

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 maintaining 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, experience, and 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 use of medically important antimicrobial drugs (hereafter referred to as antibiotics) in livestock must be deemed necessary under the professional judgement of a California licensed veterinarian, within the context of a valid veterinarian-client-patient relationship (VCPR) in accordance with current veterinary medical practice and legal parameters.^a To use antibiotics effectively and responsibly, a veterinarian must first develop a preliminary or general diagnosis, or have indication of a high risk of disease or infection, in an individual animal or group of animals.^b The diagnostic process may incorporate relevant history, production performance, clinical signs, physical exam, and/or diagnostic test results.

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.

- The decision to treat affected 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 treatment outcomes, and diminish the development of antimicrobial resistance.
- Antibiotics are reserved for animals that are expected to benefit from therapy.
 - Antibiotic therapy is sometimes necessary to prevent the development of clinical disease and for animal welfare considerations when the ability to predict outcomes to infectious exposure is not possible.
 - Carefully consider the use of antibiotics in animals with a very low chance of recovery, or in production animals that may not be able to return to desired use after recovery.
 - Designated individual(s) should maintain training from their veterinarian on how to assess prognosis and when intervention with antibiotics, or in some cases euthanasia, is necessary.
- General supportive care (e.g., quality feed and water, shelter, and ventilation) provided for ill animals may reduce the need for antibiotic treatment or improve treatment outcomes.
 - The use of alternatives to antibiotic therapy is considered when recognized by scientific studies to improve animal welfare with no negative effects on treatment outcome.

^a 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](#).

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

- Antibiotic selection and determination of the optimal course of therapy for the treatment, control, or prevention of a disease is based on the veterinarian’s diagnosis, relevant scientific studies, standard of care consistent with current veterinary medical practice in this state while in compliance with state and federal laws, and the animal owner’s values and expectations.
 - This may include the use of antibiotics in an extra-label manner when authorized by a California licensed veterinarian within the context of a valid VCPR, 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.^c
 - Follow all instructions printed on the label or otherwise provided by the veterinarian.
 - 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.

- Veterinarians may decide to use or prescribe an antibiotic to prevent or control disease in livestock based on their clinical expertise and professional judgement if there is an elevated risk of contracting a particular infection. This decision is made by careful evaluation of multiple factors within a group, source, or production unit.
 - According to California law, antibiotics (MIADs) cannot be administered in a regular pattern to prevent disease, unless they are necessary in relation to surgery or a medical procedure.^d This means antibiotics (MIADs) may not be administered to a healthy animal continuously beyond the period of risk determined by the veterinarian or employed as a habitual management practice.
 - Habitual management practices include the use of antibiotics (MIADs) repeatedly to provide protection against a possible eventuality 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.

- 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:
 - Avoid stockpiling antibiotics beyond anticipated needs.
 - Take care to ensure stored antibiotics are not expired.
 - Store antibiotics according to the approved product label.
 - Antibiotics should be stored in a secure location that allows for timely access by authorized persons.
 - 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.

- Medically important antibiotics shall not be administered to livestock solely for purposes of promoting weight gain or improving feed efficiency.^e

Work with your veterinarian to maintain accurate drug inventory, purchase history, and treatment records that include health outcomes of treated animals. This information will aid in monitoring the effectiveness of animal health and disease prevention plans, reevaluation of treatment plans and procedures, and promotion of judicious on-farm use of antibiotics, all of which serve to reduce the development antibiotic resistance.

^c 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).

^d Allowable and prohibited uses of medically important antimicrobial drugs in livestock are described in [Chapter 4.5 of the Food and Agriculture Code, Section 14402](#).

^e [4.5 FAC § 14402](#).