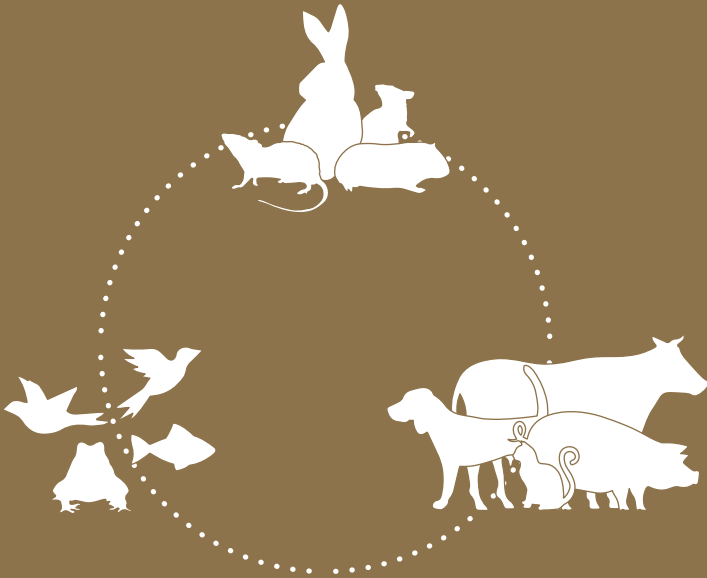




กระทรวงการอุดมศึกษา วิทยาศาสตร์ วิจัยและนวัตกรรม
Ministry of Higher Education, Science, Research and Innovation

ETHICAL PRINCIPLES AND GUIDELINES FOR THE PROCEDURES ON ANIMALS FOR SCIENTIFIC PURPOSES



Institute of Animals for Scientific Purposes Development (IAD)
National Research Council of Thailand (NRCT)

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Ethical Principles and Guidelines for the Procedures on Animals for Scientific Purposes.

The National Research Council of Thailand

Second Printing, 2019 (1,000 copies)

Published by

Institute of Animals for Scientific Purposes Development (IAD)

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Printed at

SM-Art Interprint Co., Ltd.

Tel: 0-2636-6677

Definition

Ethical principles

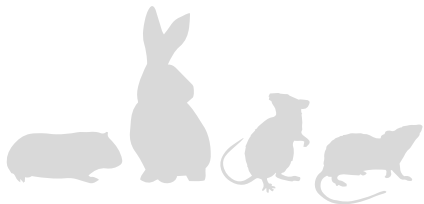
Ethical principles and guidelines for the procedures on animals for scientific purposes that any individual who deals with animals must follow so as to be ethically, morally, humanely and academically appropriate as well as being a standard practice acceptable to all.

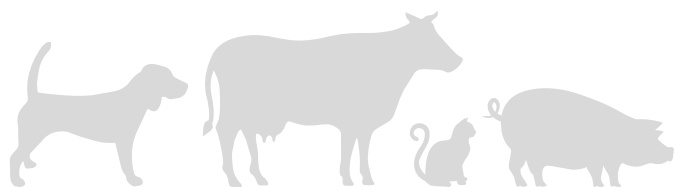
Animal users

Individuals who use or treat animals for scientific purposes including the principle investigators of animal use protocol, researchers, scientists who handle animals, teachers who use live animals in teaching, attending veterinarians, veterinary technicians, supervisor of animal caretakers, research assistants, and students.

Animal caretakers

Individuals whose duties involved with feeding and caring animals for scientific purposes.





Animal breeders

Individuals who produce animals for scientific purposes by mean of breeding and maintaining breeds.

The committee (IACUC)

An Institutional Animal Care and Use Committee appointed by the Institutional Officer (IO) of any establishment to control and oversee the procedures on animals at the establishment.

A protocol

An animal use protocol submitted by an animal user to the IACUC for an approval to use animals for research, experimentation, testing, production of biomaterials, teaching or breeding.

Ethical principles

1. Animal users are to be aware of the value of life of animals.

Animals are to be used only for specific purposes, which have been carefully considered as beneficial and utmost necessary for the development of the quality of life of both humans and animals and/or the progress of science. In addition, it is thoroughly considered that there is no other available equivalent or options.

2. Animal users are to be aware of the accuracy of the research outcome using the minimal number of animals.

Animal users are to be aware that the objective and goal of the project can be achieved accurately with the least number of animals depending on the genetics and health quality of the animals and the appropriate planning and techniques used in the experimental design.

