NATIONAL FARM ANIMAL CARE COUNCIL
CONSEIL NATIONAL POUR LES SOINS AUX ANIMAUX D'ÉLEVAGE

CODE OF PRACTICE

FOR THE CARE AND HANDLING OF

FARMED FOX

(Vulpes vulpes)

Canada

ISBN 978-0-9919585-0-4 (book)
ISBN 978-0-9919585-1-1 (electronic book text)

Available from:
Canada Fox Breeders' Association
30 Tanya Cres, Moncton, NB E1E 4W5 CANADA
Telephone: (506) 388-2087

For information on the Code of Practice development process contact:
National Farm Animal Care Council (NFACC)
Email: nfacc@xplornet.com
Website: www.nfacc.ca

Also available in French

Acknowledgment

Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Funding for this project has been provided by Agriculture and Agri-Food Canada through the Agricultural Flexibility Fund, as part of Canada's Economic Action Plan.

Disclaimer

Image credit: www.123rf.com/profile_jgrabert

Table of Contents

Section 5 Husbandry Practices

Section 6 Euthanasia

Section 7 Transport

References

Appendices:

Preface

The National Farm Animal Care Council (NFACC) Code development process was followed in the development of this Code of Practice. This Code of Practice for the Care and Handling of Farmed Fox (*Vulpes vulpes*) replaces its predecessor developed in 1989 and published by Agriculture Canada.

The NFACC Code development process aims to:

- link Codes with science
- ensure transparency in the process
- include broad representation from stakeholders
- contribute to improvements in farm animal care
- identify research priorities and encourage work in these priority areas
- write clearly to ensure ease of reading, understanding and implementation
- provide a document that is useful for all stakeholders.

The Codes of Practice are nationally developed guidelines for the care and handling of farm animals. They serve as our national understanding of animal care requirements and recommended practices. Codes promote sound management and welfare practices for housing, care, transportation and other animal husbandry practices.

Codes of Practice have been developed for virtually all farmed animal species in Canada. NFACC's website provides access to all currently available Codes (www.nfacc.ca).

The Codes of Practice are the result of a rigorous Code development process, taking into account the best science available for each species, compiled through an independent peer-reviewed process, along with stakeholder input. The Code development process also takes into account the practical requirements for each species necessary to promote consistent application across Canada and ensure uptake by stakeholders resulting in beneficial animal outcomes. Given their broad use by numerous parties in Canada today, it is important for all to understand how they are intended to be interpreted.

Requirements - These refer to either a regulatory requirement, or an industry imposed expectation outlining acceptable and unacceptable practices and are fundamental obligations relating to the care of animals. Requirements represent a consensus position that these measures, at minimum, are to be implemented by all persons responsible for farm animal care. When included as part of an assessment program, those who fail to implement Requirements may be compelled by industry associations to undertake corrective measures, or risk a loss of market options. Requirements also may be enforceable under federal and provincial regulation.

Recommended Practices - Code Recommended Practices may complement a Code's Requirements, promote producer education and can encourage adoption of practices for continuous improvement in animal welfare outcomes. Recommended Practices are those that are generally expected to enhance animal welfare outcomes, but failure to implement them does not imply that acceptable standards of animal care are not met.

Broad representation and expertise on each Code Development Committee ensures collaborative Code development. Stakeholder commitment is key to ensure quality animal care standards are established and implemented.

This Code represents a consensus amongst diverse stakeholder groups. Consensus results in a decision that everyone agrees advances animal welfare but does not imply unanimous endorsement of every aspect of the Code. Codes play a central role in Canada's farm animal welfare system as part of a process of continuous improvement. As a result, they need to be reviewed and updated regularly. Codes should be reviewed at least every five years following publication and updated at least every ten years.

A key feature of NFACC's Code development process is the Scientific Committee. It is widely accepted that animal welfare codes, guidelines, standards or legislation should take advantage of the best available research.

A Scientific Committee review of priority animal welfare issues for the species being addressed provided valuable information to the Code Development Committee in developing this Code of Practice. The Scientific Committee report is peer reviewed and publicly available, enhancing the transparency and credibility of the Code.

The 'Code of Practice for the Care and Handling of Ranched Fox: Review of scientific research on priority issues' developed by the Ranched Fox Code of Practice Scientific Committee is available on NFACC's website (www.nfacc.ca).

Introduction

Appropriate husbandry, handling and management are essential for the health and well-being of farmed foxes. The Code of Practice for the Care and Handling of Farmed Fox (*Vulpes vulpes*) provides guidance to owners and stockpeople for the welfare[1] of foxes in their care. This Code applies to all farms raising *Vulpes vulpes* (red foxes, silver foxes and their colour phases) in Canada; hereafter referred to as foxes in this code. Owners and stockpeople are responsible for the foxes in their care and must collectively possess the ability, knowledge and competence necessary to maintain the health and welfare of the animals in accordance with this Code. Key knowledge required includes an understanding of the basic needs and behaviour of foxes, along with farm protocols and processes. All stockpeople working with foxes must be knowledgeable of the content of this Code.

Husbandry systems impose some restrictions on the freedoms of foxes; however, fox production must promote good welfare. Persons responsible for caring for foxes must consider the following:

- shelter
- feed and water to maintain health and vigour
- health management including veterinary care, disease prevention and control strategies, and timely individual care
- handling and conditions to minimize fear and stress
- pen size and design
- environmental enrichments
- breeder selection for health and temperament
- biosecurity
- euthanasia
- emergency preparedness for fire, extreme weather events, mechanical failure and feed supply/ access issues.

Farms, regardless of size, require adequate resources to ensure observation, care and the welfare of individual animals. Foxes must have ready access to feed, water and appropriate shelter. Farms must have a herd health program. Sick, injured or distressed animals must receive prompt treatment and/or be euthanized immediately. There must be adequate staff and resources to inspect, service and maintain all equipment required to care for foxes.

This Code incorporates the available science and reflects generally accepted fox best management practices. It identifies opportunities to promote well-being and ways to minimize welfare concerns. The animal welfare outcomes identified in this document can be achieved under a variety of management systems.

1 The National Farm Animal Care Council supports the following definition of animal welfare: Animal welfare means how an animal is coping physically, physiologically and psychologically with the conditions in which it lives. Physically includes pain and injury; physiologically includes environmental or disease stressors; and psychologically includes stressors that affect the senses, especially those that result in fear, fighting, distress or stereotypic behaviours due to either frustration or boredom. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

Glossary

Biosecurity – measures to reduce the risk of transmission of infectious diseases and parasites

Breeder – a mature fox used for breeding purposes

Circadian Rhythm – being, having, characterized by, or occurring in approximately 24-hour periods or cycles (i.e. biological activity or function)

Compromised Animal – Unfit category: An unfit animal is one that cannot be transported without undue suffering. This includes any condition associated with pain that will be aggravated by transport even with special provisions. **On the advice of a veterinarian an unfit animal may be transported to a veterinary clinic or laboratory for treatment or diagnosis.**

Compromised Animal – Transport with special provision only: is an animal with reduced capacity to withstand the stress of transportation, due to injury, fatigue, ill health, distress, very young or old age, impending birth, or any other cause. These animals may only be transported with special provisions which may include extra bedding, being housed in a special compartment, etc.

Confidence – measures the foxes' degree of comfort with humans; a confident fox will respond more positively to humans

Enrichment – efforts aimed at enhancing the living conditions for foxes that may include objects that can be manipulated (i.e. an object which can be handled, moved, and/or controlled by the fox), or platforms or other pen-related alterations that increase the complexity of the pen, which improves or maintains a fox's physical and psychological health

Fit for transport – A fit animal is one that is deemed to be able to withstand the stress of the intended journey

Group housing – pens that house more than 2 foxes; groups may be littermates/family groups

Pair housing – pens that house 2 foxes; foxes housed in pairs are commonly littermates, but that is not always the case

Pen floor area – includes the floor area provided by the pen but does not include the nest box or platform/shelf area

Pup – name for a young animal from birth to 4 months of age

Quarantine area – an area or facility separated from the fox housing area on a farm that is used to house incoming stock for a period of time to help reduce the risk of introducing pathogens; may also be used to isolate or segregate animals on farm that are known or suspected to be infected with a transmissible disease

Rut gauge – a piece of equipment used to aid in heat detection, to assist in determining the best time for mating female foxes

Stockpeople – all people looking after foxes on a farm

Tongs – a metal device designed to assist in handling foxes; the collar piece of the tong is wrapped or coated to help prevent injury

Whelping – the process of foxes giving birth

Vulpes vulpes – scientific name for red foxes, silver foxes and their colour phases

1 Accommodations and Housing

1.1 Site Location

Farm location can have a significant influence on the welfare of foxes. Topography and drainage should prevent the accumulation of water and land features, such as windbreaks, should be considered to enhance animal welfare (1). Foxes can be sensitive to unfamiliar and/or excessive noises, irregular light, disturbances and other environmental factors (2). The land base should be of sufficient size to meet applicable regulations and carry out the operational objectives of the farm without adversely affecting the welfare of the foxes and the surrounding environment. There should be consideration for future expansion and adequate buffer zones to protect foxes from stressful situations.

Sites must have a sufficient supply of good quality drinking water to meet the needs of the foxes, for cleaning and other farm activities.

REQUIREMENTS

Producers must ensure welfare needs (e.g. clean water, sufficient feed to maintain health and vigour, shelter and environmental enrichment) and operational requirements (e.g. biosecurity) can be met on site.

New sites selected for fox farms must meet all applicable regulations.

Sites must ensure that water does not accumulate.

1.2 Housing

In Canada two types of fox housing are commonly used: outdoor pens and indoor pens. Housing offers foxes protection from the elements and can help to minimize biosecurity risks. Housing must provide a clean and safe space for the foxes to meet their physiological and behavioural needs.

1.2.1 Sheds/Housing

Foxes are sensitive to heat stress and the effects of heavy precipitation and wind. Foxes must have a protected area where they can escape direct sunlight, rain, snow and wind (3). Design features and construction materials that help to minimize extreme heat inside the shed will reduce the potential of heat stress for the foxes. Housing must be designed to protect the foxes from severe winter conditions to reduce the risk of thermal stress.

Housing must be designed and built to provide sufficient light to maintain the foxes' circadian rhythms and reproductive cycle (4) and for stockpeople to adequately inspect and tend to the foxes' daily needs.

Aisle width between rows of pens must provide stockpeople easy access to the animals so they can observe and tend to the foxes.

