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Comments Invited for Genome-Edited Information Disclosure Procedure

Report Categories:
Biotechnology and Other New Production Technologies
Agricultural Situation
Grain and Feed

Approved By:
Barrett Bumpas

Prepared By:
Tomohiro Kurai and Suguru Sato

Report Highlights:
On June 28, 2019, the Ministry of Agriculture, Forestry and Fishery (MAFF) published a draft guideline on the Specific Information Disclosure Procedures of Living Organisms Obtained through Use of Genome Editing Technology in Agriculture, Forestry and Fishery Fields. Comments must be submitted in Japanese via an online system, mail, or fax by Monday, July 29, 2019. A WTO-SPS notification is unlikely since there are no legal changes.

General Information:
On February 8, 2019, Japan's Ministry of Environment (MOE) released its final policy for the regulation of genome editing technologies (JA9024). In its policy, the MOE states that any genome edited organism in which there is inserted extracellularly processed nucleic acid will be considered to be a living modified organism (LMO) and is subject to the regulations of the "Act on the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms" (Cartagena Act, in Japanese and English).

Although the MOE announced the regulatory policy for genome editing technology, the relevant ministries related to agriculture and food products have not yet established specifics on the practical process of product consultation for developers. However, it is expected that the Ministry of Agriculture, Forestry and Fishery (for agricultural crops and animals) and the Ministry of Health, Labour and Welfare (for foods) will develop regulatory policies and consultation systems for each subject.

On June 28, 2019, after internal discussion within the ministry, MAFF published a draft guideline of the Specific Information Disclosure Procedures of Living Organisms Obtained through Use of Genome Editing Technology in Agriculture, Forestry and Fishery Fields. Comments must be submitted in Japanese via an online system, mail, or fax by Monday, July 29, 2019. A WTO-SPS notification is unlikely since there are no legal changes.

How to Submit Comments

1. Comments on regulatory proposals by the Japanese Government can be sent electronically via the "e-Gov" system (in Japanese). The site can be found at: https://search.e-gov.go.jp/servlet/Public?CLASSNAME=PCMMSTDETAIL&id=550002938&Mode=0

2. Comments can be mailed to the address below:

   Genetic Engineering Group
   Plant Products Safety Division
   Food Safety and Consumer Affairs Bureau
   Ministry of Agriculture, Forestry and Fisheries
   Government of Japan
   1-2-1, Kasumigaseki, Chiyoda-ku
   Tokyo 100-8950
   Japan

   Mailed submissions must arrive to MAFF by July 29, 2019.

3. Comments can be sent via fax to the number indicated below:

   Facsimile number: 03-3580-8592 (from outside Japan, +81-3-3580-8592)

Genetic Engineering Group
Plant Products Safety Division
Food Safety and Consumer Affairs Bureau
Ministry of Agriculture, Forestry and Fisheries
Government of Japan

Comments should contain the name (private individual or corporate body), address, and contact information (either phone number or email address) of the submitter. The filed names (private individual or corporate body) and comments may be released to the public without the address and contact information. If you prefer your name to be anonymous, please indicate it this at the time of filing comments.

(Provisional Translation)
(Please note that this is not an official translation)

Specific Information Disclosure Procedures of Living Organisms Obtained through Use of Genome Editing Technology in Agriculture, Forestry and Fishery Fields (Outline) (Draft)

Based on "Handling of Living Organisms that do not fall under 'Living Modified Organisms' specified in the Cartagena Act" (Proposition of Ministry of the Environment, Nature Conservation Bureau, Wildlife Division, No. 1902081 on February 8, 2019. Hereinafter referred to as "Notice of Ministry of the Environment"), organisms obtained through the use of genome editing technology in agriculture, forestry and fishery fields that do not fall under living modified organisms (hereinafter referred to as "Target organism") is established as follows.

1 For general use (Use in so-called Open systems, not including the cases of Section 2)

Prior to the commercial use, developers shall have consultation and confirm that the organism does not fall under "Living Modified Organisms" of "Act on the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms" (Act No. 97 of 2003. Hereinafter referred to as "the Cartagena Act"), then provide the information form (hereafter "the Form") for general use.
Items to be provided shall be (a) to (h) specified in Notice of Ministry of the Environment,[*1] name and summary of the organism and summary of the use-facility. The Form shall be as specified in Form 1.

*1 Information to be provided
(a) It has been confirmed that no extracellularly processed nucleic acid or any replicated product thereof specified in the Cartagena Act, remains in the organism (including the accompanying reasons)
(b) Taxonomic species of the modified organism
(c) Method of gene editing used for the modification
(d) Modified gene and the function of the said gene
(e) Change of character caused by the said modification
(f) Presence or absence of other changes in character except (e) above (if present, its content)
(g) Application of the corresponding organism
(h) Discussion regarding the possibility of causing an adverse effect on biological diversity through use of the corresponding organism

(1) Prior Consultation
1) A user shall prepare a draft of the Form and consult to Ministry of Agriculture, Forestry and Fisheries in advance.

2) Ministry of Agriculture, Forestry and Fisheries shall confirm that the organism does not fall under "Living Modified Organisms" in the Cartagena Act, contents in the Form is described appropriately, etc.
In confirmation, opinions of persons with relevant knowledge and experience shall be considered if required. Furthermore, submission of additional information may be requested to the information provider when there is a doubt regarding the adverse effects on biological diversity.

(2) Submission of the Form

1) A user shall submit the Form of completed consultation to Ministry of Agriculture, Forestry and Fisheries.
2) Ministry of Agriculture, Forestry and Fisheries shall announce the contents of the Form (except information that may cause an unfair profit or disadvantage when it is announced) on the website.

2 In case where containment measures are taken in Use (Use in so-called closed systems)

Use shall be conducted after submitting a certificate of confirmation of containment measures and receiving confirmation of effectiveness of containment measures, etc.
Items to be provided shall be (a) to (g) specified in Notice of Ministry of the Environment, name and summary of the organism and summary of the use-facility. The form of the provision information shall be as specified in Form 2.

(1) A user shall submit a certificate of confirmation of containment measures to Ministry of Agriculture, Forestry and Fisheries.

(2) Ministry of Agriculture, Forestry and Fisheries shall confirm effectiveness, etc., of the containment measures.
In confirmation, opinions of persons with relevant knowledge and experience shall be considered if required. Furthermore, submission of additional information may be requested to the information provider when there is a doubt regarding the containment measures.

