STRATEGY

THE IMPORTANCE OF BROODING

CROP

CHICK WEIGHT

WATERLINE

FLOCK MONITORING

A PRESCRIPTION



WELCOME

The second edition of the antimicrobial use (AMU) magazine, *AMU Strategy: A Prescription for Change* is here!

This second edition of the magazine is being distributed electronically by Chicken Farmers of Canada and your provincial board in the fall of 2018.

As the industry prepares to eliminate the preventative use of category II antimicrobials by the end of 2018, this second edition sets out to support producers by focusing on management practices at the farm, specifically brooding.

Features of this edition include a shorter, electronic-only format with a focus on video content. Key brooding management practices will be discussed by industry professionals and veterinarians.

ANNU STRATEGY





If you missed the first edition, **click here** to check it out!



Chicken Farmers of Canada Les Producteurs de poulet du Canada www.chicken.ca www.chickenfarmers.ca









ACCESS TO ANTIMICROBIALS IS CHANGING -GET READY!

Health Canada is moving all Category II and III antimicrobials to the Prescription Drug List – this means that as of December 1, 2018 producers will need a veterinary prescription to access medically important antimicrobials, and the locations to obtain/purchase those antimicrobials will be changing.

This change will require producers to have a veterinary prescription prior to purchasing antimicrobials. In addition, antimicrobials that were previously available over the counter will only be sold by licensed veterinarians or pharmacists pursuant to a veterinary prescription. These changes will also impact producers that mix feed on-farm.

PLAN AHEAD!

IT IS IMPORTANT THAT PRODUCERS TAKE THE APPROPRIATE STEPS NOW TO FACILITATE THE IMPLEMENTATION OF THIS UPCOMING CHANGE. DISCUSS THIS CHANGE WITH YOUR VETERINARIAN AND SUPPLIER TO BE PREPARED FOR THE DECEMBER 1, 2018 IMPLEMENTATION DATE. FOR MORE INFORMATION VISIT THE HEALTH CANADA **WEB PAGE**, OR THE ANIMAL NUTRITION ASSOCIATION OF CANADA'S **INFORMATION BROCHURE**.

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ON THE COVER

Baby Chick Credit:Liliboas Stock photo ID:172714660

LETTER FROM BENOÎT

Dear fellow chicken farmers,

I'm happy to introduce the second edition of the CFC *AMU Magazine: A Prescription for Change.* This edition of the AMU Magazine focusses on management practices at the farm – specifically brooding.

If you missed the first edition, **click here** to check it out!



We are all aware that antimicrobial resistance and use (AMR and AMU) has been top of mind for farmers, consumers and governments over the last several years. The public health concern, coupled with marketing opportunities, has seen the growth of product options being provided by processors, restaurants and retailers.

Chicken Farmers of Canada's (CFC) antimicrobial use strategy has been designed to answer these concerns. The goal of the strategy has been to provide confidence to consumers and governments about responsible antimicrobial use within the chicken sector and to preserve effective treatment options.

To be clear, CFC's AMU strategy:

- » Maintains the use of antimicrobials to treat illnesses
- Maintains the use of ionophores (Category IV antimicrobials those not used in human medicine)
- » Focusses on eliminating the preventive use of antimicrobials of importance to humans

This strategy provides a sustainable means of meeting consumer expectations, while protecting the health and welfare of birds.

To implement this strategy, CFC and its members have been actively working with supply chain partners. As the December 2018 deadline approaches for the elimination of the preventive use of Category II antimicrobials, all farmers are reminded to work closely with their hatcheries, veterinarians, feed mills, and suppliers to review management practices.

Moving forward, CFC has established a goal of eliminating the preventive use of Category III antimicrobials by the end of 2020. As set out in the AMU reduction plan, CFC will be conducting a re-assessment of this goal in 2019.

CFC looks forward to continued collaboration amongst all members of the supply chain as this strategy is implemented.

Sincerely,

Benoît Fontaine Chair, Chicken Farmers of Canada



Benoît Fontaine Chair, CFC

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THIS STRATEGY PROVIDES A SUSTAINABLE MEANS OF MEETING CONSUMER EXPECTATIONS, WHILE PROTECTING THE HEALTH AND WELFARE OF BIRDS.

