

Appendix A

List of the literature included in this systematic literature review.

- Alvaro C (2019) Lab-grown meat and veganism: a virtue-oriented perspective. *Journal of Agricultural and Environmental Ethics* 32(1): 127-141.
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<https://doi.org/10.1080/10408398.2014.924899>
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[https://doi.org/10.1016/S2095-3119\(14\)60887-X](https://doi.org/10.1016/S2095-3119(14)60887-X)
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- Bryant CJ (2020). Culture meat and cultured meat. *Journal of animal science* 98(8): 1-7.
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- Chauvet DJ (2018) Should cultured meat be refused in the name of animal dignity?. *Ethical theory and moral practice* 21: 387-411. <https://doi.org/10.1007/s10677-018-9888-4>
- Chriki S Ellies-Oury MP Hocquette JF (2022) Is “cultured meat” a viable alternative to slaughtering animals and a good compromise between animal welfare and human expectations?. *Animal Frontiers* 12(1): 35-42. <https://doi.org/10.3389/fnut.2020.00007>
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<https://doi.org/10.1016/j.tifs.2021.02.024>
- Kim S Beier A Schreyer HB Bakshi BR (2022) Environmental Life Cycle Assessment of a Novel Cultivated Meat Burger Patty in the United States. *Sustainability* 14(23): 16133.
<https://doi.org/10.3390/su142316133>
- Lee A (2018) Meat-ing demand: Is in vitro meat a pragmatic problematic or paradoxical solution?. *Canadian Journal of Women and the Law* 30(1): 1-41.
<https://doi.org/10.3138/cjwl.30.1.1>

- Mattick CS Landis AE Allenby BR Genovese NJ (2015) Anticipatory life cycle analysis of in vitro biomass cultivation for cultured meat production in the United States. *Environmental science & technology* 49(19): 11941-11949. <https://doi.org/10.1021/acs.est.5b01614>
- Moyano-Fernández C (2022) The Moral Pitfalls of Cultivated meat: Complementing Utilitarian Perspective with eco-republican Justice Approach. *Journal of Agricultural and Environmental Ethics* 36(1): 23. <https://doi.org/10.1007/s10806-022-09896-1>
- Munteanu C Mireșan V Răducu C Ihuț A Uiuu P Pop D Neacșu A Cenariu M Groza I (2021) Can cultured meat be an alternative to farm animal production for a sustainable and healthier lifestyle?. *Frontiers in Nutrition* 8: 749298. <https://doi.org/10.3389/fnut.2021.749298>
- Myers GM Jaros KA Andersen DS Raman DR (2023) Nutrient recovery in cultured meat systems: Impacts on cost and sustainability metrics. *Frontiers in Nutrition* 10: 1151801. <https://doi.org/10.3389/fnut.2023.1151801>
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- Sharma S Thind SS Kaur A (2015) In vitro meat production system: why and how?. *Journal of food science and technology* 52: 7599-7607. <https://doi.org/10.1007/s13197-015-1972-3>
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- Stephens N Di Silvio L Dunsford I Ellis M Glencross A Sexton A (2018a) Bringing cultured meat to market: Technical socio-political and regulatory challenges in cellular agriculture. *Trends in food science & technology* 78: 155-166. <https://doi.org/10.1016/j.tifs.2018.04.010>
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Appendix B

The final code tree from the data analysis of the central narratives in the literature.

