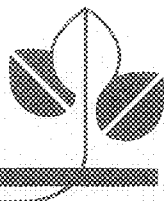




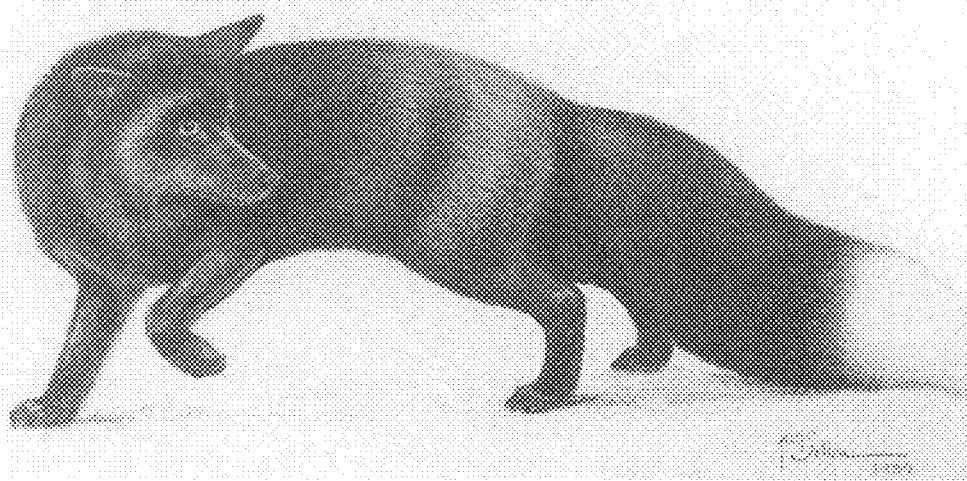
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# Recommended code of practice for the care and handling of ranched fox



Canada



# Recommended code of practice for the care and handling of ranched fox

Coordinated by

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Cover illustration:

*Vulpes vulpes*, silver fox; courtesy of the Canada Fox Breeders Association.

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## Preface

Domestication and artificial selection of livestock have made farm animals dependent on humans. Consequently, according to the currently accepted moral and ethical standards of our society, people must accept this dependence as a commitment to practice humane conduct toward domestic animals and to prevent avoidable suffering at all stages of an animal's life. This voluntary code of practice represents a step toward meeting that commitment.

In 1980 the Canadian Federation of Humane Societies (CFHS) began coordinating the process of drafting codes of practice for all livestock species with the drafting of a code of practice for chickens and the agreement of the federal Minister of Agriculture to support the undertaking financially. Subsequently, the Canadian Society of Animal Science (CSAS), at the request of the Agricultural Institute of Canada (AIC), undertook to prepare draft codes of practice for other livestock species. CSAS and AIC agreed that the successful CFHS coordination of the drafting process should continue, and the draft codes were turned over to CFHS. The process has involved representatives of agricultural industries and their organizations, federal and provincial government departments, associations of animal science, representatives of the animal welfare movement, and interested individuals. As a result of this work, the following codes of practice have been published: *Recommended Code of Practice for Handling Chickens from Hatchery to Slaughterhouse* (1983); *Recommended Code of Practice for the Care and Handling of Pigs* (1984); *Recommended Code of Practice for the Care and Handling of Special Fed Veal Calves* (1988); and *Recommended Code of Practice for the Care and Handling of Mink* (1988).

This voluntary code is intended to be used as an educational tool by the fox industry, scientists, and animal welfare groups to promote sound husbandry and welfare practices. The recommendations do not claim to be comprehensive for all circumstances, but an attempt has been made to define high standards of production and well-being of foxes in commercial, research, educational, and farm operations. As a guideline, the code can be used by operators in the various sectors of the fox industry as a standard for comparison with or improvement of their own managerial routines. However, it should be understood that new scientific discoveries and changing economic conditions may make it necessary to update the code periodically. For example, it should be noted that minimum pen sizes are based on current farming practices in Canada. No published research data were available when this code was written.

## Introduction

The humane raising of foxes is entirely dependent on the skills, training, and integrity of fox farmers.