(3) When the containment of the target organism is confirmed, Ministry of Agriculture, Forestry and Fisheries shall inform that effect to the user and announce the name of the user and target organism on the website.
However, in cases of following (1) and (2), submission of a certificate of confirmation of containment measures is not required

1) In cases where containment measures described in Annex 1 are taken in storage and transportation of the target organism
2) In cases where containment measures described in Annex 2 are taken in use of the target organism that falls under all the following requirements

a) An organism whose host variety or strain has received confirmation of containment measures based on the Cartagena Act or regulation of this notice
b) Regarding microorganisms, an organism with no or low pathogenicity (pathogenicity against animals belonging to the Class Mammalia and Aves [including human])
c) Regarding animals, an organism that has a level of a motor ability comparable or lower than that of its host

3 Others

(1) In case where a user judges that use of the target organism may cause the adverse effects to biological diversity, the user shall take necessary measures for preventing the adverse effects on biological diversity immediately and report to Ministry of Agriculture, Forestry and Fisheries promptly.

(2)In case where Ministry of Agriculture, Forestry and Fisheries receives the report described in (1) or recognizes that it is necessary from a perspective of the adverse effects on biological diversity, the Ministry shall consider public interest and take necessary measures.

(Form 1)

Certificate of provided information including usage of organisms obtained by genome-editing technology

In order to use, etc., organisms obtained through the use of genome editing technology, information of the corresponding organism is provided as follows.

Items		Entry field
1 Name and outline of the organism obtained by technology genome-editing		
2 Application of the organism obtained by technology genome-editing		
3 Summary of the use-facility		
4 Confirm that the extracellularly processed nucleic acids as specified by the Cartagena Act and/or the replication of such nucleic acids are not remained in the organism.	(1) Whether extracellularly processed nucleic acids have been transferred (if transferred, information about the transferred nucleic acids must be provided.)	
	(2) Whether residues of transferred nucleic acids (including information about the process of selection/breeding and the method of confirming the presence of the corresponding nucleic acid.)	
5 Species of the modified organism based on the taxonomic classification (Host information))	(1) Name of the species based on the taxonomic classification and the variety or lineage of the host	
	(2) Naturally growing area in the natural environment and cultivating area and physiological / ecological traits	
6 Method of genome-editing used for the modification	(1) Information about artificial nuclease	
	(2) Method of introducing the corresponding artificial nuclease	
7 Modified gene and function of the modified gene	(1) Target cleavage site on the host genome and variation that has occurred at the cleavage site	
	(2) Information about the gene with target cleavage site (target gene)and the theoretically likely phenotypical change caused by the modification	

8 Phenotypical change caused by the modification		
9 Presence or absence of other phenotypical changes than that mentioned in 8 above (if present, the content)	(1) Information about the possibility of other modifications than that at the target site	
	(2) Other phenotypical changes than that mentioned in 8 above that were caused in the created organism compared with the host	
10 Discussion regarding the possibility of the effect on biodiversity if the corresponding organism is used	(1) Competitive advantage	
	(2) Predacity or Parasitism	
	(3) Production of harmful substances	
	(4) Crossingability	
	(5) Other characteristics	
	(6) Comprehensive discussion (Conclusive comments)	

[Remarks]
In cases where an applicant is a corporation, regarding the name, describe the name of the corporation and the name of the representative and append the enterprise identification number. Regarding the address, in case of a corporation, describe the location of the main office. Regarding the phone number, describe the phone number of the relevant department that can be contacted when the content of this certificate of provided information is needed to be confirmed.
Regarding the content of the information in each item of the table, describe according to Appendix 1 in case where the corresponding specie is agricultural crop, according to Appendix 2 in case where the corresponding specie is fish. In case where the corresponding specie is other than agricultural crop or fish, describe according to Appendix 1 or Appendix 2 depending on the physiological and ecological characteristics of the corresponding specie. In addition, in case where the corresponding specie is microorganism, replace "Competitive advantage" in 10 (1) to "Property to reduce other organisms," "Predacity or Parasitism" in (2) to "Pathogenicity," "Crossing ability" in (4) to "Property to horizontally transmit nucleic acid" when describing.
In Appendix 1 and Appendix 2, regarding the references to be stored by the information provider, attach a list of the references to this certificate of provided information. While the information provider has to store the references as such so that they can be submitted promptly to the Ministry of Agriculture, Forestry and Fisheries or the Ministry of the Environment, if required.

Annex 1 Specific contents of information to describe in case where the specie is agricultural crop

1 Clearly distinguish the name from that of other organisms by including information about the species name based on the taxonomic classification to which the host of the corresponding organism belongs, and the characteristics obtained by using genome editing technology, and so on.
Regarding the outline, describe an outline of the characteristics obtained by using genome-editing technology, etc.

2 Regarding the application of the corresponding organism, list any of the following applications that are applicable; "Food," "Feed," "Ornamental purposes," "Cultivation" and "Others." In case where the application falls under "Others," briefly describe the content in brackets.
In case where the scope of the use of the corresponding organism is limited within a facility managed so as to prevent escape of the corresponding organism such as an isolated field, describe "Cultivation, etc., in an isolated field" and describe specifications of the equipment and production methods in the corresponding facility in 3.

3 In case where the scope of the use of the corresponding organism is limited within a facility managed so as to prevent escape of the corresponding organism such as an isolated field, describe the outlines of specifications of the equipment and production methods of a facility where the corresponding organism is cultivated.
The information provider shall store references describing the name and location of the corresponding facility, as well as references describing details of specifications of the equipment and production methods, and add them to the list of stored references.
In addition, in case where the scope of use, etc., of the corresponding organism is not limited within a facility, describe "-" in the entry field.

4 (1) In case nucleic acids that have been treated outside the cells are transferred, provide a summary of the genetic elements and transfer method of the nucleic acids (for example, direct transfer of artificial nuclease of which the site involved in binding to the target DNA is RNA, transfer of the mRNA of artificial nuclease, transfer of the vector carrying the gene of the artificial nuclease, and plasmid transfer, etc.). The information provider shall store substantiating references and add them to the list of stored references.

4(2) Regarding the process of selection/breeding, provide an summary of the process from the creation of individual transferred extracellularly processed nucleic acids to the selection of the finally obtained individual (objective of this provided information).
Regarding the method of confirmation of the presence or absence of residues of transferred nucleic acid, describe the analytical method used for confirmation and the results of analysis. The information provider shall store documents (add to the list of stored documents)..

