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The Importance of Legal Protection Towards Consumers of Genetic Engineering Products (PRG) in Agriculture and Health

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Abstract

The background of this research is the possibility that gene transfer is through *genetically modified organism* is not entirely successful and can cause negative impacts and harm to society, so protection is needed for the community (consumers) in consuming or using *genetic engineering products (PRG)*. This study aims to find and analyze and provide an understanding of the importance of legal protection for consumers of *genetic engineering products*. The results of the study using the normative legal research with the statute approach, and conceptual approach is that the legal protection of consumers *genetic engineering products* is very important to ensure security, comfort and safety for consumers' health in consuming or using *genetic engineering products*. At the end of this study, the researcher also gave advice to the government to make a regulation about the consumer protection of *genetic engineering products*.

Keywords: Legal Protection, Consumer, Genetically Modified Organism Product

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1. Introduction

Biotechnology is now not only a method for developing agricultural products or the use of microorganisms, but biotechnology has become a necessity to meet human needs both food and health, so, naturally, biotechnology has developed very rapidly, especially Genetic Engineering Products (from now on referred to as PRG). Genetic Engineering is a method of applying molecular biology techniques to change the genetic makeup of chromosomes or to change the genetic expression system which will provide benefits for social purposes, where the objects used to cover almost all classes of organisms, ranging from bacteria, fungi, lower animals, higher animals, to plants.¹ Genetic engineering also interprets as a process of manipulating or changing the genetic makeup of chromosomes or changing the genetic expression system carried out by humans on cells or genes in a particular organism that lives both in plants, animals, and humans, to create new species that are genetically identical.² Based on the two definitions of genetic engineering, the understanding of PRG itself, that is, living organisms, their parts and/or processed products, which has a new genetic makeup from the application of modern biotechnology.³ Transformed from the use of modern biotechnology as intended to produce products that are useful for people's lives, such as useful to overcome hunger, scarcity of energy resources, reduce the incidence of environmental pollution and increase endurance so as not to be easily attacked by the disease.⁴ The products referred to are two of which are PRGs in agriculture and health, which are currently being developed by researchers both in government agencies and among academics.

In connection with the table above, although the PRG has been developing, this development is not followed by the availability of a specialized and adequate legal umbrella as a form of legal protection for the PRG.⁵ The absence of legal protection against PRG as intended certainly raises concerns for consumers, because not all biotechnology or genetic engineering products have a positive impact or benefit. Still, there are also negative impacts or losses caused by the use of modern biotechnology. Adverse effects and injuries as intended include being able to cause allergies, antibiotic resistance, resulting in various diseases such as inflammation, infectious blood diseases, and mad cow caused by the presence of new chemicals.⁶ The utilization of PRG also raises concerns that the products produced may cause risks to human health, including gene transfer, and cause

¹ See Indonesian Ulama Council Fatwa Number 35 of 2013 concerning Genetic Engineering and Its Products in the First Part of the General Provisions of Figures 2.

² Muhammad Syaifuddin dan Sri Handayani. *Hukum Perlindungan Rekamaya Genetika*. Malang: Setara Press, 2017, p.14.

³ See Article 1 number 7 of Government Regulation Number 21 of 2005 concerning Biological Safety of Genetically Engineered Products.

⁴ Sutarno, *Rekamaya Genetik dan Perkembangan Bioteknologi di Bidang Peternakan*, Proceeding Biology Education Conference Vol 13 No.1, at the XIII National Seminar on Biology Education FKIP UNS 2016, p. 23.

⁵ The results of Dyah Ochtorina Susanti's research, Nuzulia Kumala Sari, Ika Lia Novenda, entitled Construction of Legal Protection for Intellectual Property Rights (HAKI) and Environment for Agricultural and Health Biotechnology Products. Held in July-December 2019, p. 122. In this regard, it is also important to understand that regulations cannot be applied and enforced at the regional level without passing regulations under the law, namely implementing regulations such as regional regulations.

