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Technical Guidelines for Transport of Farm Animals

The “Technical Guidelines for Transport of Farm Animals” were developed and issued by the Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF-J), based on the standards for animal welfare in the Terrestrial Animal Health Code of the World Organisation for Animal Health. This document is the English version of the guidelines translated by MAFF-J. While every effort has been made to ensure that the translation is as accurate as possible, the accuracy and completeness of the content is not entirely guaranteed. For accurate and up-to-date information, please refer to the original Japanese version.

Ministry of Agriculture, Forestry and Fisheries of Japan

Livestock Industry Bureau

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Section 1. Basic matters on transport of farm animals

1. Responsibilities

In order to maintain the health and safety of farm animals (including poultry if not specifically mentioned) and to ensure animal welfare, all persons involved in the transport of farm animals, including not only owners and managers of the animals, but also transport companies, vehicle drivers, and vessel managers, should cooperate and take responsibility for transport of the animals.

The individual responsibilities of persons involved are described in more detail in this article.

(1) Owners and managers of the farm animals are responsible for:

- the general health, overall animal welfare, and fitness of the animals for the journey;
- ensuring compliance with any required veterinary or other certification;
- the presence of an animal handler competent for the species being transported during the journey with the authority to take prompt action; in the case of transport by individual trucks, the truck driver may be the sole animal handler during the journey;
- the presence of an adequate number of animal handlers during loading and unloading;
- ensuring that equipment and veterinary assistance are provided as appropriate for the species and the journey.

(2) Business agents or buying/selling agents are responsible for:

- selection of animals that are fit to travel;
- availability of suitable facilities at the start and at the end of the journey for the assembly; loading, transport, unloading and holding animals, including for any stops at resting points during the journey and for emergencies, described in Section 5.1.

(3) Animal handlers (persons who are responsible for the humane handling and care of the farm animals, especially during loading and unloading. In the absence of a separate animal handler, the driver is the animal handler.) are responsible for:

- humane handling and care of the animals during loading and unloading;
- maintaining a journey log;
- having the authority to take prompt action to carry out their responsibilities.

(4) Transport companies, vehicle owners, and drivers of transport (hereinafter referred to as a **transporter**) are responsible for:

- producing a journey plan described in Section 2-1;
- choosing appropriate vehicles for the species transported and the journey;
- ensuring properly trained staff are available for loading/ unloading of animals;
- ensuring adequate competency of the driver in matters of animal welfare for the species being transported in case a separate animal handler is not assigned to the truck;

- developing and keeping up-to-date contingency plans to address emergencies including adverse weather conditions;
- ensuring the minimization of stress and animal welfare during transport;
- loading only those animals which are fit to travel, for their correct loading into vehicles and their inspection during the journey, and for appropriate responses to problems arising;
- if its fitness to travel is in doubt, the animal should be examined by a veterinarian in accordance with Section 2.2.

(5) Managers of facilities at the start and at the end of the journey and at resting points (hereinafter referred to as the **facility manager**) are responsible for:

- providing suitable premises for loading, unloading, and securely holding the animals with protection from adverse weather conditions and to check their health and segregate, described in Section 5.1;
- providing an adequate number of animal handlers to load, unload, drive, and hold animals in a manner that causes minimum stress and injury; in the absence of a separate animal handler, the driver is the animal handler;
- minimizing the opportunities for disease transmission;
- providing appropriate facilities, with water and feed when required;
- providing appropriate facilities for emergencies;
- providing facilities for washing and disinfecting vehicles after unloading;
- providing facilities and competent staff to allow euthanasia of animals when required;
- ensuring proper rest times and minimal delay during stops.

(6) All individuals, including veterinarians, involved in transporting animals are responsible for;

- receiving appropriate training in the transport of farm animals and the associated handling procedures and being competent to meet their responsibilities.

(7) Competent Authorities are responsible for;

- report serious animal welfare problems encountered during the transport of farm animals to the Ministry of Agriculture, Forestry and Fisheries of Japan (hereinafter, MAFF-J) and other relevant organizations.

[Actions recommended for implementation]

All individuals involved in transporting farm animals and the associated handling procedures should receive appropriate training and be competent to meet their responsibilities so that they can take appropriate measures for the transport in consideration of animal welfare.

During the transport of farm animals (from loading to unloading), an animal handler should be appointed, and the managers, the drivers, or the persons who are responsible for the operation of a vehicle such as train, vessel or aircraft should be the handler.

Animal handlers should understand the behavior patterns of the animals and the underlying principles necessary to carry out their tasks, such as general signs of disease, and general disease prevention procedures and be experienced and competent in handling and moving farm animals, while seeking guidance from veterinarians as necessary. To carry out their responsibilities, they should have the authority to take prompt action, and be responsible for the humane handling and care of the animals during the journey, including loading and unloading.

The animal handler should inspect animals, check and record a journey log, and deal with emergencies and carry out other tasks.

The receiving Competent Authority such as prefectural authority should report to relevant organizations such as MAFF-J on significant animal welfare problems which occurred during the journey.

[Actions recommended for future implementation]

None

2. Consideration for farm animals

It is important to consider that transport should not be an excessive burden on farm animals and not to impose unnecessary stress on them and take into consideration the behavior patterns of the animals and species-specific aspects when transporting.

[Actions recommended for implementation]

Responsible person such as veterinarians and animal handlers should make decisions about the need for rest before transport.

Consideration should be given to the previous transport experience, training and conditioning of the animals, if known, as these may reduce fear and stress in animals.

Drivers should utilize smooth, defensive driving techniques, without sudden turns or stops, to minimize uncontrolled movements of the animals.

The behavior patterns, which are always present to some degree in domestic animals, should be taken into consideration in handling and moving the animals. Compatible groups should be selected before transport to avoid adverse animal welfare consequences. The following recommendations should be applied when assembling groups of animals; i) young or small animals should be separated from older or larger animals, with the exception of nursing mothers with young at foot; ii) animals reared together should be maintained as a group; iii) aggressive individuals should be segregated; iv) animals of different species should not be mixed unless they are judged to be compatible; and v) animals with horns or antlers should not be mixed with animals lacking horns or antlers unless judged to be compatible.

