance: The Role of Manufacturers’ Rights and Commercial Free Speech in Big Dairy’s Fight to Restrict Use of the Term “Milk”*, 84 BROOK. L. REV. 999, 1003–07 (2019) (“The conflict between the dairy and plant-based alternative industries over use of the word ‘milk’ in product names and advertisements, began more than twenty years ago.”).

272. Gambert, *supra* note 20, at 802–03 (citing Letter from Rep. Peter Welch, Mike Simpson & Members of Congress to Hon. Robert M. Califf, Comm’r, Food & Drug Admin. (Dec. 16, 2016), available at <http://www.nmpf.org/files/Welch-Simpson%20Letter.pdf> [<https://perma.cc/Z26J-3GHV>]); see also Press Release, U.S. Congress, Welch Leads Bipartisan Effort to Stop the Illegal Branding of ‘Fake Milk’ as Real Milk (Dec. 16, 2016), available at <https://welch.house.gov/media-center/press-releases/welch-leads-bipartisan-effort-stop-illegal-branding-fake-milk-real-milk> [<https://perma.cc/5ENF-EACF>]; (reporting on the bipartisan letter in support of the dairy industry); 21 C.F.R. § 131.110 (2018) (describing the specific requirements for milk and cream).

273. See Gambert, *supra* note 20 at 812–18. (discussing three recent cases that came out in favor of plant-milk).

274. *Id.* at 817 (demonstrating how members of Congress are siding with the dairy industry in the “milk wars”).

include the names of dairy foods, such as ‘milk,’ ‘yogurt,’ and ‘cheese.’” The original comment period was scheduled to end on November 27, 2018 but a later extension moved the date to January 28, 2019.<sup>275</sup> Since then, the FDA has issued no actual proposed regulation regarding these dairy-related terms. Similar dynamics existed in the European Union *TofuTown* case, where the protectionist motivations behind the EU labeling regulations were expressly relied upon by the EU Court of Justice.<sup>276</sup>

One final example is the recent dispute over the use of the term “mayo” in the United States. In 2014, Unilever, the producer of Hellman’s Mayonnaise, filed a lawsuit against Hampton Creek Foods, the producer of a plant-based mayonnaise called “Just Mayo.”<sup>277</sup> The complaint alleged false advertising and unfair competition, drawing upon dictionary definitions of “mayonnaise” as containing eggs.<sup>278</sup> It also provided more details of the “falseness” of Hampton Creek Foods’s representation, stating that

[i]n addition to lacking the taste of real mayonnaise, Just Mayo does not perform like real mayonnaise when it is heated, as mayonnaise often must be in common consumer uses. Real mayonnaise is commonly used because its blend of ingredients effectively binds together the elements of the sauce and adds flavor and texture in the process. Because Just Mayo is a vegan product lacking the same emulsifying ingredients as real mayonnaise, when it is heated, its oils separate and do not bind the ingredients together. Consumers and cooks have an expectation that mayonnaise should both taste and perform like mayonnaise. Just Mayo does neither.<sup>279</sup>

This lawsuit was soon dropped by Unilever after much outcry from the public,<sup>280</sup> partially as a result of a Change.org petition created by noted

275. *FDA Extends Comment Period on Use of the Names of Dairy Foods in Labeling Plant-Based Products*, FDA (Nov. 20, 2018), <https://www.fda.gov/food/cfsan-constituent-updates/fda-extends-comment-period-use-names-dairy-foods-labeling-plant-based-products> [<https://perma.cc/43A9-FAPK>]; see also *Extension of Comment Period Notice*, 83 F.R. 58775 (Nov. 15, 2018).

276. See *TofuTown*, *supra* note 254 (stating that plant based products do not contain milk or milk products); see also *Gambert*, *supra* note 20, at 832; (alleging the ECJ not only relied on statutory interpretation, but also deference to the dairy industry when making its final decision); Barbara Bolton, *Dairy’s Monopoly on Words: The Historical Context and Implications of the TofuTown Decision*, 12 EUR. FOOD & FEED L. REV. 422, 430 (2017) (stating that this decision gave the dairy industry a monopoly on dairy style names).

