

Critical study of the theological incorrectness of the production of genetically modified foods

Alireza alebouyeh¹, Maryam alsadat razavi²

Submitted:

2021/5/7

Accepted:

2021/6/29

Keywords:

Genetically Modified Foods, Playing God's Role, Crossing Species Boundaries, Violating Intrinsic Values of Plants and Animals, Changing Creations

Abstract: The world's population is growing exponentially, and people are facing significant problems such as hunger and extreme malnutrition. According to some people, the production of genetically modified foods can be a good solution to provide healthy and adequate food and, thus, solve global hunger. The production of genetically modified foods has faced much opposition. A group of opponents, by presenting theological reasons, consider the production of genetically modified foods to be immoral and disgusting on their own, regardless of the consequences. This paper seeks to examine and critique the most important theological reasons for opposing the production of genetically modified foods, such as playing the role of God, crossing species boundaries, violating the intrinsic value of plants and animals, and changing creation. The results show that these reasons are not sufficiently convincing and cannot prove the immorality of the production of genetically modified foods, although this is not necessarily the case.

DOI: [10.30470/phm.2021.130392.1832](https://doi.org/10.30470/phm.2021.130392.1832)

Homepage: phm.znu.ac.ir

1. Assistant Professor Institute of Islamic Sciences and Culture, Qom (Corresponding author), a.alebouyeh@isca.ac.ir.

2. Level 3 Ethics and Education, Masoumiyah Institute of Higher Education, Qom, ma20razavi@gmail.com.



Introduction: Currently, the world's population is growing rapidly, reaching an estimated 8.1 billion by 2030 (United Nations, 2015). As the population grows, the need for more food production is felt. Today, with the advancement of science and technology, food production methods are changing rapidly. Recent advances in biotechnology and genetic engineering have enabled the conscious manipulation of plant and animal genes and the production of genetically modified foods. The production of genetically modified foods has faced oppositions that are mostly concerned with ignored ethical issues in the production of genetically modified foods. Some opponents believe that the production of genetically modified foods has a catastrophic effect on the lives of human beings, animals and ecosystems and, as a result, the production of these products is immoral (Hilbeck et al, 2015; Zdziarski et al, 2018; Terefe, 2018). Others see the production of genetically

modified foods as flawed in themselves, regardless of the consequences. They believe that the genetic modification of plants and animals, which are the main sources of our food supply, is in itself inaccurate, and some of the reasons are theological. (Gottwald et al, 2010) Theological arguments are the arguments that followers of Christianity, Judaism, and Islam rely on to prove the falsity of genetically modified foods. This article aims to examine and critique the most important theological reasons against the production of genetically modified foods. One of the most important questions we are trying to answer in this article is: What are the most important theological reasons for the production of genetically modified foods? And what are the drawbacks to them? Can we argue against the immorality of producing genetically modified foods by relying on these reasons? Playing the role of God, crossing species boundaries, violating the intrinsic value of plants and animals, and changing divine

creation are some of the most important theological reasons opposing the production of genetically modified foods; all of these have their drawbacks.

Methodology: The research method is descriptive-analytical, using library resources. The production of genetically modified foods has faced negative arguments. Some opponents of the production of genetically modified foods believe that it has undesirable consequences and is immoral. Others see the production of genetically modified foods as flawed, regardless of the consequences. Due to the wide range of objections raised, this article examines and critiques four of the most important theological reasons raised against \ the production of genetically modified foods. To examine and critique these four reasons, first each argument is examined and below each argument its problems are stated.

Findings: Playing the role of God, crossing species boundaries, violating the intrinsic value of plants and animals, and changing divine creatures are among the most important theological reasons expressed in opposition to the production of genetically modified foods. One of the most common arguments against genetic modification is about the role of God. This is a general argument and is used to oppose all kinds of activities that lead to genetic modification. It has a history of biotechnological arguments. Almost every step forward in biotechnological research has faced this opposition. (Nordgren, 2010; Dabrock, 2009) The argument about the role of God is fraught with problems, such as the non-existence of creation in the production of genetically modified foods and the immorality of playing the role of God. Another major reason for opposing the production of genetically modified foods is the violation against the intrinsic value of plants and animals in the



