

PRINCIPLES OF RESPONSIBLE ANTIMICROBIAL USE

PREAMBLE

Bacterial evolution is a natural phenomenon that allows bacteria to adapt genetically to selective pressures. Antimicrobial resistance (AMR) is the result of microbes changing in ways which diminish or inhibit the effectiveness of drugs or chemicals used to cure or prevent infections (CVMA, 2008).

The issue of antimicrobial resistance is broad, multi-factorial, and encompasses both human and animal health globally. The use of antimicrobials in both human medicine and agriculture, and subsequent effects on antimicrobial resistance has received significant attention over the past several decades. Chicken Farmers of Canada (CFC) is committed to contributing to antimicrobial use (AMU) initiatives of the chicken supply chain to preserve effective treatment options.

These guidelines are included in CFC's On-Farm Food Safety Assurance Program and represent industry's continuing commitment to the responsible use of antimicrobials.



PRINCIPLES OF RESPONSIBLE ANTIMICROBIAL USE

1. **Only antimicrobials approved for use by the Veterinary Drugs Directorate of Health Canada can be used to treat chicken flocks. All antimicrobial use must follow either the directions as contained on the product label/monograph or the directions of a veterinary prescription.**
 - **All antimicrobial use via feed must comply with the Compendium of Medicating Ingredient Brochures (CMIB) as published by the Canadian Food Inspection Agency or have a veterinary prescription in order to be compliant with the Feeds Regulations.**
2. **Veterinarians should be consulted due to disease or clinical signs based on their expertise in the area of disease diagnosis and their use of pharmacological information and principles.**
 - **Veterinarians are guided by the CVMA prudent use guidelines which indicate that veterinarians should use history, clinical signs, previous on-farm experience, diagnostic tools including gross pathology, microbiology and other diagnostic tests with culture and sensitivity results where indicated, to aid in the selection of antimicrobials and thereby improve the opportunity for successful treatment.**
3. **All antimicrobial prescriptions are to be obtained within the confines of a valid Veterinary–Client–Patient Relationship (VCPR).**
4. **The categorization of antimicrobials of importance to humans should be considered prior to any use, in conjunction with a veterinarian, to ensure those of importance to humans are only used after careful review and justification.**
5. **Category I antimicrobials shall not be used in a preventive manner, and will only be used therapeutically if no other effective alternatives are available. In these situations a veterinary prescription would be required with a valid CgFARAD reference number.**
6. **Farmers are required to adhere to the withdrawal period as stated on the label directions or as per the veterinary prescription.**
7. **Active pharmaceutical ingredients (a substance that is intended to be used in the manufacture of a medicinal product) and products obtained under the Own-Use Provision of the Food and Drugs Act (drug products imported from another country) are not permitted for use in chicken production as part of the CFC's On-Farm Food Safety Assurance Program.**
8. **Chicken farmers shall comply with the requirements for antimicrobial use outlined by Chicken Farmers of Canada's On-Farm Food Safety Program (OFFSAP), including requirements for documentation that is audited annually. Further information on the OFFSAP is provided below.**
9. **Chicken farmers shall implement food safety, biosecurity and poultry health management practices outlined in the OFFSAP, the Animal Care Program as well as in other applicable programs (e.g. provincial biosecurity requirements) that help prevent and reduce the incidence of disease and the potential need for antimicrobials.**
10. **All sectors in the supply chain shall be subject to the principles of responsible antimicrobial use to ensure the best possible chance of success for industry AMU initiatives.**

CHICKEN FARMERS OF CANADA'S ON-FARM FOOD SAFETY ASSURANCE PROGRAM (OFFSAP)

CFC's OFFSAP is a comprehensive program that promotes the production of safe food at the farm level and adheres to Hazard Analysis Critical Control Point (HACCP) principles as defined by *Codex Alimentarius*.

The OFFSAP has received full federal, provincial and territorial government recognition. Over 96% of Canadian chicken farmers are certified and are audited annually as part of the OFFSAP.

In addition to the Principles of Responsible Antimicrobial Use described above, CFC's OFFSAP covers AMU purchase, storage, use and record keeping as described below:

PURCHASE:

- Antimicrobials must be purchased in Canada from reputable companies or manufacturers who have a quality control program. This should be indicated by a quality assurance mark/logo or traceability number (DIN or PC#) on the label, or through a letter of assurance from the manufacturer.
- All antimicrobials must be checked when they arrive at the farm. They must come in unopened containers, and must have a label indicating the name, concentration and strength, there must be instructions for use and these instructions must be kept as records. A plan must be developed as to how products that do not meet these conditions will be handled and all corrective actions must be recorded.

STORAGE:

- All antimicrobials must be stored in closed containers, according to manufacturer recommendations (follow the label recommendations) and only with compatible products.