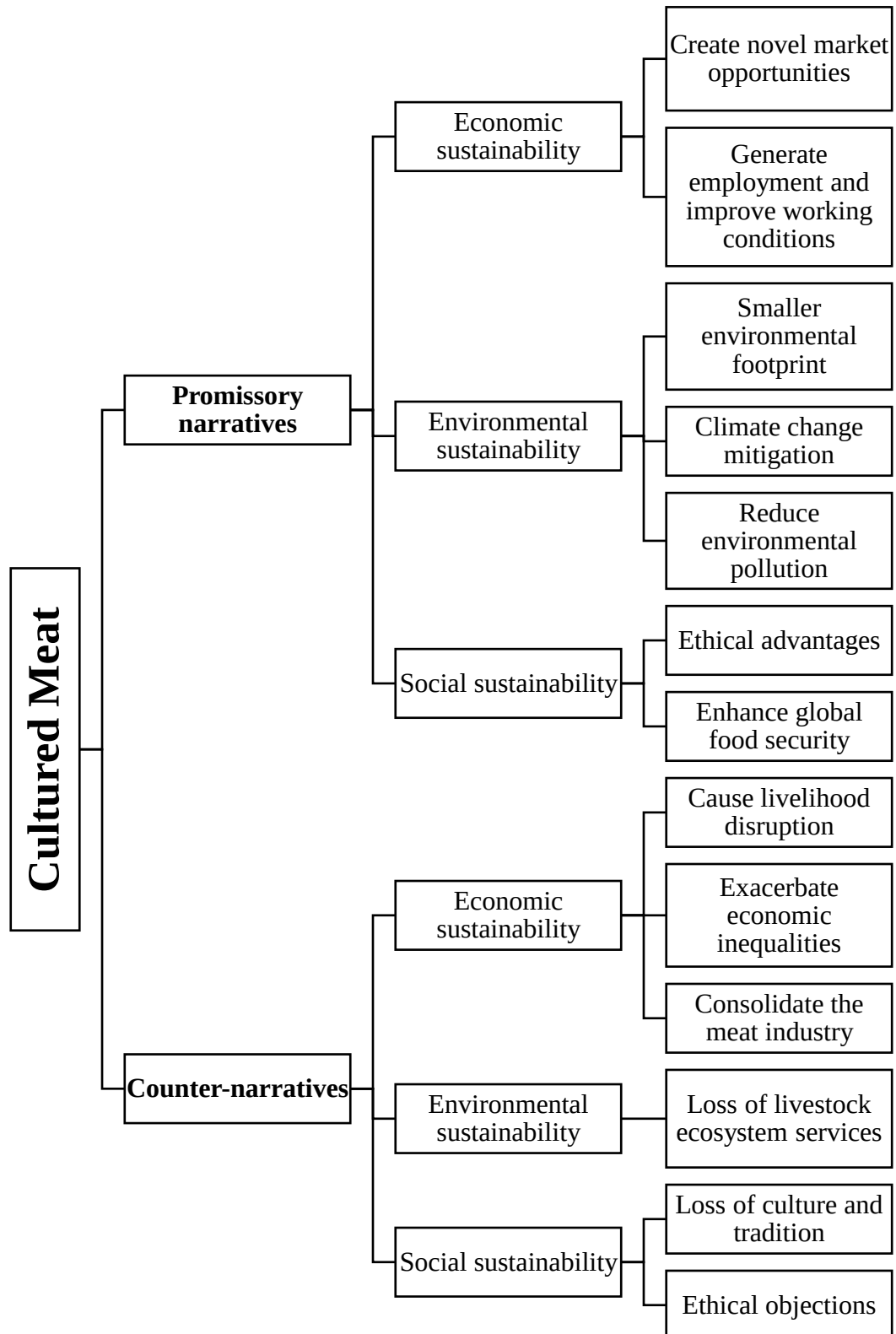


Figure 2. The final code tree of the narratives.

Appendix C

Table displaying all references to the literature for each argument of the promissory narratives.

Table 5. Overview of all referenced literature for the arguments of the promissory narratives.