⁶ Muhammad Syaifuddin dan Sri Handayani. *Op. Cit.*, p. 28.

dangerous diseases such as cancer and AIDS.¹ With regard to this matter, Walter Gilbert, Lidya Villa-Komaroff and geneticist named Sewall Green Wright in Bambang R Prawiradiputra and Muharsini who argued that the new technology in agriculture and health does not mean that it does not contain problems, because the products produced from genetic engineering also can cause severe threats to human health, especially consumers² of the PRG.³ This shows that legal protection for PRG consumers both in agriculture and health is very and necessary.

Based on the background described above, there is one problem that needs to address in this scientific paper, namely, What is the Urgency of Legal Protection for Consumers of Genetically Engineered Products (PRG) in Agriculture and Health?

2. Materials and Methods

The research method used in scientific papers that is in the form of normative legal approaches or often also called doctrinal legal research (doctrinal research), namely research types that aim to provide detailed and systematic explanations by studying various legal rules, conducting relationship analysis between one constitutional law and another, even this method can be used to predict the development of statutory regulations in the future.⁴ Regarding the object of research in this method is the legal documents and library materials.⁵ In connection to using doctrinal legal research, namely to systematize, correct, and clarify a rule of law that applies to certain areas of law through the analysis of primary and secondary legal materials.⁶ In connection with this, the object of this research is related to legal protection for consumers of genetic engineering products in agriculture and health.

In connection with the explanation above, there are two approaches in this research, namely, the first, the legislative approach, which is carried out by examining the laws and regulations relating to the legal issues to be solved.⁷ Related to this, the legislation approach is applied to examine the laws and regulations relating to the legal protection of consumers in genetic engineering in agriculture and health. Associated with the second approach is the conceptual (conceptual approach) that is the approach taken by referring to legal principles that can obtain in the view of legal scholars or other legal doctrines.⁸ In this regard, the implementation of a conceptual approach to the writing of this scientific work is to trace the concept of consumer legal protection to the idea of genetic engineering products in agriculture and health, by referring to the opinions of experts or scholars through law books, journals, and so forth.

3. Problems Of Genetic Engineering Products (Prg) In Agriculture And Health

Genetic engineering is a method used to manipulate genetic components, that is, genomic DNA or genes that can be carried out in a single cell or living organism (organism), even from one living creature to another, of a different type.⁹ Genetic engineering also interprets as one of the applications of biotechnology by utilizing organisms (microbes) to produce a material product or service,¹⁰ two of which are Genetically Engineered Products (from now on referred to as PRG) in agriculture and health.¹¹ In agriculture, genetic engineering using organisms is called GMO crops, such as rice, sugar cane, corn, etc., while in the health sector, genetically modified organisms use in making drugs, vaccines and other health products.¹²

In connection with this, amid the rapid development of genetic engineering results, until now, the use of genetic engineering is still causing controversy, both in countries where genetic engineering develops and countries that only use PRG.¹³ This is because, in the process, the transfer of genes that can do by manipulating specific genes in certain living things through recombinant DNA techniques to produce various substances is not always successful. This is as Phillips's opinion in Mahrus, which suggests that there is a possibility that new genetic material could not be successfully transferred to the target cell, or was successfully transferred but misplace to the DNA chain of living things (not on target).¹⁴ Another possibility that can occur is the existence

¹ <https://www.pom.go.id>, accessed at 19 Februari 2019.

² According to Article 1 number 2 of Law Number 8 of 1999 Concerning Consumer Protection, the definition of a Consumer is any user of goods and / or services available in the community, whether for self, family, other people or other living beings and not for trade.

³ Bambang R Prawiradiputra dan Muharsini, *Tanaman Pakan Dan Bahan Pakan Transgenik Di Indonesia: Peluang Dan Kendala Pengembangannya*, WARTAZOA: Buletin Ilmu Peternakan dan Kesehatan Hewan Indonesia, Vol. 23 No. 4, 2013, p. 160.

