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Recommended code of practice for the care and handling of special fed veal calves

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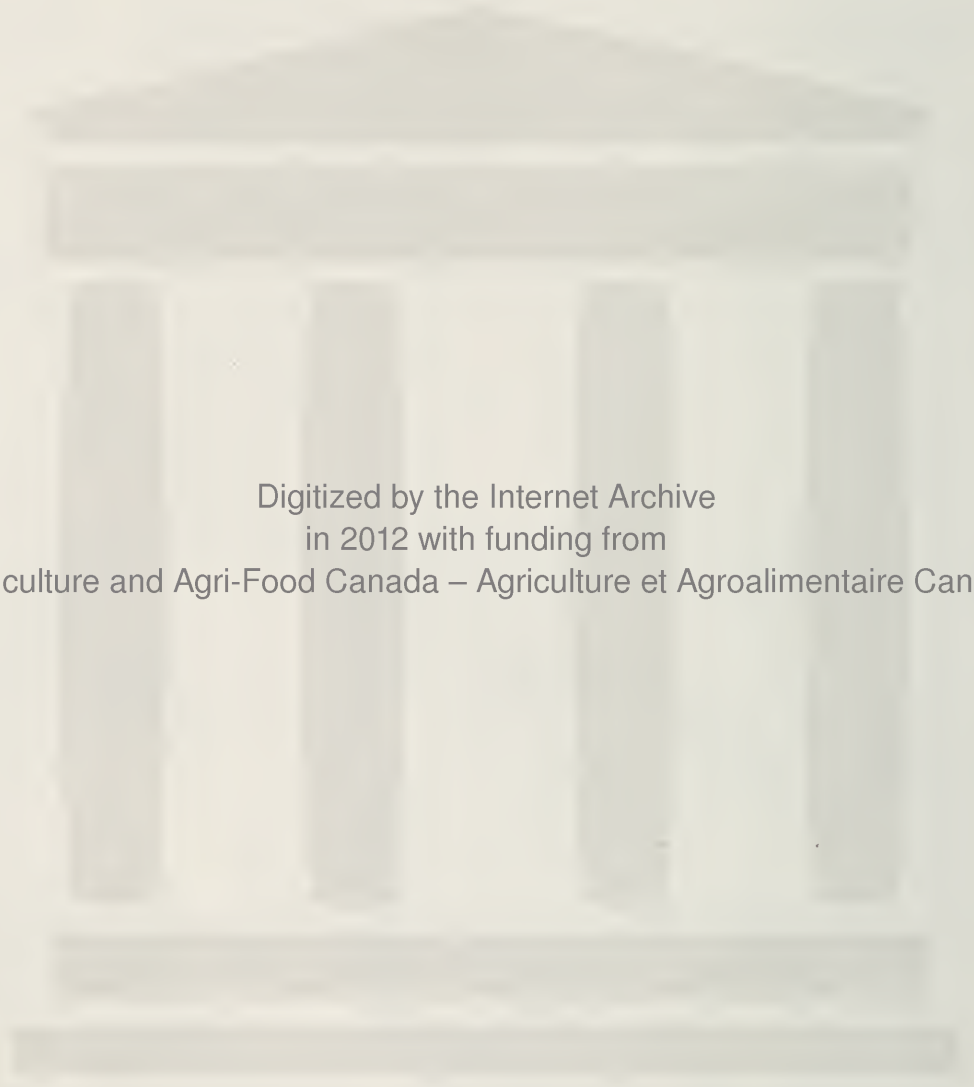

Recommended code of practice for the care and handling of special fed veal calves

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PREFACE

The process of drafting codes of practice for handling all livestock species by the Canadian Federation of Humane Societies (CFHS) began in 1980 with the drafting of a code of practice for handling chickens and the agreement of the federal Minister of Agriculture to financially support the undertaking. Subsequently, at the request of the Agricultural Institute of Canada (AIC), the Canadian Society of Animal Science (CSAS) undertook to prepare draft codes of practice for handling other livestock species. The CSAS and the AIC agreed that the successful CFHS coordination of the drafting process should continue and the draft codes were turned over to this organization. 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. A *Recommended code of practice for handling chickens from hatchery to slaughterhouse* was published in September 1983, and a *Recommended code of practice for care and handling of pigs* was published in 1984.

INTRODUCTION

The successful raising of special fed veal calves under humane conditions is entirely dependent upon the skills, training, and integrity of the veal producer.

This Code of Practice deals with the care and handling of special fed veal calves only (see Definitions, p. 8).

Producers must meet the following criteria before placing calves in a commercial veal production farm:

1. Have a thorough knowledge of the requirements of special fed calves for the part of the life cycle that they are on the producer's premises.

2. Have a working knowledge of the nutritional needs of calves.

3. Have a thorough knowledge of the behavioral needs of calves.

4. Have adequate facilities and financial resources to supply proper housing, a consistent and reliable source of feed and water, treatment for injured or sick calves, and everything else necessary to ensure the well-being of the calves. Financial cost should not be considered a reason for neglecting a calf obviously in distress or for failing to secure prompt and appropriate medical treatment when necessary.

5. Be prepared to assume total responsibility for the welfare of the calves. This responsibility includes developing skills of observation and a sensitivity toward the animals, as well as ensuring that all farm employees are properly trained in the maintenance of these animals.

RESEARCH NEEDED

The current confinement-housing practice is thought to have a negative effect on animal well-being. The issue of rearing special fed veal calves confined in single pens requires particular comment. Although this system has received most of the criticism, it may provide some advantages to animal health over other systems.

Many producers feel that individual penning is, on average, better for calf health and well-being than group-housing systems. There

remains a need for research and development of housing systems that consider the well-being of calves, with a view toward resolution of problems associated with restricted movement and lack of outlet for natural behavior.

Further basic and applied research is required to provide factual data on pen size, pen configuration, and stocking density on calf performance and health. Such research should consider behavioral, production, and economic parameters to provide a basis for recommendations concerning optimal penning alternatives for Canadian conditions.

DEFINITIONS

The following definitions are used to identify classes of calves in the industry.

1. Bob veal

   Bob veal refers to calves that are less than 4 weeks old, male or female. The calves are usually destined for slaughter or for other rearing facilities and feeding programs. This class is also referred to as bob calf, drop calf, or baby calf.

