

DOI: <https://doi.org/10.63332/joph.v5i4.1054>

Lab-Cultivated Meat and Its Jurisprudential Rulings

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Abstract

This research addresses the issue of cultivated meat (produced in laboratories from animal cells) from an Islamic jurisprudential perspective as a contemporary matter with scientific, economic, social, health, and environmental dimensions. The study examines the concept of cultivated meat, its most common names, and the stages of its production history. It then discusses its potential advantages, including reducing pressure on animal resources, mitigating negative environmental impacts, enhancing health safety by limiting disease transmission, and contributing to food security. The study also presents criticisms and reservations, such as the lack of full consensus on long-term safety, the possibility of contamination, the high production costs, as well as the ensuing socio-economic consequences, such as affecting the livestock sector and diminishing the livelihoods of farmers and butchers. In the jurisprudential aspect, the research considers key Shari'ah [Divinely Legislated] criteria influencing the ruling, including the source of the cells, adherence to requirements for slaughter, avoidance of impure substances, in addition to confirming the absence of harm to human health. Although some preliminary opinions have emerged from Islamic scholarly bodies, which provide conditions for permissible slaughter methods, or rule that meat cultivated from impermissible sources is forbidden, no definitive legal ruling has been issued yet. Jurists and Islamic councils have withheld final judgment, given the novelty of the matter and the lack of comprehensive data. The study concludes by emphasizing the need for continued scientific research, careful jurisprudential consideration, and collaboration among experts in various fields. This approach aims at clarifying appropriate legal rulings that fulfil human interests, safeguard the environment, ensure food security, and uphold Shari'ah principles without negligence or excess.

Keywords: Biotechnology, protein alternatives, environmental dimensions, pending Shari'ah rulings, technological advancement

Introduction

This contemporary issue concerning cultivated meat is a highly important and sensitive matter. It is more closely related to the application of general legal principles than to case-specific rulings, because of its widespread influence and relevance to all human society. It pertains to human sustenance and life, impacting health and existence. Therefore, it should not be viewed from a single angle, rather, it requires a multi-disciplinary approach involving various specialties, expertise, and opinions. It embodies cooperation between medicine legal rulings of religion in serving humankind, to arrive at a Shari'ah ruling that achieves the objectives of the Lawgiver by attaining benefits and averting harms, in accordance with the texts and principles of the Divine Legislation. It also necessitates employing the mechanisms of issuing legal verdicts (fatwa), which require from the mufti:

- a) thoroughly examining the reality: i.e., the true nature of the matter in question.
- b) seeking the Shari'ah ruling after scrutinising the reality and diagnosing the new issue, and then reviewing the appropriate evidences.³

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³ See: Sheikh Ibn Bayyah, *The Making of Fatwa*, pp. 21–22.



One of the difficulties in preparing this research is the lack of scholarly fiqh studies on the topic. Sources and references are very scarce, which necessitates resorting to some articles published on websites, magazines, and newspapers that have addressed this subject.

First Section: Cultivated Meat: It's Meaning, History, Advantages, and Disadvantages

We will investigate cultivated meat in line with what was previously explained, according to the following steps:

First: The Intended Meaning of “Cultivated Meat”

Since issuing a judgment on something is contingent upon correctly conceptualizing it, it is necessary to know what is meant by “cultivated meat” to clarify its ruling and related judgments.

These meats are also referred to by other names, such as laboratory-grown animal meat, lab-produced meat, alternative meat, clean meat, manufactured meat, or meat cultivated in laboratories. Consulting specialists in food requirements, safety, and quality standards, and asking them about laboratory-produced animal meat, they stated that it is:

A type of genetically modified food produced in a lab from a living cell taken from a living animal, placed in a small laboratory dish, and fed with bovine serum containing proteins, glucose, amino acids, vitamins, and minerals that nourish this cell until it grows and multiplies. This serum is taken from calf blood. Then the grown cells in the dish are placed in a bioreactor containing serum (consisting of blood and nourishing proteins) until it transforms into mature muscle cells, which eventually become meat resembling a burger, with a taste similar to conventional meat.

