

## Guidelines for Judicious Use of Antimicrobials in Livestock

The core foundation for antimicrobial stewardship and judicious use of antibiotics in livestock is an effective relationship between a veterinarian and livestock owners. Biosecurity and herd health plans developed and revised under the guidance of a veterinarian are vital to maintain productivity, animal health and welfare, as well as a safe and secure food supply. Livestock owners, and their employees responsible for animal care, play a critical role in the success of a herd health plan. Recognizing early signs of illness in animals, such as slight changes in behavior, requires skill and experience, and it demonstrates a dedication to animal care and stockmanship. Various tools and/or scoring systems (e.g., monitoring feed and water consumption, calf health scores, the California Mastitis Test, and automated animal health trackers) may assist with the training and day-to-day activities of those responsible for animal care.

In California, the potential use of medically important antimicrobial drugs (hereafter referred to as antibiotics) in livestock must be deemed necessary under the professional judgment of a California licensed veterinarian, within the context of a valid veterinarian-client-patient relationship (VCPR) and in accordance with current veterinary medical practice and legal parameters.<sup>a</sup> To use antibiotics effectively and responsibly, a veterinarian must first develop a preliminary or general diagnosis, or have an indication of elevated risk of disease or infection.<sup>b,c</sup> The diagnostic process includes consideration of the history, clinical judgement, and epidemiological knowledge of the veterinarian.

### Once the need for antibiotic therapy has been established, the following are essential to practice the judicious use of antibiotics:

These guidelines are intended to aid livestock owners and their employees responsible for animal care in responsible antibiotic use under the guidance of a veterinarian in compliance with state and federal laws.

- 1) The decision to use antibiotics for sick or at-risk animals should be made promptly and, when appropriate, antibiotic therapy should be initiated in a timely manner to minimize the infectious burden, improve therapeutic outcomes, and reduce the development of antibiotic resistance.
- 2) In deciding to implement the use of an antibiotic, a veterinarian may consider the expected benefit from therapy.
  - a) Antibiotic therapy may be indicated for treatment in animals with an infectious disease or evidence of an infectious disease before a final diagnosis can be made. The veterinarian may assess the likelihood the illness is a result of a bacterial infection, the expected outcome of starting antibiotic therapy, and potential adverse effects of antibiotic therapy.
  - b) Antibiotic therapy may be required for control to decrease the severity of disease, reduce shedding of infectious bacteria, and minimize chances for spreading the disease to additional animals.
  - c) Antibiotic therapy may be necessary for prevention to address an elevated risk of contracting a particular disease or infection when the ability to predict outcomes to infectious exposure is not possible, but infection is anticipated based on the veterinarian's professional judgment regarding animal-specific risk factors.
  - d) Medically important antibiotics shall not be administered to livestock solely for purposes of promoting weight gain or improving feed efficiency.
  - e) Keeping accurate treatment and production records that include health outcomes of treated animals may aid the veterinarian in monitoring the effectiveness of animal health and disease prevention plans, reviewing treatment

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<sup>a</sup> Medically important antimicrobial drugs and are defined as those listed in Appendix A of the U.S. Food and Drug Administration's [Guidance for Industry #152](#).

<sup>b</sup> Defined in the Veterinary Medicine Practice Act, [Title 16 of the California Code of Regulations, Section 2032.1](#).

<sup>c</sup> Allowable and prohibited uses of medically important antimicrobial drugs in livestock are described in 4.5 FAC § 14402. Attached in Appendix D.

plans and procedures, and identifying optimal management practices and judicious on-farm use of antibiotics that promote antibiotic stewardship.

- 3) General supportive care (e.g., quality feed and water, shelter, and ventilation) provided for ill animals may reduce the need or duration of antibiotic therapy or improve treatment outcomes.
  - a) The use of alternatives to antibiotic therapy may be considered when recognized by scientific studies to improve animal welfare with no negative effects on treatment outcome.
- 4) Choosing appropriate antibiotic(s) and course of therapy for the treatment, control, or prevention of a disease must be under the oversight of a licensed veterinarian. The veterinarian's recommendation is based on a working diagnosis, relevant scientific information, standard of care consistent with current veterinary medical practice in this state, the animal owner's values and expectations – while in compliance with state and federal laws.
  - a) Veterinarians may not use antibiotics to prevent disease in a regular pattern, unless in relation to surgery or to a medical procedure. Examples of antibiotics used in a regular pattern to prevent disease include, but are not limited to:
    - i) Antibiotics given to prevent disease beyond the period of elevated risk determined in the professional judgment of the licensed veterinarian.
    - ii) Antibiotics given to prevent disease out of habit in a recurrent manner solely based on the animal's age or weight, the calendar date, or a life stage event of the animal(s) without the presence of an elevated risk of a particular disease or infection determined in the professional judgment of the licensed veterinarian.
  - b) Antibiotics may be used in an extra-label manner only when authorized by a California licensed veterinarian within the context of a valid VCPR and when the health of an animal is threatened, or suffering or death may result from failure to treat. The circumstances of use must comply with federal regulatory requirements.<sup>d</sup>
  - c) Livestock owners and their employees responsible for animal care should carefully follow treatment protocols as they are written and have been communicated. Before altering the case definition or course of treatment, consult the veterinarian of record.
  - d) Livestock owners and their employees responsible for animal care should follow all instructions printed on the label or otherwise provided by the veterinarian.
- 5) Antibiotics kept on-farm for the existing or anticipated needs to treat livestock should be accompanied by a veterinarian's clear instructions for use. Responsible practices include the following:
  - a) Avoid stockpiling antibiotics beyond anticipated needs.
  - b) Take care to ensure stored antibiotics are not expired.
  - c) Store antibiotics according to the approved product label.
  - d) Antibiotics should be stored in a secure location that allows for timely access by authorized persons.
  - e) Dispose of expired or unusable antibiotics and contaminated animal products appropriately to avoid environmental contamination. To find locations to dispose of unwanted pharmaceuticals, needles, and syringes, visit: <https://search.earth911.com/>; type "medications" or "medical sharps" in the search field; type in your zip code; call any of the listed locations to confirm this service is currently provided.

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<sup>d</sup> Extra-label drug use (ELDU) in food-animal species is permitted under the Animal Medicinal Drug Use Clarification Act of 1994 if criteria are met as defined in [Title 21 in the Code of Federal Regulations, Part 530](#). ELDU ("Off-Label Use") is any use of an FDA-approved drug that differs from instructions on the approved product label (species, animal production class, dose, volume per injection site, route, frequency, duration, or indication).