⁴ Dyah Ochterina Susanti dan A'an Efendi, *Penelitian Hukum (Legal Research)*, Jakarta: Sinar Grafika, 2014, p. 11.

⁵ Soejono dan Abdurrahman, *Metode Penelitian Hukum*, Jakarta: Rineka Cipta, 2003, p. 56.

⁶ Dyah Ochterina Susanti dan A'an Efendi, *Op. Cit.*, p. 15.

⁷ Peter Mahmud Marzuki, *Penelitian Hukum*, Jakarta: Kencana Prenada Media, 2005, p. 93.

⁸ Dyah Ochterina Susanti dan A'an Efendi, *Op. Cit.*, p.115.

⁹ Mahrus, *Kontroversi Produk Rekayasa Genetika Yang Dikonsumsi Masyarakat. Jurnal Biologi Tropis*, Vol. 14 No. 2 Juli 2014, hlm. 108.

¹⁰ Anto Ismu Budiarto, *Perlindungan Hukum terhadap Konsumen Produk Rekayasa Genetik di Indonesia*, Jurnal Hukum, No. 15 Vol. 7, Desember 2000, hlm, 120.

¹¹ *Ibid.*, p. 121.

¹² *Ibid.*

¹³ Mahrus, *Op. Cit.*, hlm. 109.

¹⁴ *Ibid.*, p. 111.

of new genes that affect other genes where initially the inactivity becomes active, even the new genes change the function of genes to be different, thus making the plants produced poisonously, or not following expectations that can damage human health.¹ Related to this also, the transfer of other specialist genes caused by GM crops turning into weeds can lead to bad things, even risks, especially for the health of consumers.² This shows that technology can provide significant benefits for human welfare. Still, it does not rule out the possibility of creating risks as well, as well as PRG in agriculture and health.³

In connection with the above, in the field of agriculture, Totok Agung, Professor of Agriculture at Jenderal Soedirman University in a discussion titled the Indonesian Germination Road Map, organized by a number of farmer organizations in collaboration with the Corruption Eradication Commission (KPK), located at the KPK Building, said that not all genetic engineering is safe for health or the ecosystem.⁴ Furthermore, Totok Agung also stated that many countries refused the use of genetic engineering, one of them was America, even though America was the largest producer of genetically modified seeds in the world.⁵ It shows that PRG in agriculture does not always benefit the community as consumers, but PRG can also cause harm due to new genes whose effects are unknown to both ecosystems and human health.

Related to the health sector, along with the development of times and people's lifestyles, modern innovations related to health are also increasing, as evidenced by the production of various human hormones, such as insulin, anti-allergic drugs, monoclonal antibodies, and other genetically modified drug products. Beneficial for human health.⁶ In this regard, Young and Lewis explained that information related to the impact of changes in the composition of genetically modified food nutrition both from plants and animals such as nutrient interactions, gene interactions, bioavailability / absorption of nutrients, nutritional potential, nutritional metabolism, and gene expression about changes nutrition, very little and not optimal.⁷ Based on this, there may be still a PRG that has not yet fully guaranteed the safety of PRG products and is suitable for consumption. Related to this, then, of course, the public as consumers of PRG in the health sector will be disadvantaged, especially if the PRG is not treating, but actually, endanger or damage human health.