3. The Use of wild animals must not violate laws or policies for wildlife conservation.

The use of wildlife is to be restricted to scientific research that cannot be replaced by any other kind of animals, and it is to abide by the laws and policies for wildlife conservation.



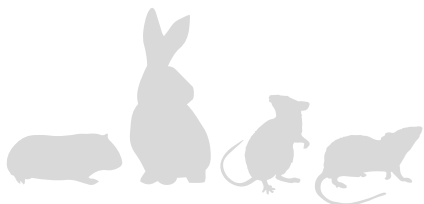
4. Animal users, animal caretakers, animal breeders, heads of establishment units, institutional officer (IO), the committee (IACUC), and any persons who are involved in the care and use of animals need to be aware that animals are living beings, just as humans, that experience a sense of pain and respond to their surroundings in the same way that humans do.

Animals are to be treated with caution to avoid stress, pain and suffering by providing optimum conditions for transportation, animal husbandry, environmental enrichment, prevention of diseases and appropriate experimental techniques.

5. Animal users, animal caretakers, heads of establishment units, and animal breeders must keep detailed data and records of animal experiments.

Animal users must strictly follow the procedures described in their protocols, and all the details of the experiments are to be recorded in full and made available for public release or investigation at all times.

6. Animal user licensees or animal breeder licensees must abide by the ministerial orders and regulations under Animal for Scientific Purposes Act and conditions defined in the licenses.

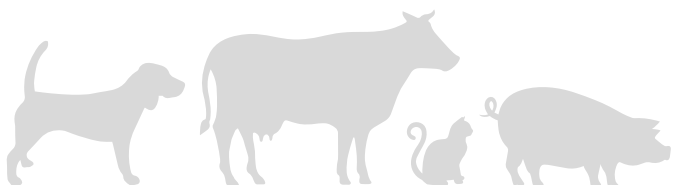


Guidelines for the procedures on animals for scientific purposes

1. Animal users are to be aware of the value of life of animals.

Animals are to be used only for specific purposes, which have been carefully considered as beneficial and utmost necessary for the development of the quality of life of both humans and animals and/or the progress of science. In addition, it is thoroughly considered that there is no other available equivalent or options.

- (1) Use animals only when it is utmost necessary and unavoidable or when there are no other alternatives. The use of animals must not be taken for granted as a routine process or for pleasure. In this regard, animal users must be aware of the value of the life of an animal based on religious morality.
- (2) Before using animals, the animal users must carefully study all information and documents related to their studies or experimentations, and utilize the information to make the most out of the animals.
- (3) Before using animals, the animal users must submit their protocols for approval to the IACUC. The protocol must include details and plans of experiments as well as procedures on animals with good rationale and expected benefits to improve the quality of life of humans and/or



animals and/or the progress of science and the accumulation of academic information. To support the need for using animals, the animal users must provide information with evidence and reasons that there are no other alternatives.

- (4) Animal users must indicate in their protocols what to do with the animals at the end of experiments. In case the animals have to be sacrificed, the animals must be appropriately euthanized. The animals must not be consumed as food or released to nature. In case the animals are to survive, to be used in another protocol, or to be released to nature, the users must provide the reasons for such necessity in their protocols and must be responsible for rearing the animals under good health and welfare appropriate for the species. The survived animals must not create problems to society and environment.

2. Animal users are to be aware of the accuracy of the research outcome using the minimal number of animals.

Animal users are to be aware that the objective and goal of the project can be achieved accurately with the least number of animals depending on the genetics and health quality of the animals and the appropriate planning and techniques used in the experimental design.

- (1) Animal users must review all the genetic information of the animals to be used and the standard of animal care and management that are appropriate with the project objectives and goals.