2. Grain fed veal

   Grain fed veal refers to calves reared on a feed program utilizing the rumination process and feed programs with hay, grains, and processed feeds. This class is also referred to as red veal or baby beef.

3. Special fed veal

   Special fed veal refers to calves reared on a feed program utilizing milk-based feeds. This class is also referred to as fancy veal, white veal, milk fed veal, or nature fed veal.

SECTION I

HOUSING

Calves should be housed in conditions conducive to health, growth, and good performance at all stages of their lives. There are many

recommended and successful systems available for rearing calves, but the system selected for use must be properly designed to meet the needs of each calf.

1.1 Insulation

1.1.1 Buildings intended for totally enclosed housing of calves should be adequately insulated.

1.2 Ventilation

1.2.1 All barns must have sufficient ventilation to maintain ideal calf-rearing environments.

1.2.2 Because calves reared in confinement housing are sensitive to fluctuations in temperatures, they should be provided with an appropriate environment-control system designed for the rearing program.

1.2.3 Ventilation systems should be capable of maintaining an adequate microclimate regardless of normal local weather fluctuations. In totally enclosed buildings, ventilation systems must be capable of producing air changes at a minimum rate of $15/m^3$ per calf to avoid high temperature and humidity.

1.2.4 Dust and noxious gases such as ammonia, carbon dioxide, hydrogen sulfide, and methane may develop with different housing systems. Ventilation in totally enclosed housing should be designed to accommodate these factors. Regular inspection and maintenance of component parts are necessary to ensure proper operation. Manufacturers' and design specifications should be followed to ensure proper operation.

1.2.5 Air movement should not cause discomfort in the pens at the level of the calves. Calves of all ages should be protected from cold areas and drafts. This is particularly important for calves up to 4 weeks of age and for sick calves, especially when housed in systems that prevent the animals from avoiding such areas.

1.2.6 Air inlets should be properly positioned and air supply matched to fan capacity. Thermostats should be used for automatic control of exhaust fans. Air inlets and ventilation systems designed to recycle small percentages of exhausted

air are acceptable provided that air in the barn remains fresh and clean.

1.2.7 Natural ventilation may be used to accommodate ventilation requirements.

1.2.8 In the event of a breakdown of the ventilation system, a backup system must be in place to keep calves comfortable. All ventilation systems, including those used for emergency standby, should be checked and maintained regularly.

1.3 Humidity

1.3.1 In totally enclosed buildings the preferred relative humidity range is 50–80%.

1.4 Heating

1.4.1 In totally enclosed buildings the preferred inside temperature range at calf level is 10–20°C. Supplementary heat may be needed to ensure comfort and protection from severe cold weather. The capacity of the heating system should be calculated to accommodate individual barn design, local climatic factors, and particular rearing systems. It is advisable to mix cold intake air with heated air before moving the air into calf-rearing areas.

1.5 Pen construction and maintenance

1.5.1 Flooring should be safe for the calves. Floors that cause either undue discomfort or an increase in the number of injuries or deformities are not acceptable. There are many types of flooring that possess varying degrees of suitability for calves. When slatted flooring is used, the recommended maximum spacing between slats is 3.2 cm and the recommended minimum top surface area of each slat is 5 cm in width. All flooring must be firmly supported and in good repair.

1.5.2 The flooring should provide good traction.

1.5.3 The design of pens and holding units should allow for proper drainage in order to keep calves comfortable and clean, and the slope of slatted flooring in individual holding units or group pens should not be more than 4%.

1.5.4 Materials, including preservatives and paints, used in pens to which the calves have access should not contain chemical compounds that are harmful to calves or that may contaminate the meat or make it otherwise unfit for human consumption. All pen surfaces should be capable of being easily cleaned and disinfected.

1.5.5 A regular program of cleaning and disinfecting results in reduced incidence of disease, better herd health, and reduced medical costs. Producers should initiate and maintain a regular program of hygiene and follow manufacturers' recommendations and suggested guidelines for the use and disposal of cleaning aids.

1.5.6 Handling routes accessible to animals should not have sharp edges or projections that may cause injury or discomfort to calves. All gates should be designed to permit easy entry and exit by calves.

1.5.7 All arrangements of pens should permit easy visual inspection of calves by attendants.

1.5.8 A system of regular monitoring of calves, a minimum of four times a day, should be established.

1.6 Individual pens

1.6.1 The practice of using individual pens is generally accepted in the industry.

These pens are usually constructed of wood, with slatted floors, open front, back, and top, and with slatted sides. This design provides optimum ventilation and visual contact between calves.

Individual attention and care, which is beneficial and desirable for each calf, can best be achieved by utilizing individual pens. Pens must be sufficiently large to provide for natural resting positions throughout the growing cycle.

1.6.2 Pen sizes are determined by finished calf weights, and a pen width of 56 cm is generally accepted in the industry.

1.6.3 All pens must provide enough space to allow each calf to lie down and stand up without difficulty.

1.6.4 For new facilities and for facilities being renovated the current minimum recommended pen size for calves weighing up to 202 kg is 65 cm × 165 cm. This recommendation may change as a result of further research.

1.6.5 Arrangement of individual pens should permit auditory and visual contact among calves.

1.6.6 Sudden, unusual, and unfamiliar movements or noises that vary from the pattern of normal sights and sounds should be minimized.

1.7 Tethering

1.7.1 Because rearing and caring for calves is possible without tethering, this type of restraint is discouraged.

If used, tethering devices must never interfere with or constrict throat passages, and tethering must be accomplished with a minimum of stress.

Tethers must be long enough to allow calves to stand, lie down, and eat, yet short enough to prevent them from turning around and from strangulation. The optimum length depends on calf size and point of attachment of the tether. The length should be adjusted at biweekly intervals. It is important not to frighten the calves when they are first tethered, and it may be necessary to soothe them until they become accustomed to this type of restraint. It is strongly recommended that tethers be removed after 2 weeks if calves are in individual pens.

1.8 Group pens

Group pen sizes are determined by anticipated market weights. The current minimum recommended space for calves weighing up to 202 kg is 1.4 m^2 per animal.

1.8.1 Group pens have either slatted or solid floors, with or without bedding. Feeding systems vary from individual bucket feeding to automatic milk-dispensing units. The primary determining factor is whether the number of animals matches either the feeding system capacity or the producer's capabilities. Calves in group pens require a higher degree of husbandry than those in individual pens to ensure their well-being.