4. The Urgency Of Legal Protection For Consumers Of Genetic Engineering Products (PRG) In Agriculture And Health

The legal protection of PRG consumers is needed. In connection with the notion of security itself, at the level of language, the Indonesian Thesaurus defines protection, namely 1. fortress, bunker, shield, defense, shield; 2: conservation, preservation, maintenance, preservation, care, preservation; security, protection.⁸ Unlike the understanding of language, at the general level, stability is defined as the act of protecting something from dangerous things, something can be in the form of interests, objects, or goods. Protection also contains the meaning of protection provided by someone against a weaker person.⁹ Concerning the definition of the second word, which is law, it defines as a set of community rules that must be obeyed by the community.¹⁰ Referring to Hans Kelsen's Theory, Jimly Asshidiqie and Ali Safa'at argued that law is a rule as a system of rules about human behavior.¹¹ In line with the opinions of Jimly Asshidiqie and Ali Safa'at, Sudikno Mertokusumo gave a legal understanding that is as a collection of laws or rules in a shared life, the entire provisions of behavior that apply in the experience together, which can enforce with a sanction.¹² This shows that the law is coercive, so it must obey and implemented because if it not do, there will be sanctions that can obtain. Another explanation regarding the definition of law is also revealed by Fitzgerald referring to the Salmond Legal Protection Theory, which states that law exists with the aim of integrating and coordinating various interests in society, by limiting these multiple interests, where this do because it is in a traffic of benefits, protection of specific interests can only do by limiting the interests of the other party.¹³ Furthermore, Fitzgerald also explained that the law aims to

¹ *Ibid.*, p. 112.

² Anto Ismu Budianto, *Op. Cit.*, p. 127.

³ Mahrus., *Op. Cit.*, p. 3

⁴ <https://www.gatra.com/detail/news/435594/health/pakar-pemuliaan-waspada-benih-produk-rekayasa-genetika>, accessed at 20 September 2019.

⁵ *Ibid.*

⁶ Mahrus. *Op. Cit.*, p. 113.

⁷ See Young dan Lewis, *Biotechnology and Potential Nutritional Implications for Children Biotechnology and Potential Nutritional Implicationsf For Children*, Vol. 42 Issue 4, Agustus 1995, p. 917-930.

⁸ Tim Redaksi Tesaurus Bahasa Indonesia, *Tesaurus Bahasa Indonesia Pusat Bahasa*, Jakarta: Pusat Bahasa Departemen Pendidikan Nasional, 2008, hlm. 295.

⁹ <http://erepo.unud.ac.id/9833/3/0be0ef7d5a3081532e17e5236d8ff561.pdf>, at 7 May 2019.

¹⁰ Satjipto Raharjo, *Ilmu Hukum*, Bandung: Citra Aditya Bakti, 2005, p. 38.

¹¹ Jimly Asshidiqie dan Ali Safa'at, *Teori Hans Kelsen tentang Hukum*, Jakarta: Sekjen dan Kepaniteraan MK-RI, 2006, p.13.

¹² Erwin Syahputra, *Thesis: Pengentasan Kemiskinan Melalui Hukum Sebagai Sarana Pemberdayaan CSR (Corporate Social Responsibility) Dalam Kegiatan Pertambangan Emas Di Tapanuli Selatan*, (Semarang: Master of Law Science Program, Faculty of Law, Diponegoro University, 2017, p. 59.

¹³ Dyah Ochtorina Susanti, *Bahan Ajar Mata Kuliah Teori Hukum*, disampaikan di Program Pasca Sarjana Ilmu Hukum Universitas Islam Kadiri (UNISKA), Kediri, 3 Desember 2011., p. 1.

protect the benefits of a person by allocating power to him in a measurable way, in the sense of being determined in terms of breadth and depth, to act in the interests of his interests, which is called rights.¹ Concerning the definition of reasons, namely authority or power granted by law to legal subjects.² This shows that only specific skills can be called entitlements.

Based on the explanation above, what is meant by legal protection is protection by using legal means of protection provided by law, aimed at the protection of specific interests, namely by making the interests that need to protect in a constitutional right.³ In this connection, if it is related to the legal protection of PRG consumers, security, in this case, is intended to protect the rights held by consumers as users of genetic engineering products. Legal protection for PRG consumers becomes essential, considering the security issues of PRG both in agriculture and health are very important because it will have a direct impact on human health.⁴

