



Cattle Producer's Handbook

Animal Health Section

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Antibiotic Metaphylaxis to Control Respiratory Disease

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Overview

Metaphylaxis (mass medication) to manage respiratory disease in newly received high stress or recently weaned cattle has been a common practice (USDA 1992). The beef industry's use of antibiotics is coming under more and more scrutiny. The Food and Drug Administration (FDA) and Center for Disease Control (CDC) have ongoing epidemiologic studies to assess antibiotic resistance among human bacterial pathogens and the relationship to agricultural use of antibiotics.

It is possible that many of the antibiotics cattle producers rely on today will be lost in the future. For this reason it becomes important for cattle producers to carefully consider how they select and use antibiotics [see "A Producer's Guide for Judicious Use of Anti-microbials in Cattle" (Fig. 1)].

Several questions must be addressed when considering antibiotic metaphylaxis or mass medication of newly received, high stressed or recently weaned cattle. This paper takes a look at six basic questions.

Fig. 1. A Producer's Guide for Judicious Use of Antimicrobials in Cattle. Source: NCBA Beef Quality Assurance Taskforce 2001.

Prevent Problems: Emphasize appropriate husbandry and hygiene, routine health examinations, and vaccinations.

Select and Use Antibiotics Carefully: Consult with your veterinarian on the selection and use of antibiotics. Have a valid reason to use an antibiotic. Therapeutic alternatives should be considered before using antimicrobial therapy.

Avoid Using Antibiotics Important In Human Medicine As First Line Therapy: Avoid using as the first antibiotic those medications that are important to treating strategic human or animal infections.

Use the Laboratory to Help You Select Antibiotics: Use cultures and susceptibility test results to aid in the selection of antimicrobials, whenever possible.

Avoid Using Broad Spectrum: Use narrow spectrum antimicrobials, whenever possible. Combination antibiotic therapy is discouraged.

Avoid Inappropriate Antibiotic Use: Confine therapeutic antimicrobial use to proven clinical indications, avoiding inappropriate uses, such as for viral infections, without bacterial complication.

Treatment Programs Should Reflect Best Use Principles: Regimens for therapeutic antimicrobial use should be optimized using current pharmacological information and principles.

Treat the Fewest Number of Animals Possible: Limit antibiotic use to sick or at-risk animals.

Treat for the Recommended Time Period: To minimize the potential for bacteria to become resistant to antimicrobials.

Avoid Environmental Contamination with Antibiotics: Steps should be taken to minimize antimicrobials reaching the environment through spillage, contaminated ground run off, or aerosolization.

Keep Records of Antibiotic Use: Accurate records of treatment and outcome should be used to evaluate therapeutic regimens. Always follow proper withdrawal times.

Follow Label Directions: Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.

Extra Label Antibiotic Use Must Follow FDA Regulations: Prescriptions, including extra label use of medications, must meet the Animal Medicinal Drug Use Clarification Act (AMDUCA) amendments to the Food, Drug, and Cosmetic Act and its regulations. This includes having a valid Veterinary-Client-Relationship.

Subtherapeutic Antibiotic Use Is Discouraged: Antibiotic use should be limited to prevent or control disease and should not be used if the principle intent is to improve performance.