process. Species are generally thought to be groups of individuals that are biologically related and have different lifestyles due to different genetic characteristics. Therefore, worrying about crossing species boundaries means worrying about mixing the genes of different organisms using genetic engineering. (Sandler, 2012: 130) The argument of crossing species boundaries is also not strong due to the ambiguity in species definition and the instability of species boundaries. Another major reason mentioned in opposition to the production of genetically modified foods is the violation against the intrinsic value of plants and animals in the process. According to this argument, modifying the genetics of plants and animals for the greater and better use of human beings is not right and reduces the status of these living organisms to the product, tool, and set of thousands of genes. Ethical discussions about the intrinsic value of living things are not specific to genetic engineering. These topics became popular in

the late twentieth century to study the suffering of animals in industrial animal husbandry and scientific experiments, and played an important role in promoting bioethics. (Whitelaw and Donald M, 2002). The first argument about violating the intrinsic value of plants and animals is also distorted. Intrinsic value means self-worth, and this meaning is not in conflict with being valuable to others. The last argument, the argument of change in the divine creatures, also appears in two forms: one deals with the lack of argument about the changed nature of living beings and the other with the shortcomings of the implication of verse 119 of Surah Nisa on the immorality of any change.

Discussion and Conclusion:

Examination and critique of theological arguments about the genetically modified food show that all of them are flawed and that the production of genetically modified foods cannot be considered inherently immoral. Some opponents also oppose the

production of genetically modified foods, citing the reasons why genetically modified foods are harmful to human beings, animals, and the environment. The final conclusion about whether it is ethical or immoral to produce genetically modified foods requires careful consideration of these reasons.

References:

- Alusi, seyed Mahmood.(1415 AH). Roh Al-Maani Fi Tafsir AL-Quran Al-Azim. Beirut: Dar Al-Ketab Al-elmieh. [In Arabic]
- Al-shirazi, Sadr al-din Mohammad. (1393SH). Al-hekmat al-motealieh fi al-asfar al-aghlieh al-arbaeh. Qom: Manshoorat al-taliah al-noor. [In Arabic]
- Ali beyk, Hengame. (1381SH). Takamol mojudate zendeh. Tehran: Firoozeh, Forth edition. [In Persian]
- Abedi sarvestani, Ahmad; Shah vali, Mansoor; Mohagheghe damad, seyed mostafa.(1386 SH). Mahyyat Va Didgahaye Akhlagh Zist Mohiti Ba Takid Bar didgahe Eslami. Ethics in science and Technology, 2(1,2):59-72. . [In Persian]
- Ansari, Masoumeh; Lajavardi, Fatemeh. (1391 SH). Dine Yahood Va Masaele Zist Mohiti. Pazhuheshnamehe adyan, 6(11): 35-52. [In Persian]
- Brunk, Conrad, 2009, Coward, Harold Acceptable genes?: religious traditions and genetically modified foods, SUNY Press, New York.
- Coff, Christian.)2006(. THE TASTE FOR ETHICS An Ethic of Food Consumption. Translator Edward Broadbridge. new York: springer.
- Comstock, Gary L, Gary R Comstock.(2000). Vexing nature? On the ethical case against agricultural biotechnology.new york: Springer Science & Business Media.
- Clark, E Ann. (2006). Environmental risks of genetic engineering. Euphytica, 148(1): 47-60.
- Cohn-Sherbok, dan. (1394). Judaism. Hasan Afshar. Tehran: Nashre Markaz , , First Edition. [In Persian]
- Capelestone, Feredric. (1386SH). Tarikh falsafeh. Gholamreza aavaei. Tehran: Sherkate entesharate elmi va farhangi, Seda va simaye jomhoorie islamie Iran (Soroosh), Second edition. [In Persian]
- Gottwald, Franz-Theo, Werner Ingensiep, Hans, Meinhardt, Marc. (2010). Food Ethics. new York: springer.
- Quran. Tarjomehe Ayatoallah Makareme Shirazi. [In Arabic]