5(1) Regarding the naturally growing area in the natural environment, describe the presence or absence of a naturally growing area in the natural environment of Japan and outside of Japan, and if any, also describe the regional name

5(2) Regarding the naturally growing area in the natural environment, describe the presence or absence of naturally growing area in the natural environment of Japan and outside of Japan and if any, also describe the regional name.
For main cultivating area, describe the regional name, country name, etc. For physiological and ecological traits, describe the characteristics of each of the following items.
a Basic traits (distinction of annual, biennial or perennial)

b Environmental conditions that allow habitation and growth (the temperature range, moisture conditions and soil conditions necessary for habitation)

c Mode of propagation or reproduction system (presence or absence of shedding of the seeds, seed dispersal, presence or absence of seed dormancy, seed longevity under natural conditions, presence or absence of vegetative reproduction (if vegetative reproduction occurs, the property of budding from the tissue or organs of the plant that can regenerate the plant body in the natural environment), levels of autogamy/allogamy, presence or absence of self-incompatibility, presence or absence of closely related wild species (if any, crossing rate and the like], the method of pollination

d Production of harmful substances (whether or not the species is known to produce substances that affect the habitation or growth of wild animals and plants or microorganisms [hereinafter referred to as "wildlife"] found in close vicinity under natural conditions. If it is known, the type of the corresponding substance, toxicity, produced amount, pathways of exposure and other related information)

6(1) Describe outlines of the type (ZFN, TALEN, CRISPR/Cas9, etc.) and composed elements of the artificial nuclease. The information provider shall store the references including designs of the artificial nuclease (add to the list of stored references).

6(2) Describe a summary of the introducing method, for example, transfer of the artificial nuclease itself into the host cell, transfer of the vector carrying the gene of the artificial nuclease into the host cell, incorporation of the gene of the artificial nuclease into the host genome.
In addition, in case the gene of the artificial nuclease is incorporated into the host genome, describe the method used (using Agrobacterium, particle gu , etc.).

7(1) Provide a summary of the change in the base sequence (addition, replacement and/or deletion of bases) caused at the cleavage site targeted by the artificial nuclease. The information provider shall store the references including figures about these changes (add to the list of stored documents).

7(2) Regarding the gene, , describe the name, function of the target gene, function of the protein produced with the expression of the target gene. In addition, providing an summary of theoretically likely functional changes caused by modification of the corresponding gene. The information provider shall store references intended to confirm the detailed contents (add to the list of stored documents.

8 Describe characteristically important points regarding the physiological and ecological changes actually caused by modification of the target gene, compared with the host. The information provider shall store references intended to confirm the detailed contents and add to the list of stored references.

9(1) If analyses have been conducted to find out whether a mutation of a sequence similar to the target base sequence has occurred, describe the results. If the presence or absence of similar sequences as the target sequence has been assessed to design the site involved in binding of the target DNA, describe the assessment. In either case, the information provider shall store the documents to confirm the adequacy of the corresponding method (add to the list of stored documents).

9(2) Describe other traits than those described in 8 above, such as morphological and growth characteristics, wintering ability/summering ability, seed production, seed shedding, dormancy and viability of the seeds, possibility of having differences between the host and the organism obtained by genome-editing technology. The information provider shall store substantiating documents and add them to the list of stored documents.

10 In case where the organism is used as described in 2 above, describe the possibility of causing adverse effects on biological diversity.

This should be discussed by each item a to d listed below, and then further discussed comprehensively based on the content of each discussion. In addition, describe "-" in the entry field of 10 (2), "Predacity or Parasitism."

a Competitive advantage (a trait that competes with wild plants for resources such as nutrients, sunlight and space for growth to affect their growth)
b Production of harmful substances (a trait of producing substances that affect habitation or growth of wildlife)
c Crossing ability (a trait of being able to hybridize with closely related wild plants and to transfer nucleic acids modified by genome-editing technology to them)
d Other characteristics (for example other traits than those listed from a to c that could indirectly affect wildlife by altering the basic ecosystem. Such traits are considered appropriate for discussion of the possibility of causing adverse effects on biological diversity)

The information provider shall store substantiating references of the corresponding discussion and add them to the list of stored references.

Annex 2 Specific contents of information to describe in case where the specie is fish

1 Clearly distinguish the name from that of other organisms by including information about the species name based on the taxonomic classification to which the host or original organism of the corresponding organism belongs, and the characteristics of the corresponding organism, and so on. Regarding the outline, describe an outline of the characteristics obtained by using genome-editing technology, etc.

2 In case where the scope of the use of the corresponding organism is limited within a facility managed so as to prevent escape of the corresponding organism such as an onshore aquaculture facility, describe "Breeding, etc., in an onshore aquaculture facility" and describe specifications of the equipment and production methods in the corresponding facility in 3.
In other case, regarding the application of the corresponding organism, list any of the following applications that are applicable; "Food," "Feed," "Ornamental purposes," "Breeding" and "Others." In case where the application falls under "Others," briefly describe the content in brackets. In addition, describe the content of breeding methods, and incase the organism is bred using facilities, etc., specifications of the equipment and production methods in the corresponding facility in 3.

3 Provide the outlines of specifications of the equipment (including equipment installed in a drainage system so as to prevent escape of eggs, sperm, larvae and fries to the outside) and production methods (planned number of breeders and adult fishes and an outlines of the production methods) of a facility where the corresponding organism is bred.
In case where a breeder producing facility and a breeding facility are different, describe about respective facility.
The information provider shall store references describing the name and location of the corresponding facility, as well as references describing details of specifications of the equipment and production methods, and add them to the list of stored references.

4(1) In case nucleic acids that have been treated outside the cells are transferred, provide an outline of the composition and transfer method of the nucleic acids (direct transfer of artificial nuclease of which the site involved in binding to the target DNA is RNA, transfer of the mRNA of artificial nuclease, transfer of the vector carrying the gene of the artificial nuclease, and plasmid transfer, etc.). The information provider shall store substantiating references and add them to the list of stored references.

4(2) Regarding the process of selection/breeding, provide an outline of the process from the creation of individual transferred nucleic acids treated outside the cells to the selection of the finally obtained individual (objective of this provided information).
Regarding the method of confirmation of the presence or absence of residues of transferred nucleic acid, describe the analytical method used for confirmation and the results of analysis. The information provider shall store substantiating references and add them to the list of stored references.

5(1) Regarding the name of the species based on the taxonomic classification, describe the Japanese name, English name and scientific name.
Regarding the name of variety, strain, etc., of the host, describe information that clarifies collecting sites, etc., of the corresponding host if a non-genetically modified host is used. In case where the host (parent strain) has undergone breeding, describe genetic traits modified by the corresponding breeding. In addition, in case where it has known that genetic traits differ among the same specie

depending on water area, etc., and the difference of the genetic traits between the ones used as the parent strain and others, describe the difference of the corresponding genetic traits.