In connection with the above, efforts to provide security, comfort, and safety for PRG consumers in the field of agriculture have actually been regulated in several regulations, which can be seen by the emergence of biodiversity conventions which were later ratified by Indonesia through the Law of the Republic of Indonesia Number 5 Year 1994 Regarding the Ratification of the United Nations Convention on Biological Diversity (hereinafter referred to as the KKH Law), in which regulates the obligations of each party to pay attention to the security of applying modern biotechnology for the sustainability of biodiversity and human health as listed in Article 18 letter g of the KKH Law).⁵ In the KKH Law, it also explains that a protocol is needed to regulate appropriate procedures, cross borders, handling, and safe use of genetically modified organisms that are likely to have adverse impacts on biodiversity sustainability, including effects on human health.⁶

Following up on the above provisions, then in 2004, Indonesia ratified the Cartagena protocol in the form of Law of the Republic of Indonesia Number 21 of 2004 concerning Ratification of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Cartagena Protocol on Biosafety on the Convention on Biodiversity), namely an agreement carried out by various parties governing the procedures for cross-border movement including in the handling and utilization of a living organism produced from genetic engineering (modern biotechnology) from one country to another by a person or entity.⁷ In this regard, government attention to the security of the PRG continues to develop. This is proven by the issuance of Government Regulation of the Republic of Indonesia Number 21 Year 2005 concerning PRG Biosafety (hereinafter referred to as PRG Biosafety PP), in which the PP explains the definition of PRG⁸ biological safety and the conditions that must consider in applying PRG for the benefit of the community so that security and community safety can be guaranteed.⁹

In connection with the explanation above, in addition to security arrangements in the PRG in agriculture, the government also has not been spared in regulating efforts to provide security, comfort, and safety for PRG consumers in the health sector. This can see from the birth of Law Number 23 of 1992 concerning Health (from now on referred to as Law No. 23 of 1992), wherein Article 69 paragraph (1) of Law no. 23 of 1992, there is a clause on Health Research and Development, which explains that in the framework of efforts to improve health status, researchers can develop and conduct health research to select and determine appropriate science and technology. Related to this, although the provision does not mention the term genetic engineering, it contains the meaning that development and research in the field of health using science and technology, one of which through genetic engineering. In connection with this, along with the times, the legal needs have also been adjusted, including Law No. 23 of 1992, which was deemed not following the times, so in 2009, Law no. 23 of 1992 change to Law Number 36 of 2009 concerning Health (from now on referred to as the Health Act). The Health Act explains that health service facilities must provide broad access to research and development needs in the health sector.¹⁰ This shows that the Health Law provides an extensive space or place for researchers to be able to develop and produce superior products in the health sector, one of which is through genetic engineering techniques, and the development of the most essential health supplies that is concerned with making new drugs

¹ *Ibid.*

² Soeroso, *Pengantar Ilmu Hukum*, Jakarta: Sinar Grafika, 2013, p. 269.

³ Harjono, *Konstitusi sebagai Rumah Bangsa*, Jakarta: Sekretariat Jenderal dan Kepaniteraan Mahkamah Konstitusi, 2008, p. 357.

⁴ Yulianti, *Perlindungan Hukum Bagi Konsumen Terkait Peredaran Pangan Hasil Rekayasa Genetika*, ARENA HUKUM, Vol. 11, No. 3, Desember 2018, p. 542.

⁵ Contents of Article 8 letter g of the Law of the Republic of Indonesia Number 5 of 1994 concerning Ratification of the United Nations Convention On Biological Diversity: "Each party shall develop or maintain ways to regulate, manage or control risk relating to the use and release of modified biotechnology organisms, which may have adverse environmental impacts, which can affect the conservation and sustainable use of biodiversity, by taking into account risks to human health.

⁶ See Article 19 paragraph (3) of the Law Number 5 of 2014 concerning Ratification of the United Nations Convention on Biological Diversity.

⁷ <http://indonesiabch.menlhk.go.id/protokol-cartagena/>, accessed at 10 Oktober 2019.

⁸ Article 1 number 1 Government Regulation of the Republic of Indonesia Number 21 of 2005 concerning PRG Biosafety states that what is meant by PRG Biosafety is environmental security, food security and / or food security for genetically engineered products.