When transporting farm animals of extremely different sizes and ages, separate frames or other measures should be provided (see Appendix I).

Animals with a strong social bond, such as a dam and offspring, should be transported together.

[Actions recommended for future implementation]

None

3. Time required for transportation

For farm animals, transport causes stress due to large changes in the surrounding environment and physical effects such as shaking of vehicles and vessels.

When transporting farm animals, it is important to contact the destination in advance and set the transportation start time to minimize the waiting time up to unloading at the destination.

[Actions recommended for implementation]

Individual farm animals may experience different stresses depending on the status and age of the farm animals (e.g., young, old, pregnancy), the weather and any other condition during transport, but the amount of time animals spend on a journey should be kept to the minimum. In particular, if the animals are in crates or on multi-tiered vehicles, for example where the roof of the tier is too low , animals cannot be inspected adequately, and serious injury or disease could go undetected; therefore, a shorter journey duration should be allowed.

When transporting farm animals, there should be contact with the destination in advance and the transportation start time should be set to minimize the waiting time in the vehicle, including the time required for unloading.

The responsible rail transporter should monitor the progress of trains carrying animals and take all appropriate action to minimize delays.

[Actions recommended for future implementation]

None

Section 2. Planning the journey

1. Development of a journey plan

The development of an appropriate journey plan is important to preserve the health and safety of farm animals and to transport them in consideration of animal welfare.

[Actions recommended for implementation]

In order to maintain the health and safety of farm animals and to transport them in consideration of animal welfare, an appropriate journey plan should be prepared before the journey starts.

The journey plans should be made in relation to; i) preparation of animals based on the species and their condition, ii) required documentation, iii) choice of road, rail, vessels, or containers, iv) nature and duration of the journey, v) vehicle design and maintenance, including vessels, vi) space allowance, vii) forecast weather conditions, viii) observation of animals in route, ix) rest, water, and feed, x) transfer time when changing mode of transport, xi) control of disease, and xii) emergency response procedures.

In particular, heat or cold, and severe shaking during transportation can cause significant stress to farm animals; therefore, journey plans should be made in consideration with expert advice from people with knowledge of transportation and considering the age of the animal and the weather. Transport procedures should be able to take account of variations in the behavior of the species. The indicators described in Section 7.4 (for maximum driving periods) should take into account animal welfare whenever possible.

Loading should be carefully planned as it has the potential to be the cause of poor welfare in transported animals.

As animal transport is often a significant factor in the spread of infectious diseases, journey planning should take the following into account: i) mixing of animals from different sources in a single consignment should be minimized, ii) contact at resting points between animals from different sources should be avoided, and iii) when possible, animals should be vaccinated against diseases to which they are likely to be exposed at their destination.

When veterinary certification is required to accompany consignments of animals, it should address a record of the fitness of animals to travel, animal identification number, health status including any tests, treatments and vaccinations carried out, etc. In addition, the veterinarian should notify the animal handler or the driver of any factors affecting the fitness of animals to travel for a particular journey.

[Actions recommended for future implementation]

None

2. Confirmation of the condition of farm animals to be transported and prior preparation

Owners and managers of farm animals should inspect the animals for health and injury before transport. As a result, if the animals are found unfit to travel in accordance with Section 7.2, they should not be loaded onto a vehicle, except for transport to receive veterinary attention. In addition, when transportation of those animals is necessary for unavoidable reasons, the owners and managers should seek guidance by veterinarians, and consider the transfer time and conditions.

[Actions recommended for implementation]

Owners and managers of farm animals should inspect each animal for health and injury before transport, and if its fitness to travel is in doubt, the animal should be examined by a veterinarian as necessary, and assess fitness to travel, such as the need for rest and whether transportation will be an excessive burden, by taking into consideration previous transport experience, training and conditioning of the animals, and physical condition.

Humane and effective arrangements should be made by the owner and manager for the handling and care of any animal rejected as unfit to travel, including providing treatment, waiting for recovery, and reconsidering transportation.

In addition, when transportation of animals found unfit to travel is necessary for unavoidable reasons such as medical treatment, special care should be taken in consideration of the transfer time and conditions. In particular, animals that may be burdened by transport should be separated from other animals, and special attention should be paid to the transfer time and conditions.

When animals are to be provided with a novel diet or method of water provision during transport, an adequate period of adaptation should be planned. It should be noted that some species may require a short period of feed withdrawal before loading.

Owners and managers should consult with a veterinarian and should administer medication including vaccines to prevent diseases, if necessary, in advance. If the transfer beyond the prefectural area or export is planned, the rules of the health authority at the destination should be taken into consideration. In addition, animal handlers should handle and load animals in a manner that reduces their fearfulness and improves their approachability. Behavior-modifying compounds (such as tranquillizers) or other medication should not be used routinely during transport, and such compounds should only be administered by a veterinarian or other person who has been instructed in their use by a veterinarian when a problem exists in an individual animal.

The animal handler or the driver should confirm that the farm animals have been loaded into the vehicle as planned before departure.

[Actions recommended for future implementation]

None

Section 3. Management of farm animals being transported

1. Observation and recording

In order to check the health and safety of farm animals being transported and the status of animal welfare, it is important for animal handlers to understand the condition of the animals (in the case of poultry, the overall condition in the crate). It is also important that drivers and animal handlers check the load immediately before departure check again early in the trip to prevent problems caused by transport.

In addition, it is important to keep records of observations. The items to be recorded vary depending on the species, but include the deterioration in health, the occurrence of injury, mortality rates, response measures, weather, ventilation conditions, temperature and humidity, frequency and quantity of feeding and watering, administered compounds, frequency of rests, distance and duration of transport, and failures of tools.

[Actions recommended for implementation]

Farm animals should be positioned to enable each animal to be observed regularly during the journey to ensure their safety and good welfare. This condition will not normally apply to poultry. However, efforts should be made to observe the general conditions within the crates.

In order to prevent problems caused by transport in advance, drivers and animal handlers should check the load immediately before departure to ensure that the animals have been properly loaded, and each load should be checked again early in the trip and adjustments made as appropriate.