1.8.2 Although some producers believe that group pens satisfy certain welfare concerns, there are inherent difficulties in providing individual care for each calf. Ongoing research is being conducted to improve environmental control difficulties, thereby reducing the incidence of disease and the mortality rate of calves associated with group pen rearing.

Although some normal behavior is satisfied in group pens, abnormal behavior such as sucking one another, feed competition, physical injury, and urine sucking also occurs and seems to increase.

Producers are encouraged to keep informed of proven measures that reduce abnormal behavior, and to implement system modifications that enhance calf well-being and individual care and treatment within a group.

1.8.3 To reduce aggression between calves in group housing and to facilitate subgrouping and social adjustments, moveable barriers should be used to create separate areas within a group pen.

1.8.4 When calves from different pens are reassembled in a new group, particular attention should be paid to identifying problems of readjustment.

1.9 Bedding

1.9.1 Currently, slatted raised flooring does not require bedding.

Considerable research has been done to determine the values of bedding for calves, without conclusive results. Although the use of bedding does reduce the incidence of certain redirected behavior, such as pseudoruminating and licking, detrimental effects include greater incidence of abomasal ulcers, impacted rumen, bloat, and specific bacterial infections.

Since the type and quality of bedding, storage, and handling may have significant health implications for calves, producers are encouraged to monitor developments in the use of bedding.

1.10 Emergencies and safety

1.10.1 All measures necessary to deal with unforeseen emergencies such as interruption of power supply, fire, and absence of staff should be incorporated within each building.

1.10.2 A plan to evacuate calves in an emergency, for example in the event of a fire or chemical spill, should be developed and reviewed regularly. The plan should include provisions for emergency housing, transportation, and personnel.

1.10.3 For the safety of calves and producers, safe disposal and storage of manure is essential.

1.11 Outside straw yard pens

1.11.1 Outside straw yard pens have received considerable attention as a possible alternative rearing system. Due to variable and, at times, adverse weather conditions, this system has very limited potential for application in Canada.

SECTION II

FEED AND WATER

Producers should be familiar with the basic nutritional requirements of their livestock. The requirements for calves are outlined in the National Research Council standard *Nutritional requirements for dairy*. Information is available through provincial agricultural ministries and through feed manufacturers.

Producers should be fully aware of the feed products, recommended feeding and mixing procedures, and feeding programs selected for their calves.

All commercial feeds must comply with feed regulations as provided by the *Feeds Act 1983* of Canada.

Producers should keep up-to-date on improved technology and recommendations regarding all aspects of calf rearing.

2.1 Feeding

2.1.1 All calves should receive food and water on a regular daily basis.

2.1.2 Drinking water and water for feed mixture should be fresh and free from contamination. Producers should be prepared to immediately replace water or feed suspected of being harmful to the animals.

2.1.3 Producers should follow instructions and feeding directions as specified by the feed manufacturer. Because there are different feed programs and products available, producers should carefully follow manufacturers' directions and/or procedures to ensure proper feed preparation and daily feed intake.

2.1.4 Unless otherwise recommended, calves should be fed two or more times per day.

2.1.5 Except where required for medical purposes, feed interruptions for longer than 24 hours should be avoided. Contingency plans should be prepared and maintained to deal with unexpected interruptions of feed and water supply.

2.1.6 In group pen housing where calves are fed ad lib by mechanical apparatus, the number of calves per mixing unit should not exceed manufacturers' recommended capacity.

2.2 Sanitation

2.2.1 For sanitation purposes and for the proper blending of milk-based feed products, hot water should be available in the barn or in the immediate vicinity.

2.2.2 Feeding and mixing equipment should be thoroughly cleaned daily.

2.3 Medication and feed additives

2.3.1 Medical treatments and vaccinations used must be based upon veterinary advice. Particular attention must be paid to dosage (based on body weight), duration of treatment, accepted drug compatibilities, and withdrawal time before slaughter.

2.3.2 Personnel administering medication to the calves must be competent, be properly trained, and keep daily records of the animals treated and the medications used.

2.3.3 Feed additives and/or medication, and growth promotants should not be used to replace good husbandry practices. When feed medication is required in an amount and/or compatibility exceeding approved levels,* a veterinary prescription is required, as outlined in the *Feeds Act Regulation*, Section 5(2)(G)(I–VII). Growth promotants are to be used in accordance with manufacturers' instructions.

2.4 Dietary fiber

2.4.1 No additional source of dietary fiber is intentionally fed to calves. There is considerable disparity in current scientific literature about the value of providing additional dietary fiber. Although feeding fiber reduces hairball formation, it increases incidence of abomasal ulcers, impacted rumens, and specific bacterial infections.

Because the type and quality of dietary fiber used may have significant health implications for calves, producers are encouraged to monitor developments in the use of dietary fiber.

2.5 Iron

2.5.1 For the health and well-being of calves, close monitoring of iron supplementation is required.

Iron is a necessary micronutrient and is provided in commercial feeds and in water. It is also available in either injectable or oral form. Iron intake is reduced when the calf approaches slaughter weight. Anemia can affect special fed veal calves during all stages of growth. Veal producers should be fully aware of the early clinical signs of and treatment for iron deficiency anemia. Calves should be monitored continuously throughout the growing period in order to detect any signs of anemia early and to initiate corrective measures. Anemia is characterized by pale mucus

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**Compendium of medicating ingredient brochures*, Agriculture Canada, April 1984.

membranes, weakness, light-colored feces, and a decrease in appetite. Commercial starter feed should provide a minimum of 20 ppm of iron. This amount is considered sufficient to prevent clinical cases of iron deficiency anemia, and to ensure health and vigor during the growing period. In addition, veal producers usually administer injectable iron during the 1st week of life and later on in the growing period. The generally accepted and practiced treatment for subclinical anemia is the administration of supplemental iron. A licensed veterinarian should be consulted for additional recommendations. Periodic checking for adequate blood hemoglobin level and presence of lice is required to prevent clinical cases of iron deficiency anemia. Blood hemoglobin testing should be conducted by a veterinarian, a qualified technician, or a producer well instructed in the use of a hemoglobinometer. To ensure the welfare of the calf, a hemoglobin level below 65 g/L is unacceptable.

SECTION III

DELIVERY AND POSTNATAL CARE OF VEAL CALVES

Commercial veal producers concentrate their efforts on maximizing the growth potential of calves. Research and experience have demonstrated that management and care of pregnant cows affect the future performance of calves as vealers and as herd replacement calves. Humane and economic concerns, therefore, dictate the best care for dam and calf.