277. Complaint at ¶ 1, *Conopco, Inc. v. Hampton Creek, Inc.*, 2014 WL 5823225 (D.N.J. Oct. 31, 2014) (No. 2:14-cv-06856-WHW-CLW).

278. *Id.* ¶ 2.

279. *Id.* ¶ 3.

280. See Kanika Sikka, *Unilever Drops Mayonnaise Suit Against Just Mayo Maker*, REUTERS (Dec. 18, 2014), <https://www.reuters.com/article/us-unilvr-lawsuit/unilever-drops-mayonnaise-suit-against-just-mayo-maker-idUSKBN0JX03M20141219> [<https://perma.cc/VH48-AZUQ>] (“The case gained national attention when a petition on Change.org gathered 112,000 signatures asking Unilever to ‘stop bullying sustainable food companies.’”).



television food celebrity Andrew Zimmern,<sup>281</sup> but soon afterwards, the FDA issued a warning letter to Hampton Creek Foods.<sup>282</sup> Ultimately, the FDA settled its dispute with Hampton Creek Foods by requiring the company to avoid charges of misbranding by “making phrases like ‘Egg-Free’ more visible to consumers.”<sup>283</sup>

These episodes illustrate the complex forces at work behind battles over the labeling of particular categories of foods. Eaters often associate terms such as “butter” and “milk” and “mayo” with particular uses. We use “butter” and butter-like substances to spread onto baked goods, to mix with other ingredients to make baked goods, to moisten roasted meats and vegetables, and to cook other ingredients. We use “milk” to soften our cereal in the morning, to drink as a protein-enriched refresher, to mix with other ingredients to create baked goods, creamy sauces, and chowder soups.<sup>284</sup> We use “mayo” as a sandwich spread, but sometimes also as an ingredient for baking. “Butter” and “milk” and “mayo” are particular food identities, yes, but they also inhabit a particular place on our plates.

In all of these battles, what we see is a fight not for consumer certainty over particular terms, but for access to certain commonly understood places in our diets. The same applies to the current struggle over the meaning of “meat.” Little support has been presented regarding actual consumer confusion; indeed, part of the driver for the current demand for non-livestock-based proteins appears to be their novelty.<sup>285</sup> Instead, the

281. Andrew Zimmern, *Change.org Petition: Stop Bullying Sustainable Food Companies*, CHANGE.ORG, <https://www.change.org/p/tell-unilever-to-stop-bullying-sustainable-food-companies> [<https://perma.cc/9NR3-SSHW>] (with 111,589 signatures and listed as a “Confirmed Victory”).

282. Warning Letter from William A. Correll, Jr., Dir., Ctr. for Food Safety & Applied Nutrition, to Joshua Tetrick, Founder & C.E.O., Hampton Creek Foods, Inc., at 1–3 (Aug. 12, 2015), <https://www.fda.gov/inspections-compliance-enforcement-and-criminal-investigations/warning-letters/hampton-creek-foods-08122015> [<https://perma.cc/BH8P-9HXN>].

283. Justis, *supra* note 271, at 1022 (citing Beth Kowitt, *The Mayo Wars Just Ended*, FORTUNE (Dec. 17, 2015), <http://fortune.com/2015/12/17/hampton-creek-just-mayo-fda/> [<https://perma.cc/K8P3-L92G>]).

284. Indeed, “almond milk” was a popular food substance throughout the Middle Ages. See Jim Clarke, *In the Middle Ages, the Upper Class Went Nuts for Almond Milk*, ATLAS OBSCURA (Dec. 8, 2017), <https://www.atlasobscura.com/articles/almond-milk-obsession-origins-middle-ages> [<https://perma.cc/W6BM-AHXJ>].