When transporting farm animals by vehicle, periodic checks should be made throughout the trip, especially at rest or refueling stops or during meal breaks when the vehicle is stationary. In the case of vessels, etc., which can be observed during movement, periodic checks should also be made. Animals being transported by rail should be observed at each scheduled stop.

During stops, it should be ensured that the animals continue to be properly confined, have appropriate feed and water, and their physical condition is satisfactory. Observations should be carried out to check whether there are any signs of deterioration in health or injury in farm animals, and to check whether ventilation is proper and whether feeding or watering is required. If the vehicle is stopped for a long time, the observation should be carried out immediately before departure.

The following should be recorded: deterioration in health, the occurrence of injuries, mortality rates, response measures, weather, ventilation conditions, temperature and humidity, frequency and quantity of feeding and watering, administered compounds, frequency of rests, distance and duration of transport, failures of tools, etc. In particular, the situation in which deterioration in health or injury has occurred should be recorded in detail.

Animal handlers and drivers should consult with a veterinarian, if doubts arise about the fitness to travel, such as obvious signs of sickness in the loaded animals.

[Actions recommended for future implementation]

None

2. Handling

Farm animals have critical distance (flight zone) and try to escape if any person approaches closer than a certain distance, but the flight zone varies among species and individuals of the same species. When approaching or catching farm animals, it is necessary to consider the flight zone, avoid sudden penetration of the flight zone or rough handling, which may cause a panic, tumble, slip, or fall. In addition, it is also useful to use a standing position: point of balance to control farm animals effortlessly (see Appendix II).

Farm animals have eyes on their sides and they are sensitive to movement all around except directly behind them. However, due to their poor sense of depth and perspective, the grating (e.g., grating net or slats to close the groove) and shadows with strong shading in aisles and other areas hinder movement.

When catching poultry, care should be taken to avoid a strong impact, and when loading and unloading them in and out of crates, they should be handled carefully to pinching or fracturing them (see Appendix III). It is also useful to handle poultry by taking advantage of their tendency of becoming docile under blue light or dim light.

When transporting farm animals restrained, it is necessary to select mooring and holding methods that are appropriate for the species and condition of the animals.

[Actions recommended for implementation]

Loading and unloading of farm animals should be supervised and/or conducted by animal handlers with knowledge and experience of the behavioral and physical characteristics of the species being unloaded. Also, their species-specific behavior should be used so that animals are moved quickly and smoothly and without unnecessary noise, harassment, or force.

Animals should be unloaded from the vehicle into appropriate facilities as soon as possible after arrival at the destination. When unloading, consideration should be given to the likelihood that the animals will be fatigued.

When loading or unloading, or moving or catching farm animals, the presence of an adequate number of animal handlers should be secured according to the headcount of animals. When assistants or other personnel are involved, untrained assistants or spectators should not impede the process and care should be taken to avoid it. In addition, in order to avoid causing undue stress, the animals should be handled quietly and without unnecessary noise, harassment, or force, grasped or lifted in a manner which avoids pain or suffering and physical damage (e.g. bruising, fractures, dislocations), and sufficient time should be allowed for work. Animal handlers should avoid sudden penetration of the flight zone, which may cause a panic reaction which could lead to aggression or attempted escape and compromise the welfare of the animals. Also, animal handlers should use the “point of balance” at the animal’s shoulder to move animals (see Appendix II).

The use of goads or other aids which cause pain and suffering (including large sticks, sticks with sharp ends, lengths of metal piping, fencing wire, or heavy leather belts), should not be used to move animals, and they should be used in a manner sufficient to encourage and direct movement of the animals without causing undue stress, such as panels, flags, and rattles (see Appendix IV).

Painful procedures (including whipping, tail twisting, use of nose twitches, pressure on eyes, ears, or external genitalia) and excessive shouting at animals or making loud noises (e.g., through the cracking of whips) to encourage them to move should not occur.

Electric goads and prods should only be used on pigs and large ruminants in extreme cases and not on a routine basis to move animals. Such instruments should not be used on horses, sheep, goats, poultry, calves, and piglets. When such tools have to be used, animals that have little or no room to move should not be subjected to physical force or goads and other aids which compel movement, and the use of such devices should be limited to battery-powered goads on the hindquarters of pigs and large ruminants, and never on sensitive areas such as the eyes, mouth, ears, anogenital region, or belly. Goads and other aids should not be used repeatedly if the animal fails to respond or move, and in such cases it should be investigated whether some physical or other impediment is preventing the animal from moving. Performance standards should be established in which numerical scoring is used to evaluate the use of such instruments, and to measure the percentage of animals moved with an electric instrument and the percentage of animals slipping or falling as a result of their usage. The use of power should be restricted to that necessary to assist movement of an animal and only when an animal has a clear path ahead to move.

Manual lifting by a person should only be used in young animals or small species, and in a manner appropriate to the species. Grasping or lifting animals only by their wool, hair, feathers, feet, neck, ears, tails, head, horns, or limbs causing pain or suffering should not be permitted, except in an emergency where animal welfare or human safety may otherwise be compromised. Conscious animals should not be thrown, dragged, or dropped.

When containers are loaded onto or unloaded off a vehicle, this should be carried out in such a way to avoid poor animal welfare.

When transporting farm animals restrained, the animal handlers should contact the destination in advance to confirm the handling method for unloading, and methods of restraining animals should be appropriate to the species, conditions, and age of animals involved and the training of the individual animal.

[Actions recommended for future implementation]

None

3. Feed, water, and rest

If feeding or watering is required during the journey, access to suitable feed and water for all the animals carried in the vehicle should be provided.

[Actions recommended for implementation]

Feed and water should be provided pre-journey and animals should be allowed to rest if the journey duration is greater than the normal inter-feeding and drinking interval for the animal.

The type of transport, the age and species of the animals being transported, and climatic conditions should determine the frequency of rest stops so that suitable water and feed are available as appropriate and needed for the species, age, and condition of the animals, as well as the duration of the journey, climatic conditions, etc. and the animals are allowed to rest at resting points at appropriate intervals during the journey.