3.1 Feeding

3.1.1 Colostrum should be made available as soon as possible after birth. Colostrum, which is rich in protein, provides protection during the first 4 weeks of a calf's life.

3.1.2 During the initial nursings, the behavior of each calf should be observed to ensure that it receives sufficient colostrum. All calves should consume at least 1.5 L of colostrum from the cow or be fed the equivalent amount manually daily in three meals for the first 3 days after birth.

3.1.3 Artificially administered nutrients, drugs, and other medical compounds should be of officially proven quality and

should be applied in recommended quantities by a competent attendant.

3.1.4 All calves should have sufficient opportunity to become familiar with feeders and waterers. Where necessary, assistance should be provided when calves are introduced to pail feeding.

3.1.5 Attention should be given to the feed intake of calves, and to symptoms of discomfort, stress, and illness.

3.2 Identification

3.2.1 When identification procedures (tattooing, tagging, or punching) are necessary, these must be conducted by a competent attendant in order to avoid needless suffering by the calves.

3.3 Transportation

3.3.1 Transportation from dairy farm to veal farm should be properly planned and completed as outlined in this Code of Practice (SECTION VII).

SECTION IV

GROWING

4.1 Facility preparation and maintenance

4.1.1 Housing facilities to accommodate calves should be prepared before calves arrive on the producer's premises. All pens should be clean, disinfected, and dry. All equipment should be operating at a level necessary to maintain a suitable environment for the calves.

4.1.2 The capacity of the feeding, ventilation, and handling systems should be determined by the number of calves in the rearing program.

4.1.3 Individual and group pens should be kept clean and comfortable. To reduce the possibility of disease, ensure that manure does not get spread from one pen to another.

4.1.4 To prevent discomfort on days that are hot and humid, attendants should be aware of changes in behavior indicative of stress in calves, and be familiar with steps that will alleviate discomfort.

4.1.5 Environmental factors known to contribute to illness and abnormal behavior in calves are fluctuating temperatures in the pen, ineffective ventilation, and nutritionally unbalanced diets. Whenever these environmental factors are observed, steps must be taken immediately to correct the situation.

4.1.6 Where sexual maturity of calves occurs before slaughter, a need may arise to segregate calves according to sex.

4.2 Light

4.2.1 Light intensity in the pens should be adequate to observe all calves during inspection.

4.2.2 In totally enclosed barns, light of sufficient intensity for the calves to observe one another is recommended for a minimum of 8 hours within any 24-hour period.

Producers are encouraged to maximize natural light within barns by providing windows in strategic areas throughout barns.

4.3 Identification

4.3.1 Identification devices that are either permanently or temporarily attached to calves must be light in weight, and be safe for the calf identified and for all other calves in the same pens. Identification devices should only be applied by a competent attendant.

SECTION V

ATTENDANTS

5.1 All personnel working with calves should understand and accept their responsibility to prevent avoidable suffering of calves.

Prior to assignment of duties, producers should be satisfied that attendants responsible for calf care have the skills necessary to respond to the needs of all calves entrusted to their care. Attendants should be able to recognize behavioral symptoms that indicate discomfort or disease problems, and when to consult a veterinarian.

5.2 Working routines of attendants should be consistent and performed on a regular schedule. Movement of people and equipment in or around pens should be accomplished in a way that minimizes excitability of the calves. It is advisable that all attendants wear clothing of similar appearance and provide an easily perceivable signal before entering the area where calves are housed.

5.3 Producers and their attendants should avoid contact with calves from outside premises. If this is unavoidable, it is recommended that personnel be provided with a change of clothing and a foot bath or foot covering.

5.4 Visitors to the pens should be kept to a minimum. If necessary, visitors should wear protective clothing and move and talk quietly.

SECTION VI

SUPERVISION AND PROTECTION OF CALVES

6.1 All barns housing calves should be checked a minimum of four times daily. Arrangement of pens should permit easy visual inspection of all areas and all housed calves.

6.2 Sick or injured animals should be treated immediately or be humanely destroyed. Carcasses should be removed immediately and disposed of according to the appropriate provincial and/or federal legislation.

6.3 It is mandatory for some diseases to be reported under federal and/or provincial legislation. If a calf is suspected of having such a disease a veterinarian must be advised immediately. When a reportable disease has been confirmed, the producer must immediately introduce the appropriate measures required under the provisions of the applicable legislation.

6.4 Attendants should regularly check all calves for external parasites. If external parasites are detected, corrective treatment should be introduced as soon as possible.

6.5 Mechanical devices, especially those associated with ventilation, water, and feed delivery systems, should be inspected daily.

6.6 An emergency plan should be in place in the event of a breakdown of mechanical devices. All attendants should be familiar with such an emergency plan to prevent the calves from suffering and possibly dying.

6.7 Calves should be protected from harassment and from transmission of infections by other animals or birds. Pest control on calf premises should be practiced continually.

6.8 Good husbandry practices and, when appropriate, measures such as vaccinations, are effective steps in preventing disease in calves.

6.9 Proper attention and care should be given to the use and disposal of all medical, chemical, or other compounds that could cause or contribute to environmental damage or danger to humans, calves, and/or other animals on the premises.

6.10 Handling can be stressful to calves unless done skillfully. Throughout their life cycle, calves should be handled with care, gentleness, and patience. When young calves need to be held, this should be done in their comfortable body position.

6.11 Calves should always be handled to prevent avoidable pain. When restraint is required it should be minimal in degree and time, and it should not injure the calves.

6.12 The use of electric prods, canvas slappers, and other similar devices, should be avoided. If prods are used, they should not be applied to the face, genital, or anal areas of calves.

SECTION VII

TRANSPORTATION

7.1 Definitions

7.1.1 *Vehicle*: any vehicle used for the transportation of calves, including trucks, railway cars, ships, and airplanes.

7.1.2 *Container*: a box or crate that is constructed for the shipment of calves and which can be moved from one means of transportation to another.

7.1.3 *Unfit animal*: a sick, fatigued, or injured calf that cannot be transported without undue suffering unless special precautions are taken (see SECTION VII, 7.10).

7.2 Transportation – general

7.2.1 Transport crews should be properly instructed on and knowledgeable about the basic facts of animal welfare and should be skillful in handling calves under varying climatic conditions. Responsibility for training personnel rests with the employer.