5(2) Regarding the naturally growing area in the natural environment, describe the presence or absence of a domestic or foreign area in the natural environment where it grows naturally, and if any, also describe the regional name.

For histories and current status of the use, etc., describe the domestic and foreign histories of the use, etc. In addition, in case the organism has a history of industrial utilization, describe its content, period, etc.

For physiological and ecological traits, describe the important characteristics of each of the following items.

a Basic traits (major habitats [water depth, etc.]), migration range, an outline of growth stages, lifespan, etc.)

b Environmental conditions that allow habitation and growth (water temperature range necessary for habitation, distinction of freshwater fish or marine fish [salinity range necessary for habitation])

c Predacity or Parasitism (feeding habit, predator in each growth stage, presence or absence of a property to parasitize to other wild animals and plants)

d Reproduction or proliferation system (age at maturity, spawning season [breeding season], number of spawning times, number of eggs in a single spawning, spawning [breeding] site [if it is identified], motor ability of sperm [movement time], size and shape of egg [isolated pelagic egg (isolated floating egg)], adhesive demersal egg, etc.), duration of fertility potential of sperm and egg after emission to the external world, patterns of development, presence or absence of closely related wild species [if any, types of closely related wild species, crossing rate, possibility of natural crossing], etc.)

e Production of harmful substances (whether or not the species is known to produce substances that affect the habitation or growth of wild animals and plants or microorganisms [hereinafter referred to as "wildlife"] found in close vicinity under natural conditions. If it is known, the type of the corresponding substance, toxicity, produced amount, pathways of exposure and other related information)

6(1) Describe outlines of the type (ZFN, TALEN, CRISPR/Cas9, etc.) and composed elements of the artificial nuclease. The information provider shall store the references including designs of the artificial nuclease and add to the list of stored references.

6(2) Describe an outline of the introducing method such as immigration of the artificial nuclease itself into the host cell, immigration of the vector carrying the gene of the artificial nuclease into the host cell, incorporation of the gene of the artificial nuclease into the host genome. In addition, in case the gene of the artificial nuclease is incorporated into the host genome, describe the method used (using Agrobacterium, microprojectile method, etc.).

7(1) Provide a summary of the change in the base sequence (addition, replacement and/or deletion of bases) caused at the cleavage site targeted by the artificial nuclease and the corresponding cleavage site. The information provider shall store the references including figures about these changes and add to the list of stored references.

7(2) Regarding the gene encoded by the cleavage site, describe the name, function of the corresponding gene, function of the protein produced with the expression of the corresponding gene, as well as providing an outline of theoretically likely functional changes caused by modification of the corresponding gene. The information provider shall store references intended to confirm the detailed contents and add to the list of stored references.

8 Describe characteristically important points regarding the physiological and ecological changes actually caused by modification of the target gene, compared with the host. The information provider shall store references intended to confirm the detailed contents and add to the list of stored references.

9(1) If analyses have been conducted to find out whether a mutation of a sequence similar to the target base sequence has occurred, describe the results. If the presence or absence of similar sequences as the target sequence has been surveyed to design the site involved in binding of the target DNA, describe the fact. In either case, the information provider shall store the references to confirm the adequacy of the corresponding method and add to the list of stored references.

9(2) Describe other traits than those described in 8 above, such as morphological and growth characteristics, water temperature and salinity range, feeding habit, breeding system, possibility of differentiating between the host and the organism obtained by genome-editing technology. The information provider shall store substantiating references and add them to the list of stored references.

10 In case where the organism is used as described in 2 above, describe the possibility of causing adverse effects on biological diversity.

This should be discussed by each item a to e listed below, and then further discussed comprehensively based on the content of each discussion.

a Competitive advantage (a trait that competes with wild animals for resources such as foods, habitats and nesting sites to affect their growth)

b Predacity or Parasitism (a trait of affecting habitation or growth of wild animals and plants by preying wildlife or parasitizing to wildlife)

c Production of harmful substances (a trait of producing substances that affect habitation or growth of wildlife)

d Crossing ability (a trait of being able to hybridize with closely related wild plants and to transfer nucleic acids modified by genome-editing technology to them)

e Other characteristics (other traits than those listed a to d) that could indirectly affect wildlife by altering the basic ecosystem. Such traits are considered appropriate for discussion of the possibility of causing adverse effects on biological diversity)

The information provider shall store substantiating references of the corresponding discussion and add them to the list of stored references.

(Form 2)

Certificate of confirmation of containment measures concerning organisms obtained by genome-editing technology

In order to take containment measures for use, etc., of organisms obtained through the use of genome editing technology, information of the corresponding containment measures is provided as follows.

Items		Entry field
1 Name and outline of the organism obtained by technology genome-editing		
2 Application of the corresponding organism		
3 Confirm that the nucleic acids that have been treated outside cells as specified by the Cartagena Act and/or the replication of such nucleic acids are not remained in the organism.	(1) Whether nucleic acids that have been treated outside cells have been transferred (if transferred, information about the transferred nucleic acids must be provided.)	
	(2) Whether residues of transferred nucleic acids (including information about the process of selection/breeding and the method of confirming the presence of the corresponding nucleic acid.)	
4 Species of the modified organism based on the taxonomic classification	(1) Name of the species based on the taxonomic classification and the variety or lineage of the host	
	(2) Naturally growing area in the natural environment and cultivating area and physiological / ecological traits	
5 Method of genome-editing used for the modification	(1) Information about artificial nuclease	
	(2) Method of introducing the corresponding artificial nuclease	
6 Modified gene and function of the corresponding gene	(1) Site of cleavage on the genome of the target host and variation that has occurred at the corresponding site	
	(2) Information about the gene coded at the corresponding site and the theoretically likely phenotypical change caused by the modification	
7 Phenotypical change caused by the corresponding modification		

8 Presence or absence of other phenotypical changes than that mentioned in 7 above (if present, the content)	(1) Information about the possibility of other modifications than that at the target site	
	(2) Other phenotypical changes than that mentioned in 7 above that were caused in the created organism compared with the host	
9 Containment measures	(1) Use section	
	(2) Outline of working spaces	
	(3) Management system of business operator	

[Remarks]
In cases where an applicant is a corporation, regarding the name, describe the name of the corporation and the name of the representative and append the enterprise identification number. Regarding the address, in case of a corporation, describe the location of the main office. Regarding the phone number, describe the phone number of the relevant department that can be contacted when the content of this certificate of provided information is needed to be confirmed.
Regarding the content of the information in each item of the table, describe according to Annex 1 in case where the corresponding specie is microorganism, according to Annex 2 in case where the corresponding specie is animal, according to Annex 3 in case where the corresponding specie is plant.
In Annex 1 and Annex 2, regarding the references to be stored by the information provider, attach a list of the references to this certificate of provided information while the information provider has to store the references as such so that they can be submitted promptly to the Ministry of Agriculture, Forestry and Fisheries or the Ministry of the Environment, if required.