Housing design can also impact fox welfare through sanitation aspects. Housing design should promote sound waste management (refer to Section 2-Biosecurity for more detail on waste management).

REQUIREMENTS

Aisles must provide adequate space to observe and tend to the foxes and to move equipment within the shed without causing undue disruption to the foxes.

Housing design must minimize extreme heat build up.

Housing must include an area where foxes can escape direct sunlight, rain, snow, wind and that provides protection during times of severe weather conditions.

RECOMMENDED PRACTICES

a. construct housing roofs of materials that reflect sunlight to reduce heat build-up
b. design shed eaves to keep the manure under the pens as dry as possible.

1.2.2 Pens

Outdoor pens are used for breeder animals and as whelping pens. Many farms have breeding/whelping pens inside sheds as well. Foxes to be pelted are most commonly kept in indoor pens. Elevated wire mesh floors are well accepted by foxes, promote hygiene and improve animal comfort by providing a clean and dry environment. Raised pens reduce exposure to pests, parasites and disease-causing microorganisms, as the foxes do not have direct contact with the ground and/or feces. Wire mesh floors also have demonstrated thermoregulatory benefits compared to solid flooring (5).

1.2.2.1 Pen Design

Pen design can affect the comfort, health and welfare of the foxes. Pens must be of sufficient size to meet the physiological and behavioural needs of the foxes. Pens need to provide sufficient comfortable and safe space for the foxes to eat, drink, urinate, defecate, rest, fully stretch out and move without obstruction.

It is anticipated that fox size will increase over time. To help promote sound welfare, it is important that new pens be built with this in mind.

Pen design affects manure disposal and general sanitation of the living quarters. Pens must be designed to allow the manure and waste to easily fall through the pen's mesh floor to reduce the risk of disease transmission and fox welfare concerns associated with poor sanitation.

Foxes can inflict injury to other foxes if they can contact each other through the pen partitions. Pens must have sufficient separation, or have partitions with sufficiently small mesh size, or have solid partitions between them to eliminate contact between the foxes and help avoid the risk of injury. Pens must be designed and maintained to reduce the risk of injury from sharp protrusions (e.g. broken wire, nails).

Pen design should promote ease of access and handling to minimize stress and the risk of injuring foxes during handling.

REQUIREMENTS

Pen construction must be durable enough to withstand fox rearing; wire mesh used for floors must be 14-gauge or heavier.

Materials used for pen construction must be non-toxic to foxes.

Wire mesh for all pen floors must have openings no larger than 1 inch X 2 inches (2.5 centimetres X 5.0 centimetres) for rectangular wire mesh, and 1.25 inches (3.2 centimetres) in diameter for hexagonal wire mesh.

Rectangular mesh must be no smaller than 1 inch X 1 inch (2.5 centimetres X 2.5 centimetres), and hexagonal wire mesh must have a diameter no smaller than 1 inch (2.5 centimetres).

Wire mesh size for all floors must be appropriate for the size of the foxes so they do not catch their footpads.

Single partitions between pens must have a maximum wire mesh size of 0.5 inches X 0.5 inches (1.3 centimetres X 1.3 centimetres) or be solid.

If a wire mesh size greater than 0.5 inches X 0.5 inches (1.3 centimetres X 1.3 centimetres) is used for pen partitions/walls, there must be adequate separation between pens to eliminate contact between foxes.

Wire of at least 16-gauge must be used for pen walls/partitions.

Pens must have a secure latch to prevent escape.

All existing pens that meet the pen size requirements (exclusive of nesting area and platform/shelf) in Table 1 at the time this code is published will be accepted for use until needing to be replaced.

Table 1: Existing Pens (at date of publishing)

Category	Minimum Width	Minimum Height	Minimum Floor area
Whelping	*30 inches (76 centimetres)*	*30 inches (76 centimetres)*	*15 square feet (1.4 square metres)*
Individual breeders (males or females without litter)	*30 inches (76 centimetres)*	*30 inches (76 centimetres)*	*12 square feet (1.1 square metres)*
Singly housed non-mature foxes (between 16 weeks of age and pelting)	*30 inches (76 centimetres)*	*30 inches (76 centimetres)*	*9 square feet (0.84 square metres)*
Pair/Group housed non-mature foxes (between 16 weeks and pelting)	*30 inches (76 centimetres)*	*30 inches (76 centimetres)*	*8 square feet per fox (0.74 square metres per fox)*

All pens built or modified after this Code is published must meet the minimum size requirements (exclusive of nesting area and platform/shelf) in Table 2.

Table 2 – New/Modified Pens (after date of publishing)

Category	Minimum Width	Minimum Height	Minimum Floor area
Whelping	*36 inches (91 centimetres)*	*36 inches (91 centimetres)*	*15 square feet (1.4 square metres)*
Individual breeders (males or females without litter)	*36 inches (91 centimetres)*	*36 inches (91 centimetres)*	*15 square feet (1.4 square metres)*
Singly housed non-mature foxes (between 16 weeks of age and pelting)	*36 inches (91 centimetres)*	*36 inches (91 centimetres)*	*12 square feet (1.1 square metres)*
Pair/Group housed non-mature foxes (between 16 weeks and pelting)	*36 inches (91 centimetres)*	*36 inches (91 centimetres)*	*9 square feet per fox (0.84 square metres per fox)*

RECOMMENDED PRACTICES

a. use vinyl-coated wire mesh for pen floors because it is more comfortable on footpads and will reduce corrosion of wire from urine.

1.2.2.2 Pen Animal Density

Mature foxes are housed individually, except for during breeding, to minimize the risk of them inflicting injury to each other. Females are housed with their litters until weaning. Newly weaned pups, preferably from the same litter, should initially be housed in multiples (not individually) to allow for social contact and play.

REQUIREMENTS

Mature foxes (> 10 months of age) must be housed individually, except during breeding.

Pups must be weaned in pairs or groups (not individually) to allow for social contact and play.

RECOMMENDED PRACTICES

a. avoid mixing pups from different litters when weaning/separating
b. pair/group house pups until breeder selection or pelting. Avoid individually housing pups before 16 weeks of age.

1.2.3 Environmental Enrichment

Foxes benefit from environmental enrichment. Enrichments can be of two types, one is an object that can be manipulated, the second type is a modification that increases the complexity of the pen environment. While no research has been done with *Vulpes vulpes* on gnawing enrichments, research in blue foxes has shown that bones seem to be valued by foxes and are a long-lasting enrichment. Practical experience on farms in Canada suggests that this finding would also hold true for *Vulpes vulpes*. Bones were used for gnawing, sniffing, licking, scratching and playing or the bones were used in social play. Access to bones improves dental health and prevents the development of oral stereotypies (5).

The use of bones may increase competition between male and female when housed together and may jeopardize the welfare of the subordinate animal. The competition may be decreased if all foxes are able to access a bone. Bones can become contaminated with feces after an extended period. Bones should be replaced when contaminated or as necessary to promote welfare (5).

Although access to a nest box is required during certain times of the year, it can be considered an enrichment that adds to the complexity of the pen environment during periods when it is not required. Platforms are also considered enrichments for pen complexity for foxes. Fox use of platforms is variable (5). Nest boxes do provide a place for foxes to escape people; however, this is counter to efforts to improve welfare by habituating to human interactions and selecting for confidence. Nest boxes and platforms can also lead to sanitation issues in the pen.

REQUIREMENTS

All foxes must have access to at least one enrichment that can manipulated (object that provides suitable stimuli to gnaw).

The number of enrichment objects provided for gnawing in each pen must be equal to or greater than the number of weaned foxes in that pen.

RECOMMENDED PRACTICES

a. increase complexity of the pen environment (e.g. year-round nest box access, platform)
b. observe carefully for sanitation issues known to be associated with using nest boxes and platforms
c. be aware of ongoing advances and where appropriate, adopt new ideas with respect to enrichment and fox welfare.

1.3 Environmental Management

1.3.1 Light

Sexual development and fur growth are dependent on exposure to an appropriate photoperiod (6), so it is imperative that foxes are exposed to a natural photoperiod.

REQUIREMENTS

All foxes must be provided a natural photoperiod.

Light intensity must be sufficient so foxes can express natural behaviour and be properly observed.

RECOMMENDED PRACTICES

a. ensure lighting is uniform throughout the shed
b. use translucent (not transparent) roof panels to enhance natural lighting and to avoid excessive heat.

1.3.2 Air Quality

Adequate ventilation is essential for the health and welfare of foxes. Ventilation helps to maintain their environment so that animals can live comfortably (7). Good airflow and air exchange within the shed will minimize wet and damp conditions, odours and pest insect outbreaks (8). The ventilation needs will increase during hot weather. Sheds are often built with open sides that are closed in with solid material for the winter to offer protection from winter conditions. Closing the sheds in the winter may reduce airflow and predispose herds to respiratory disease (1).

REQUIREMENTS

All sheds must have ventilation to ensure a dry, healthy environment for foxes.

In all enclosed sheds where natural ventilation cannot maintain a dry, healthy environment for the foxes, a mechanical ventilation system must exist.

In situations where mechanical ventilation is necessary, a backup system is required.

1.3.3 Temperature

Foxes are hardy animals and can withstand the large range of outdoor temperatures of the Canadian climate (9). Providing protection from freezing rain and snow is important to help foxes thermoregulate.

The nest box is important for providing an area for the females and litters to be comfortable (10). Nest boxes must be provided with bedding to help with thermal regulation when the pups are young.

Excessive heat can negatively impact fox welfare. The sheds roofing materials can influence the heat absorption by the shed. Shed design and ventilation also influence the temperature in the shed.

REQUIREMENTS

Foxes must have access to a shaded area at all times.

During periods of excessive heat, foxes must have access to good quality drinking water at all times (refer to Section 3.3-Water Management for more details).

Stockpeople must be trained to recognize signs and symptoms of heat and cold stress and to respond appropriately.

Plans must be in place and measures must be taken to help foxes maintain appropriate body temperatures during excessive ambient temperatures.

2 Biosecurity

Pathogens, pests and visitors all pose risks to the health and welfare of foxes. Biosecurity measures are important for maintaining the health and welfare of foxes on the farm. Biosecurity programs need to consider: access management, animal management and operational management.