If feeding or watering is required during the journey, access to suitable feed and water for all the animals carried in the vehicle should be provided according to their species, age, health condition, journey duration, weather. There should be adequate space for all animals to move to the feed and water sources and due account taken of likely competition for feed (see Appendix V).

Water and feed should be available during rest stops, and if necessary, suitable facilities should be used on route when resting requires the unloading of the animals, considering the species. These facilities should meet the needs of the particular animal species and should allow access of all animals to feed and water.

When animals are to be provided with a novel diet or method of water provision during transport, an adequate period of adaptation should be planned. It should be noted that some species may require a short period of feed withdrawal before loading.

[Actions recommended for future implementation]

None

4. Control of diseases and accidents

It is most important to prevent diseases and injuries.

When transporting by vessels, it is necessary to provide appropriate measures to respond to the occurrence of disease or injury.

For animals that are unable to walk due to sickness, injury, or fatigue, it may be the best for animal welfare to treat or euthanize them in the vehicle.

To ensure animal welfare during journey, it is also beneficial to provide facilities and staff for euthanasia, if necessary.

[Actions recommended for implementation]

In order to reduce the likelihood that animal transport will increase the spread of infectious disease, contact between transported animals, or the waste products of the transported animals, and other farm animals should be minimized.

An animal that has become sick, injured, or disabled during a journey should be segregated and should be appropriately treated or euthanized in accordance with a

predetermined emergency response plan in the journey plan. If necessary, veterinary advice should be sought in the care and treatment of these animals. In addition, these animals should be unloaded in a manner that causes the least amount of suffering and after unloading, separate pens and other appropriate facilities should be available for sick or injured animals. Feed, if appropriate, and water should be available for each sick or injured animal.

During the journey, when dead animals are identified, they should be treated in such a way as to prevent the transmission of disease such as isolation and in compliance with all relevant health and environmental legislation.

Vessels should have procedures to treat sick or injured animals during the journey.

Record in detail the circumstances of any deterioration in health, occurrence of injury, etc., or death, and if the frequency of occurrence is high, seek guidance from a veterinarian or other health care provider as necessary to ascertain the cause and take appropriate action. A detailed record should be made including the deterioration in health, the occurrence of injury. and the situation in the case of death. If the occurrence frequency is high, the cause should be understood and appropriate measures should be taken. If necessary, veterinary advice should be sought.

At the destination, the animal handler or the driver during transit should ensure that responsibility for the welfare of sick, injured, or disabled animals is transferred to a veterinarian or other suitable person.

When euthanasia is necessary, it should be carried out as quickly as possible and assistance should be sought from a veterinarian or other person(s) competent in the procedures, following the "Technical Guidelines for On-Farm Euthanasia of Farm Animals". If treatment or euthanasia is not possible aboard the vehicle, there should be appropriate facilities and equipment for the humane unloading of animals that are non-ambulatory due to fatigue, injury, or sickness.

[Actions recommended for future implementation]

None

5. Cleaning and disinfection

It is necessary to clean, wash, and disinfect each area of vehicles, containers, and vessels. that are used to carry farm animals, including the removal of piled manure, etc. after each journey and to keep them clean.

Those involved should comply with all relevant laws and regulations when disposing of manure.

[Actions recommended for implementation]

In order to provide a comfortable environment for farm animals, and also to prevent the occurrence of diseases and injuries and the spread of infectious diseases during the journey, vehicles, vessels, containers, etc. used to carry the animals should be cleaned before re-use through the physical removal of manure and bedding by scraping, washing, and flushing with water and detergent. This should be followed by disinfection when there are concerns about disease

transmission. Therefore, in areas where farm animals are loaded or unloaded, spaces for cleaning, washing, and disinfection should be provided.

To minimize slipping and soiling, and maintain healthy environment, urine and feces should be removed from floors when necessary. When cleaning is necessary during a journey, this should be carried out with the minimum of stress and risks to the animals.

Manure, waste, litter, and the bodies of any animals which die during the journey should be disposed of such a way as to prevent the transmission of disease transmission and in compliance with all relevant health and environmental legislation.

[Actions recommended for future implementation]

None

6. Biosecurity measures

Animal transport is often a significant factor in the spread of infectious diseases. Since the spread of infectious diseases poses a major problem from the viewpoint of animal quarantine and animal welfare, persons involved in transport should comply with the "Biosecurity Standards" outlined in the “Act on the Prevention of Infectious Diseases in Livestock (Act No. 166 of 1951)”, and should endeavor to acquire knowledge on disease control and management on a daily basis, carry out appropriate disinfection when vehicles enter and exit facilities, and check the health status of farm animals.

[Actions recommended for implementation]

Persons involved in transport should comply with the "Biosecurity Standards" outlined in the “Act on the Prevention of Infectious Diseases in Livestock” and acquire knowledge about disease control on a daily basis.

When vehicles, etc. used to carry farm animals enter or leave facilities, they should be disinfected appropriately.

If any abnormalities are found in the animals introduced, veterinary advice should be sought, and the animals should be segregated, and checked for health status, if necessary.

Compounds used for prevention and treatment should be administered by a veterinarian or other person who has been instructed in their use by a veterinarian.

In addressing the greater risk of disease due to animal transport and the possible need for segregation of transported animals at the destination, the following should be taken into account: i) increased contact among animals, including those from different sources and with different disease histories, ii) increased shedding of pathogenic agents and increased susceptibility to infection related to stress and impaired defenses against disease, including immunosuppression, iii) exposure of animals to pathogenic agents which may contaminate vehicles and resting points, etc. The welfare of the animals should be the first consideration in the event of a refusal to allow the completion of the journey.

[Actions recommended for future implementation]

None

Section 4. Environment during transport

1. Climatic environment

The comfortable temperature range for farm animals varies depending on the species, breed, body size of the animal, etc. The temperature experienced by animals is affected not only by air temperature, but also by other factors such as humidity, solar radiation, wind speed, ventilation method, and space allowance.

[Actions recommended for implementation]

Since the temperature experienced by animals is affected not only by air temperature, but also by other factors such as humidity, solar radiation, wind speed, ventilation method, and space allowance, farm animals should be carefully observed to provide a comfortable environment for them, and protected against harm from hot or cold conditions during travel. Special precautions should be taken for animals that are unsuited to either hot or cold condition. In some extreme conditions of heat or cold, animals should not be transported at all.