- Javadi Amoli, Abdollah.(1386 SH). Eslam Va Mohite Zist. QOM: Nashre Sra. [In Persian]
- Javadi Amoli, Abdollah.(1389 SH).Tasnim. QOM: Nashre Sra. [In Persian]
- Javadi Amoli, Abdollah.(1389 SH).Mabadie Akhlagh Dar Quran.Hossein Shafiei. QOM: Nashre Sra. [In Persian]
- Kant, Immanuel.(1383 SH). Faghat Mojodate aghel saebe arzeshe akhlaghiand. Tarjomehe Fatemeh valiani. Louis P Pojman. Akhlaghe zist mohite, motarjeman. Tehran: toseh. [In Persian]
- Keram al-dini, Mohammad va hamkaran. (1391SH). Ketabe Zistshenasi pishdaneshgahi. Tehran: Sherkate chap va nashre ketabhaye darsi Iran, Eleventh edition. [In Persian]
- Koleini, Mohammad ibn Yaghoob ibn Eshagh. (1417AH). Al-kafi. Tehran: Daral-ketab al-islamieh, Forth edition. [In Arabic]
- Korthals Michiel.(2004). Before dinner: Philosophy and ethics of food, new York: Springer.
- Mepham, Ben. (1996). Food Ethics,Psychology Press.
- Mepham,Ben et al.(2006). Ethical Matrix Manual. LEI, onderdeel van Wageningen UR.
- Mohajer, Mina; Safaee, Hosein; Mahdavi damghani, Abd Al-majid. (1390 SH). Molahezate akhlaghi va hoghooghi dar karbord mahsoolate tararikhte ba negahi be ghaanoone melli imeni zisti. Ethics in science and Technology, 6(1): 35-42. . [In Persian]
- Motie, Hosein.(1397 SH). Melake Tamayoze taskhir va Taghire Tabiat Dar Fannavarye Slami. Andishe-Novin-E-Dini,(55): 53-72. . [In Persian]
- Majlesi, Mohammadbagher ibn Mohammadtaghi. (1403AH). Bahar al-anvar al-jameah ledorar al-akhbar al-aemah al-athar. Beiroot: Dar ehya al-toras al-arabi, Second edition. [In Arabic]
- Makareme Shirazi, Naser. (1374 SH). Tafsire nemuneh. Tehran: Dar Al-ketab Al-eslamiehe, First Edition. [In Persian]
- Nordgren,Anders.(2010). For our children: The ethics of animal experimentation in the age of genetic engineering.Rodopi.
- Nazari tavakkoli, Saeed, and mohammad zadeh, zanab. (1393 SH). Zhen Petha Va Barresie payamadhaye akhlaghi Tolide Anha. Ethics in science and Technology,9 (3): 12-21 [In Persian]
- Sandler, Ronald L. (2012). The ethics of species: An introduction. new york: Cambridge University Press.

- Siuti. Jalal Al-din. (1416AH). Tafsir Al-lajin. Beirut: moasseseh al-noor lelmatbuat. [In Arabic]
- Sharif Al-razi, Mohammad Ibn Hosein. (1380SH) . Almajzat al-nabavieh .Mahdi Houshmand .Qom: Dar al-hadith, First Edition. [In Persian]
- Singer, Peter.(1386 SH). Environmental ethics. Ali reza Alebouyeh. Naghd va nazar, Faslnamehe elmi pazhuheshi falsafe va elahiat, 12(46): 141-169. . [In Persian]
- United Nation. (2015). Population 2030: Demographic Challenges and Opportunities for Sustainable Development Planning, New York: United Nations.
- World Health Organization,(2018), The State of Food Security and Nutrition in the World 2018, Food & Agriculture Org.
- Thompson,Paul B, Korthals, Michiel.(2007), Food Biotechnology in Ethical Perspective, New york:Springer.
- Dabrock,Peter. (2009). Playing God? Synthetic Biology as a Theological and Ethical Challenge. Systems and synthetic biology,3(1): 1-4.
- Devries,RBM.(2008). Intrinsic value and the genetic engineering of animals. Environmental Values .17(3). 375-392.
- Estrada, Edith, Cano, Araceli. (2017). The role of biotechnology in agricultural production and food supply. Ciencia e Investigación Agraria,44(1): 1-11.
- Erde, Edmund L.(1989). Studies in the Explanation of Issues in Biomedical Ethics:(II) On “On Play [ing] God”, Etc. The Journal of medicine and philosophy, 14(6): 593-615.
- Hilbeck,Angelika et al. (2015). No scientific consensus on GMO safety.Environmental Sciences Europe,27(1):1-4.
- Holban,Alina Maria, Grumezescu,Alexandru Mihai.(2017). Genetically Engineered Foods. Handbook of Food Bioengineering. Academic Press ,Vol. 6.
- Link,Hans-Jürgen. (2013). Playing God and the intrinsic value of life: moral problems for synthetic biology? .Science and engineering ethics ,19(2): 435-448.
- Peters, ted. (1386 SH). Playing God?. Abd Al-Reza Salar Behzadi. Tehran: Nashr-e Ney. [In Persian]
- Parsa, Alireza.(1395 SH). Naghde Didgahe lin White Dar Masalehe Bohrane Zist Mohite Bar Asase Mabnaye Ensan Shenakhtie Eslami. Faslnameye elmi- pazhuheshi amuzeshi mohite zist va toseye paydar, (4): 65-74. [In Persian]