2.1 Access Management

Controlling access to the premise and the areas where foxes are housed is an important biosecurity principle. Controlling who and what enters and leaves the farm reduces the risk of spreading disease and protects animals from the stress of unfamiliar activities. There are welfare risks for foxes if they escape or are released. Disease may be introduced to foxes through contact with wildlife. Security fencing or enclosed sheds keep foxes from escaping and prevents other domestic animals, people and wildlife from coming into contact with the foxes.

Biosecure areas allow the separation and protection of farm areas from people, materials, domestic animals, wildlife and equipment that may pose a risk to fox health and welfare.

REQUIREMENTS

All foxes must be housed in a secure area.

Farms must have biosecurity signage, providing visitors with instructions for entry and directing traffic flow.

Due diligence must be practised to prevent escapes or releases of foxes and to minimize contact with wildlife.

Biosecurity measures must be in place for visitors and workers to help mitigate the risk of disease transmission.

RECOMMENDED PRACTICES

a. install a gate that can be secured and locked near the farm entry
b. maintain a security fence incorporating a self-closing and lockable gate.

2.2 Animal Management

Diseases such as fox encephalitis, canine distemper, parasitic and genetic diseases may be unknowingly brought onto a farm. Disease prevention is preferable over treatment.

Herd health procedures (refer to Section 4.3-Fox Health Management) will help minimize the risk of disease being brought onto or carried off the farm or spread around the farm. Newly introduced or reintroduced foxes may pose a disease risk and should be housed in a quarantine area until they have passed health screening.

Incorporate downtime into the production cycle. Downtime is a period of time that starts with a herd/housing area being emptied and ends with the placement of foxes. Downtime allows for the natural reduction of disease-causing microorganisms (pathogens) within the herd/housing area and allows for appropriate cleaning and disinfection. The removal of organic material from the housing area and a thorough cleaning is required before disinfecting to significantly reduce the pathogen load. Areas that are in downtime should be clearly separated from areas with animals present to avoid cross-contamination or recontamination.

REQUIREMENTS

Producers must ascertain the health status of all new foxes being purchased.

Quarantine procedures for all new fox introductions or reintroductions must be implemented.

Quarantine areas must be established away from the main herd to accommodate all new introductions or reintroductions for a minimum period of 21 days.

Producers must establish a disease response plan that includes farm lockdown procedures and seek a diagnosis.

RECOMMENDED PRACTICES

a. plan breeding, pelting and new animal introductions to allow certain parts of the facility to be emptied of animals to allow for cleaning and disinfection
b. downtime in housing areas should be maximized; a two-week minimum is suggested to enhance pathogen reduction
c. biosecurity measures should be taken when catching, handling, and moving animals.

2.3 Operational Management

Management practices related to mortality, manure, garbage, bedding and pest management can all impact the health and welfare of foxes. Having sanitation procedures for premises, buildings, equipment and vehicles reduces the risk of pathogen contamination or spread.

Most infectious agents survive for a considerable period of time in carcasses. Bacterial and fungal agents will replicate and increase in numbers in carcasses. All dead foxes should be assumed to be contaminated and be handled to ensure that any potential disease causing agents are not spread.

Manure is a source of disease pathogens and should be removed from beneath fox pens at frequent intervals. Manure should be handled, transported and stored in a manner to prevent potential contamination of the area with pathogens. Manure should be stored away from the housing area and in a manner that minimizes pest and scavenger access. Run-off should be managed to minimize the spread of pathogens.

Bedding should be clean and dry as soiled bedding can be a source of pathogens.

Pests can carry infectious agents onto a farm. Pests include insects, rodents, wild birds and scavengers/predators. Pets can also carry and spread pathogens, thus pet access to the farm should be limited. Integrated pest management programs help to control pests on the farm.

Sanitation plays an important role in the health of foxes. Cleaning sheds, pens and nest boxes on a regular schedule, at the end of the production cycle and after illness, reduces the risk of spreading pathogens on the farm. Maintaining clean and tidy buildings reduces the likelihood of attracting pests. Vehicles and equipment that have been in contact with manure or mortalities should be cleaned and disinfected when moving between premises.

REQUIREMENTS

Mortalities must be removed from the pen and properly stored, submitted for diagnostics or disposed of as soon as possible.

Farms must ensure all carcasses are disposed of in a manner that minimizes the risk of disease transmission and meets all applicable regulations.

Manure must be collected, stored and disposed of in a manner that minimizes the risk of disease transmission and meets all applicable regulations.

Feed and bedding must be of good quality and stored appropriately to minimize the risk of pathogen contamination.

Nest box bedding must be maintained in a clean and dry manner.

Farms must have an effective pest control program.

Cleaning procedures for buildings, equipment and vehicles must be carried out on a regular schedule or more often as required.

RECOMMENDED PRACTICES

a. minimize pet access to the fox housing area and ensure those allowed on the premise are in good health and vaccinated
b. consider the ease of cleaning and disinfection when designing new buildings and equipment.

3 Feed and Water

3.1 Nutrition

It is important that people raising foxes understand the foxes' nutritional requirements in order to establish a sound feeding program. There are two types of feed used in the fox industry: pelleted dry feed and wet feed. Pelleted feed is most often offered free choice. Wet feed is fed at least once daily. Nutritionists and veterinarians are valuable resources for producers to consult regarding nutritional needs, changes or concerns.

Proper nutrition and body condition management helps to prevent or manage metabolic diseases, over-conditioning and other health and welfare issues.

Foxes have a higher demand for protein and fat than most other domestic livestock. Fox nutrient requirements vary considerably throughout the year. Foxes typically have a reduced appetite during winter (December – February) (4); therefore, the diet's composition may need to be adjusted. Foxes that are more active require more nutrients for maintenance. Nutrient deficiencies can lead to health problems for foxes.

REQUIREMENTS

Foxes must have access to sufficient quantities of a quality, nutritionally balanced feed to meet their physiological needs at various stages of growth/production.

RECOMMENDED PRACTICES

a. make diet changes gradually.

3.1.1 Stage of Growth

3.1.1.1 Mature, Breeding Foxes

In breeding animals, welfare and productivity are best when they are managed to avoid extreme fluctuations in body condition throughout the year (11). Mature breeding males and females should be fed a maintenance diet until breeding season when diets with reduced fat levels are used. Feed allocations or composition of diet should be adjusted if changes in body condition are observed.

REQUIREMENTS

Producers must monitor body condition regularly to ensure appropriate feeding.

Producers must consult a nutritionist or veterinarian if there are nutritional concerns.

3.1.1.2 Gestation

Pregnant females require adequate nutrients to support fetal growth. To ensure good productivity and welfare, females should be fed to maintain optimal body condition during gestation. Feeding and nutritional management during breeding and pregnancy are important for reproductive success and therefore health and welfare of both the female and the litter.

REQUIREMENTS

Females must be fed to maintain optimal body condition throughout gestation.

3.1.1.3 Lactation

Initially, pups are entirely dependent on milk to meet their nutritional requirements. This places high demands on the female to be able to meet her nutritional needs while nursing the litter. After whelping, feed intake for females gradually increases to a level 2-3 times the winter intake, depending on the litter size (4).

Females will commonly lose body condition during lactation so a higher energy diet and/or increased allotments may be required to meet the demands of nursing.

Prior to weaning, pups need solid feed in addition to milk to support normal growth and development. Consuming solid feed prior to weaning helps pups to adjust to the post-weaning period. Pups will typically begin to consume solid feed at about three weeks of age. In dry feeding systems, it may be necessary to moisten the feed for the pups to increase palatability and moisture intake. Some producers also mix dry feed with wet feed or meat-based ingredients to encourage pups to eat solid feed. The females will bring feed into the nest box for the litters. Feeding trays placed near the nest box make it easier for the pups to access feed. Water intake is critical for pups once they begin to eat solid feed especially on dry feeding systems.

REQUIREMENTS

Diets made on-farm must be made from the highest quality ingredients (e.g. low bacteria levels) during lactation and weaning.

Pups must have access to water once they begin to consume solid feed.

RECOMMENDED PRACTICES

a. place feed in or near the nest box entrance starting when pups are about three weeks of age to encourage them to start eating solid feed prior to weaning
b. consider moistening dry feed to increase palatability for pups and to increase water intake.

3.1.1.4 Growing Foxes

Weaning is a time of high stress and great change for the pups. The post-weaning period is also a time of very rapid growth. It is essential that the pups have access to adequate quantities of a diet formulated to meet their nutritional needs.

Proper nutritional management during growth and furring will promote the well-being of the pups and minimize the risk of metabolic problems (12).

REQUIREMENTS

Recently weaned pups must be monitored closely to ensure adequate feed intake and corrective action must be taken if a problem is noted.

3.2 Feed Quality

Fox feed is comprised largely of animal products, animal by-products, cereals and a mineral and vitamin premix. Producers should work to develop strong professional relationships with suppliers to ensure incoming feed and feed products meet high standards. Nutritional value of ingredients (e.g. protein, fat content, etc.) should be assessed when there is a major change in ingredients or supplier. Results from ingredient analysis should be used to formulate wet diets that meet the nutritional requirements of the foxes.

The quality of commercial dry feeds is monitored by the manufacturer/supplier as part of their feed quality assurance program. Dry diets should be selected to suit the stage of growth.

Procedures for receiving, preserving and storing feed ingredients and feed on farm must be developed to ensure that the feed quality is maintained. Veterinarians or technical representatives from feed companies can be valuable resources in helping to establish these protocols.

REQUIREMENTS

On-farm feed preparation facilities must have procedures in place to ensure quality feed.

On-farm feed preparation and storage areas must have a pest control program in place.

RECOMMENDED PRACTICES

a. test ingredients and/or mixed feed for nutritional value at least annually, or as required, if feeding a ration produced on-farm (refer to Appendix A - Feed Testing Laboratory Contacts for a listing of some feed testing laboratories)
b. review diet formulation at least annually, or as required, if feeding a ration produced on-farm
c. develop a professional relationship with feed ingredient/feed suppliers.

3.2.1 Feed Preparation and Storage

Feed ingredient and feed storage, preparation and handling procedures are critical to ensuring feeds are uniform and quality is maintained until the foxes consume the final diet (13).

Ingredients requiring refrigeration or freezing should be moved into the mixing area only as needed to minimize the opportunity for microbial growth and spoilage. Grinding ingredients that are still partially frozen reduces the risk of spoilage. Feed should be mixed as soon as possible after grinding.

