



Antibiotic Resistance & CHICKEN

Chicken Farmers of Canada (CFC) supports the judicious use of antibiotics that have been approved by the Veterinary Drugs Directorate of Health Canada, in order to ensure food safety, animal health and animal welfare.

Antibiotic use in chicken production is for the treatment of birds, to reduce disease and to reduce any potential food safety problems. Antibiotics play an integral role in providing a safe product for consumers so that only healthy birds enter the food chain for consumption.



Recent coverage of the issue of antibiotic use in chicken production has been misleading and sensationalistic.

As a result of this coverage, some consumers have been left with the impression that:

- All superbugs come from agriculture, more specifically chicken
- All antibiotic resistance found on chicken is because of antibiotic use during the life of the chicken
- All bacteria found were resistant to antibiotics
- Government has little or no control over medication approval and monitoring
- The European Union's method of banning antibiotics is the solution
- Drug use in the poultry sector is rampant and unchecked

The following needs to be clearly understood:

1. Antibiotic Use is Judicious

Antibiotics in the chicken industry are used judiciously. In the vast majority of cases, all antibiotic use in chicken production is under the prescription of a veterinarian.

Nearly 95% of feed is purchased from feed mills, and any antibiotics incorporated into the feed must follow the Canadian Food Inspection Agency's Compendium of Medicating Ingredient Brochures or have a veterinary prescription. If feed antibiotics are used, a significant proportion is generally Class IV antibiotics – this is a class of antibiotics that are not used in human medicine and have no human health importance.

2. The chicken industry reports antibiotic usage

As a component of the Canadian Food Inspection Agency's (CFIA) Manual of Procedures for Meat Hygiene (Chapter 19, section 3.4.2), chicken farmers are required to complete a "Flock Information Reporting Form" that details all the antibiotics used to treat disease and the feed antibiotics used within the last two weeks. 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. In this fashion, CFIA reviews and monitors the antibiotic usage on Canadian chicken farms.

Poultry farmers are the only commodity in Canada required to complete and send this information to CFIA veterinarians at processing plants.

3. Government has strict control measures on antibiotic approvals and use and monitors antibiotic use in chicken production

Health Canada, through the Veterinary Drugs Directorate, is responsible for the evaluation, approval and oversight of veterinary antibiotics. Health Canada determines what antibiotic products are available for use in livestock agriculture.

The CFIA is involved in monitoring for antimicrobial residues and for monitoring antimicrobial use and withdrawal periods by way of the CFIA veterinarians at federal processing plants. Federal regulations (CFIA Meat Hygiene Manual of Procedures, Chapter 19, section 3.4.2) require chicken farmers to report all antibiotics that have been used for each flock prior to the birds being processed. 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.

The Public Health Agency of Canada, through the Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) which has been active since 2002, performs surveillance at processing and retail outlets to assess antimicrobial resistance trends. The CIPARS reports are used by industry and government to guide public health policy.

4. Not all resistant bacteria found on chicken products are a result of antibiotics fed to chickens

To think that resistant bacteria found on chicken is a result of antimicrobial use at the farm is incorrect. What's interesting is that some recently quoted test results prove that the assumption above is impossible – these tests found resistance to antibiotics that are not used for poultry production in Canada, and some samples had resistance to more antibiotics than would be administered to a chicken flock.

The truth is that there are numerous other sources of antimicrobial resistant bacteria; they're endemic in the world. Also, bacteria have inherent, pre-existing resistances that have nothing to do with antibiotic use. For example, in a recently broadcast episode, a study found that Salmonella and E. Coli were resistant to erythromycin – the reality is that all Salmonella and E. Coli are inherently resistant to all macrolide antibiotics, a family of antibiotics which includes erythromycin. This resistance has nothing to do with drug use whatsoever. This example is also true for other antibiotics that were tested against E. Coli and Campylobacter.

In reality, there are very few antimicrobials that work against all bacteria, especially the Gram negative enteric bacteria like Salmonella and E. Coli. Therefore, all resistance data must be properly interpreted to be of any use.

5. The European Union's approach has not been a complete success

The EU has not banned the use of antibiotics. Through a succession of bans, the European Union implemented a precautionary principle and banned the majority of feed antibiotics used for livestock agriculture. Both the Canadian government and poultry industry have been watching the European Union very carefully.