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CANADIAN Chicken industry REDUCES antimicrobial use

REDUCTION TIMELINES

Step 1

Elimination of the preventive use of Category I antibiotics in May 2014

Step 2

Elimination of the preventive use of Category II antibiotics by the end of 2018

Step 3

Goal to eliminate the preventive use of Category III antibiotics by the end of 2020

ollowing the successful elimination of Category I antibiotics for disease prevention in Canadian chicken production in May 2014, Chicken Farmers of Canada (CFC) has established timelines to further its strategy to eliminate the preventive use of antimicrobials of human importance.

CFC's comprehensive antimicrobial use (AMU) strategy eliminates the preventive use of Category II antimicrobials by the end of 2018, and sets the goal to eliminate the preventive use of Category III antibiotics by the end of 2020, with a re-assessment of the Category III elimination occurring in 2019.

The objectives and approach of CFC's strategy works in collaboration with the

Canadian government's Pan-Canadian Framework on Antimicrobial Resistance and Antimicrobial Use.

CFC's policy will maintain the use of ionophores (those antimicrobials not used in human medicine) along with the use of antibiotics for therapeutic purposes to treat disease.

The key guiding elements of the reduction strategy include surveillance, stewardship, and research. CFC will continue collaborating on industry and government surveillance programs to monitor antibiotic use and the impacts of the reduction strategy, while CFC will invest in research to provide innovative solutions. Stewardship of antibiotic use will be promoted by reviewing best management practices, by increasing the availability of feed additives, and by focusing on quality throughout the stakeholder chain.

This strategy provides a sustainable means of meeting consumer expectations, protecting the health and welfare of birds, and preserving effective treatment options.

As always, consumers can be assured that Canadian chicken is free of antibiotic residues. Canada has strict regulations with respect to antibiotic use and withdrawal times to ensure that chicken reaching the marketplace does not contain residues, which is monitored by the Canadian Food Inspection Agency.

www.chickenfarmers.ca www.chicken.ca

Chicken Farmers of Canada

On-farm Food Safety Program

Program update

Note: This is a supplement to Section 6.2 "Use of Medications During the Grow-Out Period". Please add this information to Chapter 6 in the food safety binder.

CFC Antimicrobial Use Strategy

CFC's antimicrobial use strategy focuses on the preventive use of antibiotics of importance to human medicine (i.e. those antibiotics categorized as I, II and III). CFC's strategy provides a sustainable means of meeting consumer expectations, while protecting animal health.

CFC's strategy is not a RWA (Raised without the Use of Antibiotics) strategy. Key elements of the strategy include:

- To maintain the use of ionophores (Category IV) and coccidiostats for prevention
- » To maintain the use of antibiotics for treatment

CFC's strategy is a phased-in approach that involves eliminating the preventive use of Category II antibiotics by the end of 2018 and to work towards the goal of eliminating the preventive use of Category III antibiotics by the end of 2020. The goal of eliminating the preventive use of Category III antibiotics will be contingent on a re-assessment in 2019 to determine the readiness of the industry to proceed.

For more information on the CFC strategy, please visit the **ChickenFarmers** website for the AMU Strategy Magazine: A Prescription for Change.

New Requirement

As of January 1, 2019, Category II antibiotics are not permitted to be used in a preventive manner. This includes antimicrobial use at the hatchery, in feed and via water.

This new requirement will be incorporated into the audit checklist beginning in 2019. Starting in 2019, hatcheries will be indicating on the delivery document that the chicks have not been treated with Category II antibiotics in a preventive manner.

The definitions of preventive and therapeutic are as follows:

Preventative Use (prophylaxis) – The use of an antimicrobial to prevent the occurrence of an infectious disease in healthy flocks.

Therapeutic Use – The use of an antimicrobial to treat a clinical or subclinical infectious disease in birds, including the mass medication of flocks in which a subset of the population is identified with a clinical or subclinical infectious disease (metaphylaxis).

The Categorization of Antibiotics

Antibiotics are ranked (Categories I-IV) by Health Canada based on their importance to human medicine.