Appendix 1 Specific content of the information to be described when the type of organisms are microorganisms

1 The name must be able to clearly distinguished from other organisms by including information about the species name based on the taxonomic classification to which the host or original organism of the corresponding organism belongs, and the characteristics of the corresponding organism, and so on.
Describe an outline of the characteristics, etc. obtained by using genome-editing technology.

2 Describe the purpose of the use etc. and outline of the corresponding organism (content of the use, intended production scale and so on).

3(1) In the case that an extracellular processed nucleic acid is transferred into the cell, describe the outline of the composition of the nucleic acid and the method of transfer (for example, directly transferring an artificial nuclease of which binding site to the target DNA is RNA, transferring mRNA of an artificial nuclease, transferring vectors encoding artificial nuclease gene, transferring plasmids). The information provider shall store substantiating references and add to the list of stored references.

3(2) Regarding the process of selection/breeding, provide an outline of the process from the creation of individual transferred nucleic acids treated outside the cells to the selection of the finally obtained individual (objective of this provided information).
Regarding the method of confirmation of the presence or absence of residues of transferred nucleic acid, describe the analytical method used for confirmation and the results of analysis. The information provider shall store substantiating references and add to the list of stored references.

4(1) The items listed below shall be described.

a Scientific name (genus and species) and strain name

b In the case that the microorganism has been distributed by a public microbial resource institution, the name of the corresponding institution and the strain number. Otherwise the information on the rationale for identification of the strain (similarities and differences between the strain and species of which scientific name already has been authorized, and the evidences, the isolation source of the strain and the institution in which the standard strain prepared from the strain was deposited, and the accession number, etc.)

c In the case that the host was obtained by using genetic modification, the content of the modification (note that if the host strain has been previously described in principal academic documents and the like, the strain name shall be described.)

In addition, the documents describing the detailed contents of the genetic modification (the story of genetic modification from the wild strain to the host strain and the operation of genetic modification used for introducing [such as mutation by ultraviolet irradiation and mating]) shall be stored by the information provider and added to the list of stored references.

4(2) In the case that using a wild strain as the host, habitat distribution in the natural environment shall be described.
In the case that the host strain has the history of industrial use, regarding the history and current status, the content and the period of time shall be described.
For physiological and ecological traits, describe the important characteristics of each of the following items.

a Reproduction or proliferation system (the cycle length of sexual or asexual reproduction of the host or the taxonomical species to which the host belongs, traits including the range of the growth temperature, growth rate, auxotrophy, drug susceptibility)

b Pathogenicity

(i) Presence or absence of pathogenicity in the host or the taxonomical species to which the host belongs and the rationale, presence or absence of viruses or plasmids related to pathogenicity

(ii) If pathogenicity has been reported, the contents and method for protection and medical treatment

c Other information

(i) Presence or absence of productivity of harmful physiologically active substances in the host or the taxonomical species to which the host belongs

(ii) Regarding (i), if the presence of corresponding substances have been reported, the name, activity and strength of toxicity

(iii) Primary physiological characteristics such as antibiotics production

In addition, regarding these information, substantiating references and materials by which the detailed contents can be confirmed shall be stored by the information provider and added to the list of stored references.

5(1) The type (ZFN, TALEN, CRISPR/Cas9, etc.) and composed elements of the artificial nuclease shall generally be described. The information provider shall store the references including designs of the artificial nuclease and add to the list of stored references.

5(2) Describe an outline of the introducing method, for example, immigration of the artificial nuclease itself into the host cell, immigration of the vector carrying the gene of the artificial nuclease into the host cell, incorporation of the gene of the artificial nuclease into the host genome.
In addition, in case the gene of the artificial nuclease is incorporated into the host genome, the method used shall also be described.

6(1) Provide a summary of the change in the base sequence (addition, replacement and/or deletion of bases) caused at the cleavage site targeted by the artificial nuclease and the corresponding cleavage site. The information provider shall store the references including figures about these changes and add to the list of stored references.

6(2) Regarding the gene encoded by the cleavage site, describe the name, function of the corresponding gene, function of the protein produced with the expression of the corresponding gene. In addition, provide an outline of theoretically likely functional changes caused by modification of the corresponding gene. The information provider shall store references intended to confirm the detailed contents and add to the list of stored references.

7 Describe characteristically important points regarding the physiological and ecological changes actually caused by modification of the target gene, by comparing with the host. Materials by which the detailed contents can be confirmed (if there is a characteristic which allows the corresponding organism to be distinguished from the host or taxonomic species to which the host belongs, include materials involved in the corresponding characteristic) shall be stored by the information provider and added to the list of stored references.

8(1) If analyses have been conducted to find out whether a mutation of a sequence similar to the target base sequence has occurred, describe the results. If the presence or absence of similar sequences as the target sequence has been surveyed to design the site involved in binding of the target DNA, describe the fact. In either case, the information provider shall store the references to confirm the adequacy of the corresponding method and add to the list of stored references.

8(2) Describe other traits than those described in 7 above, such as reproduction or proliferation system and pathogenicity, possibility of differentiating between the host and the organism obtained by genome-editing technology. The information provider shall store substantiating references and add to the list of stored references.

9(1) Classify into the following categories, in accordance with target organisms listed in the upper column of Appended Table ("genetically modified microorganisms" shall be deemed to be replaced "target microorganisms") in the Ministerial Ordinance on Containment Measures against Industrial Use among Type 2 Use of Living Modified Organism (Ministerial Ordinance No. 1 of 2004 of the Ministry of Finance, Ministry of Health, Labor and Welfare, Ministry of Agriculture, Forestry and Fisheries of Japan, Ministry of Economy, Trade and Industry, and Ministry of the Environment), describe the statement that the containment measure stipulated in the lower column will be performed.

In addition, in case that not falling into the following categories, write "others" and the contents of intended containment measure shall be described in the separate sheet.

a Equivalent to GILSP (host, provided nucleic acid, vector and modified microorganism fulfil the following criteria)

(i) Host

a) Possesses no pathogenicity

b) Contains no viruses or plasmids related to pathogenicity

c) has history of safety use for extended period or grows under specified culture condition but otherwise the growth are suppressed

(ii) Provided nucleic acid and vector

a) The properties are sufficiently clarified and base sequences recognized to be harmful are not contained.

b) Lacks transmissibility, moreover, does not transfer resistance marker genes into living cells that originally acquisition of resistance has not been known

(iii) Modified microorganisms

a) Possesses no pathogenicity

b) Has low proliferating ability compared to the host

b Equivalent to Category 1 (Modified microorganism does not have possible pathogenicity and not included in a.)