Before placing foxes on a commercial fox farm, farmers (owners) must take the following steps:

1. Acquire a thorough knowledge of the natural history (life cycle) of ranched foxes and normal fox behavior, including breeding cycles, whelping behavior, proper weaning and separation procedures, and growing and furring periods.
2. Acquire a working knowledge of the nutritional needs of foxes throughout their life cycle.
3. Acquire adequate facilities and financial resources to supply and maintain proper housing, a reliable source of feed and water, proper vaccination procedures, treatment of injured or sick foxes, and anything else necessary to ensure that the welfare of each fox is a primary consideration. Financial costs should not be a reason for neglecting any fox obviously in distress or for failing to secure prompt and appropriate treatment when necessary.
4. Assume complete responsibility for the welfare of their animals, which includes developing the skills of observation and a sensitivity for the animals, as well as ensuring that all employees and attendants on the farm are competent, properly trained individuals who have a genuine concern for the welfare of foxes.

## Definition

The ranched fox in Canada is a descendant of two wild fox species native to areas of North America, Europe, and Asia. In the wild, the most common color phases of the red fox (*Vulpes vulpes*) are red (46–77% of the population), cross (20–44%), and silver (2–17%). The arctic fox (*Alopex lagopus*), an inhabitant of areas north of the treeline, may appear in winter with fur of the blue or white color phase.

Fox ranching has taken place in North America since the late 19th century, with farming of silver fox beginning on Prince Edward Island in about 1870 and raising of arctic fox off the coast of Alaska by 1895. Though some new genetic material has been introduced from the wild, most currently ranched foxes are descended from stock that

has been protected from the pressures of natural selection for up to 100 years.

With this protection and the planned breeding of ranched foxes, new strains and color phases have been developed. Selection for superior animals that can thrive under ranch conditions has been achieved, since only foxes that could function normally and successfully in captivity have contributed to the subsequent gene pool. In this document, the term ranched fox refers to such animals. By implication, the practice of capturing and impounding adult wild foxes on ranches is unwise and should not be considered.

## **Section 1. Accommodation**

### **1.1 Site**

A fox farm's location should be carefully selected. Due consideration should be given to local environmental conditions, foreseeable neighborhood development, and anticipated farm growth. The following items should be of particular concern:

- 1.1.1 Slightly sloping land with good drainage and no risk of flooding forms the ideal site for a fox farm. Safe and efficient disposal of effluent is vital to avoid creating unpleasant or unlawful conditions, for example, pollution of neighboring streams or rivers.
- 1.1.2 Additional drainage for the disposal of effluent from feed-preparation areas is essential.
- 1.1.3 A supply of fresh, clean water is necessary to supply the watering systems and to provide for daily clean-up in the feed-preparation areas.
- 1.1.4 A suitable source of energy is essential to supply power for the wide range of equipment and machinery used on the modern fox farm.
- 1.1.5 Fox farms should be chosen with regard to availability of and convenience to sources of feed supplies.
- 1.1.6 The site needs a suitable access road but should not be situated in the immediate vicinity of houses, highways, or heavily used roads.

- 1.1.7 It is advisable to avoid excessive artificial light and noisy situations, such as quarry blasting, aircraft flight paths, or low-flying areas. It is recommended that ranchers advise Transport Canada of the location of ranches to reduce the risk of losses resulting from overflights.
- 1.1.8 It is strongly advisable to construct a protective fence around the perimeter of the area where foxes are housed.

## **1.2 Sheds**

Although foxes that are to be pelted are generally housed in pelting sheds, breeding animals may be housed in sheds as well. Any building used to offer protection must be designed to also provide clean, well-ventilated, and sanitary conditions. Particular attention should be paid to the following recommendations:

- 1.2.1 Sheds may be erected specifically to house foxes kept for breeding or those kept for pelting, or they may serve a combination of both purposes.
- 1.2.2 Sheds may be constructed to hold any number of rows of cages, provided that all other conditions of this code of practice are met. It is important to recognize that the greater the number of rows of cages, the more difficult it is to keep the building hygienic and well ventilated.
- 1.2.3 Fox sheds are normally open-sided or partly closed. Where extreme conditions are encountered, such as strong winds, severe cold, drifting snow, or driving rain, partial or total enclosure of sheds should be considered. However, foxes should be kept in enclosed buildings only if the environment indoors meets the natural needs of the foxes and does not interfere with the reproductive or furring cycles.
- 1.2.4 Roofs of sheds may be constructed from a variety of materials. Translucent (not transparent) sheets should be used to provide natural light. Transport Canada recommends that roofs of sheds be painted yellow and black.
- 1.2.5 Sheds should be situated in a direction that allows the use of natural ventilation and lighting.
- 1.2.6 Paths and passageways between the rows of pens should be wide enough to allow attendants to perform all activities without being cramped.

- 1.2.7 The area under the pens should be covered with a material that allows the efficient removal of all effluents.
- 1.2.8 Good working conditions should be considered in shed construction. The height of sheds should allow attendants to stand and work upright.
- 1.2.9 Precautions should be taken to prevent fires (for example, grass fires) around fox sheds and other buildings, and fire-fighting equipment should be available and easily accessible.
- 1.2.10 All equipment and services necessary for farm operation should be inspected regularly and kept in good working order.

### **1.3 Pens**

Fox pens must provide an area that is large enough for the foxes to move around in naturally and must allow for activities such as rest, sleep, defecation, and other functions that maintain the comfort of the animal.

- 1.3.1 Whelping pens must provide an area that is large enough for females to deliver and rear their young to weaning age. Every fox confined in a cage must have reasonable freedom of movement.

In sheds, whelping pens should have a floor area of not less than 1.1 m<sup>2</sup> (12 sq ft), exclusive of nesting area, and should be at least 76 cm (30 in.) wide × 76 cm (30 in.) high.

Whelping pens located outdoors should have a floor area of not less than 1.4 m<sup>2</sup> (15 sq ft), exclusive of nesting area, and should be at least 91 cm (36 in.) wide × 76 cm (30 in.) high.

- 1.3.2 For individual adult males and adult females without litters, pens should have a floor area of not less than 1.1 m<sup>2</sup> (12 sq ft), exclusive of nesting area, and should be at least 76 cm (30 in.) wide × 76 cm (30 in.) high.
- 1.3.3 For foxes that have not reached maturity, pens should have a floor area of not less than 0.84 m<sup>2</sup> (9 sq ft), if housed singly, and not less than 0.74 m<sup>2</sup> (8 sq ft) per fox, if housed in groups of two or more. Pens should be at least 76 cm (30 in.) wide × 76 cm (30 in.) high.

- 1.3.4 All foxes should be provided with protection from adverse weather conditions.
- 1.3.5 Pens should be of sturdy construction to contain the foxes securely and should be designed to prevent foxes from injuring themselves or animals in adjacent cages.
- 1.3.6 Pens should be constructed of materials that permit easy cleaning and resist corrosion.
- 1.3.7 Pens should be high enough off the ground to allow feces to fall to the ground beneath and to permit easy clearing of the manure.
- 1.3.8 Cage inspection and repair should be undertaken routinely to ensure the secure enclosure of all foxes.
- 1.3.9 All pens should have suitable access to allow the fox farmer to catch and inspect each fox easily.
- 1.3.10 Foxes must have access to clean, potable water ad libitum.

## **1.4 Nests**

- 1.4.1 A suitable, warm, dry nest that is large enough to house a vixen and her litter must be attached to or incorporated into every whelping pen.
- 1.4.2 Nest boxes for a vixen and her litter must have a floor area of not less than 0.19 m<sup>2</sup> (2 sq ft). The interior of nest boxes must provide a dry, draft-free environment and should include appropriate bedding during nesting periods.
- 1.4.3 Nests should be large enough to allow each fox to lie and sleep comfortably. Nests are usually constructed of wood, untreated and free from other toxic materials.
- 1.4.4 Special care should be taken to avoid projections into the nesting area that could cause discomfort to the foxes.