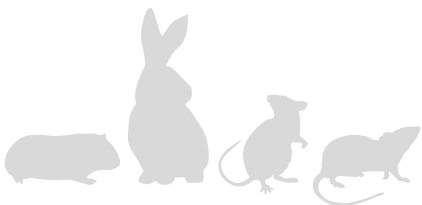


- (2) Animal users must select the species and the breed of animal with genetics and health quality that fit in with the project objectives and goals. A statistical method must be employed for estimating the least number of animals required while ensuring the most accurate and acceptable results.
- (3) In case laboratory animals are to be used, animal users must select animals from breeders, which have a well- recorded history of the breed, the breeding program for genetic stability and the genetic and health monitoring data. Moreover, the breeder should be able to guarantee its continuation of services in all aspects as required by animal user such as species, breed, sex, age, weight and quantity of animals.
- (4) Animal users must not select animals which have no genetic background for uses unless they fit with the objectives or goals of their project.
- (5) Animal users must employ only the most appropriate techniques, procedures, and statistical methods in planning the experiments and data analyses.

3. The use of wild animals must not violate laws or policies for wildlife conservation.

The use of wildlife is to be restricted to scientific research that cannot be replaced by any other kind of animals, and it is to abide by the laws and policies for wildlife conservation.

- (1) The use of wildlife for scientific purposes must be carefully considered, and only under the conditions that it is extremely necessary or there are no other alternatives or cannot be replaced by any other kind of animals.

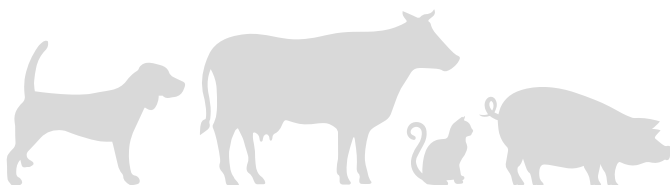


- (2) The use of wildlife must abide by the laws and policies for wildlife conservation.

4. Animal users, animal caretakers, animal breeders, heads of establishment units, institutional officer (IO), the committee (IACUC), and any persons who are involved in the care and use of animals need to be aware that animals are living beings, just as humans, that experience a sense of pain and respond to their surroundings in the same way that humans do.

Animals are to be treated with caution to avoid stress, pain and suffering by providing optimum conditions for transportation, animal husbandry, environmental enrichment, prevention of diseases and appropriate experimental techniques.

- (1) Animal users and any persons who perform procedures on animals must have one or more of the following practical skills on animals, depending on their responsibilities;
 - A. Handling and restraining
 - B. Identification
 - C. Sexing
 - D. Administration of substances or drugs via intradermal, subcutaneous, intramuscular or blood vessel, and gavage
 - E. Sampling of blood, feces, urine, tissue or organ
 - F. Reducing pain and stress
 - G. Anesthesia
 - H. Surgery
 - I. Euthanasia
 - J. Necropsy



- (2) Animal breeders must abide by the following practices;
 - A. Provision of an optimal condition of animal husbandry appropriate for each species such that the animals are healthy and are not infected or under stress. Health and microbial monitoring must be done routinely and continuously using acceptable methods. Animal health data must be disclosed to the customers.
 - B. Breeding program for obtaining progeny with genetic stability of the available strain or stock must be available for inspection.
 - C. Animal production must meet the requirement of the animal users such as strain or stock, sex, age, weight, and number of animals. Genetics of each generation of every strain and stock must be monitored by an acceptable method and be disclosed to the customers.
 - D. Care and management of animal production and husbandry must be performed under one or more of the following conditions; (a) Specified Pathogen Free (SPF), (b) Germ Free (GF), (c) Strict Hygienic Conventional (SHC)
 - E. Transportation of animals to the animal users must follow the Animal Transportation Association (ATA), International Air Transport Association, (IATA), or other internationally acceptable standards.
- (3) Animal caretakers and any persons involved in animal handlings must strictly follow the Standard Operating Procedures (SOP) issued by the IACUC.
- (4) The IACUC must stringently perform its duties prescribed by the Committee for Supervision and Promotion of Procedures on Animals for Scientific Purposes.



- (5) The institutional officer (IO), the IACUC, and the head of establishment unit must provide and manage the animal facilities according to either one or more of the following conditions that fit with its objective:
 - A. Strict Hygienic Conventional (SHC);
 - B. Specified Pathogen Free (SPF);
 - C. Germ Free (GF);
 - D. Animal Biosafety Level 1-4 (ABSL 1-4).

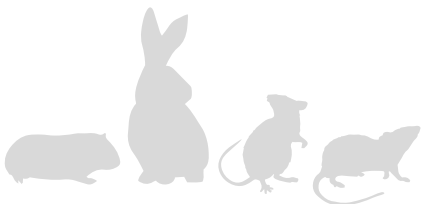
5. Animal users, animal caretakers, heads of establishment units, and animal breeders must keep detailed data and records of animal experiments.