It is noted—based on the circulated information about this type so far—that these blood and proteins are derived from cattle not slaughtered according to Sharī'ah.⁴

In several articles, it is defined as follows:

1. “Meat produced by taking stem cells from the meat of living livestock, then growing and developing them in an appropriate medium (serum taken from the embryos of dead cattle) that provides necessary nutrients, hormones, and growth factors. The process takes two to three weeks depending on the type of meat being produced, during which the muscle stem cells expand and transform into muscle fibres. When enough fibres accumulate, a complete piece of meat is formed.”⁵
2. “Meat taken from animal cells, cultivated in a lab rather than obtained from slaughtered animals. It is one form of cellular agriculture, producing meat outside the animal in a lab. It is produced from animal cells cultivated in a growth medium within a bioreactor (a device in which a biological reaction or process is carried out, especially on an industrial scale), instead of obtaining it directly from slaughtered animals. Thus, it is produced in a fundamentally different way than traditional livestock farming.”⁶

⁴ Allaam, S.I. (2023, May). “The Ruling on Consuming Cultured and Lab-Grown Meats in Laboratories.” Fatwa date May 27, 2023, Fatwa number: 7697. Accessed Online: September 5, 2023; Egyptian Dar al-Ifta website.

⁵ Article: Everything You Need to Know About Cultured Meats, www.alaraby.co.uk

⁶ Al-Baydhānī, A.M.S., Mūsā, S.H. and al-Qutīfī, H.K.H. (2023, April). “Cultured Meats and Their Nutritional, Health, and Environmental Impacts: Between Acceptance and Rejection.” *Journal of Human and Natural Sciences*,

Usually, muscle cells are cultivated in animal serum taken from an adult animal, a newborn, or an embryonic source.⁷

Second: The History of Cultivated Meat Production⁸

The production of cultivated meat and its concept are not exclusive to recent years; their roots extend back over previous periods. The timeline can be summarized as follows:

1. In 1897, cultivated meat was first mentioned in a German science fiction novel entitled *On Two Planets*. It also appeared in several other 20th-century novels, such as *Ashes*, *Ashes* by René Barjavel (1943).
2. In 1907, biologist Ross Harrison cultivated frog nerve cells in a lymph medium at Johns Hopkins University.
3. In 1931, British Prime Minister Winston Churchill said: “We shall escape the absurdity of growing a whole chicken in order to eat the breast or wing, by growing these parts separately under a suitable medium.”

However, little was done to develop cultivated meat until the end of the twentieth century.

4. In 1971, muscle fibres were cultivated in a laboratory by pathologist Russell Ross, who was interested in wound healing research.
5. In 1998, John B. Fenn—an American chemist who won the Nobel Prize in Chemistry in 2002, along with two other scientists—applied for a patent to produce manufactured meat from tissues for human consumption, where muscle and fat cells are cultivated in an integrated manner to produce food products such as beef, poultry, and fish.
6. In 1998, the National Aeronautics and Space Administration (NASA) cultured goldfish meat in the lab as part of research on producing food for long space journeys.
7. In 2000, the concept of lab-manufactured meat was popularized by Jason Matheny, after his contribution to a research paper. Matheny is an American national security expert, who served as Deputy Assistant to the U.S. President for Technology and National Security, among other roles. This proposal sparked interest in developing manufactured meat and led to the establishment of the ‘New Harvest’ organization, the first non-profit dedicated to supporting lab-grown meat research.
8. In 2003, the first piece of lab-cultivated meat consumed by humans was produced by Oron Catts, who managed to cultivate cells from a frog, presenting them as tiny frog steak slices during a dinner at a museum in Nantes, France.
9. In 2005, the Dutch government funded two research projects on cultivated lab meat.
10. In 2008, the first scientific publication on cultivated lab meat was released, and the number of publications increased significantly after 2013.

p. 308.

⁷ Al-Baydhānī et al., *op.cit.*, p. 320; Hassan, A., “Manufactured (Cultured) Meat.” Accessed Online: www.alwala.com

⁸ Al-Baydhānī et al., *op.cit.*, pp. 309–310.