## **Section 2. Food and water**

### **2.1 Nutrition**

Foxes must be fed a complete and wholesome diet that fulfills the various nutritional needs throughout their life

cycle. It is essential that fox farmers have a working knowledge of the nutritional requirements of fox.

- 2.1.1 Nutritional advice is available, and fox farmers should seek assistance in acquiring this advice from all sources.\*
- 2.1.2 Analysis of the mixed ration can be obtained from a laboratory equipped for such purposes.
- 2.1.3 Commercial feed available for foxes should be stored and fed according to the manufacturer's instructions. Care should be taken to ensure that feed used is suitable for foxes. The health and good condition of the foxes must be maintained at all times.

## **2.2 Feed preparation**

When fox farmers deal with fresh or frozen offal as feed, which can deteriorate rapidly, they must make sure that its collection, storage, and preparation are carried out under sanitary conditions.

- 2.2.1 Containers used for collection of offal should be drip-proof and always covered.
- 2.2.2 Containers should be washed thoroughly after each collection.
- 2.2.3 Offal should be refrigerated or ensiled at all times. Proper storage is essential, to provide a reserve of feed and to take advantage of seasonal availability of some feeds.
- 2.2.4 Feed preparation machinery, grinders, mixers, and homogenizers should be cleaned after use and should be maintained regularly.
- 2.2.5 Alternative methods of feed supply or preparation should be available in the event of a breakdown or an emergency.
- 2.2.6 Bulk feeds should be purchased in quantities small enough to ensure that they are used before nutritional value is lost.

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\* Information can be obtained from the Canada Fox Breeders Association, 286 Fitzroy Street, Summerside, P.E.I. C1N 1J2

## **2.3 Feed distribution**

A sufficient quantity of feed must be given at all times to ensure the health and well-being of each fox.

- 2.3.1 Feed should be placed in a position that allows the fox to reach it easily yet is not exposed to contamination by urine or feces.
- 2.3.2 Spoiled feed should be removed from feeding areas.
- 2.3.3 Foxes should have access to adequate amounts of appropriate feed daily.
- 2.3.4 Feeding machines and all utensils for feed distribution should be cleaned thoroughly after each use.

## **2.4 Watering systems**

The fox farmer must make sure that clean, potable water is available ad libitum.

- 2.4.1 Foxes must have easy access to potable water at all times.
- 2.4.2 When a fully automatic or a semiautomatic watering system is used, an alternative supply of potable water may be required during freezing periods. Ready access to water is particularly important for foxes receiving dry feed.
- 2.4.3 When using fully automatic systems with valves or nipples that are fed from a control tank, care should be taken to ensure that the entire system remains clean and that individual valves and nipples function properly.
- 2.4.4 Regular maintenance should be carried out to prevent leaking valves and connections that can cause wet areas where foxes are kept.
- 2.4.5 Semiautomatic systems require manual operation of control stopcocks and regular cleaning of water dishes.
- 2.4.6 All systems must be either checked or operated daily; this requirement is particularly important during hot weather.

## **Section 3. Care and supervision**

### **3.1 Supervision and handling of foxes**

All foxes should be inspected at least once each day. The arrangement of fox pens should enable easy inspection of all areas of the farm and all housed foxes, particularly where one attendant is responsible for a large number of foxes.

### **3.2 Attendants**

- 3.2.1 It is the fox farmer's responsibility to see that every person working with foxes understands and accepts the responsibility of preventing any avoidable suffering on the part of the animals. Before duties are assigned, personnel should be adequately instructed in the care and handling of foxes and should demonstrate a knowledge of the basic needs of the foxes entrusted to their care. Attendants should be able to recognize behavioral symptoms that indicate discomfort, disease, or the need to consult a veterinarian.
- 3.2.2 The working routine of attendants should be consistent and should be performed, where possible, on a regular schedule.
- 3.2.3 Persons in charge of a fox farm should make sure that the provisions of this code are clearly understood and observed by staff.
- 3.2.4 Foxes are most commonly handled by metal tongs specifically designed for that purpose. Attendants must be skilled in the use of tongs to prevent frightening or injuring the animals.