Chemical coccidiostats, which are not defined as antibiotics, are not impacted by this new requirement. These products include: Nicarb, Robenz, Amprol, Zoamix, Coyden, Stenerol, Clinicox and Deccox.

The following table provides the classification of antibiotics:



CATEGORY	DRUG FAMILY	BRAND NAME	
I - Very High Importance (Essential for serious human infections with limited or no alternatives available)			
	Ceftiofur	Excenel (extra-label)	
	Enrofloxacin	Baytril (extra-label)	
II - High Importance (Essential for treating serious human infections and few alternatives available)			
	Virginiamycin	Stafac, Virginiamycin	
	Penicillins	Paracillin SP, Pot-Pen, Penicillin G Potassium, Pen-P, Penicillin G Procaine, Vibiomed Booster, Medivit, Super Booster	
	Tylosin	Tylan	
	Gentamcyin	Gentocin	
	Lincosamides	Lincomix, Lincomycin, Linco-Spectin, L-S soluble powder	
	Trimethoprim-Sulfadiazole	Uniprim (extra-label)	
III - Medium Importance (Important for treating human infections and alternatives are generally available)			
	Bacitracin	BMD, Albac, Zinc Bacitracin	
	Sulphonamides	Sulfa, Sodium Sulfamethazine, Sulphaquinoxaline, Quinnoxine S	
	Apramycin	Apralan (extra-label)	
	Spectinomycin	Spectam (extra-label)	
	Tetracyclines	Aureomycin, Oxy, Oxysol, Oxytetracycline, Terramycin, Onycin, Neo-Tetramed, Tetra, Tetrazcycline	
	Neomycin (Sulfate, Oxytetracycline, Tetracycline)	Neomix, Neomycin, Neomed, Neo Oxymed, Neotet, Neox, Neo-Chlor, Neo-Tetramed	
IV - Low Importance (Not used in human medicine)			
	Bambermycin	Flavomycin	
	lonophores	Rumensin, Monensin, Coban, Monteban, Maxiban, Aviax, Salinomycin Premix, Sacox, Bio-Cox, Coxistac, Posistac, Cygro, Bovatec, Avatec	
Uncategorized			
	Avilamycin	Surmax	

Preventive Use

Only the preventive use of antibiotics are impacted by this new requirement. While not an exhaustive list, the most commonly used products in a preventive manner are the following:

	DRUG FAMILY	BRAND NAME	
Antibiotic Use at the Hatchery			
Category II	Lincomycin+Spectinomycin	Linco-Spectin	
	Gentamcyin	Gentocin	
Antibiotic Use in the Feed			
Category II	Virginiamycin	Stafac, Virginiamycin	
	Lincomycin HCL	Lincomix	
	Tylosin	Tylan	
	Penicillin G Procaine	Pen-P, Penicillin G Procaine	
Category III	Bacitracin	BMD, Albac, Zinc Bacitracin	
Antibiotic Use in the Water			
Category II	Penicillin+Spectinomycin	Vibiomed Booster, Medivit, Super Booster	

THE IMPORTANCE OF FOCUSSING ON BROODING

Minimizing mortality and maximizing chick weight at seven days

The brooding period is a crucial opportunity to set a flock up for success. A strong brooding program can minimize mortality at seven days while maximizing chick weight.

The goal is to create an optimal environment to promote animal well-being, encourage water and feed consumption, and to reduce disease pressure in the barn. Setting birds up well in the first week can have a significant impact on the health and growth of the flock through to the end of the grow-out.

The positive impact of a robust brooding program can result in stronger and healthier chicks – meaning a better ability to fight illness/disease and less need for antimicrobials.

The key brooding management practices revolve around feed, water, temperature, bedding, air quality, and lighting. There is no one-size-fits-all brooding program. Each barn and each flock is unique. That's why it's important to be observant and to make changes as necessary.

Being attentive to each flock by checking chick weights and crop fill will allow for changes based on the how the flock is adjusting to the barn environment.