7.2.2 Truck drivers should start, drive, and stop their trucks smoothly to prevent animals from being thrown off their feet.

7.2.3 Infliction of physical injury to calves when moving them during transit is not acceptable.

7.2.4 Transport crews are responsible for the welfare of the calves for the entire stage of transport they have agreed to undertake.

7.2.5 Each load should be checked and realigned, if necessary, within the first 35 km, and should be checked periodically during transport.

7.2.6 The transportation of calves from point of origin to final destination should be by the most direct route and be completed as soon as possible.

7.2.7 Ignorance is no excuse for inhumane handling of livestock. Employers have an obligation to properly train employees on humane handling, equipment use, and livestock care.

7.3 Loading and unloading

7.3.1 In a new situation or location, all normal, healthy animals are alert and investigative. Every change or disturbance in their surroundings, such as noises, breezes, movement of objects, and flashes of light, should be avoided, as calves in unfamiliar situations are easily frightened.

7.3.2 Loading and unloading zones should be so situated as to safeguard against the spread of infections. Precautions should be taken to prevent calves that are in the loading zone or that have been loaded onto the truck from escaping and returning to the building.

7.3.3 The use of battery-operated electric prods, canvas slappers, and other devices to move calves should be kept to a minimum to avoid excitement of and injury to calves. The use of electric prods is discouraged.

7.3.4 Electric prods to move calves must not be used in the genital or anal areas, and their use should be avoided in the facial area.

7.3.5 Calves should not be loaded or unloaded in such a way as to cause avoidable injury or suffering. Ramps should be used; tilting the box of a dump truck is totally unacceptable.

7.3.6 Loading the calves into trucks is more easily accomplished if the alleyways and ramps do not have sharp turns that impede movement and that could cause injury to the calves. Ideally, loading and unloading alleyways and ramps should be curved, have solid walls, and be properly lit, and they should not be steeper than 25 degrees. Loading and unloading docks should be level with the truck in order to permit the calves to step safely onto or off the truck.

7.3.7 Ramps and chutes should be strong, provide safe footing, and have sides high enough to prevent calves from falling or jumping off.

7.3.8 No gap should exist between the ramp, its sides, and the vehicle.

7.3.9 Calves should be loaded only into vehicles that are clean and disinfected and that contain suitable fresh bedding material. Bob calves should not be bedded in shavings or sawdust because if they ingest this type of bedding material they will experience digestive problems.

7.3.10 Truck doors should be sufficiently wide to permit calves to pass through them easily without getting bruised or injured.

7.3.11 Devices used to tether calves must be removed immediately if they restrict breathing or otherwise cause discomfort to the calves. (See SECTION I, 1.7.)

7.3.12 Excessive use of identification devices such as ear tags must be avoided. These devices should be removed where evidence of abuse exists. Back tags should be used for short-term or temporary identification.

7.4 Vehicles

7.4.1 Any truck used for transporting calves should have sides that are secure, strong, and high enough to prevent the calves from jumping, falling, or being pushed out.

7.4.2 Provision must be made for drainage or absorption of urine.

7.4.3 Vehicle design and construction should prevent protrusion of any part of a calf from the vehicle.

7.4.4 Vehicles used for transporting calves must have sufficient protection for the calves from adverse weather. (See SECTION VII, 7.11 and 7.12.)

7.4.5 Vehicles and containers should be cleaned and disinfected after each shipment to prevent the spread of disease. Cleaning and disinfecting facilities should be provided at unloading points during all seasons.

7.4.6 Portable ramps should have sufficient footing to ensure stability for the calves.

7.5 Space requirements

7.5.1 Calves should not be crowded in a way that causes injury or suffering, and should be provided with sufficient floor space to allow them to stand in their natural position without

touching the ceiling or roof. Space requirements during transportation are listed in Appendix B.

7.6 Segregation

7.6.1 Calves of substantially different sizes must be separated from one another.

7.7 Protecting calves during transit

7.7.1 Vehicles and containers used for transporting calves should be well constructed. They should have secure, well-padded fittings, be free from bolt heads, angles, and other projections, and be adequately ventilated. (See SECTION VII, 7.11 and 7.12.)

7.7.2 Vehicle floors that do not have proper footing for the calves should be covered with straw, wood shavings, or other bedding material and sand for safe and secure footholds (see SECTION VII, 7.11 and 7.12). Bob calves should not be bedded in wood shavings or sawdust because if they ingest this type of bedding material they will experience digestive problems.

7.7.3 Calves must be protected from exposure to adverse weather (see SECTION VII, 7.11 and 7.12).

7.8 Containers

7.8.1 Containers used for transporting calves should be constructed and maintained according to the following specifications:

- Be easy to clean.
- Prevent protrusion of any part of the calves.
- Have doors large enough to allow calves to pass through them without being bruised or injured.
- Be designed to allow for easy inspection of calves.
- Have adequate footing and be provided with bedding material.
- Be designed to contain all liquid or solid waste.
- Have adequate ventilation.
- Be designed to provide adequate protection for the calves from adverse weather.
- Have facilities for feeding and watering the calves (see SECTION VII, 7.9).

7.8.2 Unless the calves are easily seen from outside the containers, every container used to transport calves must have a sign or symbol to indicate that it contains "live animals," and to show its upright position.

7.8.3 Containers used for transporting calves must be securely placed on the trucks to prevent them from swaying during the journey.

7.8.4 Containers should have sufficient floor space for the calves to stand in their natural position without touching the ceiling or roof. For space requirements during transportation see Appendix B.

7.8.5 When placing containers on the trucks, attention must be given to the temperature, ventilation facilities, and available space.

7.8.6 Containers that hold calves should be tilted as little as possible during all stages of loading and unloading. They should always be moved smoothly, never thrown or dropped.

7.8.7 During transportation, sudden changes in environment should be minimized and the calves should not be subjected to excessive unfamiliar noise.

7.9 Food, water, and rest for calves in transit

7.9.1 During transit, calves should be provided with suitable food and water at intervals not to exceed 18 hours if they are too young to be fed exclusively on hay or grain.

7.9.2 If a journey is to last longer than 18 hours, calves must be fed and watered within 5 hours of loading.

7.9.3 Calves that are unloaded for food, water, and rest must be placed in a suitably covered shelter, provided with enough food and drinkable water, and rested for at least 5 hours.

