

STATE OF WASHINGTON  
DEPARTMENT OF AGRICULTURE  
Olympia

STATE OF WASHINGTON  
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ORDER NO. 804

EFFECTIVE MARCH 18, 1960

HUMANE SLAUGHTER OF LIVESTOCK REGULATIONS

I, Joe Dwyer, Director of Agriculture of the State of Washington by virtue of the authority vested in me under Chapter 101, Laws of 1959 (Chapter 16.50 RCW) after due notice as provided under Chapter 42.32 RCW and a public hearing held in Olympia on February 26, 1960, do promulgate the following regulations:

1.01 Definitions:

For the purpose of regulations contained in this order, the following definitions shall apply.

- (a) "Law" - Chapter 16.50 RCW, (Chapter 101, Laws of 1959.)
- (b) "Carbon dioxide" - a gaseous form of the chemical formula CO<sub>2</sub>.
- (c) "Carbon dioxide concentration" - Ratio of carbon dioxide gas and atmospheric air.
- (d) "Exposure time" - The period of time an animal is exposed to an anesthesia-producing carbon dioxide concentration.
- (e) "Anesthesia" - Loss of sensation or feeling.
- (f) "Surgical anesthesia" - a state of unconsciousness measured in conformity with accepted surgical practices.
- (g) "Consciousness" - Responsiveness of the brain to the impressions made by the senses.
- (h) "Captive bolt" - A stunning instrument which when activated drives a bolt out a barrel for a limited distance.
- (i) "Department" - The Department of Agriculture of the State of Washington.

1.02 Chemical; Carbon Dioxide:

The slaughtering of calves, sheep, and swine with the use of carbon dioxide gas and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the law.

- (a) Administration of gas, required effect: handling.
  - (1) The carbon dioxide gas shall be administered in a chamber in accordance with this section so as to produce surgical anesthesia in the animals before they are shackled, hoisted, thrown, cast, or cut. The animals shall be exposed to the carbon dioxide gas in a way that will accomplish the anesthesia quickly and calmly, with a minimum of excitement and discomfort to the animals.
  - (2) The driving or conveying of the animals to the carbon dioxide chamber shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the anesthesia chamber is essential since the induction, or early phase, of

anesthesia is less violent with docile animals. Among other things this requires that, in driving animals to the anesthesia chamber, electrical equipment be used as little as possible and with the lowest effective voltage.

- (3) On emergence from the carbon dioxide chamber the animals shall be in a state of surgical anesthesia and shall remain in this condition throughout shackling, sticking and bleeding. Asphyxia or death from any cause shall not be produced in the animals before bleeding.

(b) Facilities and procedures.

- (1) General requirements for gas chamber and auxiliary equipment; operator.
  - (A) The carbon dioxide gas shall be administered in a chamber which accomplishes effective exposure of the animal. Two types of chambers involving the same principle are in common use for carbon dioxide anesthesia. They are the "U" Type chamber and the "Straight Line" Type chamber. Both are based upon the principle that carbon dioxide gas has a higher specific gravity than air. The chambers open at both ends for entry and exit of animals and have a depressed central section. Anesthetizing carbon dioxide concentrations are maintained in the depressed central section of the chamber. Effective anesthetization is produced in this section. Animals are driven from holding pens through a pathway constructed of pipe or other smooth metal onto a continuous conveyor device which moves the animals through the chamber. They are moved onto the conveyor through a manually or mechanically operated gate. Each animal is compartmentalized on the conveyor. Surgically anesthetized animals are moved from the chamber by the same continuous conveyor that carried them into and through the carbon dioxide gas.
  - (B) Flow of animals into and through the carbon dioxide chamber is dependent on one operator. The operation or stoppage of the conveyor is entirely dependent upon this operator. It is necessary that he be skilled, attentive, and aware of his responsibility. Overdosages and death of animals can be brought about by carelessness of this individual.
- (2) Special requirements for gas chamber and auxiliary equipment. The ability of anesthetizing equipment to perform with maximum efficiency is dependent on its proper design and efficient mechanical operation. Pathways, compartments, gas chambers, and all other equipment used must be designed to accommodate properly the species of animals being anesthetized. They shall be free from pain producing restraining devices. Injury of animals must be prevented by the elimination of sharp projections or exposed wheels or gears. There shall be no unnecessary holes, spaces or openings where feet or legs of animals may be injured. Impellers or other devices designed to mechanically move or drive animals or otherwise keep them in motion or compartmentalized shall be constructed of flexible or well padded rigid material. Power activated gates designed for constant flow of animals to anesthetizing equipment shall be so fabricated that they will not cause injury. All equipment involved in anesthetizing animals shall be maintained in good repair.
- (3) Gas. Maintenance of a uniform carbon dioxide concentration and distribution in the anesthesia chamber is a vital aspect of producing surgical anesthesia. This may be assured by reasonably accurate instruments which sample and analyze carbon dioxide gas concentration within the chamber throughout anesthetizing operations. Gas concentration shall be maintained uniform so that the degree of anesthesia in exposed animals will be constant. Carbon dioxide gas supplied to anesthesia chambers may be from controlled reduc-