285. Tamar Haspel, *One Thing Might Keep the Impossible Burger From Saving the Planet: Steak*, WASH. POST (May 28, 2019), [https://www.washingtonpost.com/lifestyle/food/one-thing-might-keep-the-impossible-burger-from-saving-the-planet-steak/2019/05/23/729836b0-7d69-11e9-a5b3-34f3edf1351e\\_story.html?noredirect=on](https://www.washingtonpost.com/lifestyle/food/one-thing-might-keep-the-impossible-burger-from-saving-the-planet-steak/2019/05/23/729836b0-7d69-11e9-a5b3-34f3edf1351e_story.html?noredirect=on) [<https://perma.cc/UH4Y-M42Y>] (noting that even “Bruce Friedrich, executive director of the Good Food Institute, a nonprofit organization that supports and promotes meat substitutes” stated that “people are trying [the new plant-based meats] for novelty”); see also Jonas House, *Consumer Acceptance of Insect-Based Foods in the Netherlands: Academic and Commercial Implications*, 107 APPETITE 47, 52 (2016) (“Participants also reported being motivated to try Insecta products because they would introduce novelty or

central conflict appears to revolve around whether or not plant-based foods, cell-cultured foods, and insect-based foods can access the same “place on our plates” traditionally reserved for livestock-based foods.

*C. How Sustainability Advocates Can Further Engage with Laws that Shape the Meaning of Food*

The very compacted history of meat and food labeling presented in this article demonstrates the complicated role that meat has played in the lives and minds of Americans, and eaters in general. Meat can represent a unique place in our diets, signifying achievements of culture, standards of living, and even political power.<sup>286</sup> At the same time, meat can represent a concept that eaters might consider problematic, due to traditional livestock’s impact on animal welfare, the economy, human health, and even the environment.<sup>287</sup> Moreover, it can present troublesome histories involving issues of colonialism and disregard for cultural autonomy.<sup>288</sup> Finally, meat can represent particular places on our diets, as the centerpiece of many of our traditional dishes.<sup>289</sup>

The history of plant-based meat analogues also contains these complex and changing representations. The makers of early plant-based proteins grounded their production by appealing to values of purity, spirituality, and cleanliness.<sup>290</sup> After some advocates realized that their lack of similarity to livestock-based meats hindered their adoption by the general American public, these advocates focused on making plant-based proteins even more analogous to livestock-based meats and meat forms, such as sausages and burgers, thus accessing the same center of our plates, while retaining the values already claimed by advocates of plant-based diets.<sup>291</sup> As seen in the brief history presented through this paper, the development of such livestock-meat analogues was an attempt to synergize plant-based diets with existing cuisines, while complying with external religious, ethical, health-based, or environmental considerations. Indeed, the most recent round of plant-based meat analogues, as

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variety (18%) into their diets.”); *cf.* T.L. Stanley, *KFC Sold Out of Its Meatless Chicken Nuggets and Wings in 5 Hours*, ADWEEK (Aug. 27, 2019), <https://www.adweek.com/brand-marketing/kfc-sold-out-of-its-meatless-chicken-nuggets-and-wings-in-5-hours/> [<https://perma.cc/7WDF-998G>] (using the tag line “[c]urious customers flocked to one location offering Beyond Meat’s plant-based chicken alternative”).

286. *Cf.* Marsha A. Echols, *Food Safety Regulation in the European Union and the United States: Different Cultures, Different Laws*, 4 COLUM. J. EUR. L. 525, 543 (1998) (“Ideas about food and what may be eaten safely are strongly influenced by local culture and traditions. Culture and tradition play a silent role in the regulatory process and the resulting rules.”).

287. *See supra* Sections I.A. & III.A.

288. *See supra* Part II.

289. *See* IACOBBO & IACOBBO, *supra* note 152, at 129.

290. *See supra* Section III.A.

291. *See supra* Section III.A.; IACOBBO & IACOBBO, *supra* note 152, at 129.

epitomized by Beyond Meat and Impossible Meats, have been marketed as ways for those identified as vegetarians to incorporate those analogues into their pre-existing diets with minimal disruption, and even for those not identified as vegetarians to reduce their livestock meat consumption for a variety of values, including environmental.<sup>292</sup>

Cell-cultured meat analogues further these complications by introducing technological developments into the picture. While many livestock meats and plant-based meats were promoted as “natural” or “clean”<sup>293</sup>—with positive values associated with those words—cell-cultured meats may not invoke similar connotations of “naturalness” or even “cleanliness,” depending on eaters’ associations with those terms. Yet they may still be associated with positive values as well, along similar lines of ethical, health-based, or environmental considerations.<sup>294</sup> Indeed, given the high tech nature of these products, they might even be associated with some form of wealth-based prestige, similar to some of the earlier associations with livestock-based meats.<sup>295</sup>