7.9.4 Transporters must maintain, or have access to, facilities where calves may be fed, watered, and cared for and that provide shelter from extreme temperatures.

7.9.5 The following criteria must be met when calves are being transported by ship:

- There must be enough food and water for the calves for the expected duration of the trip.
- There must be an additional 2-day supply of food and water for each estimated 8 days of the voyage.
- The food and water must be stored under sanitary conditions and not be exposed to extreme weather.
- There must be sufficient water outlets to water the calves.

7.9.6 Young calves that require special food should be provided with such food, as well as water, at least every 12 hours.

7.10 Unfit calves

7.10.1 If, during transit, a calf becomes unfit for further travel, it should be taken to the nearest appropriate place for treatment.

7.10.2 Except in cold weather, an unfit calf that can be transported should be separated from the other calves. To keep the unfit calf warm in cold weather, it may be placed in a compartment with half the normal number of calves.

7.10.3 Unfit calves should be loaded or unloaded in such a way as to cause them the least suffering.

7.10.4 When loading and unloading trucks, unfit calves should be put on last and taken off first.

7.10.5 Calves that are known to be unfit should be reported to the plant or stockyard receiver before being unloaded.

7.10.6 Air and sea carriers must make a report to the veterinary inspector at the port of embarkation stating why an animal died, was killed, or was seriously injured during the trip.

7.11 Precautions in cold weather

7.11.1 Calves have little natural protection from the cold and suffer from frostbite quickly; therefore special precautions are necessary to protect them.

Calves must be protected from cold winds during travel because wind chill can cause death. (See Appendix C.)

7.11.2 During winter travel, openings that allow drafts to enter the vehicle box should be covered in order to protect the calves

from cold crosswinds. For instance, any broken slats on the floor of a vehicle box should be replaced in order to protect calves from the cold, although some air should be allowed to pass over their bodies, and all nose vents should be closed.

7.11.3 Weather conditions should be observed carefully and ventilation adjusted accordingly. Too much cold air entering the vehicle could cause the calves to suffer from frostbite, but not enough air could cause suffocation. Both load and ventilation should be checked during transit.

7.11.4 The sides and floors of metal vehicle boxes should be lined with wooden liners or bedding material. Frigid bare metal will rapidly freeze the skin of a calf on contact.

7.11.5 The distribution of plenty of straw in the container when the temperature is below 16°C will help to keep calves warm, because straw is a good insulator. A small amount of sand distributed on the floor will improve the footing. Wet bedding tends to freeze and should be removed from the truck after each trip.

7.11.6 Freezing rain and temperatures near the freezing mark can cause death, and steps should be taken to protect calves from the elements. Calves can die if freezing rain blows in through the sides of the truck and soaks them.

7.11.7 In cold weather, calves should be inspected approximately every 2 hours. Every attempt should be made to maintain a draft-free environment for calves during transit. Warming and cooling can cause severe respiratory problems.

7.11.8 In the event of vehicle breakdowns, traffic accidents, or other delays during transit, appropriate action is necessary to ensure the well-being of the calves. (See Appendix A.)

7.12 Precautions in hot and humid weather

7.12.1 During transit, calves must be protected from direct sunlight, high temperatures, and high humidity because these weather conditions can cause breathing difficulties, stress, and death.

7.12.2 The feeding time for calves before the start of the journey is important. Calves should not be fed immediately before transportation (except as in SECTION VII, 7.9).

7.12.3 Sand should be used in trucks where there is inadequate footing. Sand containing fertilizer, ash, or calcium chloride should never be used.

7.12.4 Loading density should be reduced by about 10% if temperature is above 16°C; cutbacks of up to 25% should be considered if the weather is extremely hot and humid.

7.12.5 Adequate airflow throughout the vehicle should be provided to keep calves comfortable.

7.12.6 Loading and unloading the calves should be accomplished promptly. A minimum number of stops during transit is desirable to prevent rapid buildup of heat inside the truck.

7.12.7 In the event of vehicle breakdowns, traffic accidents, or other delays, prescribed emergency procedures should be followed. (See Appendix A.)

7.12.8 When a closed truck is used, ventilation can be provided by leaving any slats or openings on the sides uncovered. When an open-topped truck is used, the top of the vehicle should be covered with a tarpaulin.

7.13 Stress

7.13.1 Allow calves that have overexerted themselves to rest. This is a special problem with confined calves and can lead to heart failure. Sufficient opportunity should be provided to allow calves to overcome the results of overexertion.

7.13.2 In hot weather handle calves carefully because exercise increases stress problems. Wide temperature fluctuations between day and night also increase stress.

7.13.3 Care is essential when forced movement of a stressed calf is necessary. Every animal should be treated with extreme patience when it is overexerted.

7.13.4 Every effort should be made to ensure that calves are presented, sold, and delivered from only one sale facility. Every effort should be made to keep the distance to be traveled and the traveling time to a minimum.

7.14 Assembly and sales yard facilities

7.14.1 Ramps and alleyways used for unloading calves should not have sharp angles. An ideal ramp or alleyway for unloading purposes should be straight or curved, have solid walls, and be no steeper than 25°.

7.14.2 All floors of pens, alleyways, and chutes must be paved, properly drained, scored or treated to prevent slipping, and gently graded to provide good footing. The slope of the floor in individual holding units should not be less than 2% or more than 4% (2–4 cm/m). Drainage grates, where required, should be at the side of the pens, alleyways, or chutes.

7.14.3 Alleyways, loading ramps, unloading ramps, and the entrance to transport vehicles should be well lit.

7.14.4. All facilities must be covered and properly ventilated, and calves must be protected against extreme weather conditions. All assembly yards must be equipped to provide drinking water for calves. Nonruminating calves kept for more than 12 hours must be fed as well as watered.

7.14.5 The provision of gates to prevent calves from reversing direction is highly desirable.

7.14.6 Assembly and sales yard facilities should be properly maintained and must be free from any objects such as protruding nails, bolts, or sharp corners that could injure the calves or cause them discomfort.

7.14.7 Unfit and lame calves must be segregated from healthy calves.

7.14.8 Pens should contain sufficient space to enable all the calves in them to rest at the same time. The amount of recommended floor space per calf depends on body size and environmental temperatures.

7.14.9 Calves should be unloaded, penned, held, and loaded in such a way that they are exposed to a minimum of discomfort and excitement.