tion of solid carbon dioxide or from a controlled liquid source. In either case, the carbon dioxide shall be supplied at a rate sufficient to anesthetize adequately and uniformly the number of animals passing through the chamber. Sampling of gas for analysis shall be made from a representative place or places within the chamber and on a continuing basis. Gas concentrations and exposure time shall be graphically recorded throughout each day's operation. Neither carbon dioxide nor atmospheric air used in the anesthesia chambers shall contain noxious or irritating gases. Each day before equipment is used for anesthetizing animals, proper care shall be taken to mix adequately the gas and air within the chamber. All gas producing and control equipment shall be maintained in good repair and all indicators, instruments, and measuring devices must be available for inspection by Department inspectors during anesthetizing operations and at other times. A suitable exhaust system must be provided to eliminate possible overdoses due to mechanical or other failure of equipment.

#### 1.03 Mechanical; captive bolt:

The slaughtering of cattle, calves, sheep, swine, goats, horses and mules by using captive bolt stunners and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the law.

##### (a) Application of stunners, required effect; handling.

- (1) The captive bolt stunners shall be applied to the livestock in accordance with this section so as to produce immediate unconsciousness in the animals before they are shackled, hoisted, thrown, cast, or cut. The animals shall be stunned in such a manner that they will be rendered unconscious with a minimum of excitement and discomfort.
- (2) The driving of the animals to the stunning areas shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the stunning areas is essential since accurate placement of stunning equipment is difficult on nervous or injured animals. Among other things, this requires that, in driving animals to the stunning areas, electrical equipment be used as little as possible and with the lowest effective voltage.
- (3) Immediately after the stunning blow is delivered the animals shall be in a state of complete unconsciousness and remain in this condition throughout shackling, sticking and bleeding.

##### (b) Facilities and procedures.

- (1) General requirements for stunning facilities; operator.
  - (A) Acceptable captive bolt stunning instruments may be either skull penetrating or nonpenetrating. The latter type is also described as a concussion or mushroom type stunner. Penetrating instruments on detonation deliver bolts of varying diameters and lengths through the skull and into the brain. Unconsciousness is produced immediately by physical brain destruction and a combination of changes in intracranial pressure and acceleration concussion. Nonpenetrating or mushroom stunners on detonation deliver a bolt with a flattened circular head against the external surface of the animal's head over the brain. Diameter of the striking surface of the stunner may vary as conditions require. Unconsciousness is produced immediately by a combination of acceleration concussion and changes in intracranial pressures. A combination instrument utilizing both penetrating and nonpenetrating principles is acceptable. Energizing of instruments may be accomplished by detonation of measured charges of gunpowder or accurately controlled compressed air. Captive bolts shall be of such size and design that, when properly positioned and activated, immediate unconsciousness is produced.