Similar complications exist for potential insect-based meat analogues. While insect-based proteins have not yet been described as “meat,” they have been marketed in ways to access environmental values as well.<sup>296</sup> Moreover, they have been marketed to appeal to yet another value, novelty, a value associated with both plant-based meat analogues and cell-cultured meat analogues, but perhaps even more so with insects—where Westerners most likely to replace livestock meats with insect meats are those open to new foods.<sup>297</sup>

As this Article demonstrates, food labels can shape our perception of meat. If plant-based, cell-cultured, or even insect-based meat analogues are excluded from our legal definitions of meat, or are at least required to provide some sort of disclaimer, it may mean that these products have less access to the historical values of prestige and standard of living associated with livestock-based meats, as well as the particular “place” that we view meats as having on our plates. Indeed, that dynamic is reflected in some of the concerns raised by both the National Cattlemen’s Beef Association regarding the use of the term “meat,” regarding concerns about access to the term by non-livestock-based protein

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292. *See supra* Section I.A.

293. *See supra* Section I.A.

294. *See supra* Sections I.A. & III.B.

295. *See supra* Section III.B.

296. *See supra* Sections I.A. & III.C.

297. *Cf.* Esther Landhuis, *Why Can't Bugs Be Grub?*, SCI. NEWS STUDENTS (Nov. 19, 2018), <https://www.sciencenewsforstudents.org/article/why-cant-bugs-be-grub> [<https://perma.cc/4L4P-ARU6>] (according to their analysis, Westerners are most willing to replace meat with bugs if they're young, male, open to new foods, environmentally conscious and already trying to eat less meat).

producers,<sup>298</sup> as well as some of the concerns raised by plant-based meat producers regarding concerns about exclusion from the term) in their legal challenges.<sup>299</sup> The converse may be the case if cell-cultured or plant-based meats are allowed access to the same term—“meat”—used by livestock-based meats.

But the complicated history of our cultural understandings of meat suggests that the values associated with the term are not static.<sup>300</sup> That is, even were US states or the US federal government act to exclude or limit plant-based, cell-cultured, or insect-based meat analogues from accessing the term “meat,” such foods may still develop other associational values that appeal to different desires of eaters.<sup>301</sup> Moreover, promoters of both livestock and plant/cell-based meats gesture towards similar values of virtue, healthfulness, and patriotism, regardless of their reference as “meats” or other foods.

Insect-based proteins have a more thorny place in all of this, perhaps reflected by their current absence in the “meat” debate. More than plant-based proteins and cell-cultured proteins, insect-based proteins have to overcome significant levels of food aversion in Western markets.<sup>302</sup> That is, highlighting protein sources as coming from insects seems to be a more consistent negative with respect to insect-based protein marketing towards Western consumers, while use of non-English words such as *chapulines* still appear to be palatable by framing insect products as ethnic food products.<sup>303</sup> The values of ethnic food “exploration,”<sup>304</sup>

298. Wyatt Bechtel, *Cattlemen’s Groups Voice Concerns with Lab-grown Meat to USDA, FDA*, AGWEB (Oct. 24, 2018), <https://www.agweb.com/article/cattlemens-groups-voice-concerns-with-lab-grown-meat-to-usda-fda/> [<https://perma.cc/X7JN-9YGQ>].

299. See Balstad & Bold-Erdene, *supra* note 10.

300. Cf. OZERSKY, *supra* note 4, at 2. What would Josh Ozersky have made of these new livestock-mimicking burgers? Alas, we will never know, as he drowned in 2015. See Moskin, *supra* note 190.

301. Cf. Deena Pritchep, *The Rise of Mock Meat: How Its Story Reflects America’s Ever-Changing Values*, NPR (Sept. 2, 2017), <https://www.npr.org/sections/thesalt/2017/09/02/547899191/the-rise-of-mock-meat-how-its-story-reflects-americas-ever-changing-values> [<https://perma.cc/J4EN-H4QV>].