11. In 2008, the Food Research Institute in Norway held a conference on cultivated lab meat (the 'In Vitro Meat Consortium').
12. In 2008, the People for the Ethical Treatment of Animals (PETA) offered a \$1 million prize to the first company to introduce lab-grown chicken meat to consumers by 2012. To claim the prize, the competitor had to complete two tasks:
 - Produce a lab-grown chicken product indistinguishable from real chicken.
 - Provide the product in large enough quantities to be sold competitively in at least 10 states.
 - The competition's deadline was extended to March 4, 2014. Eventually, the deadline passed without a winner, but the publicity increased scientific interest in the subject.
13. In 2012, 30 laboratories worldwide announced that they were engaged in manufactured meat research.
14. In August 2013, Dr. Mark Post, a professor of vascular physiology at Maastricht University in the Netherlands, created the first 'burger' from manufactured beef, tasted publicly in front of the press in London. Two journalists tasted it openly and declared it was "close to real meat." This received widespread public attention. It cost over \$300,000 and took more than two years to produce.⁹
15. In 2015, the producers of the lab-grown burger announced that its price had dropped from \$325,000 to \$11.36 (or \$80 per kilogram of lab meat). At that time, the natural protein sources cost per kilogram were ground beef at \$5.6, boneless beef at \$9, and whole chicken at \$2.6. Within just two years, the price significantly declined, indicating the potential commercialization of lab-grown meat.¹⁰
16. In July 2019, a report indicated that the price of making a manufactured meat burger was expected to drop to \$10 within two years.
17. In December 2020, cultivated meat products were marketed in a restaurant in Singapore.
18. Two non-profit organizations— 'New Harvest' and the 'Good Food Institute'—played a major role in supporting research and development of cultivated meat. Much of the advanced work in this field continues in start-up companies. There are about 50 start-ups focusing on meat and seafood, most of which are in the United States and the European Union. The traditional meat sector and large U.S. companies have also entered this field, and investment amounts have grown significantly in recent years, though still modest compared to investments in plant-based food companies.
19. In 2023, the Italian government approved a law banning the sale, production, and importation of lab-cultivated meat. This was along with fines imposed on those who sell it. The argument was that such 'meats' do not guarantee quality and consumer well-being, pose a threat to food-tasting culture, and do not respect culinary traditions.¹¹

⁹ Artificial Meats... A Revolution or a Nutritional "Disaster"? Mohamed Ghrawi, Writer and Researcher in Asian Affairs, www.independentarabia.com

¹⁰ Al-Baydhānī et al., *op.cit.*, p. 320

¹¹ See: Website: www.bbc.com, and website <https://www.youm7.com/>.

20. On June 20, 2023, U.S. regulators approved the sale of chicken made from animal cells in laboratories.¹²

Third: The Advantages of Cultivated Meat¹³

Many research studies and articles consider the production of cultivated meat a potential socio-economic-techno revolution. They enumerate several positive aspects, which can be presented as follows:

Environmental Aspects

1. Preserving animal biodiversity by reducing reliance on animal meat, which is seeing noticeable decline.
2. Cultivated lab meat could bring about significant changes in addressing many environmental issues, such as air, soil, and water pollution caused by traditional agriculture.
3. Reducing pollution caused by factory farms on the health of surrounding communities, as animal feed operations cause suffering and water pollution from nitrates due to animal waste.
4. The spread of manufactured meat can preserve agricultural lands. Animal agriculture uses more than three-quarters of the world's agricultural land. Animal products—meat, aquaculture, eggs, and dairy—use about 83% of global agricultural land and contribute about 57% of various food emissions, while providing only 37% of protein and 18% of calories, as well as causing negative environmental impacts.
5. Traditional meat and agriculture are among the largest sources of high greenhouse gas emissions. According to scientific studies, beef is the worst polluter, releasing more than 105 kg of greenhouse gases per 100 g of protein.
6. A study indicates that laboratory meat—termed by supporters as ‘clean meat’—produces 78% to 96% fewer greenhouse gas emissions than conventional meat, uses 99% less land, and consumes 82% to 92% less water.¹⁴
7. Lower energy costs, and no waste of any animal parts.

Health Aspects

1. This type of meat is supposedly better for human health, allowing control over harmful excess fats, since it is produced in a monitored laboratory environment

¹² See: Website: www.alhurra.com

¹³ Al-Baydhānī et al., *op.cit.*, pp. 308–309; Ghrawi, M. (). Artificial Meats... A Revolution or a Nutritional "Disaster"? Accessed Online: www.independentarabia.com; Opinions on the Ruling of Cultivated Meat, accessed online: www.alanba.com.kw;

Article: Culturing Meats from Animal Cells Has Advantages and Disadvantages, accessed online: www.elwatannews.com.