9(2) The outline of the working area (an area for utilizing target organisms, and can be clearly distinguished from other areas. hereinafter, the same.) including location, layout and construction of the facility and production process shall be described. Materials by which the detailed contents can be confirmed (following materials from A to D shall be contained) shall be stored by the information provider and added to the list of stored references.

a Location of the working area: The names and layout of the buildings inside and outside the business facility and illustrated working area

b Layout of facilities: Show the gland plan including the working area, position and name of main facilities in which the corresponding microorganism will be handled

c Construction of facilities: Regarding facilities and equipment involved in the handling of the corresponding microorganisms, describe the design of the facilities, drain system and ventilation equipment (this is in the case that "Type Use" is classified as "Category 1," means among working areas, ventilation equipment in buildings or rooms where forced ventilation is performed), and these shall be illustrated as necessary.

d Production process: Diagrammatic illustration explaining processes of production of the corresponding microorganism and production of the substance made by using the corresponding microorganism (describe the name of each instrument and position of the valves, etc. in the illustration and the name and content of each process shall be described, if necessary.)

9(3) Describe the outline including system for maintenance and inspection, positioning experienced worker and system for education and training, countermeasures against the emergency such as accidents. Materials by which the detailed contents can be confirmed shall be stored by the information provider and added to the list of stored references.

Appendix 2: Specific content of information to be described if the type of organism is animal

1. The name shall be clearly distinguishable from other organisms by including information such as the name of the taxonomic species to which the said organism's host or parent organism belongs as well as the characteristics of the said organism.
   An outline shall describe the overview of the characteristics and the like imparted by using genome-editing technology.
2. The purpose and outline (details of its use, the planned scale of production, etc.) regarding the use of the said organism shall be described.
3. (1) When an extracellularly processed nucleic acid is transferred, an outline of the composition and transfer method of the transferred nucleic acid shall be described (such as the direct transfer of an artificial nuclease of which the site involved in binding to the target DNA is RNA, transfer of mRNA of an artificial nuclease, transfer of a vector to which an artificial nuclease gene is incorporated, and plasmid transfer). The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.
3. (2) Regarding the process of selection and breeding, an outline of the process from when individuals into which an extracellularly processed nucleic acid has been transferred are produced to when individuals finally obtained (the subject of this information provision) are selected shall be described.
   Regarding a method that was used to confirm the presence or absence of the residues of transferred nucleic acids, an outline of the analysis method used for confirmation in addition to its analysis results shall be described. The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.
4. (1) Matters listed below shall be described.
   a Name of taxonomic species (Japanese name, English name, and scientific name)
   b Breed or strain name of the host
   c Contents of genetic modification used to produce the said breed, etc.
   It should be noted that the reference material describing the details of the contents of genetic modification (a phylogenetic tree from the origin species to the host species to be used, the operation of the genetic modification used for production [for example, passage by inbred lines], etc.) shall be kept by the information provider and added to the list of stored reference materials.
4. (2) As for the status of its distribution in the natural environment, the presence or absence of its distribution in the domestic and foreign natural environment shall be described, and if any, the regional name of the distribution shall be stated.
   As for the history and status of its use, etc., the following shall be described with respect to the status of its use: the usage history of the host species or the taxonomic species to which the host belongs, the main usage type, the main purpose, etc.
   Regarding the physiological and ecological characteristics, the main characteristic features for each of the following items shall be described.
   a Breeding system (in the case of mammalian viviparity, it refers to the reproductive period, breeding season, estrous cycle, gestation period, litter size, etc., and in the case of other reproduction or breeding systems, it refers to the equivalent content)

b Viability and reproductive capacity in nature (the points to be assumed in comparing the situation in the general open environment with the environment of the main usage type with respect to the viability and reproductive capacity of host species, etc.)

c Other information (main physiological traits such as the productivity of substances that affect other individual organisms, including harmful substances)

5. (1) An outline of types of artificial nucleases (ZFN, TALEN, CRISPR/Cas9, etc.) and component elements of artificial nucleases shall be described. The reference material illustrating the design of artificial nucleases with a diagram shall be kept by the information provider and added to the list of stored reference materials.

5. (2) An outline of the method of introduction shall be described, such as the transfer of an artificial nuclease itself into the host cell, transfer of a vector to which an artificial nuclease gene is incorporated into the host cell, and integration of an artificial nuclease gene into the host genome. In addition, in the case of integration of an artificial nuclease gene into the host genome, its method shall be also described.

6. (1) An outline of a cleavage site targeted by an artificial nuclease and the changes in the base sequence (base addition, substitution, and deletion) generated at the said cleavage site shall be described. The reference material illustrating these details with a diagram shall be kept by the information provider and added to the list of stored reference materials.

6. (2) As for the gene encoded by the cleavage site, an outline of functional changes that are theoretically possible upon the alteration of the said gene shall be described, together with its name, the function of the said gene, and the function of the protein produced by expression of the said gene. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

7. The physiological or ecological characteristics actually imparted by the modification of a target gene shall be compared with those of the host, and the main characteristic features shall be described. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

8. (1) If an analysis is conducted to determine whether a mutation has occurred in the sequence similar to the target nucleotide sequence, the results shall be described. When the presence or absence of a sequence similar to the target sequence is examined with respect to designing a site involved in binding to the target DNA, it shall be described. In any case, the material that can be used to confirm the validity of such methods shall be kept by the information provider and added to the list of stored reference materials.

8. (2) In addition to the traits described in 7 above, the possibility that there may be differences between the host and the organisms obtained by using genome-editing technology shall be described with regard to morphological and growth characteristics, breeding system, viability and reproductive capacity in nature, feeding habits, etc. The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.