7.14.10 Downed, lame, and sick calves should be kept comfortable, and either be provided with medical treatment as soon as possible or be humanely destroyed.

7.14.11 The use of electric prods, canvas slappers, and other similar devices should be avoided.

7.14.12 Assembly and sales yard facilities should be constructed so as to prevent calves from slipping or falling and from injuring themselves. These areas should be regularly cleaned, disinfected, and supplied with fresh bedding.

7.14.13 Excessive use of ear tags must be avoided. Back tags should be used for short-term or temporary identification.

SECTION VIII

PROCESSORS

8.1 Unloading

8.1.1 The design of all trucks used for the transportation of calves to slaughterhouses should comply with SECTION VII of this Code of Practice (Transportation).

8.1.2 The producer and the slaughterhouse manager should ensure that all deliveries are properly scheduled and that an adequate number of unloading ramps are available at the receiving plant. Upon arrival at the slaughterhouse, all calves should be unloaded without delay.

8.1.3 When unloading the calves, it is preferable to have a flat landing surface at ramp or dock level.

8.1.4 Provide docks of different heights or adjustable ramps to accommodate different-sized vehicles during the unloading process.

8.1.5 There should not be any unprotected gaps between the vehicle and the platform (bottom and sides).

8.1.6 Receiving areas should have adequate lighting and be free from slick surfaces and sharp protrusions. Wherever possible, floor drains should be located at one side of each alleyway.

8.1.7 Downed, lame, suspect, weak, and fatigued calves are subject to veterinary inspection and should be handled as defined in SECTION VIII, 8.8.

8.1.8 Because of the possibility of personal injury during the unloading process, attention must be given to the protection of employees handling the calves.

8.2 Ramps, alleyways, and chutes

8.2.1 Ramps and alleyways should be wide enough for calves to be moved effectively with a minimum of stress and excitement but narrow enough to prevent the calves from going past the handlers.

8.2.2 Shield ramps and alleyways from direct sunlight and from shadows, and keep them clear of pools of water and ice.

8.2.3 Alleyways should have solid sides and contain no sharp corners, protrusions, or obstacles that might inhibit the movement of or cause injury to calves.

8.2.4 Flooring on ramps, alleyways, and chutes should have sufficient footing to ensure stability for the calves.

8.2.5 When handling calves, every effort should be made to ensure that they experience the minimum of discomfort or excitement.

8.2.6 Excessive use of ear tags must be avoided. Back tags should be used for short-term or temporary identification.

8.3 Holding

8.3.1 The pre-slaughter holding area for calves should be covered and provide adequate protection from the elements.

8.3.2 Pens should be available in various sizes to minimize the need to mix different lots of calves. Dividing (adjustable) gates should be installed in the larger pens to help reduce such mixing.

8.3.3 Pens should be designed to facilitate one-way traffic movement, and have a separate entrance and exit.

8.3.4 Uncovered pens may be used to hold any overflow of calves; however, the welfare of animals held in such pens must be given careful attention, and the pens may only be used for brief staging periods under suitable climatic conditions.

8.3.5 Avoid crowding; calves should be able to stand up in their natural position and lie down comfortably.

8.3.6 Drafts from the elements or from ventilation systems should be avoided in resting areas.

8.3.7 Housing facilities should be reasonably clean, and should be free from protruding nails, bolts, sharp corners, and other conditions that may contribute to the injury or discomfort of the calves.

8.3.8 In all covered holding pens, calves should have access to clean drinking water.

8.3.9 If calves are kept for more than 12 hours, facilities for watering and feeding must be provided.

8.3.10 Sufficient lighting should be provided for routine visual observation of the calves by plant personnel.

8.3.11 Hot, humid weather increases stress. Decreasing pre-slaughter housing density, and increasing resting time are recommended.

8.3.12 A contingency plan should be available in the event of an electrical or mechanical failure in the ventilation system.

8.4 Pre-slaughter

8.4.1 Pre-slaughter pens should have solid sides and nonslip floors, and each pen should have a minimum grade to permit proper drainage.

8.4.2 Pre-slaughter pens should be designed to prevent injury, minimize excitement, and provide for the orderly movement of calves to go into the infeed of the chute leading to the stunning area.

8.4.3 A daily washup of pre-slaughter pens is required; therefore, adequate heating, lighting, and ventilation are necessary in these areas.

8.4.4 The chute leading to the stunning area should have solid sides and be of the proper size to prevent calves from turning around and reversing direction.

8.4.5 Flooring should provide secure footing and traction. Such flooring encourages the calves to move in an orderly fashion, thus reducing stress and excitement.

8.5 Prods

8.5.1 Keep the use of battery-operated prods, canvas slappers, and other devices to a minimum in order to reduce the possibility of the calves becoming excited or being injured. The use of electric prods is discouraged.

8.5.2 Prods must not be used in the calves' genital or anal areas, and should be avoided in the facial area.

8.5.3 Direct 120-V circuit prods are not permitted. These are in violation of provincial electric codes and can be fatal to the calves or to the handler. Induction voltage, applied by use of a transformer that limits amperage, is acceptable.

8.6 Stunning

8.6.1 The most important factors in ensuring that slaughtering is humane are the selection and training of the person doing the stunning.

8.6.2 No calves shall be slaughtered without first being rendered unconscious by an experienced person using an approved humane method (*Meat Inspection Act*).

8.6.3 Hoisting or bleeding of calves not rendered unconscious is illegal (*Meat Inspection Act*).

8.6.4 Calves that are ritually slaughtered in accordance with Jewish or Islamic laws, and are slaughtered without stunning, must be properly restrained and the slaughter must be carrried out by experienced persons. Such slaughter shall be performed by a single cut which shall result in rapid, simultaneous, and complete severance of the jugular veins and carotid arteries so as to cause rapid unconsciousness and exsanguination.

8.6.5 Stunning systems must be well maintained and be used only by operators who are properly trained and who have the

physical ability to apply such systems without causing the calves avoidable pain and suffering, so that unconsciousness of the calves will result immediately.

8.6.6 The use of electrical reversible stunning systems requires an expeditious bleed-out to prevent a return to consciousness. It is recommended that the interval between stunning and sticking be not more than 30 seconds.

8.7 Education of personnel

8.7.1 Ignorance of the law is no excuse for inhumane handling of livestock. Employers have an obligation to properly train employees on humane handling, equipment use, and livestock care.