⁹ See Article 6 Government Regulation of the Republic of Indonesia Number 21 of 2005 concerning PRG Biosafety.

¹⁰ See Article 31 letter a of Law Number 36 of 2009 concerning Health.

and vaccines and natural ingredients which are nutritious for human health.¹

In this regard, as previously explained, that not all health technology products, including PRG in the health sector, have a positive impact on its users because it is also possible that technological products (including PRG products) will also have adverse effects on human health and the surrounding environment. Related to this, in anticipation of this, the Health Law mandates the government to establish an institution tasked with and authorized to conduct screening, regulation, utilization, and supervision of the use of technology and technology products.² The next law, the Health Act, also explains that to develop health technology and the resulting technology products can be tested on humans or animals, with a guarantee not to harm humans that use as trials.³ This provision shows that human security and safety as PRG consumers are truly guaranteed and observed by law.

In connection with the explanation that has described above, in essence, every person (researcher) is prohibited from developing health technology and/or technology products (including GMs in the health sector) that can affect and bring adverse risks to human health.⁴ Concerning this matter, then, of course, legal protection for consumers (communities) of genetically modified products is an important thing to do.

Concerning the legal protection of consumers themselves, in general, Indonesia has specific rules contained in Law No. 8 of 1999 concerning Consumer Protection (from now on referred to as the Consumer Protection Act). According to this law, what is meant by consumer protection is all efforts made as a form of guarantee of legal certainty to protect consumers.⁵ Related to the definition of consumers themselves, according to the Indonesian Language Thesaurus, consumers define as clients or users.⁶ Understanding according to the Consumer Protection Act, consumers are all users of goods and/or services available in the community, both for the benefit of themselves, their families, other people, and other living things and not for trading.⁷ Related to this understanding, what is meant by consumers in this Law is the end-user or user of a product and is not part of the production process of another product.⁸ Concerning this matter, if related to genetic engineering, what is meant by PRG consumers is that every person or the whole community uses genetically modified products for their interests, others, and other living things. This shows that the benefits of consumers have received serious attention, as evidenced by the issuance of the Consumer Protection Act, which not only protects the interests of business actors but rather the arrangements that protect the interests of consumers.⁹

It should also note that the issuance of the Consumer Protection Law was born not without purpose, where there are several objectives to be achieved by the makers of the law, which include:¹⁰ a) increasing awareness, ability and independence of consumers to protect themselves from the dangers of using goods/services consumed ; b) avoid consumers from the negative impact of the use of products and / or services in an effort to increase the dignity of consumers; c) increase the empowerment of consumers in choosing, determining and claiming their rights as consumers; d) creating a consumer protection system that contains elements of legal certainty and information disclosure and access to information; e) foster awareness for business people to be honest and responsible in doing business; and f) improve the quality of goods and/or services that guarantee health, comfort, security, and safety for consumers. Based on these objectives, it can be seen that the regulation on Consumer Protection is significant, namely as a form of legal protection for consumers, including PRG consumers, recognizing that every person (consumer) has the right to obtain security in consuming food or using services and that reasons are a top priority in protection law against consumers.¹¹ This is following Article 4 letter a Consumer Protection Act, which states that consumer rights are:

"The right to comfort, security, and safety in consuming goods and/or services."

In connection with the above provisions, to ensure that food consumed by consumers is harmless and safe for human health, then consumers also have the right to obtain accurate, transparent and honest information about the conditions, as well as the contents of the PRG to be consumed or to be used.¹² Consumers can be careful in absorbing and using PRG both in agriculture and health, bearing in mind that consumers have the right to choose goods and/or services and obtain the products and/or services according to the conditions and

¹ See Article 38 Law Number 36 Year 2009 concerning Health.

² The establishment of institutions as referred to is regulated by Government Regulation. See 42 paragraph (3) of Law Number 36 of 2009 concerning Health.

³ See Article 44 paragraph (1) and (2) Law Number 36 of 2009 regarding Health.