Narrative	Arguments	Referenced literature
Economic sustainability		
Create novel market opportunities	1). Introduce new supply chains 2). Supply exotic meat products	1). Bryant 2020; Reis et al. 2020 2). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jahir et al. 2023; Lee 2018
Generate employment and improve working conditions	1). Create new (high-skilled) jobs 2). Improve the labor conditions of the meat industry	1). Reis et al. 2020; Stephens et al. 2018a; Treich 2021 2). Jahir et al. 2023; Treich 2021
Environmental sustainability		
Smaller environmental footprint	1). Reduce agricultural land use 2). Lower water use	1). Anomaly et al. 2023; Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Chriki et al. 2022; Jahir et al. 2023; Jairath et al. 2021; Kim et al. 2022; Lee 2018; Mattick et al. 2015; Moyano-Fernández 2022; Munteanu et al. 2021; Myers et al. 2023; Nobre 2022; Reis et al. 2020; Sharma et al. 2015; Sinke et al. 2023; Stephens et al. 2018a; Treich 2021; Tuomisto 2019 2). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jairath et al. 2021; Kim et al. 2022; Lee 2018; Moyano-Fernández 2022; Nobre 2022; Reis et al. 2020; Sinke et al. 2023; Stephens et al. 2018a
Climate change mitigation	1). More efficient energy use 2). Minimize livestock-related GHG emissions 3). Carbon capture and storage opportunities	1). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jairath et al. 2021; Kim et al. 2022; Mattick et al. 2015; Munteanu et al. 2021; Myers et al. 2023; Nobre 2022; Sharma et al. 2015; Sinke et al. 2023; Stephens et al. 2018a 2). Bhat et al. 2015; Bhat et al. 2019; Jahir et al. 2023; Jairath et al. 2021; Kim et al. 2022; Lee 2018; Moyano-Fernández 2022; Munteanu et al. 2021; Reis et al. 2020; Sharma et al. 2015; Sinke et al. 2023; Stephens et al. 2018a; Treich 2021; Tuomisto 2019; Warner 2019 3). Munteanu et al. 2021; Treich 2021

Narrative	Arguments	Referenced literature
Reduce environmental pollution	1). Lower air soil and water pollution 2). Lower eutrophication risks	1). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jairath et al. 2021; Kim et al. 2022; Munteanu et al. 2021; Nobre 2022; Sharma et al. 2015; Sinke et al. 2023; Treich 2021 2). Bhat et al. 2019; Jahir et al. 2023; Kim et al. 2022; Munteanu et al. 2021; Nobre 2022; Sharma et al. 2015; Sinke et al. 2023; Stephens et al. 2018a; Tuomisto 2019
Social sustainability		
Ethical advantages	1). Improve animal welfare 2). Improve animal rights and dignity 3). Foster a harmonious connection with nature	1). Alvaro 2019; Anomaly et al. 2023; Bhat et al. 2015; Bhat et al. 2019; Chriki et al. 2022; Jahir et al. 2023; Jairath et al. 2021; Lee 2018; Moyano-Fernández 2022; Munteanu et al. 2021; Sharma et al. 2015; Stephens et al. 2018a; Treich 2021 2). Anomaly et al. 2023; Chauvet 2018; Reis et al. 2020; Stephens et al. 2018a 3). Sharma et al. 2015; Stephens et al. 2018a
Enhance global food security	1). Keep meat affordable to all 2). Combat food scarcity 3). Create a broader and more resilient protein access	1). Bryant 2020; Jairath et al. 2021; Lee 2018; Moyano-Fernández 2022; Myers et al. 2023; Reis et al. 2020; Stephens et al. 2018a; Treich 2021; Warner 2019 2). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jahir et al. 2023; Jairath et al. 2021; Lee 2018; Moyano-Fernández 2022; Myers et al. 2023; Nobre 2022; Reis et al. 2020; Sharma et al. 2015; Warner 2019 3). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Bryant 2020; Jairath et al. 2021; Nobre 2022; Reis et al. 2020; Stephens et al. 2018a; Treich 2021
Mitigate human health risks	1). Lower prevalence nutrition-related non-communicable diseases	1). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Jairath et al. 2021; Lee 2018; Munteanu et al. 2021; Sharma et al. 2015; Treich 2021; Warner 2019
Mitigate human health risks	2). Improve food safety 3). Lower the zoonotic disease risk 4). Lower the spread of antibiotic resistance	2). Anomaly et al. 2023; Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Chriki et al. 2022; Jairath et al. 2021; Lee 2018; Munteanu et al. 2021; Nobre 2022; Reis et al. 2020; Sinke et al. 2023; Stephens et al. 2018a; Treich 2021; Warner 2019 3). Anomaly et al. 2023; Bhat et al. 2017; Bhat et al. 2019; Jairath et al. 2021; Lee 2018; Moyano-