### **3.3 Health and disease**

Fox farmers have a responsibility to be aware of the condition of their herd and should be able to recognize the signs of a distressed or sick animal.

- 3.3.1 It is important that fox farmers develop the skills of observation necessary to detect any abnormalities of behavior, posture, gait, or health.
- 3.3.2 Suitable accommodation should be available to allow sick or injured foxes to be segregated from the rest of the herd.

- 3.3.3 Sick or injured foxes should be treated immediately or, depending upon the severity of their condition, destroyed humanely.
- 3.3.4 The unexplained death of foxes should be investigated promptly. It is strongly recommended that fox farmers make use of diagnostic services commonly available through provincial departments of agriculture and that fox farmers inform appropriate provincial authorities when an abnormal number of foxes die on a ranch. Dead foxes shall be disposed of in an appropriate manner or according to prevailing legislation.
- 3.3.5 It is strongly recommended that all foxes be vaccinated against distemper.
- 3.3.6 It is strongly recommended that farmers use an adequate program to control internal and external parasites.
- 3.3.7 All vaccinations and medical treatment must follow accepted veterinary medical practices and must be conducted by properly trained personnel.
- 3.3.8 Most foxes should be weaned by 8 weeks of age to avoid undue stress and competition, but adequate cage space and feed supplies must be available at all times.

#### **3.4 Identification of foxes**

It is recommended that all foxes be permanently identified.

- 3.4.1 The most common method of identification is by tattooing the ear using pliers, with characters not exceeding 1.3 cm (0.5 in.) in height.
- 3.4.2 It is recommended that foxes be tattooed before they reach 16 weeks of age.

### **Section 4. Hygiene and sanitation**

Fox farmers must ensure good hygiene and sanitary measures to avoid conditions that are unpleasant for the animals. Regular removal and disposal of manure, and fly control, are essential to a good farm sanitation program.

- 4.1 Poor drainage contributes to bad sanitation. Wet and damp areas are unpleasant, provide breeding areas for flies, and should be eliminated.
- 4.2 Manure should be removed regularly from under the pens, especially where drainage is less than adequate.
- 4.3 Feed-preparation buildings and surrounding areas should be cleaned daily.
- 4.4 Pens and nests housing foxes should be cleaned as required.
- 4.5 Unoccupied sheds, pens, and nests should be thoroughly cleaned and disinfected before restocking.
- 4.6 Unsanitary conditions can cause distress to the animals and to farmers, attendants, visitors, and neighbors. Unsanitary conditions can also have a negative effect on the environment and should therefore be avoided.

## **Section 5. Transportation of live foxes**

The transportation of foxes requires special attention to the design of traveling crates, the care of foxes while in transit, and the completion of appropriate documentation as required by the transporter or government authority.

- 5.1 Traveling crates must be adequately designed for transportation by road, rail, and air to allow sufficient space, airflow, and comfort for each animal.
- 5.2 The design of a traveling crate must take into account the length of time the foxes will be in transit. Each compartment must have enough space to allow each fox to lie in a prone position and to turn without restriction. The crate must be high enough to allow each fox to stand on all fours with the head extended. The inside dimensions of a crate shall not be less than 61 cm (24 in.) long × 30 cm (12 in.) wide × 41 cm (16 in.) high.
- 5.3 Crates should permit ease of handling. It is recommended that no more than two crates be joined per unit, and not more than one fox should occupy each crate.
- 5.4 Crates should be made from wire mesh, but care in construction is paramount to ensure that foxes cannot escape or injure themselves, each other, or their handlers. Handles

should be incorporated in the design of cages to allow for their safe movement.