9. (1) It shall be stated as "-." (Not applicable for animals)

9. (2) Regarding the location of the work area (it is the area where target organisms are handled, etc. and clearly distinguishable from other areas, and the same shall apply hereinafter) as well as the layout and structure of equipment, their outlines shall be described. The reference material that can be used to confirm these detailed contents (including the following materials from a to c) shall be kept by the information provider and added to the list of stored reference materials.

a Location of the work area: It is to illustrate with a diagram the layout and name of buildings inside and outside the office as well as the work area

b Layout of equipment: It is to show the floor plan including the work area and to describe the position and name of the main equipment that handles the said animals, as well as the position of the precautionary statements for outsiders as necessary

c Structure of equipment: It is to describe the specifications of equipment that handles the said animals, and if special equipment is installed for drainage systems, etc. to handle the said animals, it is to illustrate the said equipment with a diagram

9. (3) An outline shall be described with respect to the maintenance and inspection system of facilities and equipment, arrangement of experienced personnel and an education and training system, work instructions and procedures regarding the rearing management, a coping method in case of emergency such as accidents, etc. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

Appendix 3: Specific content of information to be described if the type of organism is plant

1. The name shall be clearly distinguishable from other organisms by including information such as the name of the taxonomic species to which the said organism's host or parent organism belongs as well as the characteristics of the said organism.
   An outline shall describe the overview of the characteristics and the like imparted by using genome-editing technology.
2. The purpose and outline (details of its use, the planned scale of production, etc.) regarding the use of the said organism shall be described.

3(1) When an extracellularly processed nucleic acid is transferred, an outline of the composition and transfer method of the transferred nucleic acid shall be described (such as direct transfer of an artificial nuclease of which the site involved in binding to the target DNA is RNA, transfer of mRNA of an artificial nuclease, transfer of a vector to which an artificial nuclease gene is incorporated, and plasmid transfer). The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.

3(2) Regarding the process of selection and breeding, an outline of the process from when individuals into which an extracellularly processed nucleic acid has been transferred are produced to when individuals finally obtained (the subject of this information provision) are selected shall be described.
   Regarding a method that was used to confirm the presence or absence of the residues of transferred nucleic acids, an outline of the analysis method used for confirmation in addition to its analysis results shall be described. The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.

4(1) Matters listed below shall be described.
   a Name of taxonomic species (Japanese name, English name, and scientific name)
   b Breed or strain name of the host
   c Contents of genetic modification used to produce the said breed, etc.
   It should be noted that the reference material describing the details of the contents of genetic modification (a phylogenetic tree from the origin species to the host species to be used, the operation of the genetic modification used for production [for example, passage by inbred lines], etc.) shall be kept by the information provider and added to the list of stored reference materials.

4(2) As for the status of its distribution in the natural environment, the presence or absence of its spontaneous growth in the domestic and foreign natural environment shall be described, and if any, the regional name of the habitat shall be stated.
   As for the history and status of its use, etc., the following shall be described with respect to the status of its use: the usage history of the host species or the taxonomic species to which the host belongs, the main usage type, the main purpose, etc.
   Regarding the physiological and ecological characteristics, the main characteristic features for each of the following items shall be described.
   a Plant breeding system or propagation
      (i) Shedding habit, dispersal pattern, dormancy, and longevity of seeds
      (ii) Mode of vegetative reproduction (basal shoot, tuber, tuberous root, stolon, etc.) and budding traits of tissues or organs capable of regenerating the plant body, etc. under natural conditions

(iii) The degree of autogamy or allogamy, presence or absence of self-incompatibility, the degree of hybridization with closely related wild species and, and the degree of apomixis if it has a trait to cause apomixis

(iv) Production amount, fertility, shape, transmission method, scattering distance, and longevity of pollen or spores

b Viability as well as reproductive or propagative capacity in nature (the points to be assumed in comparing the situation in the general open environment with the environment of the main usage type with respect to the viability and reproductive or propagative capacity of host species, etc.)

c Other information (main physiological traits such as the productivity of substances that affect other individual organisms, including harmful substances)

5. (1) An outline of types of artificial nucleases (ZFN, TALEN, CRISPR/Cas9, etc.) and component elements of artificial nucleases shall be described. The reference material illustrating the design of artificial nucleases with a diagram shall be kept by the information provider and added to the list of stored reference materials.

5. (2) An outline of the method of introduction shall be described, such as the transfer of an artificial nuclease itself into the host cell, transfer of a vector to which an artificial nuclease gene is incorporated into the host cell, integration of an artificial nuclease gene into the host genome. In addition, in the case of integrating an artificial nuclease gene into the host genome, its method (Agrobacterium method, microprojectile method, etc.) shall be also described.

6. (1) An outline of a cleavage site targeted by an artificial nuclease and the changes in the base sequence (base addition substitution, and deletion) generated at the said cleavage site shall be described. The reference material illustrating these details with a diagram shall be kept by the information provider and added to the list of stored reference materials.

6. (2) As for the gene encoded by the cleavage site, an outline of functional changes that are theoretically possible upon the alteration of the said gene shall be described, together with its name, the function of the said gene, and the function of the protein produced by expression of the said gene. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

7. The physiological or ecological characteristics actually imparted by the modification of a target gene shall be compared with those of the host, and the main characteristic features shall be described. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

8. (1) If an analysis is conducted to determine whether a mutation has occurred in the sequence similar to the target nucleotide sequence, the results shall be described. When the presence or absence of a sequence similar to the target sequence is examined with respect to designing a site involved in binding to the target DNA, it shall be described. In any case, the material that can be used to confirm the validity of such methods shall be kept by the information provider and added to the list of stored reference materials.

8. (2) In addition to the traits described in 7 above, the possibility that there may be differences between the host and the organisms obtained by using genome-editing technology shall be described with regard to morphological and growth characteristics, wintering ability/summering ability, seed productivity, shedding habit, dormancy, and germinability, etc. The reference material to be the basis of it shall be kept by the information provider and added to the list of stored reference materials.

9. (1) It shall be stated as "-." (Not applicable for plants)

9. (2) Regarding the location of the work area (it is the area where target organisms are handled, etc.

and clearly distinguishable from other areas, and the same shall apply hereinafter), the layout and structure of equipment, and the production process, their outlines shall be described. The reference material that can be used to confirm these detailed contents (including the following materials from a to d) shall be kept by the information provider and added to the list of stored reference materials.

a Location of the work area: It is to illustrate with a diagram the layout and name of buildings inside and outside the office as well as the work area

b Layout of equipment: It is to show the floor plan of workplace including the work area and to describe the position and name of the main equipment that handles the said plants, as well as the position of the precautionary statements for outsiders as necessary

c Structure of equipment: It is to describe the specifications of equipment that handles the said plants, and if special equipment is installed for drainage systems, etc. to handle the said plants, it is to illustrate the said equipment with a diagram

d Production process: It is to illustrate the outline of the process with a diagram if the production of the said plants or the production of substances by using the said plants is carried out by a culturing method that utilizes culture equipment (In the diagram, the name of various devices, the location of valves, etc. shall be described, and the name and content of each process shall be described if necessary.)

9. (3) An outline shall be described with respect to the maintenance and inspection system of facilities and equipment, arrangement of experienced personnel and an education and training system, work instructions and procedures regarding the rearing management, a coping method in case of emergency such as accidents, etc. The reference material that can be used to confirm these detailed contents shall be kept by the information provider and added to the list of stored reference materials.