- (B) To assure uniform unconsciousness with every blow, compressed air devices must be equipped to deliver the necessary constant air pressure and must have accurate, constantly operating air pressure gauges. Gauges must be easily read and conveniently located for use by the stunning operator and the inspector. For purposes of protecting employees, inspectors, and others, it is desirable that any stunning device be equipped with safety features to prevent injuries from accidental discharge. Stunning instruments must be maintained in good repair.
- (C) The stunning area shall be so designed and constructed as to limit the free movements of animals sufficiently to allow the operator to locate the stunning blow with a high degree of accuracy. All chutes, alleys, gates and restraining mechanisms between and including holding pens and stunning area shall be free from pain producing features such as exposed bolt ends, loose boards, splintered or broken planking and protruding sharp metal of any kind. There shall be no unnecessary holes or other openings where feet or legs of animals may be injured. Overhead drop gates shall be suitably covered on the bottom edge to prevent injury on contact with animals. Roughened or cleated cement shall be used as flooring in chutes leading to stunning areas to reduce falls of animals. Chutes, alleys, and stunning areas shall be so designed that they will comfortably accommodate the kinds of animals to be stunned.
- (D) The stunning operation is an exacting procedure and requires a well-trained and experienced operator. He must be able to accurately place the stunning instrument to produce immediate unconsciousness. He must use the correct detonating charge with regard to kind, breed, size, age, and sex of the animal to produce the desired results.
- (2) Special requirements: Choice of instrument and force required to produce immediate unconsciousness varies, depending on kind, breed, size, age, and sex of the animal: Young swine, lambs, and calves usually require less stunning force than mature animals of the same kind. Bulls, rams, and boars usually require skull penetration to produce immediate unconsciousness. Charges suitable for smaller kinds of livestock such as swine or for young animals are not acceptably interchanged for use on larger kinds or older livestock, respectively.

1.04: Mechanical; gunshot:

The slaughtering of cattle, calves, sheep, swine, goats, horses and mules by shooting with firearms and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the law.

(a) Utilization of firearms, required effect; handling.

- (1) The firearms shall be employed in the delivery of a bullet or projectile into the animal in accordance with this section so as to produce immediate unconsciousness in the animal by a single shot before it is shackled, hoisted, thrown, cast, or cut. The animals shall be shot in such a manner that they will be rendered unconscious with a minimum of excitement and discomfort.
- (2) The driving of the animals to the shooting areas shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the shooting area is essential since accurate placement of the bullet is difficult in case of nervous or injured animals. Among other things, this requires that, in driving animals to the shooting areas, electrical equipment be used as little as possible and with the lowest effective voltage.
- (3) Immediately after the firearm is discharged and the projectile is delivered, the animal shall be in a state of complete unconsciousness and remain in this condition throughout shackling, sticking and bleeding.

(b) Facilities and procedure.

- (1) General requirements for shooting facilities; operator.
  - (A) On discharge, acceptable firearms dispatch free projectiles or bullets of varying sizes and diameters through the skull and into the brain. Unconsciousness is produced immediately by a combination of physical brain destruction and changes in intracranial pressure. Caliber of firearms shall be such that when properly aimed and discharged, the projectile produces immediate unconsciousness.
  - (B) To assure uniform unconsciousness with every discharge when small-bore firearms are used, it is necessary to use hollow-pointed projectiles. Firearms must be maintained in good repair. For purposes of protecting employees, inspectors, and others, it is desirable that all firearms be equipped with safety devices to prevent injuries from accidental discharge. Aiming and discharging of firearms should be directed away from operating areas.
  - (C) The provisions contained in Section 1.03 (b) (1) (c) with respect to the stunning area also apply to the shooting area.
  - (D) The shooting operation is an exacting procedure and requires a well-trained and experienced operator. He must be able to accurately direct the projectile to produce immediate unconsciousness. He must use the correct caliber firearms, powder charge and type of ammunition to produce the desired results.
- (2) Special requirements: Choice of firearms and ammunition with respect to caliber and choice of powder charge required to produce immediate unconsciousness varies, depending on age and sex of the animal. Bulls, rams, and boars usually require larger caliber projectiles than other cattle, calves, sheep, swine, goats, horses, and mules to produce immediate unconsciousness, and firearms and ammunition suitable for the latter group are not interchangeable for use on bulls, rams, and boars.