¹⁴ See also in this point: Opinions on the Ruling of Cultivated Meat: Website: www.alanba.com.kw

without the need for intensive livestock farming systems or the use of antibiotics.¹⁵

2. Lab-produced meat is assumed not to contain growth hormones, which are banned in the European Union.
3. It can significantly reduce the risk of emerging infectious diseases, often associated with animal storage, production, and consumption.
4. It can eliminate contamination with pathogenic microbes and viruses because it is produced under sterile conditions.
5. The COVID-19 pandemic revealed that animal-based foods are the origin of most emerging infectious diseases, either directly through disease transmission from wild or domesticated animals or indirectly through agricultural expansion and intensification that bring humans and livestock into direct contact.
6. Meat consumption raises a range of health issues. While meat contains important nutrients (proteins, fats, vitamins, and minerals), excessive consumption of red and processed meats is associated with numerous harmful health outcomes such as heart diseases, type 2 diabetes, obesity, and various cancers. Recent research suggests the opposite for alternative lab-grown meats.
7. Reducing reliance on animal farms decreases the risk of farmers and workers contracting diseases through direct contact with animals and poultry.

Food Security

1. Facing global food security challenges, as cultivated meat can be produced in controlled laboratory conditions even during unfavourable circumstances such as natural disasters.
2. Addressing global needs and challenges to food security and combating climate change. The quantity of meat consumed worldwide is extremely large, with about 150 billion animals raised for their meat annually, according to some estimates, and global demand for meat is expected to grow by up to 60% by 2050.¹⁶
3. Cultivated meat production requires fewer animals to produce large quantities of meat through cell multiplication. A single cell the size of an egg can theoretically produce millions of times more meat than a poultry barn containing 20,000 chickens.
4. The lab cultivation process for meat is faster than natural processes.
5. Relying on cultivated lab meat can significantly reduce the cost of meat production since it does not require the resources necessary to raise and maintain farm animals alive.¹⁷

¹⁵ Al-Baydhānī et al., *op.cit.*, p. 314

¹⁶ See website: <https://gulfnrws.com>.

¹⁷ There is an opposing opinion that the development of muscle growth within the bodies of animals, and the fact that it takes a long time to form them within the animal's body over millions of years, means that producing muscles in a different way may be costly and inefficient in terms of resource use. In reality, a large amount of energy is required to produce the components of the growth medium and to operate the bioreactor, such as

Fourth: The Disadvantages of Cultivated Meat¹⁸

There are several negative aspects associated with cultivated lab meat in environmental, health, and food security contexts, as well as socio-economic impacts, mentioned by some studies and articles. These can be summarized as follows:

1. Some studies show that the *long-term environmental impact* of this meat may exceed the harm and effects caused by livestock on the environment.
2. There is no scientific consensus on the environmental impact of greenhouse gas emissions from manufactured meat compared to conventional meat. Manufactured meat might produce more long-term global warming.
3. Animals have natural immune systems protecting them from bacteria and certain infections, which is not available in a cellular cultivation environment rich in nutrients. This may cause bacteria to thrive faster than in animal cells.
4. Cultivated meat uses the blood of dead calves, meaning tissue cultivation is from dead cells.
5. Several studies confirm the toxicity of commonly used plastic products and the problems they may cause to cultivated cells grown in plastic containers. If the use of plastic is not strictly controlled, the meat may be contaminated with endocrine disruptors or other harmful substances before packaging.
6. Using serum for meat cultivation is expensive and increases the cost of lab-grown meat production. The cost and effort to produce lab-manufactured meat remains high and does not approach natural meat prices, despite efforts to match the price of conventional meat. The first hamburger piece cost about \$330,000, while a single unit currently costs about \$10 in lab-scale production.
7. The sensory quality of meat is naturally affected by the type of animal, meaning the taste might differ from that of natural meats due to different growth conditions, feed types, and other factors.¹⁹
8. The loss of the livestock sector may have repercussions on several industries such as wool, textiles, and leather, as well as affecting rural inhabitants who rely on livestock for their income.
9. Many agricultural organisations oppose laboratory-produced meat for its risks and threat to their livelihood. There is a real danger that those at the bottom of the business hierarchy will find themselves out of the market.
10. In conclusion, as noted by the British physician Chris Bryant, there are three main concerns related to lab-grown meat: taste, price, and “naturalness,” as well as associated

controlling temperature, ventilation, and mixing processes.

