

## Lameness and Welfare of Cattle: Extension Program Activities and Accomplishments

### A.S. Leaflet R2608

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#### Lameness of Cattle

Lameness of dairy and beef cattle continues to be an extension program priority. Over the previous 12 month period, we conducted 10 training programs (under the heading of the ISU Master Hoof Care Program) on foot care and claw trimming to trimmers and dairy farm managers throughout the United States. Most of these programs are conducted in Spanish to address the needs of the dairy industry's multi-cultural workforce. Similar programs were provided to veterinary students at Iowa State University, the University of Minnesota and the University of Florida. These programs consist of approximately a half day of classroom and 1 to 2 days of claw trimming on cadavers and live animals. Beyond these, multiple on-farm visits were conducted to review lameness problems and/or foot care programs in Iowa and elsewhere in the US. Lameness of cattle has also been the subject of presentations delivered at Iowa Dairy Days and multiple other conferences in Iowa and beyond.

#### Welfare Issues of Cattle

1. This past year was the culmination of 6 years as Chair of the American Association of Bovine Practitioners Animal Welfare Committee. During that time the committee was tasked with the development of recommendations on a multitude of welfare issues including care and management of non-ambulatory cows, tail-docking of dairy cattle, castration and dehorning of calves, ovariectomy procedures in feedlot heifers, hot-iron branding and many more.
2. This is the sixth year as a Board member of the Professional Animal Auditors Certification Organization (PAACO), an organization dedicated to the certification of audits and auditors, auditor training and the promotion of quality auditing for the livestock industry. I serve as Chair of the Dairy Audit Review Committee. This committee reviews all on-farm dairy audits submitted for certification by PAACO. For an audit to be certified by PAACO it must be consistent

with the principles and guidelines of the National Dairy Animal Well-Being Initiative (NDAWI) and comply with PAACO's minimum standards for welfare audits. Only 1 dairy audit has received certification through PAACO, another is pending and review on a new audit is to begin within the coming year.

3. Chair of the AVMA Panel on Euthanasia Food Animal Working Group. - I am responsible for the food animal groups' (dairy, beef, swine, and poultry) submissions for this document. This is a 2-year project that is now nearing the end of the first year's effort. The AVMA Guidelines on Euthanasia are a comprehensive review of current research on euthanasia of animals. An example of information that will be compiled in this document is listed below.
4. Organizing Committee of the American College of Animal Welfare – a proposed Veterinary Medical Specialty Board – the petition has been submitted recognition by the AVMA is pending. Should this become a recognized Specialty Board in Veterinary Medicine, ISU will be positioned to establish graduate and residency programs to prepare candidates for Diplomate status in the American College of Animal Welfare.

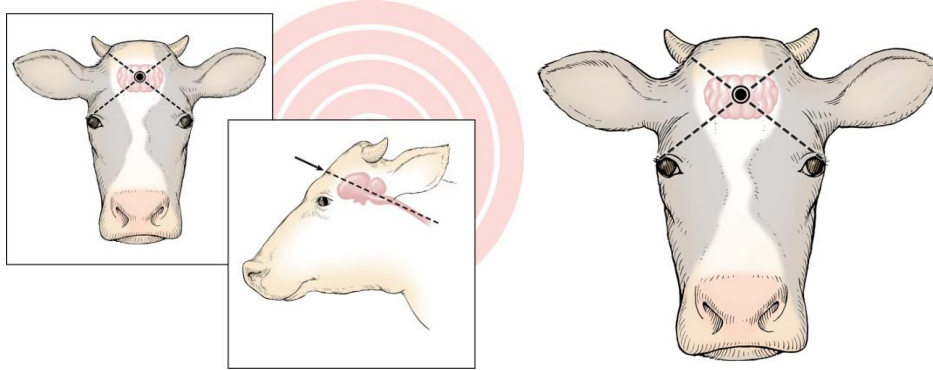
#### Program Activities and Accomplishments

In the previous 12 months 25 of 42 presentations at state, national and international meetings have been on the topic of animal welfare. This demonstrates a growing concern for these issues in the livestock industry. At Iowa State University needs for information on this subject are being met by multiple faculty members in Animal Science and the College of Veterinary Medicine. One component of this welfare issue is timely euthanasia. This topic is covered in depth for several livestock species at the following website. This website contains information on proper application of euthanasia in field conditions by gunshot and captive bolt. It includes animations for assistance in training these techniques and will contain an updated version in Spanish very soon. Website information as well as anatomical landmarks for cattle are shown on the following page.

<http://vetmed.iastate.edu/vdpam/extension/dairy/programs/humane-euthanasia>

**Anatomical Landmarks in Cattle** In cattle, the point of entry of the projectile should be at the intersection of two lines, each drawn from the outside corner of the eye to the base of the opposite horn. The firearm should be positioned

so that the muzzle is perpendicular to the skull to avoid the possibility of ricochet. Proper positioning of the firearm or penetrating captive bolt is necessary to achieve the desired results.



Use of the poll position (top of the head) for stunning or euthanasia of cattle is not allowed by regulations in the European Union because the depth of concussion in this region is less than that observed in frontal sites. Furthermore, aiming or directing the projectile to the regions of the brain that control vital functions such as respiration and heart function are more easily missed by use of the poll position for euthanasia in cattle.

Gunshot is the method most commonly used for on-farm euthanasia of cattle. Death results from mass destruction of brain tissue. For euthanasia purposes, handguns are limited to close range shooting (within 1 to 2 feet or 30 to 60 cm) of the intended target. Shotguns loaded with either birdshot or slugs are appropriate from a distance of 1 to 2 yards (1 to 2 meters) and rifles from a longer

distance if required. Although all shotguns are lethal at close range, the preferred gauges for this procedure in cattle are the 20, 16, or 12 gauge shotguns. Number 6 or larger birdshot or shotgun slugs are the best choices for euthanasia of cattle. It is important to note that birdshot begins to disperse as it leaves the end of the gun barrel. However, if the operator stays within short range (i.e. within 6 to 10 feet of the target) of the intended anatomical site, destruction of the brain will be sufficient to result in rapid death. One advantage of euthanasia by shotgun with birdshot shells is that it is unlikely that any of the birdshot will exit the skull. In the case of a free bullet or shotgun slug there is always the possibility of the bullet or slug exiting the skull placing by-standers in danger.