- Poordavud, Mahdi et al.(1395 SH). Barresye Mahsulate Tararikhte Az Didgahe Dini Va Siasi. Hamayeshe mahsulate tararikhte dar khedmate tulide ghazaye salem, hefazat az mohote zist va tosehe paydar. Hamayeshe olom tahghighat va fannavari, daneshgahe keshavarzi va manabe tabiee ramine khozestan, 1. [In Persian]
- Rokn Ai-dini, Seyyed Hasan.(1398 SH). Shane Akhlaghie Havanat Az Didgahe AndishmandaneGgharb, Mosalman va Qurane karim Ba Takid Bar Tafsire Al-mizan.pazhuheshhaye akhlaghi, 37(1):153-172. . [In Persian]
- Rahnama, Hasan.(1394 SH). Akhlaghe Zisti Va Tolide Mahsulate Tararikhteh. Ethics in science and Technology, 6(1):1-14. [In Persian].
- Rahnama, Hasan.(1394SH). Barresie Tatbighie Didgah adian Mokhtalef Dar Morede Fannavarie Mahsulate Tararikhteh. Faslnamehe akhlaghe zisti,5(16): 183-218. . [In Persian]
- Rollin,Bernard E.(2011). Animal rights as a mainstream phenomenon. Animals,1(1): 102-115.
- Robert,Jason Scott, Baylis,Françoise. (2003). Crossing species boundaries. American Journal of Bioethics,3(3):1-13.
- Regan, Tom.(1397SH). Animal Rights. Human Wrongs: An Introduction to Moral Philosophy. Behnam khoda panah. Tehran: Nashr kargadan. [In Persian]
- Rifkin, Jeremy(1383SH). Century of Biotechnology. hosein Davari. Tehran: ketabesobh. [In Persian]
- Terefe,Motbaynor. (2018). Biosafety issues of genetically modified crops: Addressing the potential risks and the status of GMO crops in Ethiopia. Clon Transgen ,7(2):164.
- Tabatabaei, Seyed Mohammad hosein. (1374SH). Tarjomeh tafsir al-mizan. Seyyed Mohammad bagher mousavi hamedani. Qom: Daftare entesharate eslami Jameeye modaresine Howzeh elmiyeh Qom, Fifth edition. [In Persian]
- Tabatabaei, Seyed Mohammad hosein. (1383SH). Nahait al-hekmah. Abbasali zarei sabzevari. Qom: Daftar entesharat islami, Fifth edition. [In Arabic]
- Tabarsi, Fazl ibn Hassan. (1377SH). Javame al-jame. Tarjome ahmad amiri shadmehri. Mashhad: Bonyad pajooeshhaye islami astane qodse razavi. Second edition. [In Persian]
- Tabarsi, Fazl ibn Hassan. (1360SH). Tarjome majma al-bayan fi tafsir al-Qoran. Motarjeman. Tehran: entesharate Farahani, First edition. [In Persian]
- Toosi, Mohammad ibn Hassan. (Bi ta). Al-tebyan fi tafssir al-Qoran.

- Beirut: Dar ehya al-toras al-arabi, First edition. [In Arabic]
- Toosi, Mohammad ibn Hassan. (1407AH).Tahzib al-ahkam. Tehran: Dar al-ketab al-islamiah. Forth edition. [In Arabic]
 - Verhoog,Henk. (1992). The concept of intrinsic value and transgenic animals. Journal of Agricultural and Environmental ethics,5(2): 147-160.
 - Verhey, Allen.(1995). "Playing God" and Invoking a Perspective. The Journal of medicine and philosophy,20(4): 347-364,
 - Whitelaw, C Bruce A; Donald M, Bruce. (2002). Does genetic modification violate intrinsic value?. TRENDS. 20(12): 488-489.
 - Yonesi, Erfan.(1383 SH). Osule mohandesie zhenetic va biotechnology gyahi. Hameden: Entesharate khaje rashid, First Edition. [In Persian]
 - Zdziarski, Irena M, Carman,Judy A, John W Edwards.(2018). Histopathological Investigation of the Stomach of Rats Fed a 60% Genetically Modified Corn Diet. Food and Nutrition Sciences ,9(6): 763-796.
 - Zamakhshari, Mahmood.(1407AH). Al-Kashshaf An Haghaegh Ghavamed Al- tanzil. Beirut:Dar Al-Ketab Al-Arabi. [In Arabic].