Animal users must strictly follow the procedures described in their protocols, and all the details of the experiments are to be recorded in full and made available for public release or investigation at all times.

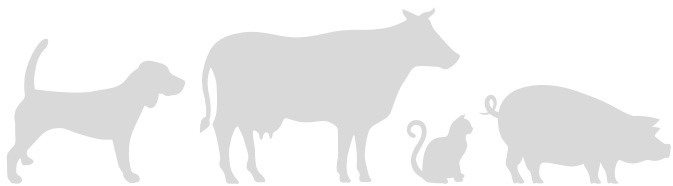
- (1) Regularly keep records of the source of the animals, methods used for animal care and management, barrier systems, and regular environment monitoring.
- (2) Record in details every time the procedures performed on animals.
- (3) Keep records of animal health monitoring.

6. Animal user licensees or animal breeder licensees must abide by the ministerial orders and regulations under the Animals for Scientific Purposes Act and conditions defined in the licenses.

Animal user licensees and animal breeder licensees must stringently follow the Ethical Principle 6.



APPENDIX



Appendix A

Announcement of the Committee for Supervision and Promotion of Procedures on Animals for Scientific Purposes

Subject: Ethical principles and guidelines for the procedures on animals for scientific purposes

As empowered by the Animals for Scientific Purposes Act, B.E. 2558, section 8 (4), the Committee for Supervision and Promotion of Procedures on Animals for Scientific Purposes has made this announcement:

1. This announcement is called “Announcement of the Committee for Supervision and Promotion of Procedures on Animals for Scientific Purposes: Ethical principles and guidelines for the procedures on animals for scientific purposes”

2. This announcement is enforced on the day after its publication in the Government Gazette.



3. In this announcement:

“Ethical principles”

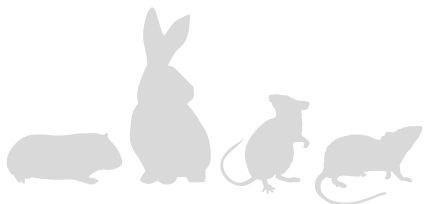
means ethical principles and guidelines for the procedures on animals for scientific purposes that any individual who deals with animals must follow so as to be ethically, morally, humanely and academically appropriate as well as being a standard practice acceptable to all.

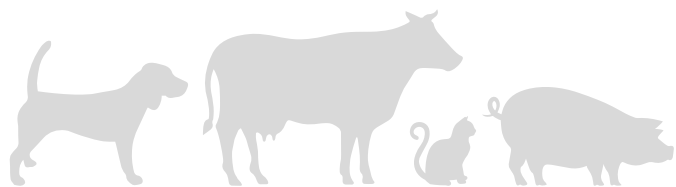
“Animal users”

means individuals who use or treat animals for scientific purposes including the principle investigators of animal use protocol, researchers, scientists who handle animals, teachers who use live animals in teaching, attending veterinarians, veterinary technicians, supervisor of animal caretakers, research assistants, and students.

“Animal caretakers”

means individuals whose duties involved with feeding and caring animals for scientific purposes.





“Animal breeders”

means individuals who produce animals for scientific purposes by mean of breeding and maintaining breeds.

“The committee (IACUC)”

means an Institutional Animal Care and Use Committee appointed by the Institutional Officer (IO) of any establishment to control and oversee the procedures on animals at the establishment.

“A protocol”

means an animal use protocol submitted by an animal user to the IACUC for an approval to use animals for research, experimentation, testing, production of biomaterials, teaching or breeding.

Section 1

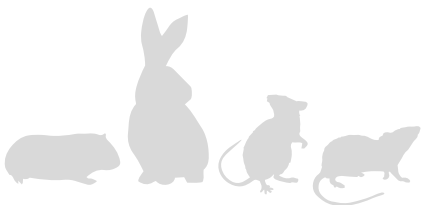
Ethical Principles

4. Any procedure on animals for scientific purposes must be aware of and based on the following ethical principles:

- (1) Animal users are to be aware of the value of life of animals. Animals are to be used only for specific purposes, which have been carefully considered as beneficial and utmost necessary for the development of the quality of life of both humans and animals and/or the progress of science. In addition, it is thoroughly considered that there is no other available equivalent or options.
- (2) Animal users are to be aware of the accuracy of the research outcome using the minimal number of animals. Animal users are to be aware that the objective and goal of the project can be achieved accurately with the least number of animals depending on the genetics and health quality of the animals and the appropriate planning and techniques used in the experimental design.
- (3) The Use of wild animals must not violate laws or policies for wildlife conservation. The use of wildlife is to be restricted to scientific research that cannot be replaced by any other kind of animals, and it is to abide by the laws and policies for wildlife conservation.