⁴ See Article 45 paragraph (1) Law Number 36 of 2009 concerning Health.

⁵ See Article 1 number 1 of the Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection.

⁶ Tim Redaksi Tesaurus Bahasa Indonesia. *Op. Cit.*, p. 261.

⁷ See Article 1 number 2 of the Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection.

⁸ See Explanation of Article 1 number 2 of the Law of the Republic of Indonesia Number 8 of 1999 concerning Consumer Protection.

⁹ Gunawan Widjaja dan Ahmad Yani, *Hukum Tentang Perlindungan Konsumen*, Jakarta: Gramedia Pustaka Utama, 2000, p. 5-10.

¹⁰ See Article 3 of the Republic of Indonesia Law Number 8 of 1999 concerning Consumer Protection.

¹¹ See UN Resolution 39/248 of 1985 concerning Consumer Protection (Guidelines for Consumer Protection), which aspects of security and safety as a form of protection for consumers from hazards that can damage health are mentioned in the first point.

¹² See Article 4 letter c of Law Number 8 of 1999 concerning Consumer Protection.

guarantees promised, both guarantees security, comfort, and safety of consumers.¹

In connection with the rights as mentioned above, there are also other consumer rights, such as the parties to be heard either their opinions or complaints on the goods and/or services used; the right to obtain advocacy, protection, and efforts to resolve consumer protection disputes appropriately; the right to consumer guidance and education; the right to be treated or served correctly and honestly and not discriminatory; the right to receive compensation, compensation and/or compensation, if the goods and/or services received do not comply with the agreement or are not as intended; as well as rights regulated in other statutory provisions.² Related to this, although the Consumer Protection Law regulates consumer rights and matters as mentioned, the Consumer Protection Act is more directed towards general consumer protection rules in the economy (trade), even though the most crucial thing in protection PRG is an arrangement regarding the prevention of everything that arises (negative impacts) due to genetic engineering products in terms of safety, comfort, and safety of consumers in consuming or using the product.

Based on this, it can see that specific regulations governing the legal protection of PRG consumers to date have not yet existed, even though it is necessary, especially concerning efforts to provide consumers with a sense of security and comfort in consuming or using PRG products. , considering that currently, the development of genetically modified products is very rapid, so the chance for risk is even higher. Related to this, if efforts to protect PRG consumers are sufficient, then consumers will not feel anxious and be more careful in choosing ceramic engineering products so that they do not endanger or even damage human health.

5. Conclusion

Legal Protection of Consumers of Genetically Engineered Products (PRG) in Agriculture and Health is urgent at this time. This is due to several factors, namely: 1) in the process of genetic engineering, gene transfer can do by manipulating specific genes in certain living things through recombinant DNA techniques to produce various substances that are not always successful; 2) it is possible to be successfully transferred but misplaced in the DNA chain of living things (not on target), 3) the presence of new genes that affect other genes where initially not active become active. The three factors above can cause various negative impacts on human health such as allergies, the emergence of certain diseases, or things that can harm human health. Related to this, the regulation on legal protection for consumers of PRG products is necessary. Given some of the benefits of the existence of legal protection against these consumers, including:

1. Guaranteed legal certainty for PRG consumers in agriculture and health.
2. Protect consumers from the dangers of using PRG.
3. Consumers avoid the negative impacts arising from the use of PRG.
4. The fulfillment of PRG consumer rights.
5. Consumers get precise information about the PRG content to be used.
6. The quality of PRG becomes more guaranteed so that it provides security, comfort, and safety for consumers

Based on the discussion described above, the authors provide advice to the government, to be able to offer special rules regarding legal protection for consumers of Genetically Engineered Products (PRG), especially in agriculture and health. This is needed to provide security, comfort, and safety for consumers in consuming or using genetically modified products.

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¹ See Article 4 letter b of Law Number 8 of 1999 concerning Consumer Protection.

² See Article 4 letter d-i of Law Number 8 of 1999 Concerning Consumer Protection

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