While this approach has reduced the overall amount of medications being used, the effect has been to remove older drugs with little or no use in human medicine. The negative side to the EU story is that there has been a significant increase in the amount of antibiotics that are being used to treat sick animals, and the ones that are used are more closely associated to human medicine, specifically fluoroquinolones and macrolides. That's a risk. If we are truly concerned with public health, implementing a ban that would raise the use of more antibiotics of human importance to be used cannot be the desired outcome.

Not all resistant bacteria found on chicken products are a result of antibiotics fed to chickens

6. Not all bacteria is pathogenic to humans

Pathogenic bacteria for humans are bacteria which are capable of causing disease in humans. Not all bacteria are pathogenic. There are thousands of strains of Salmonella, while only some are pathogenic for humans.

Recently-promoted studies are flawed because they reported on total Salmonella, E. Coli and Campylobacter levels but failed to provide a further breakdown of how many bacteria were pathogenic for humans, versus those that would not cause disease in humans.



The Chicken Farmers of Canada 5-point Plan

Consumer trust is integral to the success of our industry. Anything but judicious use of antibiotics would be unacceptable. While the scientific community debates the importance of antibiotic use in livestock and its impact on human health, CFC has long understood the concerns of consumers. As a result, antimicrobial use and resistance has been a critical priority of CFC for several years and CFC has implemented a 5-point action plan to address these issues.

1. CFC has implemented an On-Farm Food Safety Assurance Program (OFFSAP) to standardize on-farm food safety production practices

In 1998, chicken farmers implemented an On-Farm Food Safety Assurance Program (OFFSAP) to standardize on-farm food safety production practices, whereby all farms undergo yearly audits. The OFFSAP includes requirements for the use of antibiotics as well as for mandatory recording and reporting of antimicrobial use. The flock sheet reporting form is sent to the processing plant 3-4 days ahead of the processing date, and again on the day of processing for review by the CFIA veterinarian. In this fashion, CFIA reviews and monitors the antibiotic usage on Canadian chicken farms. 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 administered at the appropriate dosage for the appropriate application. At the same time, CFIA ensures that the appropriate withdrawal times for the medications have been adhered to. Any flock failing this investigation is not allowed to be marketed.

2. CFC is working cooperatively with the Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) of the Public Health Agency of Canada to perform surveillance

The Government of Canada, through the CIPARS, has been performing antibiotic resistance surveillance at retail and at processing plants since 2002. This surveillance represents credible, 3rd party assessment of antimicrobial resistance, and it is these reports that should be assessed to determine any future policy recommendations.

In order to further pinpoint the source causes of antimicrobial resistance, CFC has been working in conjunction with CIPARS and has finalized a new protocol for an on-farm surveillance program that will monitor antibiotic usage and antibiotic resistance levels at the farm level.

The first step of this surveillance program is a pilot project funded by Chicken Farmers of Canada, in conjunction with OMAFRA (Ontario Ministry of Agriculture, Food and Rural Affairs) and the Public Health Agency of Canada, at the University of Guelph. This project, which is currently operational, is testing the protocols and examining antimicrobial resistance issues between conventional and antibiotic-free production.



3. CFC is actively involved in funding research examining antimicrobial resistance and alternatives to antibiotic use

CFC directs poultry funding through the Canadian Poultry Research Council (CPRC). In the last few years, the poultry industry has invested over \$1.4 million which has been matched to a level of over \$5.1 million. This represents nearly half of all research funding.

4. CFC has established a working group with industry stakeholders with the objective of examining ways to reduce antibiotic use

Created from an industry stakeholder meeting in September 2010, the industry committee is using industry and government expertise to research and provide options/recommendations for the reduction of antimicrobial use in chicken production. Industry, government and academia experts will be involved in this consultation to determine future antimicrobial use and resistance policies.

5. CFC educates consumers on safe handling and cooking of chicken

Everyone has a role to play. Government oversees industry practice through regulations and inspection; farmers make sure that the product is safe and healthy before it gets to the processing plant; processors work to ensure that it's delivered that way to its customers, whether foodservice or retail; consumers are the final link in the food safety chain. We've heard for years that chicken needs to be handled and cooked properly because of bacteria. These tried and true messages continue to resonate for this issue. Cooking kills bacteria – and therefore inactivates any antimicrobial resistance. Chicken needs to be cooked to an internal temperature of 74°C (165°F) for pieces and 85°C (185°F) for a whole chicken.