



Antibiotics & Chicken

A HEALTH PROFESSIONAL'S GUIDE

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Recently, media, researchers and consumers have focused attention on antibiotic use in chicken production, leaving health care professionals, as well as the general public, with questions.

Why Are Antibiotics Used?

Antibiotics may be used in chicken production for the treatment of illness and to maintain the health of the birds. If antibiotics are used, it is to reduce disease risk and potential food safety problems. Only healthy birds can enter the food chain for consumption. As well, no hormones are ever used in poultry production. Hormone use in the poultry industry has been illegal in Canada since the 1960's.



**Chicken Farmers
of Canada**
**Les Producteurs de
poulet du Canada**

DID YOU KNOW?

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.

How is Antibiotic Use Monitored?

The CFIA is involved in monitoring for antimicrobial use, residues and withdrawals. Federal regulations – within the CFIA's Manual of Procedures for Meat Hygiene (Chapter 19, section 3.4.2) – require chicken farmers to report 1) all antibiotics for treatment and 2) feed antibiotics used within the last 2 weeks for each flock prior to the birds being processed. CFIA veterinarians verify these reports at the plant to determine that, if antibiotics were used, they were used in accordance with the regulations. Any product failing this investigation would not be allowed on the market.

Consumers should be confident that chicken is free of antibiotic residues. CFIA testing has revealed no violations in residue levels in decades. More information about residue testing can be obtained at the CFIA website at www.inspection.gc.ca.

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. In order to further pinpoint the source causes of antimicrobial resistance, Chicken Farmers of Canada 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.



Where Do Antibiotic-Resistant Bacteria Come From?

It's true that some bacteria are resistant to antibiotics. Resistance can be a natural defence mechanism of the bacteria themselves. For example, salmonella and *E. coli* are inherently resistant to all macrolide antibiotics, a family of antibiotics which includes erythromycin. This resistance has nothing whatsoever to do with drug use in poultry production, or elsewhere, and has likely existed since before erythromycin was discovered.

Chicken is not the source of all antimicrobial resistance and it is not necessarily the result of antibiotics fed to chickens. Scientific studies have also found antimicrobial resistance in wild animals.

While agricultural use may play a role, humans are also major users of antimicrobials and our overuse may also be contributing to the development of antimicrobial resistance, or so called 'superbugs', that do not respond to medication.

DID YOU KNOW?

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.

The European Union Has Banned Antibiotic Use, Isn't This Better?

Firstly, the European Union has not banned antibiotics. Through a succession of bans, the European Union implemented a precautionary principle and banned the majority of feed antibiotics used for livestock agriculture. They have not banned the use of antibiotics in treating sick animals. Some people point to the European Union's ban of feed antibiotics in

agricultural livestock and indicated that Canada should do the same.

While this approach has reduced the overall amount of medication used, the amount of antibiotics needed to treat sick animals has significantly increased – and the drugs being used are more closely associated with those used for human medicine. That is a risk.

WILL ANTIBIOTIC USE IN CHICKEN FARMING CHANGE IN THE FUTURE?

The decision to use antibiotics in chicken farming is not taken lightly and is constantly being assessed. Currently millions of dollars are being spent to fund research examining antimicrobial resistance and alternatives to antibiotics, through the Canadian Poultry Research Council. 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.

If consumers are concerned about the use of antibiotics in animal agriculture, they have choices available to them to address those needs.

DID YOU KNOW?

The chicken industry wants to know more and is currently investing millions of dollars to fund research examining antimicrobial resistance and alternatives to antibiotic use. Industry and academic experts are part of a working group of stakeholders whose primary objective is looking at ways to reduce antibiotic use in the chicken industry. Created from a 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.

What Can Consumers Do?

Handle carefully to eliminate risk

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.

One thing is certain. Chicken does need to be handled and cooked to the recommended internal cooking temperature due to the presence of bacteria – antibiotic-resistant or not – and this has always been the case.

Know your options

Canadian chicken farmers are committed to addressing the concerns of consumers and offer many choices for the type of chicken they buy. If consumers are concerned about the use of antibiotics in animal agriculture, they have choices available to them to address those needs. Consumers can choose a product that is certified organic within the Canada Organic Regime. Also they could purchase chicken labelled “raised without antibiotics”.



What Should Consumers Know About Safely Handling Raw and Cooked Chicken at Home?

Consumers are a vital link in the food chain.

Follow these tips for safely handling raw and cooked chicken in the home.

- Wash hands thoroughly and often with soap and warm water for 20 seconds.
- Prevent cross-contamination, keep raw chicken and its juice away from ready-to-eat-foods.
- Keep foods separate. Don't use the same cutting boards or knives for raw chicken and already cooked food or food such as salad meant to be eaten raw.
- When buying chicken it should feel cold to the touch. If necessary, put it in a disposable plastic bag to contain leakage and prevent contamination of other groceries such as fresh produce. Select it just before checking out and head home immediately.
- Put just-purchased chicken in the fridge with a temperature of 4°C (40°F) or lower (and use it within a day or two or freeze it).
- If freezing longer than two months, wrap the package in airtight heavy-duty foil, plastic wrap or freezer paper. Proper wrapping prevents 'freezer burn', the grayish brown leathery spots which are caused by air reaching the food's surface.
- Do not cook frozen chicken in the microwave or slow cooker. However, frozen chicken can be cooked in the oven or on the stove although cooking time may be about 50% longer.

What Should Consumers Know About Safely Handling Raw and Cooked Chicken at Home?
– Continued

- Stuffed fresh whole chickens are highly perishable and chicken should only be stuffed immediately before cooking. If purchasing frozen, stuffed whole chicken, follow the directions on the label carefully as they must be cooked from the frozen state to ensure food safety.
- Chicken may be marinated in the refrigerator up to two days. Boil the used marinade before brushing on cooked chicken and discard any uncooked leftover marinade.
- Safely defrost frozen chicken – on the bottom shelf of the refrigerator, in cold water that is changed every 20 minutes, or in the microwave. Chicken that is defrosted in the microwave must be cooked right away.
- Stuff chicken just before cooking, stuffing loosely – no more than two-thirds full. Stuffing can also be safely cooked in a separate casserole dish.
- Cook chicken to the recommended internal cooking temperature (see chart below). Cooking kills bacteria and therefore inactivates any antimicrobial resistance
- Check that the desired recommended internal cooking temperature is reached by using a digital instant-read thermometer.
- Leftover roast chicken should be removed from the bone and stored promptly in a shallow container in the refrigerator at 4°C (40°F) or lower.
- Leftover stuffing should be stored in a separate shallow covered container in the refrigerator.
- Fully cooked rotisserie or fast food chicken should be hot at the time of purchase. Use it within two hours or cut it into pieces and refrigerate in shallow, covered containers. Eat within three to four days. It is safe to freeze ready-prepared chicken, but for best quality, flavour and texture use within four months.
- Refrigerate any leftovers within 2 hours in a fridge at 4°C (40°F) or lower.



Recommended internal cooking temperatures for chicken

Whole chicken, unstuffed should be cooked to the recommended internal cooking temperature of 85°C (185°F).

Stuffing, cooked alone or in chicken 74°C (165°F).

Chicken pieces should be cooked to the recommended internal cooking temperature of 74°C (165°F).

Ground chicken should be cooked to the recommended internal cooking temperature of 74°C (165°F).

For More Information Visit:

Canadian Partnership
for Consumer Food
Safety Education
www.canfightbac.org

Canadian Food
Inspection Agency
www.inspection.gc.ca

Chicken Farmers of Canada
www.chicken.ca