The age of all wet feed should be monitored. Under optimum conditions, fresh wet feed (whether purchased from a central feed kitchen or mixed on farm) can be safely refrigerated for approximately 48 hours. If extended mixing intervals are used (e.g. 3 mixes a week), feed must be preserved. Commercial dry feed should be used in the timeframe specified by the manufacturer and stored as specified by the manufacturer.

It is important that the feed consistency (i.e. moisture content) is appropriate to ensure foxes can readily access it, if fed on the wire or from outside the pen.

Feed preparation equipment and area must be properly cleaned after each use and disinfected as necessary.

REQUIREMENTS

Farms must have sufficient and appropriate feed storage to ensure feed quality.

Dry feed must be stored in a cool, dry environment or as specified by the manufacturer.

Good hygiene must be practised in feed preparation areas.

Individuals involved with on-farm feed preparation must receive training.

RECOMMENDED PRACTICES

a. establish a preventative maintenance program for feed mixing and delivery equipment.

3.2.2 Feed Distribution

Practices related to feed distribution can impact foxes' health and welfare.

Feed delivery systems must ensure timely distribution of high quality feed to all animals on the farm.

Feed must be placed so the animals can access it easily. The feeding area must be designed and located to minimize contamination from feces/urine, and be protected from adverse weather conditions.

REQUIREMENTS

Foxes must have daily access to feed of adequate quality and quantity to meet their physiological needs at all stages of development.

Foxes must be observed daily to assess feed intake.

Biosecurity (refer to Section 2-Biosecurity) must be practised when receiving and/or distributing feed ingredients or feed.

Feed must be protected to minimize contamination (e.g. feces, urine, rain, etc.).

Feed carts used to deliver wet feed must be washed after each use and disinfected as needed.

Dry feed hoppers must be maintained in a hygienic fashion.

Producers must have a contingency plan in place to ensure foxes receive feed and water in the event of unexpected disruption.

RECOMMENDED PRACTICES

a. clean and disinfect dry feed hoppers whenever new foxes are put in the pen.

3.3 Water Management

Providing sufficient good quality drinking water is essential for the welfare of foxes (14). Factors such as ambient temperature, type of feed (wet versus dry), feed intake, feed composition, stage of growth and activity level can all affect water intake.

Surface water (such as lakes, rivers, ponds and brooks) has a high risk of contamination and should not be used unless it is treated.

Additional water may be necessary during periods of extremes of temperature. Farms must have a backup supply and/or system in place so that all foxes can be watered if the primary watering supply/system fails.

Watering systems can be a source of pathogens and toxic substances. All watering systems require attention to hygiene to reduce the chance of bacterial contamination (1) and need routine maintenance to keep them in good working order.

REQUIREMENTS

Foxes must have daily access to a sufficient amount of good quality water to meet their physiological needs.

Water quality must be tested at least annually or as conditions require.

An alternative watering supply/system must be in place in the event that the primary supply/system fails, or to help supplement water supply when needed.

Watering systems must be checked daily to ensure they are functioning.

Watering systems must be maintained in hygienic conditions.

Where surface water is used as a source, it must be treated and tested frequently.

RECOMMENDED PRACTICES

a. use water from approved wells and/or municipal sources.

4 Health and Welfare Management

4.1 Relationship of Animal Health to Animal Welfare

Animal health is one of the important measures for assessing animal welfare (15). Animal health and welfare are very complex, and are affected by many factors (16-17). Fox health can be impacted by nutrition, ventilation, housing and management practices. Prevention and treatment of disease and injury, prevention and mitigation of pain or distress and other negative states, are recognized as good welfare practices (17).

Daily careful observation of all foxes is key to effective welfare management. All farm staff must be trained to recognize animal welfare issues and know what actions to take to address them. All sick or injured foxes must receive treatment promptly or be euthanized immediately.

On-farm record keeping relating to health and mortality is essential. Accurate record keeping helps producers identify health issues early and serves as an indicator of overall herd health status.

Prevention of health problems is always preferable to treatment. Adopting biosecurity protocols on farm and implementing herd health management programs can help prevent disease from entering a farm and help mitigate the impact of diseases that are on farm.

REQUIREMENTS

Farms must have health and welfare management procedures in place and implement them to manage fox health.

Foxes must be observed daily for signs of ill health or welfare concerns.

All sick or injured foxes must receive prompt treatment or be euthanized immediately (refer to Section 6-Euthanasia).

Accurate individual fox and herd health records must be maintained.

Producers must implement an on-farm biosecurity program, which must, at a minimum, address the requirements outlined in Section 2-Biosecurity.

RECOMMENDED PRACTICES

a. participate in applicable continuing education activities related to fox health and welfare.

4.2 Stockmanship Skills Related to Fox Health and Welfare

On-farm management practices significantly affect fox health, welfare and production. Sound management practices are only effective tools for managing fox health, maintaining good fox welfare and achieving high production if they are well implemented.

Foxes' confidence toward humans affects fox welfare. Pups should be habituated to human presence as much as possible. Selecting and breeding only confident foxes can help foster positive interactions with humans throughout the life of the foxes (18).

Good human-animal interactions are crucial for the welfare of farmed animals (18). People working with foxes should have a suitable temperament (e.g. patient, calm), be respectful of the foxes and be competent in the care and handling of foxes. Farms must have work instructions or routines for all animal attendants to follow (19).

REQUIREMENTS

All individuals working with foxes must be of suitable temperament and trained to be competent in the proper care and handling of foxes.

All staff must be trained in fox farm routines, and all training must be recorded.

RECOMMENDED PRACTICES

- network with other producers and industry experts to be aware of current and emerging practices and technologies.

4.3 Fox Health Management

Animal health is an important indicator of animal welfare. Fox health is impacted by nutrition, housing and biosecurity on the farm. Disease prevention, early detection and rapid treatment of disease, illness or injury are critical to maintaining the health and welfare of foxes. Restricting access of people, other domestic livestock, pets, pests and wildlife to the animal housing area is important to maintain the health and welfare of the foxes. Appropriate on-farm fox health procedures must be done according to a schedule. Veterinarians are important resources for helping producers manage herd health. There are few veterinarians in Canada who specialize in working with foxes; however, there are resources available:

- diagnostic laboratories (refer to Appendix B - Provincial Veterinary Diagnostic Laboratories)
- veterinary colleges
- veterinary clinics
- consultants.

REQUIREMENTS

Producers must establish a working relationship with a practicing veterinarian.

On-farm fox health procedures must include:

- ***daily observation***
- ***animal identification system***
- ***vaccination and medication protocols***
- ***record keeping for vaccinations and treatments***
- ***parasite control programs***
- ***protocols for submitting mortalities for diagnostics***
- ***pest control programs.***

All farms must have a biosecurity plan (refer to Section 2-Biosecurity).

RECOMMENDED PRACTICES

a. establish a valid veterinary-client-patient-relationship (VCPR) where possible.

4.4 Sick or Injured Animals

Sick or injured foxes must be identified early and procedures for treating or caring for those animals must be in place. These foxes must be treated immediately to promote their comfort and welfare, or, depending upon the severity of their condition, euthanized. Foxes showing signs of severe, acute or uncontrollable pain must be euthanized immediately.

Foxes are typically not affected by most federally reportable diseases. Rabies is uncommon in farmed foxes. The suspicion of a federally reportable disease in an animal must be immediately reported by veterinarians and laboratories to a Canadian Food Inspection Agency (CFIA) veterinary inspector (for more information, please visit: www.inspection.gc.ca).

REQUIREMENTS

Sick, injured or recovering foxes must be segregated and monitored at least twice daily.

Foxes that are sick, injured, in pain or suffering must be provided prompt medical care or euthanized immediately.

Consult with a veterinarian when concerned with the health of a fox.

All individuals euthanizing foxes must be trained and use methods of euthanasia as referenced in Section 6-Euthanasia.

Accurate animal and herd health records must be maintained.

Appropriate authorities must be advised of any suspected or confirmed cases of reportable disease.

RECOMMENDED PRACTICES

a. consider establishing a properly sited and designed quarantine area.

5 Husbandry Practices

5.1 Animal Handling

Proper animal handling will reduce stress, injury and welfare challenges for foxes. Foxes have the ability to recall previous interactions with humans. It is important to habituate the pups to human contact early in life and to maintain positive interactions. To minimize stress and the chance of injury during handling, foxes should be handled gently and wherever possible, by hand. If foxes need to be lifted or carried, it is imperative to support the animal's body to help avoid injury. These measures will help to promote improved animal welfare and a positive relationship between the foxes and stockpeople.

REQUIREMENTS

All people catching and handling the foxes must be trained in fox behaviour and handling.

When lifting or carrying foxes, the body must be supported.

Tongs use must be limited as much as possible when handling foxes.

When tongs must be used, the collar piece must be coated or wrapped and must be properly sized for the foxes.

5.2 Breeding Period

Foxes are seasonal breeders. Females come into heat only once a year between January and March. Placing females with males before they are ready to be bred may lead to fighting and possible injury; therefore, careful observation of mating pairs is essential.

Both natural breeding and artificial insemination are used on fox farms. Gentle and careful handling of the females and proper equipment for holding and inseminating them will minimize the time needed for insemination, which will reduce stress and the chance of injuring the foxes while being handled.

All people involved in breeding foxes must be competent in heat detection and insemination techniques. Heat detection practices can impact fox welfare. Knowledge of the biology and reproductive physiology and technical expertise is important to minimize the risk of illness, infection and injury of the females during breeding. Selection of proper equipment and good sanitation of heat detection and insemination equipment is also important for the welfare of the females. Contaminated equipment can cause infections and health challenges for the females. Rut gauges can be helpful for accurate heat detection. When using a rut gauge, the probe specific for silver fox types must be used.

Electroejaculation is not an acceptable method for semen collection in foxes and must not be used. Gentle handling and time spent training males will help minimize any stress that may be caused during manual manipulation to collect semen.

REQUIREMENTS

All people working with breeding foxes must be knowledgeable, trained and competent in: heat detection, equipment use and maintenance, fox behaviour and handling.

On farms where artificial insemination is used, employees working with breeding animals must also be trained and competent in semen collection and insemination techniques.

Pairs placed together for mating must be monitored and separated if overly aggressive behaviour is displayed.

Electroejaculation must not be used.

When using a rut gauge, the probe specific for* Vulpes vulpes *must be used and must never be forced into the vagina.