- 5.5 Crates should be designed to prevent accidental or unauthorized opening, yet they should allow access to individual foxes in emergency situations.
- 5.6 There should be a gap of at least 2.5 cm (1 in.) beneath the wire floor of the crate to a watertight tray. This gap allows moisture to drain away from the compartment and prevents dirt from falling into other crates or the transport vehicle.
- 5.7 Great care must be taken at all times to allow sufficient airflow. If the air is restricted around stacked crates it will heat up, and foxes, always susceptible to heat exhaustion, may expire quickly. A space of not less than 5 cm (2 in.) × 5 cm (2 in.) should be used to allow enough separation between crates.
- 5.8 Crates should be constructed from wire mesh. Use wire that is no less than 14 gauge and a mesh size that is no larger than 2.5 cm (1 in.) × 4 cm (1.5 in.). Crates with two compartments require a gap of at least 4 cm (1.5 in.) between compartments, unless the wall separating the animals is constructed of wire that has a mesh size that is no larger than 1.5 cm (0.5 in.) × 1.5 cm (0.5 in.).
- 5.9 The comfort of the foxes must be of top priority. Ideally, foxes should be transported at temperatures to which they have become accustomed immediately before shipping. Hot weather can seriously endanger the lives of foxes during transportation. Therefore, when shipping is essential, all precautions listed must be observed rigorously.
- 5.10 Provision should be made for unexpected delays. The consignor must ensure arrangements for feeding and watering, the latter being particularly important. Water containers should be incorporated into the crates and should permit filling from outside the crate.
- Clear instructions for feeding and watering should be attached to crates and shipping documents.
- 5.11 It is important that the consignor and the consignee agree on the methods of transportation to be used and that rapid communication be available to them.

It is incumbent upon the consignor to advise the consignee of the time of the foxes' arrival.

- 5.12 When foxes are to be imported or exported, each country's regulations should be investigated and the necessary permits and certificates obtained before shipment.

## **Section 6. Euthanasia**

Fox farmers must consider the humane death of their stock to be of paramount importance. The term "euthanasia" means "easy death" and thus carries the implication of a quiet, painless death. As used in this code, the term describes the process of killing foxes by the use of recognized, acceptable, and humane techniques. The methods of euthanasia used must have an immediate depressive action on the central nervous system to ensure insensitivity to pain without causing fear or anxiety.

Although a number of euthanasia methods meet these criteria, the procedures recommended in this code are humane and have been found to be practical, reliable, easy to use, relatively inexpensive, and compatible with operational practices on fox ranches.

### **6.1 Norwegian Euthanatos Fox Stunner Type 3**

When used according to instructions, the Norwegian Fox Stunner, which is built specifically for the killing of foxes, has been found to meet the criteria of a humane death. The electrical current initially passes through the brain, stunning the animal, and then passes through the body to fibrillate the heart, thus producing death.

- 6.1.1 The apparatus should be used only by personnel skilled in the handling of foxes and in the use of the equipment.
- 6.1.2 The apparatus must be used only when it is correctly connected to a 12-volt car battery (red clamp to the plus pole and black clamp to the minus pole of the battery).
- 6.1.3 Before euthanizing foxes, the apparatus must be safety-checked. Power to the apparatus must be switched on by turning the ignition key. The red button on the handle of the apparatus must be depressed. If the battery is charged sufficiently and the apparatus is otherwise functioning satisfactorily, the apparatus will produce a humming noise and the indicator lamp will glow.

- 6.1.4 Each fox to be euthanized must be held securely to allow the introduction of probes into the rectum and mouth.
  - 6.1.5 The apparatus is activated by depressing the button on the handle for a minimum of 5 seconds.
  - 6.1.6 When not in use, the apparatus should be stored in a dry, safe place, and the ignition key must be removed.
- 6.2 Other methods**
- 6.2.1 Although the intravenous injection of an overdose of barbiturates by authorized individuals, and the slow intravenous injection of the euthanasia agent T-61 by persons who have demonstrated competence to perform this technique, are considered humane, these methods are recommended as back-up systems only.
  - 6.2.2 The use of nonanesthetic gases, such as carbon monoxide, carbon dioxide, or nitrogen, are not recommended.
  - 6.2.3 Curariform-type drugs, as well as strychnine and nicotine sulfate are not acceptable euthanasia agents and must not be used for euthanasia of foxes.

## **Appendix A Participants**

During the course of preparing the six drafts of this code, the following individuals contributed to the process at various times. Although their respective organizations are listed, a listing does not necessarily imply that the code has the unequivocal endorsement of any agency.

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