In hot weather, measures against heat, such as preventing direct sunlight, blowing air with fans, introducing a fine fog system, and transporting them at night when it is cooler, should be taken to maintain the appropriate temperature. In warm and hot weather, the duration of journey stops should be minimized and vehicles should be parked under shade, with adequate and appropriate ventilation.

In cold weather, measures should be taken against cold, such as preventing drafts (see Appendix VI).

Transportation in extreme bad weather such as typhoons should not be carried out whenever possible, as it can lead to severe shaking and delays in transfer time.

[Actions recommended for future implementation]

None

2. Ventilation

The retention of heat, ammonia and other substances due to inadequate ventilation may adversely affect not only farm animals but also the health of those involved in transport; therefore, attention should be paid to prevent animals and humans from feeling uncomfortable with temperature and odor.

[Actions recommended for implementation]

Ventilation during loading and the journey should adequately provide for fresh air, the removal of excessive heat, humidity, and noxious fumes (such as ammonia and carbon monoxide), and the prevention of accumulations of ammonia and carbon dioxide and should meet variations in climate and the thermo-regulatory needs of the animal species being transported. In all conditions, a build-up of noxious gases should be prevented. Under warm and hot conditions, ventilation should allow for the adequate convective cooling of each animal, since ventilation helps to discharge heat and assist in body heat dissipation. In particular, when farm animals are housed and transported in an enclosed space, fresh air should be supplied by properly

arranging ventilators, fans, etc., or by installing a forced ventilation system to ensure ventilation and temperature control (see Appendix VI).

Vehicles and vessels should have adequate ventilation system and the system (natural or mechanical) should be effective when the vehicle or vessel is stationary. For systems where the supply of fresh air from the outside is expected to decrease while the vehicle or vessel is stationary, the ventilation status should be checked and the airflow should be adjustable.

[Actions recommended for future implementation]

None

3. Space allowance

Care should be taken, as the space allowance for farm animals during the journey varies not only by species, breed, and body size, but also by whether the animal is lying down or standing during the journey, transfer time, needs of feed and water and weather conditions, and other factors. Overcrowding is stressful for the animals and can cause disease or injury. Excessive space can also cause unnecessary injuries.

In the case where the animals have no experience in transport or the vehicle is subject to rolling, or other problems, they should be standing.

[Actions recommended for implementation]

The animal handler should carefully observe the farm animals before loading, and the number of animals which should be transported on a vehicle or in a container and their allocation to compartments should be determined before loading.

Calculations for the space allowance for each animal should be carried out using the figures given in a relevant national or international document. The number and size of pens on the vehicle should be varied where possible to accommodate already established groups of animals while avoiding group sizes which are too large.

Each animal should be able to assume its natural standing position (for poultry, lying down) for transport (including during loading and unloading) without coming into contact with the roof or upper deck of the vehicle, and there should be sufficient headroom to allow adequate airflow over the animals.

When animals are standing, they should have sufficient space to adopt a balanced position as appropriate to the climate and species transported. When animals lie down, they should all be able to adopt a normal lying posture, without being on top of one another, and allowing necessary thermoregulation.

[Actions recommended for future implementation]

None

4. Lighting

Since metallic luster and reflected light from wet floors can cause farm animals to stop and hesitate to move, it is recommended that that lighting be positioned differently. It is also useful to use indirect lighting in dark entrances so that the lights do not directly illuminate the eyes of animals.

[Actions recommended for implementation]

When loading, unloading, moving, or catching for transport, the facilities should be properly illuminated to allow the ease of movement of the animals at all times considering their behavior patterns and tendencies.

Vehicles, containers, and vessels used to carry farm animals should be properly illuminated to allow the animals to be observed by animal handler(s) as necessary.

[Actions recommended for future implementation]

None

5. Noise and smell

Farm animals can hear over a greater range of frequencies than humans and are more sensitive to higher frequencies. They tend to be alarmed by constant loud noises and by sudden noises, which may cause them to panic; therefore it is necessary to prevent occurrence of such noises.

[Actions recommended for implementation]

Sensitivity to noises including constant loud noises and sudden noises should be taken into account when handling animals during transport.

Smells which cause negative responses should be taken into consideration when managing animals.

[Actions recommended for future implementation]

None

Section 5. Structure of facilities for transport

1. Loading/unloading facilities

(1) Holding areas and unloading areas

Holding areas where farm animals are temporarily held before loading or after unloading should be comfortable and safe for the animals. Equipment and facilities for loading and unloading animals should be properly illuminated to allow the animals to be observed by animal handler(s), and to allow the ease of movement of the animals at all times.

[Actions recommended for implementation]

The facilities for loading/unloading, including the collecting area, races, and loading ramps should be designed and constructed to take into account the desire of some animals to control their personal space and the needs and abilities of the animals with regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, and other factors.

Holding areas should be comfortable and safe for farm animals, securely hold the animals, allow for rest, and appropriate water and feed, maintain a safe environment from hazards, including predators, disease, injury by sharp edges, and slipping (see Appendix VII), protect animals from exposure to severe weather conditions, and allow for maintenance of social groups.

When feed and water are required due to long waiting time or time for transport, all animals should be allowed access to feed and water.

Unloading areas should provide all animals with appropriate care and comfort, adequate space and ventilation, access to feed and water (if appropriate), and shelter from extreme weather conditions. If necessary, separate pens and other appropriate facilities should be available for the introduced animals to check their health or for sick or injured animals to segregate. In addition, spaces for washing and disinfecting a place where vehicles, containers and vessels, etc. used for transportation can be cleaned, washed, and disinfected should be provided.

[Actions recommended for future implementation]

None

(2) Races and ramps

The equipment and facilities should be designed and constructed taking into account the behavior patterns of the farm animals and their tendencies during movement, loading, and unloading so that animals are moved quickly and smoothly without unnecessary stress.

[Actions recommended for implementation]

The races and ramps for loading, unloading and transporting should be designed and constructed to take into account the needs and abilities of the animals with

regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, etc. so that animals are accommodated smoothly.