		Fernández 2022; Munteanu et al. 2021; Nobre 2022; Reis et al. 2020; Treich 2021; Warner 2019 4). Anomaly et al. 2023; Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Chriki et al. 2022; Jairath et al. 2021; Lee 2018; Munteanu et al. 2021; Sharma et al. 2015; Treich 2021
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Appendix D

Table displaying all references to the literature for each argument of the counter-narratives.

Table 6. Overview of all referenced literature for the arguments of the counter-narratives.

Narrative	Arguments	Referenced literature
Economic sustainability		
Cause livelihood disruption	1). Reduce employment in the conventional agricultural sector 2). Disrupt complex meat market chains 3). Disrupt the market for cheap byproducts of conventional meat	1) Bhat et al. 2015; Bhat et al. 2019; Bryant 2020; Chriki et al. 2022; Jahir et al. 2023; Jairath et al. 2021; Nobre 2022; Treich 2021 2). Bhat et al. 2017; Bhat et al. 2015; Bhat et al. 2019; Bryant 2020; Jairath et al. 2021; Reis et al. 2020 3). Bhat et al. 2019; Lee 2018
Exacerbate economic inequalities	1). Unequal job and profit generation 2). Unequal technological and skill development	1). Bhat et al. 2015; Bhat et al. 2019; Bryant 2020; Chriki et al. 2022; Jairath et al. 2021; Lee 2018; Moyano-Fernández 2022; Nobre 2022; Reis et al. 2020; Treich 2021; Tuomisto 2019 2). Bhat et al. 2015; Bhat et al. 2019; Bryant 2020; Chriki et al. 2022; Jairath et al. 2021; Moyano-Fernández 2022; Nobre 2022; Reis et al. 2020; Treich 2021
Consolidate the meat industry	1). Shift meat production to powerful actors 2). Undermine food sovereignty	1). Bryant 2020; Lee 2018 2). Bryant 2020; Moyano-Fernández 2022
Environmental sustainability		
Loss of livestock ecosystem services	1). Loss of benefits from grazing livestock 2). Reduce the availability of natural fertilizer	1). Chriki et al. 2022; Lee 2018; Myers et al. 2023 2). Chriki et al. 2022; Lee 2018; Myers et al. 2023
Social sustainability		
Loss of culture and tradition	1). Rural-to-urban migration 2). Loss of rural culture knowledge and practices	1). Bhat et al. 2015; Bhat et al. 2019; Nobre 2022 2). Bhat et al. 2015; Bhat et al. 2019; Nobre 2022
Ethical objections	1). Technological reliance delays social change 2). Continue the exploitation of animals	1). Alvaro 2019; Bryant 2020; Lee 2018; Moyano-Fernández 2022; Stephens et al. 2018a; Treich 2021 2). Alvaro 2019; Bryant 2020; Chauvet 2018; Lee 2018; Moyano-Fernández 2022; Treich 2021

Narrative	Arguments	Referenced literature
Ethical objections	3). Alienation from nature 4). Opens doors for cannibalism 5). Divert attention from more viable solutions to problems of the conventional meat industry	3). Alvaro 2019; Bhat et al. 2017; Bhat et al. 2015; Lee 2018; Moyano-Fernández 2022; Sharma et al. 2015; Treich 2021 4). Alvaro 2019; Bhat et al. 2017; Bhat et al. 2015; Chauvet 2018; Sharma et al. 2015; Treich 2021 5). Alvaro 2019; Bhat et al. 2019; Lee 2018; Moyano-Fernández 2022