8.7.2 Employers should hold group discussions with their employees to instruct them on their responsibilities and obligations. Slides, pamphlets, and bulletins on these topics should be made available to employees.

8.7.3 A knowledge of basic animal behavior will assist employees in becoming more tolerant and understanding of their job functions.

8.8 Suspect calves

8.8.1 Each crippled, weak, or fatigued calf should be identified and documented as "suspect."

8.8.2 Suspect calves are to be off-loaded and placed in their own segregated pen. These calves must be kept comfortable and be fed, if necessary, and watered, pending further evaluation by a veterinarian.

8.8.3 Suspect calves are those animals that may be suffering from fatigue, injury, or disease which prevents them from being mobile.

8.8.4 The dragging of conscious calves is not permitted. Humane considerations make the presence of a suspect calf an emergency situation, and it must undergo a veterinary evaluation immediately. If a veterinarian is not readily available, an inspector may make the evaluation, subject to provincial legislation.

8.8.5 A suspect calf may be off-loaded by means of a stretcher, cage, or similar properly constructed piece of equipment, provided the design of the vehicle and size of the calf permit this to be done without causing undue pain or suffering to the calf. Suspect calves, off-loaded in this manner, should be dealt with as soon as possible, and should be stunned and bled before being moved to the slaughter floor unless they are conveyed directly from the vehicle to the slaughter floor on a stretcher, cage, or similar piece of equipment. The most desirable means of handling suspect calves is to stun them on the vehicle under the supervision of a veterinarian or inspector, remove them from the vehicle, bleed them, and transport the carcass to the slaughter floor.

8.8.6 Upon arrival at the slaughterhouse, suspect calves are subject to the following requirements:

- An immediate evaluation by a veterinarian or an inspector.
- A priority placement in the slaughter schedule to avoid delays in rendering them unconscious, or in eviscerating the carcasses after slaughter.

Failure to comply with either of these requirements will necessitate the humane killing of the calves and the disposition of the carcasses as condemned material.

APPENDIX A

EMERGENCY PROCEDURES (TRANSPORTATION)

Emergency procedures to be followed by drivers in the event of a breakdown, an accident, or any other delay during transit.

Please post in trucks

1. Telephone home office immediately to report the emergency situation.

2. During business hours, telephone the nearest slaughterhouse as well as the manager of the receiving plant.

3. Telephone the packing plant. (Attach night telephone numbers.)

4. If necessary, arrange for the use of another vehicle to move the load to a sheltered area or to the plant.

5. During extremely hot or cold weather, seek shelter for the load until the emergency situation is over.

6. Seek the advice of a veterinarian in the event of distressed or seriously injured calves.

7. Do something! Use common sense. The comfort of the animals must be kept in mind at all times.

APPENDIX B

SPACE REQUIREMENTS DURING TRANSPORTATION

Area	Weight of bob calves (kg)						Weight of finished calves (kg)						
	34-45	45-57	57-68	68-80	80-91	91-113	113-135	135-158	158-180	180-203	203-225	225-248	248-270
Square metre per animal	0.18	0.22	0.26	0.30	0.34	0.40	0.43	0.47	0.50	0.55	0.61	0.66	0.70
Square feet per animal	1.9	2.3	2.75	3.2	3.65	4.20	4.55	5.0	5.35	5.9	6.5	7.08	7.50
Half-ton truck, 3.7 m^2 (5' × 8' = 40 sq. ft.)	21	17	15	13	11	10	9	8	8	7	6	6	5
One-ton truck, 6.7 m^2 (9' × 8' = 72 sq. ft.)	38	31	26	23	20	17	16	14	14	12	11	10	10
Stake truck, 8.9 m^2 (12' × 8' = 96 sq. ft.)	50	42	35	30	26	23	21	19	18	16	15	14	13
Stake truck, 11.1 m^2 (15' × 8' = 120 sq. ft.)	63	52	44	38	33	29	26	24	22	20	19	17	16
Stake truck, 14.8 m^2 (20' × 8' = 160 sq. ft.)	84	70	58	50	44	38	35	32	30	27	25	23	21

SPACE REQUIREMENTS DURING TRANSPORTATION (concluded)

Area	Weight of bob calves (kg)						Weight of finished calves (kg)						
	34-45	45-57	57-68	68-80	80-91	91-113	113-135	135-158	158-180	180-203	203-225	225-248	248-270
Trailer, 17.8 m^2 (24' × 8' = 192 sq. ft.)	101	84	70	60	53	46	42	38	36	33	30	27	26
Trailer, 29.7 m^2 (40' × 8' = 320 sq. ft.)	168	139	116	100	88	76	70	64	60	54	49	45	43
Trailer, 33.4 m^2 (45' × 8' = 360 sq. ft.)	189	157	131	113	99	86	79	72	67	61	55	51	48
Possum-belly trailers (POT)	← (three decks) →					← (two decks) →							
16.9 m long, 47 m^2 (43 ft. long, 506 sq. ft.)	266	220	184	158	139								
16.9 m long, 47 m^2 (43 ft. long, 506 sq. ft.)						120	111	101	95	85	78	72	68
17.7 m long, 49 m^2 (45 ft. long, 531 sq. ft.)	280	231	193	166	145								
17.7 m long, 49 m^2 (45 ft. long, 531 sq. ft.)						126	117	106	99	90	82	75	71

APPENDIX C

WIND CHILL FACTORS

The following is a list of some actual air temperatures, wind speeds, and resulting wind chill factors that can adversely affect unprotected calves in transit.

Wind speed, km/h	Actual air temperature °C						
	10	4	−1	−7	−12	−18	−23
	Wind chill factor						
8	9	2	−3	−8	−15	−21	−26
16	4	−2	−8	−15	−22	−29	−34
24	2	−5	−12	−21	−28	−34	−41
32	0	−8	−16	−23	−31	−37	−45
40	−1	−9	−18	−26	−33	−39	−48
48	−2	−11	−21	−28	−36	−42	−51
56	−3	−12	−21	−29	−37	−44	−54
64	−3	−12	−22	−29	−38	−47	−56
72	−4	−13	−22	−30	−39	−48	−57
80	−4	−13	−23	−31	−40	−48	−58

APPENDIX D

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Representatives of the following organizations provided input at various stages of the drafting of this code; however, the code does not necessarily have the unequivocal endorsement of any agency.

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