(Annex 1)

Containment Measures Only When Storing or Transporting Target Organisms

Classification of Use, etc.	Content of Containment Measures
Storing (excluding storage during the production process)	1 A target organism shall be stored in a container with a structure that does not release them, or allow them to escape, or otherwise spread them, and it shall be displayed on an easy-to-see part of the said container that it is an organism obtained by using genome-editing technology. 2 Containers that contain the target organism of 1 above shall be clearly separated from organisms, etc. other than the target organism and stored accordingly, and it shall be displayed in an easy-to-see location of the facility used for its storage that the organisms obtained by using the genome-editing technology are stored.
Transporting (excluding transportation during the production process)	1 A target organism shall be stored in a container with a structure that does not release them, or allow them to escape, or otherwise spread. 2 It shall be displayed on an easy-to-see part of the container (or the relevant packaging in the case of packaging the container) containing the target organism of 1 above that attention is required for its handling.

(Annex 2)

Containment Measures When Using Target Organisms That Satisfy Certain Requirements

Classification of Organisms	Content of Containment Measures
Microorganisms	1 Matters to be satisfied regarding facilities, etc. (1) Work area (it is an area where target organisms are used, etc., and can be clearly distinguished from other areas, and the same shall apply hereinafter) shall be set up in a facility, etc. (2) The work area of (1) above shall have the structure and equipment as a workroom for ordinary use, etc. of microorganisms. (3) Facilities, etc. shall be properly managed and operated, and its records shall be stored. Such records shall be made for each facility such as a room for producing the said microorganisms and a room for storing them, and a transferee shall be recorded in the case of transferring them. 2 Matters to be observed in using, etc. (1) Regarding the waste (it includes waste liquid, and the same shall apply hereinafter) that contains microorganisms subject to the containment measures (hereinafter referred to as "target microorganisms"), measures shall be taken to inactivate target microorganisms before discarding it. (2) Regarding the equipment, devices, and tools to which target microorganisms were attached, measures shall be taken to inactivate target microorganisms before discarding or reusing them. (3) As for workbenches, measures shall be taken to inactivate target microorganisms after the work on the day when the work is performed and immediately after target microorganisms are attached. (4) The door of a workroom shall be kept closed (except when workers enter and leave). (5) As for the openings such as windows in a workroom, necessary measures, such as keeping them closed in order to prevent the entry of insects and other organisms, shall be taken. (6) The generation of aerosols shall be minimized in all operations. (7) When bringing out target microorganisms from a workroom in the process of their use, etc., they shall be placed in a container with a structure that does not release them or spread them. (8) Necessary measures, such as hand washing after handling target microorganisms, shall be taken to prevent target microorganisms from adhering or causing infection. (9) Measures shall be taken (for example, the display of "Authorized Personnel Only," installation of a door lock, etc.) to prevent people other than personnel who received the training from entering without reason.
Animals	1 Matters to be satisfied regarding facilities, etc. (1) Work area shall be set up in a facility, etc. (2) The work area of (1) above shall have the structure and equipment as an animal room (for example, a facility for rearing and storing ordinary

	laboratory mice in the case of laboratory mice) for ordinary use, etc. of host animals. (3) At a rearing facility's entrance and exit, windows, and other locations that can potentially be an escape route for animals subject to the containment measures (hereinafter referred to as "target animals"), equipment, devices, or tools (for example, rat guards and double doors [exterior and interior] for mice and rats, and double window screens and adhesive tapes for insects) shall be installed for escape prevention in accordance with their behavior of target animals. (4) Facilities, etc. shall be properly managed and operated, and its records shall be stored. Such records shall be made for each facility such as a room for rearing said animals and a room for handling them, and a transferee shall be recorded in the case of transferring them. 2 Matters to be observed in using, etc. (1) The door of an animal room shall be kept closed (except when workers enter and leave). (2) As for the openings such as windows and drains in an animal room, necessary measures, such as keeping them closed in order to prevent the entry of insects, wild rats, etc. while installing window screens and duckboards, shall be taken. (3) Measures shall be taken (for example, the display of "Authorized Personnel Only," installation of a door lock, etc.) to prevent people other than personnel who received the training from entering without reason. (4) When bringing out target animals from an animal room in the process of their use, etc., they shall be placed in a container with a structure that does not allow them to escape or spread them. (5) Measures shall be taken so that target animals can be identified for each type of modified nucleic acid (for example, attaching a tag to each individual, attaching a label to each breeding cage, etc.). (6) It shall be displayed at the entrance of an animal room that animals obtained by using genome-editing technology are reared in the room. (7) When stopping their use, etc., measures (euthanasia) shall be taken to inactivate target animals. In proceeding with euthanasia, it shall be conducted based on the guidelines on the method of mercy killing (Notice of the Prime Minister's Office No. 40 of July 4, 1995).
Plants	1 Matters to be satisfied regarding facilities, etc. (1) Work area shall be set up in a facility, etc. (2) The work area of (1) above shall have the structure and equipment as a cultivation room for ordinary use of plants. (3) As for ventilation and drainage facilities, in the case of performing an operation by which pollen, etc. of plants subject to the containment measures (hereinafter referred to as "target plants") is easily scattered, the amount of said plants' pollen, etc. included in the exhaust gas or drainage released from a cultivation room, etc. shall be minimized (for example, installation of a filter, boiling treatment, etc.). (4) Facilities, etc. shall be properly managed and operated, and its records

	shall be stored. Such records shall be made for each facility such as a cultivation room for said plants and a storage room for their seeds, and a transferee shall be recorded in the case of transferring them. 2 Matters to be observed in using, etc. (1) Regarding the waste that contains target plants, measures shall be taken to inactivate the said plants before discarding it. (2) Regarding the equipment, devices, and tools to which target plants were attached, measures shall be taken to inactivate target plants before discarding or reusing them. (3) The door of a cultivation room shall be kept closed (except when workers enter and leave). (4) As for the openings such as windows in a cultivation room, necessary measures, such as keeping them closed in order to prevent the entry of insects and other organisms, shall be taken. (5) Measures shall be taken (for example, the display of "Authorized Personnel Only," installation of a door lock, etc.) to prevent people other than personnel who received the training from entering without reason. (6) When bringing out target plants from a cultivation room in the process of their use, etc., they shall be placed in a container with a structure that does not scatter them or spread them. (7) Measures shall be taken so that target plants can be identified for each type of modified nucleic acid. (8) It shall be displayed at the entrance of a cultivation room that plants obtained by using genome-editing technology are cultivated in the room.