When farm animals move through a race or ramp, they may stop or turn back at the same place due to the angle of the ramp, obstacles or dead ends in the direction, large steps in the floor, movement to a dark area, reflected light from metallic luster or a wet floor, noise from mechanical equipment, wind from fans, and movement of workers and such effects should be minimized.

Loading facilities should provide uniform light levels directly over approaches to sorting pens, chutes, and loading ramps, with brighter light levels inside vehicles/containers.

[Actions recommended for future implementation]

None

2. Vehicles, containers, and vessels

Vehicles, containers, and vessels used to carry farm animals should be constructed suitable for the animals being transported and enable proper handling of the animals. The safety of animal handlers should also be taken into consideration.

[Actions recommended for implementation]

Vehicles, containers, and vessels used for the transport of farm animals should be designed and constructed to protect animals from exposure to severe weather conditions and minimize the opportunity for animals to escape, taking into account the fight zones of each of the animals. The structure and equipment should be appropriate for the species, age, and weight of the animals to be transported, enable proper handling of the animals, and be maintained and managed to operate functionally and structurally in an appropriate condition. When feed and water are required, such as long transportation, adequate facilities on the vehicle should be available.

Special attention should be paid to avoid injury to animals and animal handlers through the use of secure smooth fittings free from sharp protrusions and when appropriate, suitable bedding should be added to vehicle floors to assist absorption of urine and feces, to minimize slipping by animals, and protect animals from hard flooring surfaces and adverse weather conditions.

In order to minimize the likelihood of the spread of infectious diseases and to care for the surrounding environment, vehicles, containers, and vessels should be designed to permit thorough cleaning and disinfection, and the containment of feces and urine during a journey. Two-tiered vehicles should be designed so that the feces or urine from animals on upper levels do not soil animals on lower levels, nor their feed and water (this does not apply to poultry).

When farm animals are restrained, the structure should allow the methods of restraining to appropriate to the species and condition of the individual animals.

Holding facilities during transport should be designed with the structures necessary to provide protection from direct sunlight and rain and to minimize the opportunity for animals to escape.

When containers containing animals are loaded onto a vehicle or vessel or when vehicles containing animals are loaded onto a vessel, vehicles and containers should be secured to the vessel and/or vehicle before the start of the journey to prevent them being displaced by the motion of the vessel and vehicle.

[Actions recommended for future implementation]

None

Section 6. Confirmation of the situation related to animal welfare

1. Confirmation of animal welfare status

It is important to confirm and record the situation during transport of farm animals to address the concept of animal welfare appropriately.

2. Emergency response

[Actions recommended for implementation]

In order to minimize adverse effects on the health, safety, and animal welfare of farm animals, all individuals involved in the transport should have contingency plans containing emergency measures and contact information to respond to delays caused by sudden weather deterioration and emergency situations such as vehicle accidents during transport, and familiarize themselves with it.

[Actions recommended for future implementation]

None

Section 7. Criteria or measurables for animal welfare of farm animals being transported

The welfare of the animals during their journey is the paramount consideration and is the joint responsibility of all people involved, including owners and managers of the animals, drivers, and animal handlers.

[Actions recommended for implementation]

All people responsible for animals during journeys should note the following:

1. Owners and managers of the farm animals, animal handlers, transport companies, and managers of facilities

Owners and managers of the farm animals, animal handlers, transport companies, and managers of facilities should understand the contents of this document and the technical guidelines for the management of the animals to be transported, and have the knowledge and skills necessary for their role to implement them.

In particular, animal handlers should have the knowledge and ability necessary in the following areas:

- responsibilities for farm animals during the journey, including loading and unloading;
- sources of advice and assistance;
- farm animal behavior, general signs of disease, indicators of poor animal welfare such as stress, pain, and fatigue, and their alleviation;
- assessment of fitness to travel (if fitness to travel is in doubt, the animal should be examined by a veterinarian);
- general disease prevention procedures, including cleaning and disinfection;
- appropriate methods of animal handling during transport and associated activities such as assembly, loading, and unloading;
- methods of inspecting animals, managing situations frequently encountered during transport such as adverse weather conditions, and dealing with emergencies, including euthanasia;
- species-specific aspects and age-specific aspects of animal handling and care, including feeding, watering, and inspection; and
- maintaining a journey log and other records.

In particular, transport companies should have the knowledge and ability necessary in the following areas:

- planning a journey, including appropriate space allowance, and feed, water and ventilation requirements;
- relevant authorities and applicable transport regulations, and associated documentation requirements;
- methods of inspecting animals, managing situations frequently encountered during transport such as adverse weather conditions, and dealing with emergencies, including euthanasia.

2. Fitness of the farm animals for the journey

(1) Farm animals that are unfit to travel

Farm animals that are unfit to travel include, but may not be limited to:

- those that are sick, injured, weak, disabled, or fatigued;
- those that are unable to stand unaided and bear weight on each leg;
- those that are blind in both eyes;
- those that cannot be moved without causing them additional suffering
- newborn with an unhealed navel;
- pregnant animals which would be in the final 10% of their gestation period at the planned time of unloading;
- females travelling without young which have given birth within the previous 48 hours;
- those whose body condition would result in poor welfare because of the expected climatic conditions.

(2) Farm animals which require special conditions during transport

Farm animals for which veterinary advice should be sought in advance about the fitness or which require special conditions during transport include, but may not be limited to:

- large or obese individuals;
- very young or old animals;
- excitable or aggressive animals;
- animals which have had little contact with humans;
- animals subject to motion sickness;
- females in late pregnancy or heavy lactation, or dam and offspring;
- animals with a history of exposure to stressors or pathogenic agents prior to transport;
- animals with unhealed wounds from recent surgical procedures such as dehorning.

3. Items to be checked and recorded before, during, and after the transport of farm animals

In order to maintain animal welfare in the transport of farm animals, the animal handler should check and record the necessary items before, during, and after transport.