302. See Megido, *supra* note 50, at 358 (“For example, using words such as ‘mealworms’ and ‘insects’ could consistently link consumers with their negative feelings toward insects, likely helping to maintain a psychological barrier to edible insects. Further studies are needed to highlight the linguistic misunderstandings existing in the edible insect sector and to found terms that are easily understood and attractive. The use of foreign words such as “chapulines” (i.e. crickets from the *Sphenarium* genus) could decrease neophobia by framing insect products as ethnic food.” (citations omitted)).

303. *Id.*

304. *But see, e.g.*, KRISHNENDU RAY, *THE ETHNIC RESTAURATEUR* (2016) (describing the role of the immigrant restaurateurs in the food industry and the marketing of food as “authentically” of a certain ethnicity versus being able to balance other traditional considerations of restaurateurs).

“novelty,”<sup>305</sup> and sustainability<sup>306</sup> are more significant drivers of the use of insect-based proteins as compared to plant-based and cell-cultured proteins. This may explain their relative absence in the current “meat” labeling disputes, although their participation may play a part in the future.

What does this all mean for advocates of sustainable eating—those concerned with the greenhouse gas emissions, land conservation, water conservation, and other environment-related aspects of protein consumption?<sup>307</sup> It means that understanding the relationships between food and culture is necessary for shaping consumption patterns, sustainable or not.<sup>308</sup> As one food author, Marta Zaraska, observed:

To enter the final, fifth stage of nutrition transition, we should first become aware of meat’s many meanings—only then can the hooks be released one by one. The taste of meat can be replaced by products containing meat’s potent mixture of umami, fat, and the aromas created by the Maillard reaction.<sup>309</sup>

“Meat,” as seen in this Article, contains many meanings, gesturing towards values such as patriotism, strength, and healthiness, values which non-livestock-based proteins also claim access. And, as also seen in this Article, “meat” entails a particular place in our diets, the centerpiece of many of our Western plates.

Engagement with the advertising regime is also necessary for sustainable eating advocates. As prominent food studies scholar Professor Susanne Freidberg noted, “advertising [sells] both goods and reassurance, as it still does.”<sup>310</sup> We have already seen this phenomenon in this Article through the depictions of both livestock protein marketing as well as plant-based, cell-cultured, and insect-based protein marketing. By deliberately applying this struggle for meanings to the marketing of products, sustainable food advocates can more consciously approach the

305. See House, *supra* note 285, at 52 (“Participants also reported being motivated to try Insecta products because they would introduce novelty or variety (18%) into their diets.”).

306. Gamborg et al., *supra* note 32, at 209 (“Using insects for food and feed and justifying this by pointing to an increased sustainability, is in itself a value based argument relying on a certain view on the ethical importance of insects in the greater perspective compared to for example future generations. Part of the future challenges for using insects for food and feed is thus to enter discussions of the underlying values related to our food and feed systems, and more broadly, to the way we relate to the natural environment.”)

307. See discussion, *supra* Section I.A.

308. See, e.g., MASSIMO MONTANARI, *FOOD IS CULTURE* 88 (2004) (describing the acceptance of hamburgers in Eurodisney by saying, “[i]n short, the hamburger has been accepted, but only after being adapted to fit a normal meal, becoming in this way the substitute for a sandwich or steak/frites”).

309. MARTA ZARASKA, *MEATHOOKED: THE HISTORY AND SCIENCE OF OUR 2.5-MILLION-YEAR OBSESSION WITH MEAT* 200 (2016).

310. SUSANNE FREIDBERG, *FRESH: A PERISHABLE HISTORY* 15 (2009).

shaping of diets towards ones that are more sustainable and resource-friendly.