¹⁸ Ghrawi, *op.cit.*

¹⁹ See Article: Culturing Meats from Animal Cells Has Advantages and Disadvantages. Accessed Online: www.elwatannews.com

safety concerns. He stated that “naturalness” issues are the most challenging fears since people often value natural products more than unnatural ones, which they consider bad.

Fifth: Challenges and Prospects for Lab-Cultivated Meat²⁰

Among the major challenges in producing cultivated meat, we can mention the following:

1. Achieving a product that closely resembles existing meat and obtaining a texture like natural meat.
2. Ensuring that cultivated meat is safe for human consumption.
3. Reducing production costs and increasing production rates. To reach consumers, costs must be reduced while simultaneously increasing output, which is expected as cultivation techniques improve and competition intensifies. A single cell can yield a trillion cells and can be used for multiple cell generations.
4. Commercial-scale laboratory production of meat requires much larger investments than research funding.
5. Achieving proper Sharī’ah and religious rulings regarding the consumption of these meats, whether in Islamic law, Rabbinical regulations, or Christian tradition. The position remains unresolved.
6. Obtaining approval from the relevant authorities.

Second Section: The Ruling on Cultivated Meat in Islamic Law

It appears that the fiqh rulings related to cultivated meat have not clearly crystallized due to the novelty of the subject, its limited spread, and the lack of widespread prevalence in Muslim societies. Nevertheless, some opinions have begun to emerge in the fiqh arena.

- Some opinions are reserved about cultivated meat and even forbid it, considering it changing Allāh’s creation, His natural order and His Divine Legislation.
- Others have been quoted as supporting manufactured meat for its positive aspects, arguing that there is no evidence to prohibit its consumption.
- Still others have refrained from issuing a ruling on this novel issue, as its full conceptual picture has not yet become sufficiently clear to make a definitive judgment and determine the related Sharī’ah rulings.

Studies on this subject are scarce. I have only found the opinion of the Egyptian Dār ul-Ifṭā, and some articles that mentioned some initial fiqh insights into this matter. This is an attempt to explore the initial contours of the fiqh viewpoint on this new issue.

First: The Reasons and Factors Influencing Its Ruling

By initially examining this matter and considering how this type of meat is produced, several reasons, factors, conditions, and controls should be taken into account because they influence the Sharī’ah ruling on consuming cultivated meat, including:

1. The source of the cultivated meat in terms of its permissibility. The ruling on the

²⁰ Al-Baydhānī et al., *op.cit.*, p.321.

derivative follows the ruling on the original. The portion used for cultivation must be taken from an animal whose meat is permissible. If taken from an inherently forbidden animal such as a pig, then the cultivated meat is also forbidden, as the derivative follows the original. According to the fiqh principle: *"The subsidiary follows [the ruling of] its original."*

2. The source of the cultivated meat in terms of its proper Islamic slaughter. It should be ensured that no part of the animal is taken while it is still alive to obtain the cell used in cultivation.
3. Avoiding the use of impure substances in the cultivation process, such as blood and the like.²¹
4. Considering outcomes and weighing benefits and harms, ensuring that consuming these products does not result in harm to human health, whether immediate or delayed; since, according to Sharī'ah principles: *"Harm must be removed,"* and *"Harm is not to be removed by another harm."*²²
5. Ensuring these foods meet the safety and quality requirements in line with standards and procedures determined by relevant authorities.²³

Some websites have quoted rulings from scientific bodies in Indonesia and Pakistan. Nahdlat ul-Ulama in Indonesia issued a statement indicating that:

...cells taken from live animals and then manufactured in bioreactors fall under the category of unclean (impure) and unlawful meat and should not be eaten.

Scholars of Sharī'ah led by Sheikh Muhammad Taqī Usmānī stated that cultivated meat is permitted only if the original cells are taken from animals slaughtered according to Islamic law.²⁴

Second: The Fiqh Opinions Mentioned on the Ruling of Cultivated Meat

- If cultivated meat is made from plant materials and flavoured with animal meat tastes, it is permissible according to its plant-based origin, especially if it is intended for beneficial scientific research in improving species or for treatment or extracting medicines.²⁵
- If cultivated meat is produced from animals forbidden to eat, such as carcasses and pigs, it is prohibited following its forbidden origin.²⁶

As for cultivated meat produced from animals whose meat is permissible, the matter requires examination. Different viewpoints have begun to appear, which can be outlined as follows:

²¹ See: The Ruling on Consuming Cultured and Lab-Grown Meats in Laboratories, Egyptian Dār ul-Ifta.