RECOMMENDED PRACTICES

a. keep accurate breeding records to help with breeder selection
b. monitor stage of heat frequently to more accurately assess when females are receptive before attempting mating to reduce stress and risk of aggressive behaviour, and to increase the likelihood of a successful mating
c. consider the use of a rut gauge or vaginal swabbing in addition to visual detection to help determine mating readiness.

5.3 Whelping/Lactation Period

The whelping and lactation periods require special care to promote good welfare of the females and their litters.

It is important to minimize disruptions since unfamiliar activities and noise can upset some foxes. Excessive stress during this time can cause the female to abort her litter or harm her pups. Keeping consistent routines can help to avoid disturbances and unfamiliar noises during this critical time. Only stockpeople who routinely work with the foxes and are familiar to them should be allowed in the fox housing area during this time.

A comfortable and warm nest box must be provided for the whelping and lactation periods. Nest boxes designed with a passageway for entry create a more solitary nest and promote pup comfort and survival. To allow the female to acclimate to the nest box, it is important to provide the bedded nest box for a period of at least 8 days before whelping. The nest box must be accessible for the entire lactation period since newborn pups have a very limited ability to thermoregulate and rely on the female's body heat for warmth.

In situations where the female is unable to care for her pups or she dies, pups can be fostered to a lactating cat, bottle fed or fostering to another female fox may be attempted. Fostering to another lactating fox typically has very limited success. If no successful means of providing milk to the orphaned/abandoned pups is available, they must be euthanized immediately.

REQUIREMENTS

Producers must make every effort to minimize disturbances on the farm during the whelping and lactation periods.

Strangers must not be allowed near the fox housing area during whelping and lactation.

During whelping and lactation, foxes must be monitored and action taken if necessary.

Nest boxes must be accessible at least 8 days prior to whelping to allow females to acclimatize.

A suitable, warm, dry and safe nest box that is large enough to house a vixen and her litter (floor area not less than 2 square feet) must be accessible at least 8 days prior to whelping until weaning.

Whelping/lactating nest boxes must have a tunnel passageway and/or have more than one compartment to minimize drafts and provide a secure area.

If orphaned or abandoned pups cannot be adequately cared for, they must be euthanized immediately.

RECOMMENDED PRACTICES

a. wear familiar clothing so the foxes recognize stockpeople and to promote calmness
b. discourage fostering orphaned or abandoned to another female fox.

5.3.1 Bedding

Adult foxes can adapt to large variations in weather and ambient temperature. The nest box helps provide a place for the female and her pups to seek comfort. Bedding is provided for the females just prior to whelping and through lactation and may help with the pups' thermal regulation. Females often remove the bedding as part of their nest preparation. Bedding derived from trees that contain harmful resins (like pine or cedar) and barley straw can irritate the pups' skin.

REQUIREMENTS

Suitable bedding such as straw, hay or shavings (from untreated wood) must be provided for females prior to whelping for the lactation period.

Bedding must be soft and absorbent and maintained so it is clean and dry.

Bedding must not be derived from trees that may contain harmful resins that can cause skin problems for the pups.

Barley straw, where the barley awn (beard) has not been completely removed, must not be used as it can irritate the pups' skin.

5.4 Weaning/Growing Period

Weaning typically occurs between 7 and 10 weeks of age.

Social contact and play is very important for the welfare and natural development of the pups. To help ease the stress of weaning, a transition period where the litter remains together for a period of time after separation from the female may be helpful. During this transition period, pups should be housed in multiples, not individually, to allow for social contact and play. If pups are to be housed individually, this should only be done after the pups are 16 weeks age. As much as possible, pair or group littermates together after weaning, since being with familiar pen mates helps to ease the adjustment period for the pups.

Handling young pups gently and by hand can have beneficial behavioural and physiological effects (5). It will also help promote good welfare by improving the relationship between the pups and their caregivers.

REQUIREMENTS

Foxes must be handled gently and by hand whenever possible to promote beneficial behavioural and physiological effects.

Pups must not be weaned before 7 weeks of age.

Pups must be weaned in multiples, not individually, to allow for social contact and play.

Pups must not be individually housed before 16 weeks of age.

Pups must be vaccinated according to farm herd health procedures or veterinary consultation.

5.5 Genetics

Breeder selection criteria should include health and behavioural traits in addition to quality and production traits. Selection for desirable temperament helps to promote positive, confident behavioural traits in the foxes and may enhance reproductive output (5). Herd health can be improved over time through selection for vigour.

Accurate records, which include information relating to health, welfare, behaviour and production traits help achieve breeding program objectives.

REQUIREMENTS

Animal health and behavioural traits must be considered in conjunction with production traits when establishing breeding program objectives and selecting breeders.

Accurate breeding records must be maintained for breeder selection.

6 Euthanasia

6.1 Criteria

Euthanasia means a rapid and irreversible loss of consciousness followed by death with minimal discomfort to the animal.

In situations when treatments or other interventions fail to provide relief or bring improvement to foxes that are injured, in pain or suffering, the fox must be euthanized without delay. Foxes to be pelted are euthanized on-farm.

REQUIREMENTS

Foxes that are experiencing pain that cannot be relieved or foxes suffering from a condition or injury that is not responding to treatment must be euthanized without delay.

6.2 Methods

The method of euthanasia selected must be quick and cause minimal pain and distress. Both the Canadian Veterinary Medical Association (CVMA) and the American Veterinary Association (AVMA) stipulate that to meet the humane death criteria, the method of euthanasia must lead to immediate and irreversible loss of consciousness and cardiac arrest. Electrocution is routinely practiced as a method of stunning and euthanizing farmed foxes as a single process. As animals must be unconscious before being killed by electrocution, electric stunning can be done by first passing the electric current through the brain in order to induce a loss of consciousness before electricity is passed through the rest of the body to kill the animal (20). Only commercially available equipment specifically designed to stun and euthanize foxes in a single process that meets the criteria for humane death must be used. Using this method, irreversible unconsciousness is achieved in less than 3 seconds.

Lethal injections using controlled substances are not available to producers. Additionally, lethal injection is a two-step process that requires significant handling and restraint that is more stressful for the fox compared to electrocution.

REQUIREMENTS

Transport/handling of foxes prior to euthanasia must be minimized.

The method of euthanasia must cause minimal distress and pain and must lead to immediate and irreversible loss of consciousness and cardiac arrest.

On-farm euthanasia of foxes must be done by electrocution using a single-process commercially manufactured device specifically designed for stunning and euthanizing foxes.

Euthanasia must be performed out of view of the other foxes.

At least two people must be involved in the euthanasia of foxes.

All people using euthanasia equipment must be knowledgeable, trained and competent in fox handling euthanasia procedures, including proper use and maintenance of the equipment.

For electrocution to be humane, the commercially available equipment specifically designed for euthanizing foxes must:

- ***have two electrodes that must be applied (a bite bar to the mouth and a probe into the rectum)***
- ***deliver a current of 0.31 Ampere that must be applied for at least 3-4 seconds***
- ***be fitted with a device indicating the current under load, which is clearly visible to the operator.***

Producers must ensure that the battery installed in the unit and the back-up batteries are both fully charged prior to use.

Euthanasia equipment must be maintained and used according to manufacturer's directions.

Foxes younger than 6 months of age requiring euthanasia must be euthanized using a firearm (21) or by a veterinarian.

6.3 Evidence of Death

The death of a fox must be confirmed through the absence of vital signs. Death is defined as the moment the fox no longer has any motor activity, is not breathing, pulse cannot be felt, corneal and flexor reflexes are absent.

REQUIREMENTS

Producers must confirm death by ensuring that respiration has ceased, a pulse cannot be felt and corneal and flexor reflexes are absent.

Each fox must be observed for 5 minutes immediately following euthanasia procedures to confirm death.

7 Transport

NOTE: The Fox Code Development Committee determined that the Code of Practice for the Care and Handling of Farmed Fox (Vulpes vulpes) should end at the farm gate to avoid duplication and variances between Codes (e.g. regarding transportation). However, the existing Transportation Code references the previous Fox Code (1989) for more detailed information regarding transport. To ensure there is no gap, until the Transportation Code is revised and includes more species-specific detail on fox, the requirements and recommendations outlined in this section will be applicable.

Each person responsible for transporting animals in Canada or arranging for their transport must ensure that the entire transportation process (including loading, transit and unloading) does not cause injury or suffering to the animal(s).

The federal requirements for animal transport are covered under the *Health of Animals Regulations, Part XII*. The Canadian Food Inspection Agency (CFIA) enforces them with the assistance of other federal, provincial and territorial authorities. Some provinces and territories also have additional regulations related to animal transport. The International Air Transport Association (IATA) regulations must be followed for air transport.

7.1 Pre-Transport Decision Making

Under the federal *Health of Animals Regulations, Part XII*, the party responsible for causing the animals to be loaded/transported (e.g. the producer) and the party that is loading/transporting the animals (e.g. the transporter) each bear a responsibility for ensuring the welfare of those animals during the transportation process.

If the producer is arranging for the animals to be transported by a second party (e.g. the transporter), the producer is responsible for ensuring the transporter is aware of the welfare requirements of the animals and that the transporter will take the necessary measures to administer to the animals' needs (e.g. feed, water and ventilation) during the transportation process.

The primary responsibility for ensuring that animals are fit for transport lies with the party that is causing the animals to be loaded (e.g. the producer).

To assess fitness for transport, those responsible for arranging transport need to be aware of how long the animals may be in transit. Always assume the longest travel which might occur. Transit time includes intermediate stops, such as rest stops, border crossings or airport handling times. The transporter needs to be informed when and which additional services (e.g. feed, water) need to be provided during transport.

7.1.1 Fitness for Transport

Determining if an animal is fit for transport is the responsibility of the producer. Transporters have the right and responsibility to refuse to load an animal that they recognize as unfit. The management practices focused on meeting the health and welfare needs as outlined in other sections of this Code will help ensure they are fit for transport.

There are two categories for defining fitness for transport:

a. fit
b. compromised
    I. unfit for transport
    II. transport only with Special Provisions (22).

Some examples of conditions rendering animals:

I. unfit for transport (except for transport for veterinary treatment or for diagnosis)
   a. an animal that is unable to walk
   b. an animal with a fractured limb
   c. an animal that is in shock or dying
   d. an animal that is dehydrated
   e. an animal that is exhausted
   f. an animal that is emaciated
   g. an animal with a fever
   h. an animal with a hernia.

II. transport only with Special Provisions (must be transported locally and directly to the nearest suitable place where it can receive care and attention or be euthanized)
   a. an animal with an open wound
   b. an animal that is lame
   c. an animal that has vaginal or rectal prolapse.