- (4) Animal users, animal caretakers, animal breeders, heads of establishment units, institutional officer (IO), the committee (IACUC), and any persons who are involved in the care and use of animals need to be aware that animals are living beings, just as humans, that experience a sense of pain and respond to their surroundings in the same way that humans do. Animals are to be treated with caution to avoid stress, pain and suffering by providing optimum conditions for transportation, animal husbandry, environmental enrichment, prevention of diseases and appropriate experimental techniques.
- (5) Animal users, animal caretakers, heads of establishment units, and animal breeders must keep detailed data and records of animal experiments. Animal users must strictly follow the procedures described in their protocols, and all the details of the experiments are to be recorded in full and made available for public release or investigation at all times.
- (6) Animal user licensees or animal breeder licensees must abide by the ministerial orders and regulations under the Animals for Scientific Purposes Act and conditions defined in the licenses.



Section 2

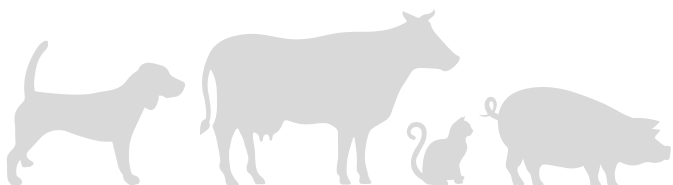
Practical Guidelines

5. The animal users must be in line with the Ethical Principle (1) by following the following practices:

5.1 Use animals only when it is utmost necessary and unavoidable or when there are no other alternatives. The use of animals must not be taken for granted as a routine process or for pleasure. In this regard, animal users must be aware of the value of the life of an animal based on religious morality.

5.2 Before using animals, the animal users must carefully study all information and documents related to their studies or experimentations, and utilize the information to make the most out of the animals.

5.3 Before using animals, the animal users must submit their protocols for approval to the IACUC. The protocol must include, details and plans of experiments as well as procedures on animals with good rationale and expected benefits to improve the quality of life of humans and/or animals and/or the progress of science and the accumulation of academic information. To support the need for using animals, the animal users must provide information with evidence and reasons that there are no other alternatives.



5.4 Animal users must indicate in their protocols what to do with the animals at the end of experiments. In case the animals have to be sacrificed, the animals must be appropriately euthanized. The animals must not be consumed as food or released to nature. In case the animals are to survive, to be used in another protocol, or to be released to nature, the users must provide the reasons for such necessity in their protocols and must be responsible for rearing the animals under good health and welfare appropriate for the species. The survived animals must not create problems to society and environment.

6. Animal users must be in line with the Ethical Principle (2) by following the following practices:

6.1 Animal users must review all the genetic information of the animals to be used and the standard of animal care and management that are appropriate with the project objectives and goals.

6.2 Animal users must select the species and the breed of animal with genetics and health quality that fit in with the project objectives and goals. A statistical method must be employed for estimating the least number of animals required while ensuring the most accurate and acceptable results.

6.3 In case laboratory animals are to be used, animal users must select animals from breeders, which have a well-recorded history of the breed, the breeding program for genetic stability and the genetic and health monitoring data. Moreover, the breeder should be able to guarantee its continuation of services in all aspects as required by animal users such as species, breed, sex, age, weight and quantity of animals.



6.4 Animal users must not select animals which have no genetic background for uses unless they fit with the objectives or goals of their project.

6.5 Animal users must employ only the most appropriate techniques, procedures, and statistical methods in planning the experiments and data analyses.

7. Animal users must be in line with the Ethical Principle (3) by following the following practices:

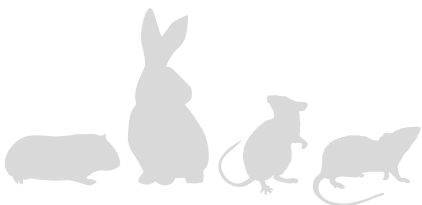
7.1 The use of wildlife for scientific purposes must be carefully considered, and only under the conditions that it is extremely necessary or there are no other alternatives or cannot be replaced by any other kind of animals.