(1) Before transport

a) Items that need to be confirmed:

- preparation of a journey plan;
- cleaning and disinfection of vehicles and containers;
- presence of animals that are unfit to travel or that require special conditions during transport (see "2. Fitness of the farm animals for the journey");
- whether it is appropriate to transport as the same group, such as mixing of different groups;
- whether medication is used for disease prevention, etc. as necessary;
- whether the loading is carried out so as not to cause poor animal welfare;

- whether the loading facilities, including the collecting areas, races, and loading ramp, are appropriate in terms of height, width, slopes, flooring, lighting, etc.;
- space allowance such as stocking density;
- appropriate ventilation and measures against heat and cold;
- the use of goads and other aids to move animals;
- needs for feeding, watering, and resting; and
- whether animals were loaded as planned.

b) Items that need to be recorded:
- the condition of animals which are unfit to travel or require special conditions;
- whether the loading was carried out so as not to cause poor animal welfare;
- space allowance such as stocking density;
- status of inspections, medications, treatments, etc.;
- feeding, watering, and resting conditions; and
- cleaning and disinfection conditions of vehicles and containers.

(2) In transit

a) Items that need to be confirmed:
- appropriate ventilation and measures against heat and cold;
- the health deterioration and occurrence of disease or injury; and
- need for feeding, watering, and resting.

b) Items that need to be recorded:
- weather, ventilation conditions, temperature, and humidity;
- health conditions, the occurrence of diseases and injuries, their treatment, and euthanasia; and
- feeding, watering, and resting conditions.

(3) After transport

a) Items that need to be confirmed:
- the health deterioration and occurrence of disease or injury;
- necessity of euthanasia, isolation, or transfer, etc.;
- need for feeding, watering, and resting;
- cleaning and disinfection conditions of vehicles and containers.

b) Items that need to be recorded:
- health deterioration and occurrence of disease or injury;
- status of euthanasia, isolation, transfer, etc.;
- feeding, watering, and resting conditions; and
- cleaning and disinfection conditions of vehicles and containers.

4. Indicators for determining whether continuous transportation of farm animals is equivalent to long transportation requiring rests

The maximum duration of a journey should be determined in accordance with factors such as:

- the ability of the animals to cope with the stress of transport (for example, young, old, lactating or pregnant animals);
- the previous transport experience of the animals;
- the likely onset of fatigue;
- the need for special attention;
- the need for feed and water;
- the increased susceptibility to injury and disease;
- space allowance, vehicle design, road conditions, and driving quality
- weather conditions; and
- vehicle type used, terrain to be traversed, road surface and quality, skills and experience of the driver.

5. Indicators for determining whether isolation of transported farm animals is necessary at the destination

The need for isolation of transported farm animals at the destination should be determined in accordance with factors such as:

- increased contact between animals, including those from different sources and with different disease histories;
- increased shedding of pathogenic agents and increased susceptibility to infection related to stress and impaired defenses against disease, including immunosuppression; and
- exposure of animals to pathogenic agents that may contaminate vehicles, resting points, and markets.

6. Species-specific characteristics

(1) Cattle

Cattle are sociable animals and may become agitated if they are singled out. Social order is usually established at about two years of age. When groups are mixed, social order has to be re-established and aggression may occur until a new order is established. Crowding of cattle may also increase aggression as the animals try to maintain personal space. Social behavior varies with age, breed, and sex. Bos indicus and B. indicus-cross animals are usually more temperamental than European breeds. Young bulls, when moved in groups, show a degree of playfulness (pushing and shoving), but become more aggressive and territorial with age. Adult bulls have a minimum personal space of six square meters. Cows with young calves can be very protective, and handling calves in the presence of their dams can be dangerous. Cattle tend to avoid “dead end” in passages.

(2) Horses (Including donkeys and their crosses)

Horses have good eyesight and a very wide angle of vision. Horses may have a history of loading resulting in good or bad experiences. Good training should result in easier loading, but some horses can prove difficult, especially if they are inexperienced or have associated loading with poor transport conditions. In these circumstances, two experienced animal handlers can load an animal by linking

arms or using a strop below its rump. Blindfolding may even be considered. Ramps should be as shallow as possible. When horses mount a ramp, steps are not usually a problem, but they tend to jump a step when descending, so steps should be as low as possible. Horses benefit from being individually stalled, but may be transported in compatible groups. When horses are to travel in groups, their shoes should be removed. Horses are prone to respiratory disease if they are restricted by period by tethers that prevent the lowering and lifting of their heads.

(3) Pigs

Pigs have poor eyesight and may move reluctantly in unfamiliar surroundings. They benefit from well-lit loading bays. Since pigs negotiate ramps with difficulty, these should be as level as possible and provided with secure footholds. Ideally, a hydraulic lift should be used for greater heights. Pigs also negotiate steps with difficulty. A good 'rule-of-thumb' is that no step should be higher than the pig's front knee. Serious aggression may result if unfamiliar animals are mixed. Pigs are highly susceptible to heat stress and are susceptible to motion sickness during transport. Feed deprivation prior to loading may be beneficial to prevent motion sickness.

(4) Sheep

Sheep are sociable animals with good eyesight, a relatively subtle and undemonstrative behavior, and a tendency to 'flock together', especially when they are agitated. Sheep should be handled calmly and their tendency to follow each other should be exploited when they are being moved. Crowding of sheep may lead to damaging aggressive and submissive behavior as animals try to maintain personal space. Sheep may become agitated if they are singled out for attention, or kept alone, and will strive to rejoin the group. Activities that frighten, injure, or cause agitation to sheep should be avoided. Sheep can negotiate steep slopes.

(5) Goats

Goats should be handled calmly and are more easily led or driven than if they are excited. When goats are moved, their gregarious tendencies should be exploited. Activities that frighten, injure, or cause agitation to goats should be avoided. Bullying is particularly serious in goats and can reflect demands for personal space. Housing strange goats together could result in fatalities, either through physical violence or subordinate goats being refused access to food and water.

Appendix I

Compartmentalization of truck platform (zoning)

In order to transport farm animals safely, it is recommended to use frames, fences, or other measures to separate a platform when transporting animals of extremely different sizes or when a single section is too large.