²² Ibid.

²³ Ibid.

²⁴ See: Article: Are Lab-Manufactured Meats Halal? <https://www.asharqbusiness.com>, and Article: Does Islamic Sharia Permit Eating Manufactured Meats? <https://alelm.net/>.

²⁵ Dr. Ajil an-Nashmī, former Dean of the College of Sharia and Islamic Studies in Kuwait, and Dr. Jaloui al-Jami'ah, Professor of Comparative Jurisprudence from Kuwait. See: Opinions on the Ruling of Cultivated Meat: Website: www.alanba.com.kw

²⁶ Opinions on the Ruling of Cultivated Meat: Website: www.alanba.com.kw.

Withholding judgment and not concluding a ruling

This approach suggests waiting before issuing a ruling until all relevant information is gathered and referring the matter to recognized fiqh academies. A question was posed on a fatwa-related website: “Is it permissible to eat meat grown from stem cells, given that such meat is expected to become widely prevalent in the future?”

The answer was as follows:

We do not see any need to rush into issuing a ruling about these meats until it is known what the source of the stem cells is, what additional materials are used in manufacturing, and their impact on human health. This issue should be examined by reputable scientific bodies such as the Islamic Fiqh Academy, as it previously considered cloning and the use of stem cells.²⁷

Permissibility of Cultivated Meat with Conditions

Some websites quote a researcher’s opinion²⁸ who stated that since judgment on something depends on its conceptualization, lab-produced meats—referred to as ‘laboratory meat’—result from taking a biopsy from the animal intended for manufacturing the meat (usually a cow or chicken). Stem cells are then extracted and placed in a special bioreactor, fed with glucose, amino acids, vitamins, and minerals. This mixture allows the stem cells to develop into mature muscle cells, becoming cultivated meat. All meat production starts with cells that need nutrition to grow naturally, as in cows or chickens.

He concluded that lab-grown meat is halal if two conditions are met:

- a) The stem cells are taken from an animal permissible to slaughter.
- b) No blood or blood serum is used in its manufacturing.²⁹

He did not refer to the requirement of proper Islamic slaughter, nor did he discuss other factors that might influence the Sharī’ah ruling. Such an answer may have come from a direct interview or press meeting. However, this issue requires deeper research and more thorough consideration.

Prohibition of Cultivated Meat Due to Unmet Conditions

It seems that the prevailing initial view among jurists, before the issuance of any judgment by various Islamic fiqh academies, is to prohibit cultivated meat, as the conditions for permissibility and legality are not met.

This fiqh view is based on the following evidences:

1. Considering the source of the cultivated meat in terms of proper Islamic slaughter. It must not be cut from a living animal to obtain the cell to be cultivated. A well-established legal maxim states: “That which is cut off from a living animal is considered like its dead meat (carion).”³⁰

²⁷ Question about Cultivated Meats. Accessed Online: <https://islamqa.info/ar/answers>

²⁸ Among them Dr. Bassām ash-Shattī, who holds a PhD from the College of Foundations of Religion, Al-Azhar University, 1995, titled "Preaching in the Gulf Region: Its Methods and Objectives."

²⁹ Opinions on the Ruling of Cultivated Meat: Website: www.alanba.com.kw

³⁰ As previously mentioned.

The evidence for this is the hadith narrated by Abū Wāqid al-Laythī, who said: The Messenger of Allah (peace be upon him) came to Medina while people were cutting the humps of camels and the tails of sheep, so the Messenger of Allah (peace be upon him) said: “*What is cut from a living animal is dead (carrion)*.”³¹

Thus, the cell taken from a dead animal is considered dead because its separation is like separation after death. The same applies to what is cultivated from it: it is considered dead since it is part of it. It is well known that eating carrion is strictly prohibited by consensus, based on Allāh’s Statement:

“...حُرِّمَتْ عَلَيْكُمُ الْمَيْتَةُ...”³².