Additional information on animal transport can be obtained at: www.inspection.gc.ca

REQUIREMENTS

Foxes must be assessed for travel fitness before being transported.

Unfit and compromised foxes must not be transported, except for veterinary treatment or diagnosis.

7.1.2 Planning and Preparing for Transport Including Loading and Unloading Considerations

To minimize shipping related stress, it is imperative that all aspects of a shipment are planned ahead to try to avoid any unnecessary delays in arriving at the final destination.

Transporting foxes during extreme weather conditions must be avoided. Considerations must be given to ensuring adequate airflow and comfort for the animals relative to anticipated weather conditions and duration of transport.

One of the greatest risks to foxes during transport is overheating. Both crate design and load configuration can impact fox welfare because they affect airflow, temperature, waste management, fox comfort and exposure of foxes to the elements.

REQUIREMENTS

All applicable regulations and requirements must be adhered to.

Producers must ensure all necessary documentation is prepared and that required stops are pre-arranged to avoid unnecessary delays. This is especially important for international transport, which can add complexities such as: health certifications, additional documentation and border inspections.

The producer must select a reputable transporter, plan the trip details and ensure the transporter is aware of the welfare requirements of the foxes and that the transporter will take the necessary measures to meet the foxes' needs (e.g. feed, water and ventilation) during the transportation process.

Foxes must be well hydrated prior to transport.

Foxes must have access to water if the duration of the transport is expected to be longer than 4 hours. There are gel products available to provide moisture during transport that can avoid water spills in transport crates.

Written feeding and watering instructions and contingency plans must be attached to crates (in a manner that the fox cannot access them) and also included with shipping documents.

Foxes must be monitored periodically during ground transport and where feasible during air transport.

Bred females must not be transported beyond 10 days after the last mating.

Foxes must be individually housed during transport. All transport crates must be designed:

- ***to ensure structural soundness and securely confine foxes without risk of injury***
- ***to ensure adequate airflow***
- ***to allow for provision of feed and water***
- ***to ensure sufficient space for the fox to lie comfortably in a prone position, turn around without restriction and stand on all four legs with head extended***
- ***so they are not oversized, as larger crates may increase the risk of injury***
- ***to allow for waste management***
- ***to prevent accidental opening or escape but still allow easy access when needed (e.g. in an emergency situation)***
- ***to prevent contact between the foxes.***

Transport crates for ground transport must meet the following minimum size requirements:

- ***30 inches long X 14 inches wide X 18 inches high (76 centimetres long X 35 centimetres wide X 45 centimetres high).***

For trips of short duration (i.e. 4 hours or less) transport crates for ground transport must meet the following minimum size requirements:

- ***24 inches long X 12 inches wide X 16 inches high (60 centimetres long X 30 centimetres wide X 40 centimetres high).***

Foxes must be placed into transport crates just prior to loading but allowing enough time to acclimate prior to shipping.

Transport vehicles must:

- ***allow for adequate ventilation***
- ***allow for adequately securing crates containing foxes***
- ***allow for waste management***
- ***provide appropriate protection from the elements***
- ***facilitate crate placement to prevent direct contact between the foxes***
- ***facilitate access to each fox for feeding, watering, inspection etc.***

For air transport, the IATA regulations must be adhered to.

RECOMMENDED PRACTICES

a. use brokers to facilitate international shipping
b. avoid transporting foxes during periods of extreme heat.

References

1. Hunter D.B. & Lemieux N. (1996) *Mink Biology, Health and Disease* (Hunter D.B. & Lemieux N., eds.). Guelph ON: Canada Mink Breeders' Association.
2. Agriculture Canada (1989) *Recommended Code of Practice for the care and handling of farmed fox*. Publication 1831/E. Ottawa ON: Communications Branch, Agriculture Canada.
3. Agriculture Canada (1979) *Fox Farming in Canada*. Publication 1660.ISBN 0-662-10347-3. Ottawa ON: Communications Branch, Agriculture Canada.
4. Centre de reference en agriculture et agroalimentaire du Québec (2004) L'évelage du Renard. Available at: http://www.craaq.qc.ca/Publications?p=32&l=fr&IdDoc=1567
5. Ranched Fox Code of Practice Scientists' Committee (2012) *Code of Practice for the Care and Handling of Ranched Foxes* (Vulpes vulpes)*: Review of Scientific Research on Priority Issues*. Lacombe AB: National Farm Animal Care Council.
6. Nimon A.J. & Broom D.M. (1999) The welfare of farmed mink (*Mustela Vison*) in relation to housing and management: a review. *Animal Welfare* 8:205-228.
7. British Columbia Ministry of Agriculture (2004) *Farm Practices: Ventilation*. Publication number 870.218-57. Available at: http://www.agf.gov.bc.ca/resmgmt/fppa/refguide/activity/870218-57_Ventilation.pdf Accessed: March 2013.
8. van der Marel R.C., Pickthorn K.E. & Duinker P.N. (2008) *Final Report: Review of Waste Management Options for Fur Farming in Newfoundland and Labrador*. Halifax NS: School for Resource and Environmental Studies Dalhousie University.
9. Koistinen T., Ahola L., Hovland A.L., Korhonen H.T. & Mononen J. (2010) Thermal comfort. *WelFur mini-reviews 1-12 blue fox, silver fox and Finnraccoon*. [an unpublished WelFur project document].
10. NL Fur Farming Course (2009) *Basic Fur Farming Building Infrastructure*. Power Point presentation.
11. Mink Code of Practice Scientists' Committee (2012) *Code of Practice for the Care and Handling of Mink: Review of Scientific Research on Priority Issues*. Lacombe AB: National Farm Animal Care Council.
12. Rouvinen-Watt K., White M.B. & Campbell R. (2005) Section 6: Nutrient requirements and life cycle feeding. In: *Mink Feeds and Feeding, Applied Feeding Guide and Mink Feed Ingredient Database*. Truro NS: Nova Scotia Agricultural College. ISBN 1-55174-324-8.
13. Rouvinen-Watt K., White M.B. & Campbell R. (2005) Section 5: Feed and ingredient handling, processing, and mixing. In: *Mink Feeds and Feeding, Applied Feeding Guide and Mink Feed Ingredient Database*. Truro NS: Nova Scotia Agricultural College. ISBN 1-55174-324-8.
14. National Research Council (1982) *Nutrient Requirements of Mink and Foxes, 2nd rev*. Washington DC: National Academy of Science. Available at: http://www.nap.edu/ Accessed: December 2010.
15. Akre A.K., Hovland A.L., Bakken M. & Braastad B.O. (2008) *Risk Assessment Concerning the Welfare of Animals Kept for Fur Production. A Report to the Norwegian Scientific Committee for Food Safety*. Ås NO: Norwegian University of Life Sciences Available at: http://www.vkm.no/dav/60f432aa07.pdf Accessed: April 2011.
16. Welfare Quality® (2009) *Factsheet: Principles and Criteria of Good Animal Welfare*. Lelystad NL: Welfare Quality®. Available at: http://www.welfarequality.net/everyone/41858/5/0/22 Accessed: April 2011.
17. Fraser D., Kharb R.M., McCrindle C., Mench J., Paranhos da Costa M., Promchan K., Sundrum A., Thornber P., Whittington P. & Song W. (2009) *Capacity Building to Implement Good Animal Welfare Practices: Report of the FAO Expert Meeting*. Rome IT: Food and Agriculture Organization of the United Nations. Available at: http://www.fao.org/docrep/012/i0483e/i0483e00.htm Accessed: February 2011.
18. Koistinen T., Mononen J., Hovland A.L., Korhonen H.T. & Ahola L. (2010) Good human-animal relationship. *WelFur mini reviews. 1-12: blue fox, silver fox and Finnraccoon* [an unpublished WelFur project document].

19. Andersson A.M. (2011) Good health welfare criteria 8: absence of pain induced by management procedures. *WelFur mini-reviews 1-12: mink* [an unpublished WelFur project document].
20. American Veterinary Medical Association (AVMA) (2007) *AVMA guidelines on euthanasia (formerly Report of the AVMA panel on euthanasia)*. Available at: http://www.avma.org/issues/animal_welfare/euthanasia.pdf
21. Shearer J.K. & Nicoletti P. (n.d.) *Procedures for the Humane Euthanasia of Sick, Injured, and/or Debilitated Livestock*. University of Florida Extension Institute of Food and Agricultural Sciences. Available at: http://www.vdpam.iastate.edu/HumaneEuthanasia/gun.htm#Top Accessed: January 2013.
22. Canadian Food Inspection Agency (2013) Transportation of Animals Program Compromised Animals Policy. Available at: http://www.inspection.gc.ca/english/anima/trans/polie.shtml Accessed: September 27th, 2011.

Feed Testing Laboratory Contacts

Agri-Food Laboratories Inc.
1-503 Imperial Road North
Guelph, ON N1H 6T9
Phone: 800-265-7175 (toll-free)
Phone: 519-837-1600

Agriculture and Food Laboratory
Laboratory Services Division
University of Guelph
Guelph, ON
Phone: 519-823-1268 ext. 57243

Integrated Explorations Inc.
67 Watson Road South, Unit #1
Guelph, ON N1L 1E3
Phone: 519-822-2608

Maxxam Analytics
6740 Campobello Rd
Mississauga, ON L5N 2L8
Phone: 905-817-5754

Nova Scotia Department of Agriculture
Quality Evaluation Division
Laboratory Services-Analytical Laboratory
PO Box 550 Truro, NS B2N 5E3
Phone: 902-893-6565

Nova West Laboratory Ltd.
Laboratoire Nova Ouest Ltée.
40 Schoolhouse Rd., Grosses Coques NS
PO Box 39 Saulnierville, NS B0W 2ZO
Phone: 902-837-5143

PEI Analytical Laboratories
23 Innovation Way BioCommons Park
Charlottetown, PE C1E 0B7
Phone: 902-620-3300

Stratford Agri Analysis
1131 Erie St.
PO Box 760 Stratford, ON N5A 6W1
Phone: 800-323-9089 (toll-free)

Provincial Veterinary Diagnostic Laboratories

Newfoundland

Government of Newfoundland and Labrador
Animal Health Laboratory
Department of Natural Resources
308 Brookfield Road
St. John's, NL
709-729-6879
709-729-0323 (Vet Pathologist/Laboratory Manager)