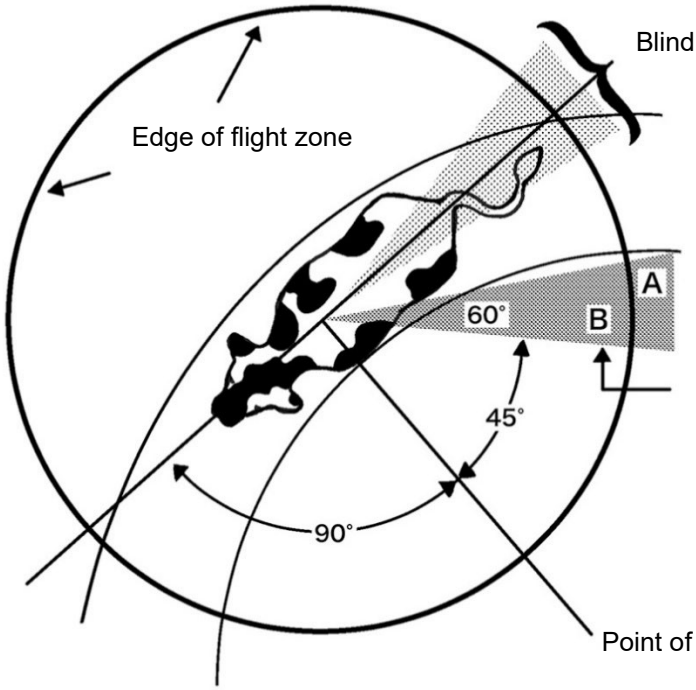
Case 1: Use a partition plate to separate a platform

Case 2: Use partition plates to separate a platform

Case 3 Use assembly cages to separate a platform

Case 4 Use partition sheets to separate a platform

Appendix II



A: Animal handler position to stop movement
(Outside the flight zone)

B: Animal handler position to start movement
(Inside the flight zone)

Example of a flight zone and point of balance (Cattle)

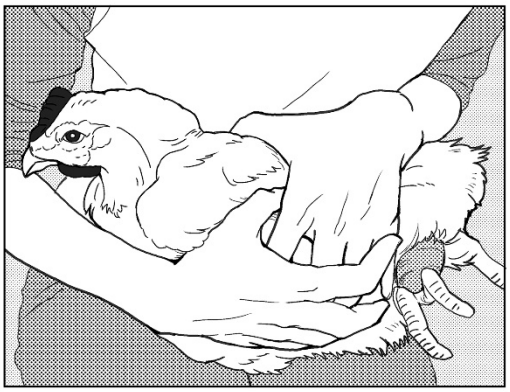
Flight zone	The critical distance where farm animals will try to escape if any person approaches. This distance varies among species and individuals of the same species. When a person is outside the flight zone, the animal does not move, and when a person is inside, the animal will move (escape).
Point of balance	A position to move animals (at the animal's shoulder). If a person enters the flight zone from a position behind the point of balance, the animal moves forward and if the person enters from in front of the point of balance, the animal moves backward.

Appendix III

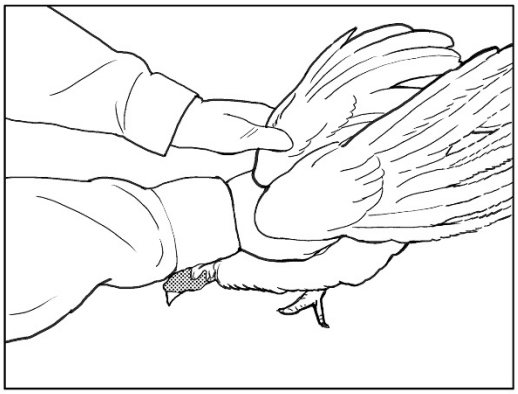
Methods for catching poultry

When catching poultry, it is important to hold the body or wing base carefully to minimize stress, fear, and injury. Lifting the neck or wing tips should be avoided.

Case 1: Hold the wings and body with both hands



Case 2: Grab the base of each wing

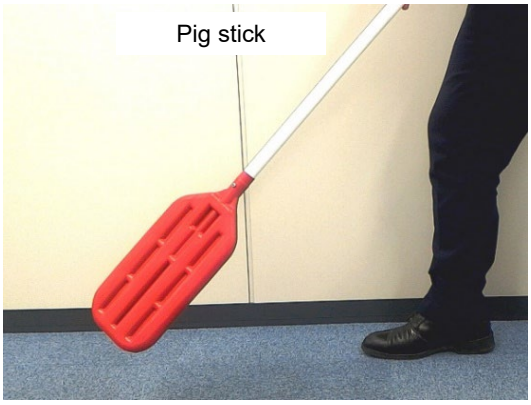


Appendix IV

Examples of tools used to move animals

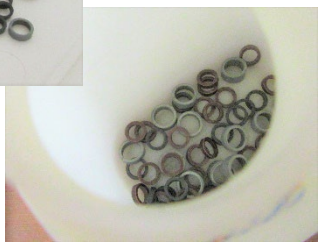
Case 1: Use panels to guide animals

Case 2: A tool that makes a sound when shaken



Case 3 A tool that makes a sound when shaken (self-made)

A self-made tool to make sounds (shredded pipes in a container)



Appendix V

Examples of installation of feeders and waterers

Case 1: Installing tubs for water and feed in the truck

Case 2: Water bucket installed in the container

Appendix VI

Examples of measures against heat, cold, and ventilation

Case 1: Cool cloth to protect from direct sunlight

Case 2: Fans installed for ventilation (onboard)

Appendix VII

Examples of measures to prevent injury or slip

In order to ensure the safety of farm animals during transport, it is recommended that facilities, passageways, vehicles, containers, etc. for loading and unloading provide measures to reduce the risk of injury or slipping due to protrusions, etc.

Case 1: To reduce the risk of injury, the areas where animals come into contact are covered with sheets.

Case 2: Fences for preventing slip and fall are installed on the slope.

Appendix VIII

Facilities that take into consideration the behavior patterns and species-specific aspects of farm animals

Case 1: Loading facility adapted to the height of the platform

Case 2: Ramp with fences adapted to the height of the platform

Case 2: Passage without sharp corners

Trim off the sharp edge of the inner corner to make it flat.