1.05 Electrical; stunning with electric current:

The slaughtering of cattle, calves, sheep, swine and goats with the use of electric current and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the law.

(a) Administration of electric current, required effect; handling.

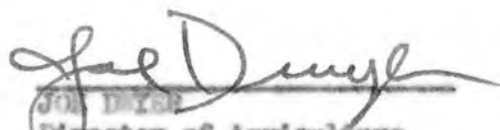
- (1) The electric current shall be administered so as to produce surgical anesthesia in the animals before they are shackled, hoisted, thrown, cast, or cut. The animals shall be exposed to the electric current in a way that will accomplish the anesthesia quickly and calmly, with a minimum of excitement and discomfort to the animals.
- (2) The driving or conveying of the animals to the place of application of electric current shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the place of application is essential to insure rapid and effective insensibility. Among other things this requires that, in driving animals to the place of application, electrical equipment be used as little as possible and with the lowest effective voltage.
- (3) The quality and location of the electrical shock shall be such as to produce immediate insensibility to pain in the exposed animal.
- (4) The stunned animal shall remain in a state of surgical anesthesia through shackling, sticking and bleeding. However, the animal shall die from loss of blood resulting from sticking and bleeding, and not from electrical shock.

(b) Facilities and procedures; operator.

- (1) General requirements for operator: It is necessary that the operator of electric current application equipment be skilled, attentive, and aware of his responsibility. Overdosages and death of animals can be brought about by carelessness of this individual.
- (2) Special requirements for electric current application equipment: The ability of electric current equipment to perform with maximum efficiency is dependent on its proper design and efficient mechanical operation. Pathways, compartments, current applicators, and all other equipment used must be designed to accommodate properly the species of animals being anesthetized. They shall be free from pain producing restraining devices. Injury of animals must be prevented by the elimination of sharp projections or exposed wheels or gears. There shall be no unnecessary holes, spaces or openings where feet or legs of animals may be injured. Impellers or other devices designed to mechanically move or drive animals or otherwise keep them in motion or compartmentalized shall be constructed of flexible or padded material. Power activated gates designed for constant flow of animals to electrical stunning equipment shall be so fabricated that they will not cause injury. All electrical stunning and auxiliary control and other equipment shall be maintained in good repair and all indicators, instruments, and measuring devices shall be available for inspection by Department inspectors during stunning operations and at other times.
- (3) Electric current: Each animal shall be given a sufficient application of electric current to insure unconsciousness immediately and through the bleeding operation. Suitable timing, voltage and current control devices shall be used to insure that each animal receives the necessary electrical charge to produce immediate unconsciousness. Moreover, the current shall be applied so as to avoid the production of hemorrhages or other tissue changes that would interfere with the inspection procedures of the Department.

1.06 Ritual: Slaughter in accordance with ritual requirements of any religious faith.

The slaughtering of animals in accordance with the ritual requirements of the Jewish or any other religious faith that prescribes a method of slaughter whereby the animal suffers loss of consciousness by anemia of the brain caused by the simultaneous and instantaneous severance of the carotid arteries with a sharp instrument and the preparation and handling in connection therewith are hereby designated and approved as humane methods of slaughtering and handling of such animals under the law.

  
JOE DWYER  
Director of Agriculture  
State of Washington

Signed at Olympia, Washington

Date: \_\_\_\_\_