Fiqh texts from the four schools

- A. Ibn ‘Abidīn (Hanafī) said: “What is separated from the living (animal) is like carrion.”³³
- B. Ibn Rushd al-Hafīd (Mālikī) said: “They agreed that flesh is among the parts of a carcass (and thus is carrion).”³⁴
- C. Al-Kharāshī (Mālikī) said: “The rule is that what is separated from the living is like its dead form, and all except what is excluded is eaten by agreement.”³⁵
- D. Al-Ramlī (Shāfi‘ī) said: “A part separated from a living animal is like carrion, for separation during life is akin to separation after death.”³⁶
- E. Ibn Qudāmah (Hanbalī) said: “If any part is cut from a living animal while it has stable life, it is carrion... because its permissibility is through slaughter, and this is not slaughter.”³⁷
2. **Avoiding the use of impure materials like blood in the cultivation process.** There is unanimous consensus that blood is forbidden and impure, neither to be eaten nor utilized.³⁸ God says: “...حُرِّمَتْ قُلْ لَا أَجِدُ فِي مَا أُوحِيَ إِلَيَّ مُحَرَّمًا عَلَى طَاعِمٍ يَطْعَمُهُ إِلَّا أَنْ يَكُونَ مَيْتَةً أَوْ دَمًا...”⁽³⁹⁾, and also says: “...مُسْفُوحًا أَوْ لَحْمَ خَنزِيرٍ...”^{40 41}

As previously mentioned, after consulting specialists, it turns out that:

- Cultivated meat is produced from a living cell taken from a live animal.
- Its manufacturing process involves serum and blood proteins derived from cows not slaughtered according to Sharī‘ah.⁴²

Based on this description, two main conditions for permissibility are missing in cultivated meat:

a) The original animal source must be slaughtered in a Sharī‘ah-compliant manner.

³¹ An authentic hadith, narrated by Imām Ahmad in his *Musnad* (36/233, No. 21902); Abū Dawūd (3/111, No. 2858); at-Tirmidhī (4/74, No. 1480); Ibn Mājah (2/1072, No. 3216); al-Hākim in *al-Mustadrak* (4/137, No. 7150), who said: “the chain of narration is authentic”, and adh-Dhahabī agreed with it.

³² Surah Al-Mā‘idah: 3.

³³ Ibn Abidin’s Commentary (1/207).

³⁴ Ibn Rushd al-Hafīd, *Bidāyat al-Mujtahid wa’n-Nihāyat al-Muqtasid*, vol.1, p.85.

³⁵ al-Kharāshī, A Brief Explanation by Khalīl, vol.3, p.19.

³⁶ ar-Ramlī, End of *al-Muhtaj Explanation of al-Minhaj*, vol.1, p.250.

³⁷ Ibn Qudāmah, *al-Mughnī*, vol.13, p.310.

³⁸ Previously mentioned.

³⁹ Surah Al-Mā‘idah: 3.

⁴⁰ Surah Al-An‘ām: 145.

⁴¹ See: The Ruling on Consuming Cultured and Lab-Grown Meats in Laboratories, Egyptian Dār ul-Iftā.

⁴² Previously mentioned.

b) No impure substances, such as blood, should be used in the cultivation process.

According to the fundamental legal principle:

...the absence of a necessary condition leads to the absence of the permissible ruling.⁴³

Thus, consuming lab-cultivated meat is prohibited. This is what the Egyptian Dar ul-Ifta indicated after clarifying the failure of these conditions. It concluded: "From what has been mentioned, the answer to the question is known."⁴⁴

This view is also supported by some researchers, such as Dr. Saad Al-Anzi,⁴⁵ and Dr. Jluwi Al-Jumeiah,⁴⁶ as mentioned in some website articles⁴⁷, and Professor Fadlan Muhammad Othman,⁴⁸ who stated that lab-grown meat is permissible if taken from animals slaughtered in an Islamic manner.⁴⁹

3. Considering outcomes and balancing benefits and harms so that consumption of these products does not cause harm to human health. Since it is established that "*Harm must be removed*" and "*Harm is not removed by another harm*",⁵⁰ it is essential to ascertain safety.