This is not to suggest that sustainable eating advocates should unquestioningly support the labeling of non-livestock proteins as meat. Professor John Miller observes that marketed reliance on cell-cultured meats could propagate the role of meat (at least as a protein-rich culinary category) as a structural component in a “natural diet,” and that plant-based meat advocates could do well to consider ways in which entire diets could be transformed to avoid valorizing such a central role.<sup>311</sup> This is not entirely impossible, as the Western focus of “meat” as the “center of our plates” is more correlated with class-based considerations,<sup>312</sup> as opposed to anything more innate. Indeed, the barring of plant-based, cell-cultured, and insect-based protein producers from accessing the term “meat” could, as one EU MEP observed, lead to more innovation in overall diet redesign.<sup>313</sup>

Moreover, there are some benefits to allowing informality, at least with respect to regulation, legislation, and policy, to continue for some time.<sup>314</sup> Researchers on edible insect sales have observed that lack of regulation, legislation, and policy, can allow insect farmers to avoid “costly regulations and standards.”<sup>315</sup> As insect-marketing researchers suggest, “[t]he balance of enough, but not too many [regulations, legislation, and policies], will therefore be one of the biggest challenges, especially with regards to wild or semi-wild harvesting.”<sup>316</sup>

That said, the marketing research suggests non-livestock-based proteins are more readily adopted when they are presented as substitutes for “meat” as traditionally understood in our diets.<sup>317</sup> As one fairly comprehensive study noted:

In our study, the complete separation of meat and meat substitute products disappeared with processed products (like burgers and sausages). A reasonable explanation is that these products are visually more similar: by visual inspection only, one can hardly tell the difference between products with a similar form, for instance a

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311. See J. Miller, *In Vitro Meat: Power, Authenticity and Vegetarianism*, J. CRIT. ANIMAL STUD. 41-63 (2012) (argues that cultured meat propagates the role of meat as a structural component in a “natural” diet).

312. See MONTANARI, *supra* note 308, at 108.

313. Boffey, *supra* note 112.

314. Dana Elisabeth Wilderspin & Afton Halloran, *The Effects of Regulation, Legislation and Policy on Consumption of Edible Insects in the Global South*, in EDIBLE INSECTS, *supra* note 32, at 443, 443.

315. *Id.* at 453.

316. See Wilderspin & Halloran, *supra* note 314, at 453.

317. Annet C. Hoek et al., *Identification of New Food Alternatives: How Do Consumers Categorize Meat and Meat Substitutes?*, 22 FOOD QUALITY & PREF. 371, 380 (2011).

vegetarian sausage and a meat-based sausage. Since the ingredients were clearly labeled on the product pictures (e.g. ‘soy’ or ‘pork’), this cannot be the only reason. We believe these products deviate largely from the stereotypes of meat (e.g. the typical meat products steak or cutlet) due to the processing procedure. As a result, the sight of original animal flesh has disappeared, and thereby the taxonomic meat-oriented approach is not evoked. The product form then becomes a more dominant feature than the product ingredient source. This implicates that new meat substitutes that resemble processed meat products are more likely to be included in the consideration set for meat or meat alternatives.<sup>318</sup>

In sum, perhaps food sustainability advocates can look to the advocacy in the Just Mayo debate as a model to build upon. There, food advocates such as Andrew Zimmern approached the labeling of a particular food, mayonnaise, and addressed how limitations on access to that term hindered the production of plant-based food replacements, argued to be more sustainable.<sup>319</sup> That campaign harnessed what Professor Lewis Grossman described as “the empowered consumer” in food and drug debates.<sup>320</sup> Similar campaigns in the future could also tackle these concerns, but with an even more deliberate focus (and discussion) of the relationship between legal categorization and the consumption of food.

#### CONCLUSION

The current debate in the United States over what foods to label as meat is just the latest part of a longer history of constructing eaters’ approaches to meat through social, economic, and legal processes. During this longer history, the use of plant-based meat analogues was also consistently in use and promoted in various communities through their own sets of social, economic, and legal processes. Participants in the current debates would do well to recognize this broader history and understand that legal recognition may not be the only way to access positive values associated with particular categories of foods. Moreover, participants in these debates should tackle this broader history when addressing other labeling debates about other food categories, such as “milk” and “rice” and “cheese.”

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318. *Id.* at 379–80.

319. Zimmern, *supra* note 281.

320. Lewis A. Grossman, *FDA and the Rise of the Empowered Consumer*, 66 ADMIN. L. REV. 627, 631 (2014).