Nova Scotia

Nova Scotia Veterinary Pathology Laboratory
Nova Scotia Department of Agriculture & Fisheries
Hancock Veterinary Building
65 River Road
Truro, NS
902-893-6540

New Brunswick

Veterinary Diagnostic Laboratory
Department of Agriculture, Aquaculture, and Fisheries
850 Lincoln Road
Fredericton, NB
506-453-2666

Prince Edward Island

Diagnostic Services
Atlantic Veterinary College
University of Prince Edward Island
550 University Avenue
Charlottetown, PE C1A 4P3
902-566-0863

Quebec

Laboratory of Animal Epidemiological Quebec
3220, rue Sicotte
St-Hyacinthe, QC
450-778-6542

Ontario

Animal Health Laboratory
Laboratory Services Division
University of Guelph
Building 89, NW Corner Gordon/McGilvray
Guelph, ON
519-824-4120 ext. 54530

Manitoba

Veterinary Diagnostic Services
Agricultural Services Complex
545 University Avenue
Winnipeg, MB
204-945-8220

Saskatchewan

Prairie Diagnostic Services
Saskatchewan Agriculture and Food
52 Campus Drive
Saskatoon, SK
306-966-7316

British Columbia

British Columbia Animal Health Centre
Animal Health Monitoring Laboratory
1767 Angus Campbell Road
Abbotsford, BC
604-556-3003

Participants

Farmed Fox Code Development Committee Members

Role	Committee Member	
Producer	Mike Bollert	Canada Fox Breeders' Association
Producer	Ron Steeves	Canada Fox Breeders' Association
Producer	Don Thompson	Canada Fox Breeders' Association
Producer	Lloyd MacInnes	Canada Fox Breeders' Association
Producer	Steve Goulet	Canada Fox Breeders' Association
Animal Welfare	Don Mitton	Canadian Federation of Humane Societies
Animal Welfare	Jim Bandow	Canadian Association for Humane Trapping
Animal Welfare Enforcement	Leo Muise	Nova Scotia Department of Fisheries and Aquaculture
Industry Expert	Rob Cahill	Fur Institute of Canada
Industry Expert	Herman Jansen	
Canadian Food Inspection Agency	Daniel Schwartz DVM	
Agriculture Agri-Food Canada	Brian Goldsworthy	
Canadian Veterinary Medical Association & Mink Scientists' Committee	Gord Finley DVM DDP	
Technical Expertise	Brian Tapscott	Ministry of Agriculture and Food and the Ministry of Rural Affairs
Canadian Veterinary Medical Association	Bruce Hunter DVM (Nov 2010 – Oct 2011)	

Dr. Bruce Hunter was a strong supporter of the Codes of Practice and the importance of animal welfare in animal production systems. He believed that animal welfare was fundamental and an important collective responsibility; researchers, veterinarians, producers and even the public had important roles to play. Dr. Hunter was a member of this committee and contributed significantly up until his untimely passing in October 2011.

Mink and Ranched Fox Scientists Committee Members

Organization	Representative
Canadian Veterinary Medical Association	Gord Finley DVM DDP (Chair)
Canadian Society of Animal Science	Kirsti Rouvinen-Watt PhD (Vice-Chair)
International Society of Applied Ethology	Georgia Mason PhD
	Ed Pajor PhD
Research Writer	Brooke Aitken

The contribution of all participants is greatly appreciated!

Summary of Code Requirements

The following is a list of all the requirements within the Farmed Fox Code of Practice. Refer to the cited Code section for further context about the requirements.

SECTION 1 Accommodations and Housing

1.1 Site Location

- Producers must ensure welfare needs (e.g. clean water, sufficient feed to maintain health and vigour, shelter and environmental enrichment) and operational requirements (e.g. biosecurity) can be met on site.
- New sites selected for fox farms must meet all applicable regulations.
- Sites must ensure that water does not accumulate.

1.2.1 Sheds/Housing

- Aisles must provide adequate space to observe and tend to the foxes and to move equipment within the shed without causing undue disruption to the foxes.
- Housing design must minimize extreme heat build up.
- Housing must include an area where foxes can escape direct sunlight, rain, snow, wind and that provides protection during times of severe weather conditions.

1.2.2.1 Pen Design

- Pen construction must be durable enough to withstand fox rearing; wire mesh used for floors must be 14-gauge or heavier.
- Materials used for pen construction must be non-toxic to foxes.
- Wire mesh for all pen floors must have openings no larger than 1 inch X 2 inches (2.5 centimetres X 5.0 centimetres) for rectangular wire mesh, and 1.25 inches (3.2 centimetres) in diameter for hexagonal wire mesh.
- Rectangular mesh must be no smaller than 1 inch X 1 inch (2.5 centimetres X 2.5 centimetres), and hexagonal wire mesh must have a diameter no smaller than 1 inch (2.5 centimetres).
- Wire mesh size for all floors must be appropriate for the size of the foxes so they do not catch their footpads.
- Single partitions between pens must have a maximum wire mesh size of 0.5 inches X 0.5 inches (1.3 centimetres X 1.3 centimetres) or be solid.
- If a wire mesh size greater than 0.5 inches X 0.5 inches (1.3 centimetres X 1.3 centimetres) is used for pen partitions/walls, there must be adequate separation between pens to eliminate contact between foxes.
- Wire of at least 16-gauge must be used for pen walls/partitions.
- Pens must have a secure latch to prevent escape.

Summary of Code Requirements (continued)

- All existing pens that meet the pen size requirements (exclusive of nesting area and platform/shelf) in Table 1 at the time this code is published will be accepted for use until needing to be replaced.
- Table 1: Existing Pens (at date of publishing)

Category	Minimum Width	Minimum Height	Minimum Floor area
Whelping	30 inches (76 centimetres)	30 inches (76 centimetres)	15 square feet (1.4 square metres)
Individual breeders (males or females without litter)	30 inches (76 centimetres)	30 inches (76 centimetres)	12 square feet (1.1 square metres)
Singly housed non-mature foxes *(between 16 weeks of age and pelting)*	30 inches (76 centimetres)	30 inches (76 centimetres)	9 square feet (0.84 square metres)
Pair/Group housed non-mature foxes *(between 16 weeks and pelting)*	30 inches (76 centimetres)	30 inches (76 centimetres)	8 square feet per fox (0.74 square metres per fox)

- All pens built or modified after this Code is published must meet the minimum size requirements (exclusive of nesting area and platform/shelf) in Table 2.
- Table 2 – New/Modified Pens (after date of publishing)

Category	Minimum Width	Minimum Height	Minimum Floor area
Whelping	36 inches (91 centimetres)	36 inches (91 centimetres)	15 square feet (1.4 square metres)
Individual breeders **(males or females without litter)**	36 inches (91 centimetres)	36 inches (91 centimetres)	15 square feet (1.4 square metres)
Singly housed non-mature foxes *(between 16 weeks of age and pelting)*	36 inches (91 centimetres)	36 inches (91 centimetres)	12 square feet (1.1 square metres)
Pair/Group housed non-mature foxes *(between 16 weeks and pelting)*	36 inches (91 centimetres)	36 inches (91 centimetres)	9 square feet per fox (0.84 square metres per fox)

1.2.2.2 Pen Animal Density

- Mature foxes (> 10 months of age) must be housed individually, except during breeding.
- Pups must be weaned in pairs or groups (not individually) to allow for social contact and play.

1.2.3 Environmental Enrichment

- All foxes must have access to at least one enrichment that can manipulated (object that provides suitable stimuli to gnaw).
- The number of enrichment objects provided for gnawing in each pen must be equal to or greater than the number of weaned foxes in that pen.

1.3.1 Light

- All foxes must be provided a natural photoperiod.
- Light intensity must be sufficient so foxes can express natural behaviour and be properly observed.

Summary of Code Requirements (continued)

1.3.2 Air Quality

- All sheds must have ventilation to ensure a dry, healthy environment for foxes.
- In all enclosed sheds where natural ventilation cannot maintain a dry, healthy environment for the foxes, a mechanical ventilation system must exist.
- In situations where mechanical ventilation is necessary, a backup system is required.

1.3.3 Temperature

- Foxes must have access to a shaded area at all times.
- During periods of excessive heat, foxes must have access to good quality drinking water at all times (refer to Section 3.3-Water Management for more details).
- Stockpeople must be trained to recognize signs and symptoms of heat and cold stress and to respond appropriately.
- Plans must be in place and measures must be taken to help foxes maintain appropriate body temperatures during excessive ambient temperatures.

SECTION 2 Biosecurity

2.1 Access Management

- All foxes must be housed in a secure area.
- Farms must have biosecurity signage, providing visitors with instructions for entry and directing traffic flow.
- Due diligence must be practised to prevent escapes or releases of foxes and to minimize contact with wildlife.
- Biosecurity measures must be in place for visitors and workers to help mitigate the risk of disease transmission.

2.2 Animal Management

- Producers must ascertain the health status of all new foxes being purchased.
- Quarantine procedures for all new fox introductions or reintroductions must be implemented.
- Quarantine areas must be established away from the main herd to accommodate all new introductions or reintroductions for a minimum period of 21 days.
- Producers must establish a disease response plan that includes farm lockdown procedures and seek a diagnosis.

2.3 Operational Management

- Mortalities must be removed from the pen and properly stored, submitted for diagnostics or disposed of as soon as possible.
- Farms must ensure all carcasses are disposed of in a manner that minimizes the risk of disease transmission and meets all applicable regulations.
- Manure must be collected, stored and disposed of in a manner that minimizes the risk of disease transmission and meets all applicable regulations.
- Feed and bedding must be of good quality and stored appropriately to minimize the risk of pathogen contamination.
- Nest box bedding must be maintained in a clean and dry manner.
- Farms must have an effective pest control program.
- Cleaning procedures for buildings, equipment and vehicles must be carried out on a regular schedule or more often as required.

Summary of Code Requirements (continued)

SECTION 3 Feed and Water

3.1 Nutrition

- Foxes must have access to sufficient quantities of a quality, nutritionally balanced feed to meet their physiological needs at various stages of growth/production.

3.1.1.1 Mature, Breeding Foxes

- Producers must monitor body condition regularly to ensure appropriate feeding.
- Producers must consult a nutritionist or veterinarian if there are nutritional concerns.

3.1.1.2 Gestation

- Females must be fed to maintain optimal body condition throughout gestation.