Imām al-Jassās said:

When we seek to permit something specifically, the way to its permissibility is through *ijtihad* [juristic exertion] and prevailing assumption that it will not cause us greater harm than the benefit we expect. Do you not see that... drinking medications and eating foods is permissible only if in our strongest estimation it does not cause more harm than the benefit we hope to achieve?⁵¹

Imām ash-Shātībī said:

Most benefits and harms are relative, not absolute. Meaning they are beneficial or harmful in some situations rather than others, for some individuals and not others, or at certain times rather than others. For example, eating and drinking are beneficial to humans when there is a need for them and when the consumed food is pleasant and not bitter or repulsive, does not cause immediate or future harm, and its acquisition does not inflict harm on oneself or others immediately or in the future.⁵²

We previously discussed the positive and negative aspects of cultivated meat, and the balance between the two. The supporters and opponents each present argument. It seems challenging to conclusively weigh the benefits and harms at present, as further verification and confirmation are needed. It is difficult to settle the matter now.

Moreover, judging permissibility based on *Maslahah* [public benefit] depends on the following:

- A. The interest should be recognised or supported by evidence or consensus. This is not realised here because it is a new issue with no direct text.
- B. The interest should be considered as a type of *Maslahah Mursalah* [unrestricted public benefit] recognized in principle.⁵³

⁴³ See: al-Qarāfi, *Explanation of at-Tanqih al-Fusūl*, p.82; Ibn as-Subkī, *al-Ibhāj* in the Explanation of *al-Minhaj*, vol.1, p.205; al-Mardāwī, *at-Tahbīr* explanation of *at-Tahrīr*, vol.3, p.1067.

⁴⁴ See: The Ruling on Consuming Cultured and Lab-Grown Meats in Laboratories, Egyptian Dar al-Ifta.

⁴⁵ A Kuwaiti researcher with a Ph.D. in Islamic Sciences from the University of Zitouna - Tunisia.

⁴⁶ Professor of Comparative Jurisprudence, from Kuwait.

⁴⁷ Opinions on the Ruling of Cultivated Meat: Website: www.alanba.com.kw

⁴⁸ Executive Director of the Global Malaysia University.

⁴⁹ Ghrawi, *op.cit.*

⁵⁰ See: The Ruling on Consuming Cultured and Lab-Grown Meats in Laboratories, Egyptian Dar al-Ifta.

⁵¹ al-Jassās, *al-Fusūl fi'l-Usūl*, vol.2, p.368.

⁵² Ash-Shātībī, *al-Muwāfaqāt*, vol.2, p.65.

⁵³ See: al-Ghazālī, *al-Mustasfa*, vol.1, p.173); Ibn Qudāmah, *Rawdat un-Nādhir* by vol.1, pp.478–479); az-Zarkashī, *Tashnif ul-Masāmi' Sharh Jam' ul-Jawami'*, vol.3, pp.12, 19.

Given the discrepancies and contradictions in identifying where the interest lies and considering that—assuming these interests are realized—they conflict with the Sharī'ah evidence suggesting prohibition, these interests would fall under “disregarded interests,” which are not considered valid arguments for permissibility.

Conclusions and Recommendations

At the end of this modest research, I present some conclusions and recommendations:

1. The necessity of considering outcomes and balancing the benefits and harms that could result from the production and consumption of cultivated meat, ensuring that no harm will be posed to public health immediately or in the future.
2. Further research is needed to overcome difficulties and avoid risks associated with producing cultivated meat. In this way, there will be a drive to reach a Divinely Legislated product free from either impediments or anticipated harm. Past experiences have shown that some chemical compounds and medicines deemed safe were later found to be harmful to humans, leading to their discontinuation.
3. It is important to consider human health, maintain food security, and preserve environmental balance. What will happen to animal existence and reproduction if their slaughter halts and their consumption declines, assuming laboratory meat production prevails?
4. One must not overlook the fate of professionals and industries related to meat, such as farmers, herders, and butchers, whose livelihoods depend on it.
5. The responsibility for examining such issues is not solely scholarly or *fiqhi*, but also ethical, as it relates to the existence of humans, animals, and the environment on Earth and the future of ecological balance.

Dr. Abduqahir Qamar⁵⁴ said:

Such practices raise far-reaching philosophical issues. We were born as hunters and meat-eaters and remained so. Is it unethical not to remain as we were created? (⁵⁵)

And God knows best.

⁵⁴ Director of Fatwa and Sharia Rulings at the Islamic Jurisprudence Complex affiliated with the Organisation of Islamic Cooperation.

⁵⁵ See website: <https://gulfnnews.com>.