USE:

- Extra-label use of antimicrobials should only be used where no other treatment options are available.
 - » Under no circumstances should a farmer use antimicrobials in an extra-label fashion without a veterinarian prescription.
- Farmers should not use over-the-counter water medications without a veterinary prescription.
 - » CFC's objective is that over-the-counter water medications only be used in conjunction with a veterinary prescription. Issues of veterinary capacity and assuring animal welfare present significant hurdles resulting in a longer implementation timeline. In the meantime, farmers and industry stakeholders should work together to establish the processes to reach this objective.
- Personnel administering antimicrobials must understand how to handle and administer the antimicrobials.
- Water medicators must be tested for accuracy prior to each time a medication is administered via the water.
- Feeding lines must be run empty and/or water lines must be flushed when a treatment involving a withdrawal period is used during the finishing period (the last two weeks).
- Deviation Procedures for antimicrobials include removing the feed from the feeders or stopping the use of medication in the water lines, recording the date the action was taken and contacting the catching crew and/or processor to reschedule their activities as needed.
- Farmers are to understand the antimicrobials being used at the hatchery or via the feed. Good communication between these stakeholders is necessary to ensure a coordinated animal health approach. In order to preserve effective treatment options, farmers should work with these supply chain members (e.g. veterinarians, feed manufacturers, hatcheries, etc.) to reduce antibiotic use where possible.



RECORD KEEPING:

- Records of all antimicrobial use must be maintained at the farm for a period of at least one year.
 - » For antimicrobials administered at the hatchery, use must be recorded on the hatchery invoice/paperwork received from the hatchery, and this must be transferred to the Flock Information Reporting Form.
 - » For antimicrobials administered through the feed from feed mills, use must be recorded on the feed slips. For antimicrobials administered through the feed produced on-farm, an inventory of antimicrobial use must be maintained. For all feed, information must be transferred to the Flock Information Reporting Form for antimicrobials with a withdrawal period that were used in the last 14 days of the flock.
 - » For antimicrobials administered through the water, use must be recorded on the Flock Information Reporting Form.
 - The results of the water medicator calibration tests and any deviations and subsequent repairs must also be recorded.
- In the case of extra-label antimicrobial use, the veterinary prescription including the withdrawal time and the gFARAD or Canadian Association of Poultry Practitioners reference number must be recorded on the Flock Information Reporting Form and must be submitted with the advance copy of the flock sheet. All use of extra-label medication needs to be recorded on the flock sheet, regardless if it is for preventive or curative purposes.

Note: The reporting of antibiotic use on chicken farms via the Flock Information Reporting Form is required by federal regulations in Chapter 19, Section 3.4.2 of CFIA's Meat Hygiene Manual of Procedures. This report is sent to the processing plant 3-4 days ahead of the processing data, and again on the day of processing for review by the CFIA veterinarian. CFIA veterinarians verify these reports to determine that antibiotics were used as per their label or with a veterinary prescription and that the antibiotics are being used at the appropriate dosage for the appropriate application. Any product failing this investigation is not allowed on the market.

GLOSSARY

Antibiotic: A substance produced by a microorganism and/or by chemical synthesis that possesses the following characteristics:

1. It has the capacity, in dilute solutions, to inhibit the growth of or to kill the microorganisms that harm another organism (e.g., an animal) but has no toxic effect on the latter.
2. It is used with the purpose of selectively eliminating the microorganisms in close contact with the harmed organism (this process is named “antibiosis”).

Antimicrobial agent: A substance that kills or suppresses the multiplication of any kind of microscopic organism (i.e., bacteria, virus, fungi, protozoan, mange, etc.). As there is no specification of harmlessness for the host, this term includes all antibiotics, ionophores and arsenicals, disinfectants and antiseptic agents. This term is used preferably with respect to resistance genes, some of which may act on different classes of substances.

Compendium of Medicating Ingredient Brochures (CMIB): The CMIB is published by the Canadian Food Inspection Agency and specifies the species of livestock, the level of medication, the directions for feeding and the purpose for which each medicating ingredient may legally be used, as well as the brand of each medicating ingredient that is approved for use in feed in Canada.

Extra-label use: Actual or intended use of a drug in an animal in a manner that is not in accordance with the approved labeling. This includes, but is not limited to, use in species not listed in the labeling, use for indications (disease or other conditions) not listed in the labeling, use at dosage levels, frequencies, or routes of administration other than those stated in the labeling, and deviation from the labeled withdrawal time based on these different uses.

Veterinary–Client–Patient Relationship (VCPR): A VCPR exists when all of the following conditions have been met:

1. The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the animal(s) and the need for medical treatment, and the client has agreed to follow the veterinarian’s instructions.
2. The veterinarian has sufficient knowledge of the animal(s) to initiate at least a general or preliminary diagnosis of the medical condition of the animal(s). This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal(s) by virtue of an examination of the animal(s) or by medically appropriate and timely visits to the premises where the animal(s) are kept.
3. The veterinarian is readily available for follow-up evaluation, or has arranged for emergency coverage, in the event of adverse reactions or failure of the treatment regimen.

REFERENCES

CVMA, 2008. Canadian Veterinary Medical Association Antimicrobial Prudent Use Guidelines for beef cattle, dairy, poultry, and swine.