3.1.1.3 Lactation

- Diets made on-farm must be made from the highest quality ingredients (e.g. low bacteria levels) during lactation and weaning.
- Pups must have access to water once they begin to consume solid feed.

3.1.1.4 Growing Foxes

- Recently weaned pups must be monitored closely to ensure adequate feed intake and corrective action must be taken if a problem is noted.

3.2 Feed Quality

- On-farm feed preparation facilities must have procedures in place to ensure quality feed.
- On-farm feed preparation and storage areas must have a pest control program in place.

3.2.1 Feed Preparation and Storage

- Farms must have sufficient and appropriate feed storage to ensure feed quality.
- Dry feed must be stored in a cool, dry environment or as specified by the manufacturer.
- Good hygiene must be practised in feed preparation areas.
- Individuals involved with on-farm feed preparation must receive training.

3.2.2 Feed Distribution

- Foxes must have daily access to feed of adequate quality and quantity to meet their physiological needs at all stages of development.
- Foxes must be observed daily to assess feed intake.
- Biosecurity (refer to Section 2-Biosecurity) must be practised when receiving and/or distributing feed ingredients or feed.
- Feed must be protected to minimize contamination (e.g. feces, urine, rain, etc.).
- Feed carts used to deliver wet feed must be washed after each use and disinfected as needed.
- Dry feed hoppers must be maintained in a hygienic fashion.
- Producers must have a contingency plan in place to ensure foxes receive feed and water in the event of unexpected disruption.

Summary of Code Requirements (continued)

3.3 Water Management

- Foxes must have daily access to a sufficient amount of good quality water to meet their physiological needs.
- Water quality must be tested at least annually or as conditions require.
- An alternative watering supply/system must be in place in the event that the primary supply/system fails, or to help supplement water supply when needed.
- Watering systems must be checked daily to ensure they are functioning.
- Watering systems must be maintained in hygienic conditions.
- Where surface water is used as a source, it must be treated and tested frequently.

SECTION 4 Health and Welfare Management

4.1 Relationship of Animal Health to Animal Welfare

- Farms must have health and welfare management procedures in place and implement them to manage fox health.
- Foxes must be observed daily for signs of ill health or welfare concerns.
- All sick or injured foxes must receive prompt treatment or be euthanized immediately (refer to Section 6-Euthanasia).
- Accurate individual fox and herd health records must be maintained.
- Producers must implement an on-farm biosecurity program, which must, at a minimum, address the requirements outlined in Section 2-Biosecurity.

4.2 Stockmanship Skills Related to Fox Health and Welfare

- All individuals working with foxes must be of suitable temperament and trained to be competent in the proper care and handling of foxes.
- All staff must be trained in fox farm routines, and all training must be recorded.

4.3 Fox Health Management

- Producers must establish a working relationship with a practicing veterinarian.
- On-farm fox health procedures must include:
  - daily observation
  - animal identification system
  - vaccination and medication protocols
  - record keeping for vaccinations and treatments
  - parasite control programs
  - protocols for submitting mortalities for diagnostics
  - pest control programs.
- All farms must have a biosecurity plan (refer to Section 2-Biosecurity).

4.4 Sick or Injured Animals

- Sick, injured or recovering foxes must be segregated and monitored at least twice daily.
- Foxes that are sick, injured, in pain or suffering must be provided prompt medical care or euthanized immediately.
- Consult with a veterinarian when concerned with the health of a fox.
- All individuals euthanizing foxes must be trained and use methods of euthanasia as referenced in Section 6-Euthanasia.
- Accurate animal and herd health records must be maintained.
- Appropriate authorities must be advised of any suspected or confirmed cases of reportable disease.

Summary of Code Requirements (continued)

SECTION 5 Husbandry Practices

5.1 Animal Handling

- All people catching and handling the foxes must be trained in fox behaviour and handling.
- When lifting or carrying foxes, the body must be supported.
- Tongs use must be limited as much as possible when handling foxes.
- When tongs must be used, the collar piece must be coated or wrapped and must be properly sized for the foxes.

5.2 Breeding Period

- All people working with breeding foxes must be knowledgeable, trained and competent in: heat detection, equipment use and maintenance, fox behaviour and handling.
- On farms where artificial insemination is used, employees working with breeding animals must also be trained and competent in semen collection and insemination techniques.
- Pairs placed together for mating must be monitored and separated if overly aggressive behaviour is displayed.
- Electroejaculation must not be used.
- When using a rut gauge, the probe specific for **Vulpes vulpes** must be used and must never be forced into the vagina.

5.3 Whephing/Lacation Period

- Producers must make every effort to minimize disturbances on the farm during the whelping and lactation periods.
- Strangers must not be allowed near the fox housing area during whelping and lactation.
- During whelping and lactation, foxes must be monitored and action taken if necessary.
- Nest boxes must be accessible at least 8 days prior to whelping to allow females to acclimatize.
- A suitable, warm, dry and safe nest box that is large enough to house a vixen and her litter (floor area not less than 2 square feet) must be accessible at least 8 days prior to whelping until weaning.
- Whelping/lactating nest boxes must have a tunnel passageway and/or have more than one compartment to minimize drafts and provide a secure area.
- If orphaned or abandoned pups cannot be adequately cared for, they must be euthanized immediately.

5.3.1 Bedding

- Suitable bedding such as straw, hay or shavings (from untreated wood) must be provided for females prior to whelping for the lactation period.
- Bedding must be soft and absorbent and maintained so it is clean and dry.
- Bedding must not be derived from trees that may contain harmful resins that can cause skin problems for the pups.
- Barley straw, where the barley awn (beard) has not been completely removed, must not be used as it can irritate the pups' skin.

5.4 Weaning/Growing Period

- Foxes must be handled gently and by hand whenever possible to promote beneficial behavioural and physiological effects.
- Pups must not be weaned before 7 weeks of age.
- Pups must be weaned in multiples, not individually, to allow for social contact and play.
- Pups must not be individually housed before 16 weeks of age.
- Pups must be vaccinated according to farm herd health procedures or veterinary consultation.

Summary of Code Requirements (continued)

5.5 Genetics

- Animal health and behavioural traits must be considered in conjunction with production traits when establishing breeding program objectives and selecting breeders.
- Accurate breeding records must be maintained for breeder selection.

Section 6 Euthanasia

6.1 Criteria

- Foxes that are experiencing pain that cannot be relieved or foxes suffering from a condition or injury that is not responding to treatment must be euthanized without delay.

6.2 Methods

- Transport/handling of foxes prior to euthanasia must be minimized.
- The method of euthanasia must cause minimal distress and pain and must lead to immediate and irreversible loss of consciousness and cardiac arrest.
- On-farm euthanasia of foxes must be done by electrocution using a single-process commercially manufactured device specifically designed for stunning and euthanizing foxes.
- Euthanasia must be performed out of view of the other foxes.
- At least two people must be involved in the euthanasia of foxes.
- All people using euthanasia equipment must be knowledgeable, trained and competent in fox handling euthanasia procedures, including proper use and maintenance of the equipment.
- For electrocution to be humane, the commercially available equipment specifically designed for euthanizing foxes must:
  - have two electrodes that must be applied (a bite bar to the mouth and a probe into the rectum)
  - deliver a current of 0.31 Ampere that must be applied for at least 3-4 seconds
  - be fitted with a device indicating the current under load, which is clearly visible to the operator.
- Producers must ensure that the battery installed in the unit and the back-up batteries are both fully charged prior to use.
- Euthanasia equipment must be maintained and used according to manufacturer's directions.
- Foxes younger than 6 months of age requiring euthanasia must be euthanized using a firearm (21) or by a veterinarian.

6.3 Evidence of Death

- Producers must confirm death by ensuring that respiration has ceased, a pulse cannot be felt and corneal and flexor reflexes are absent.
- Each fox must be observed for 5 minutes immediately following euthanasia procedures to confirm death.

Section 7 Transport

7.1.1 Fitness for Transport

- Foxes must be assessed for travel fitness before being transported.
- Unfit and compromised foxes must not be transported, except for veterinary treatment or diagnosis.

7.1.2 Planning and Preparing for Transport Including Loading and Unloading Considerations

- All applicable regulations and requirements must be adhered to.
- Producers must ensure all necessary documentation is prepared and that required stops are pre-arranged to avoid unnecessary delays. This is especially important for international transport, which can add complexities such as: health certifications, additional documentation and border inspections.

Summary of Code Requirements (continued)

- The producer must select a reputable transporter, plan the trip details and ensure the transporter is aware of the welfare requirements of the foxes and that the transporter will take the necessary measures to meet the foxes' needs (e.g. feed, water and ventilation) during the transportation process.
- Foxes must be well hydrated prior to transport.
- Foxes must have access to water if the duration of the transport is expected to be longer than 4 hours. There are gel products available to provide moisture during transport that can avoid water spills in transport crates.
- Written feeding and watering instructions and contingency plans must be attached to crates (in a manner that the fox cannot access them) and also included with shipping documents.
- Foxes must be monitored periodically during ground transport and where feasible during air transport.
- Bred females must not be transported beyond 10 days after the last mating.
- Foxes must be individually housed during transport. All transport crates must be designed:
  - to ensure structural soundness and securely confine foxes without risk of injury
  - to ensure adequate airflow
  - to allow for provision of feed and water
  - to ensure sufficient space for the fox to lie comfortably in a prone position, turn around without restriction and stand on all four legs with head extended
  - so they are not oversized, as larger crates may increase the risk of injury
  - to allow for waste management
  - to prevent accidental opening or escape but still allow easy access when needed (e.g. in an emergency situation)
  - to prevent contact between the foxes.
- Transport crates for ground transport must meet the following minimum size requirements:
  - 30 inches long X 14 inches wide X 18 inches high (76 centimetres long X 35 centimetres wide X 45 centimetres high).
- For trips of short duration (i.e. 4 hours or less) transport crates for ground transport must meet the following minimum size requirements:
  - 24 inches long X 12 inches wide X 16 inches high (60 centimetres long X 30 centimetres wide X 40 centimetres high).
- Foxes must be placed into transport crates just prior to loading but allowing enough time to acclimate prior to shipping.
- Transport vehicles must:
  - allow for adequate ventilation
  - allow for adequately securing crates containing foxes
  - allow for waste management
  - provide appropriate protection from the elements
  - facilitate crate placement to prevent direct contact between the foxes
  - facilitate access to each fox for feeding, watering, inspection etc.
- For air transport, the IATA regulations must be adhered to.