7.2 The use of wildlife must abide by the laws and policies for wildlife conservation.

8. Animal users, animal caretakers, animal breeders, heads of establishment units, institutional officer (IO), the committee (IACUC), and any persons involved in the care and use of animals must be in line with the Ethical Principle (4) by following the following practices:

8.1 Animal users and any persons who perform procedures on animals must have one or more of the following practical skills on animals, depending on their responsibilities:

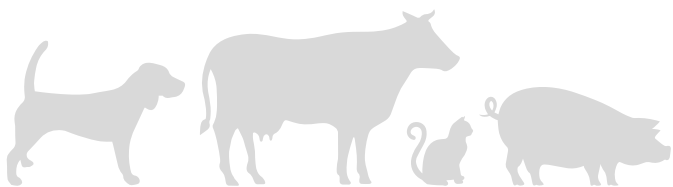
- (i) Handling and restraining;
- (ii) Identification;



- (iii) Sexing;
- (iv) Administration of substances or drugs via intradermal, subcutaneous, intramuscular or blood vessel, and gavage;
- (v) Sampling of blood, feces, urine, tissue or organ;
- (vi) Reducing pain and stress;
- (vii) Anesthesia;
- (viii) Surgery;
- (ix) Euthanasia;
- (x) Necropsy.

8.2 Animal breeders must abide by the following practices;

- (i) Provision of an optimal condition of animal husbandry appropriate for each species such that the animals are healthy and are not infected or under stress. Health and microbial monitoring must be done routinely and continuously using acceptable methods. Animal health data must be disclosed to the customers.
- (ii) Breeding program for obtaining progeny with genetic stability of the available strain or stock must be available for inspection.
- (iii) Animal production must meet the requirement of the animal users such as strain or stock, sex, age, weight, and number of animals. Genetics of each generation of every strain and stock must be monitored by an acceptable method and be disclosed to the customers.
- (iv) Care and management of animal production and husbandry must be performed under one or more of the following conditions; (a) Specified Pathogen Free (SPF), (b) Germ Free (GF), (c) Strict Hygienic Conventional (SHC).
- (v) Transportation of animals to the animal users must follow the Animal Transportation Association (ATA), International Air Transport Association, (IATA), or other internationally acceptable standards.



- 8.3 Animal caretakers and any persons involved in animal handlings must strictly follow the Standard Operating Procedures (SOP) issued by the IACUC.
- 8.4 The IACUC must stringently perform its duties prescribed by the Committee for Supervision and Promotion of Procedures on Animals for Scientific Purposes.
- 8.5 The institutional officer (IO), the IACUC, and the head of establishment unit must provide and manage the animal facilities according to either one or more of the following conditions that fit with its objective:
- (i) Strict Hygienic Conventional (SHC);
 - (ii) Specified Pathogen Free (SPF);
 - (iii) Germ Free (GF);
 - (iv) Animal Biosafety Level 1-4 (ABSL 1-4).
-

9. Animal users, animal caretakers, heads of establishment units, and animal breeders must be in line with the Ethical Principle (5) by following the following practices:

- 9.1 Regularly keep records of the source of the animals, methods used for animal care and management, barrier systems, and regular environment monitoring.
- 9.2 Record in details every time the procedures performed on animals.
- 9.3 Keep records of animal health monitoring.
-



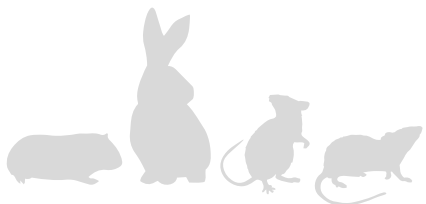
10. Animal users, animal breeders, and heads of establishment units must be responsible for supervising animal caretakers, animal caretaker assistants, research assistants or other subordinates to stringently follow the Ethical Principles and Guidelines announced herein.

11. Animal user licensees and animal breeder licensees must stringently follow the Ethical Principle (6).

1st Announcement on 29th February, 2016

2nd Announcement on 18th May, 2017

by Chairperson of the Committee for Supervision and Promotion of
Procedures on Animals for Scientific Purposes.





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