For an overview of different brooding elements, click on the video below to hear about the Éleveurs de Volailles du Québec's *Chick Champs* brooding program from Dr. Martine Boulianne, a veterinarian, professor and Chair of Poultry Research at the University of Montreal.



Dr. Martine Boulianne, professor and Chair of Poultry Research at the University of Montreal, outlines the brooding techniques of the *Chick Champs* program.

Brooding Best Management Practices

The next series of short video clips focus on specific elements of brooding best management practices. These videos offer further insight into brooding techniques with different tips and tricks.

The series includes different videos on the following elements:

- » Feed
- » Lighting
- » Water
- » Chick Arrival and Brooding
- » Chick Temperature
- » Chick Weight
- » Crop Fill

As stated above, every flock and every barn is different. The information in these videos is meant to provide guidance on their importance in the brooding process. For further guidance on any of these issues, contact your veterinarian or service provider. **ANU**

THE INPORTANCE OF FOCUSSING ON BROODING



FEED MANAGEMENT

Feed management is important to ensure chicks have access to feed and that the environment is conducive to the chicks eating and achieving crop fill.

A recommendation is to ensure that there is good dispersion of feed within the brooding area, with 50-70% of the area covered with paper, and 40-50 g feed/chick available at time of placement. For more information on the importance of crop fill, check out the video on page 24. **AMU**



Dr. Scott Gillingham, Canadian Regional Business Consultant with Aviagen North America, discusses the importance of feed in the brooding process.



A PRESCRIPTION for change



When starting chicks in the barn, bright light and good intensity are keys to success.

During the first three days of the chicks' life, at least 20 lux is recommended. Additionally, one hour of continuous darkness must be provided to the chicks by at least 24 hours from placement in each 24-hour period. From day five of placement a dark period of at least four continuous hours in each 24-hour period is required. Dark periods must be no more than 20% of the intensity of the light period.

Darkness benefits birds by allowing them to sleep and develop 24-hour day/night rhythms which is important in immune function, growth rate, digestion, lameness, and general health.

Using a light meter can be helpful to monitor and adjust lighting as necessary. **AMU**



Dr. Scott Gillingham discusses the importance of lighting in the brooding process.

LIGHTING

WATER MANAGEMENT

Water management is important to ensure chicks have access to fresh and potable water.

A few hours before the arrival of the chicks, the water lines should be flushed to remove any air pockets and to ensure a fresh supply.

A good technique is to activate the water nipples with a clean broom to make sure they are working, and that the water droplets will be attracting the chicks' attention. A recommendation on water consumption for chicks is 1 mL per bird per hour for the first 24 hours.

For more information on water line maintenance, check out the video on page 30 on water line cleaning and disinfection. **AMU**







CHICK ARRIVAL AND MONITORING

The ultimate goal during unloading is to get the chicks placed on the floor and into the brooding chamber as quickly and calmly as possible.

One way to assess if chicks are settling into the barn environment well is to observe their behaviour two hours after chicks have been placed in the barn. Ideally, at that point in the brooding process, 25% should be eating, 25% should be drinking, 25% resting, and 25% playing. Checking the chicks on a frequent basis to adjust barn equipment as necessary will help to ensure chicks are comfortable and finding the food and water they need – which will help to attain the desired crop fill goal. **AMU**



Dr. Scott Gillingham discusses the importance of chick monitoring in the brooding process.





CHICK TEMPERATURE

Chick temperatures should be assessed after delivery. The preferred temperature range is 103–105 °F (39.5–40.5 °C). An ear thermometer at the vent can be used to take a chick's temperature.

At the same time, the general health of the chicks can be assessed – beak, eyes, legs, navel healing, and good colour. As chicks will not be able to thermoregulate until approximately day four, assessing bird temperature and managing the barn temperature is crucial to the brooding process. Chick temperatures should be monitored throughout the first three or four days. **AMU**



Dr. Scott Gillingham discusses the importance of chick temperature in the brooding process.

CHICK TEMPERATURE



During the brooding process, weighing birds helps to assess the success of the transition from the hatchery to the barn and can be a predictor for overall flock growth. Assessing chick weights helps to assess the average weight (and weight gain) and flock uniformity.

eighing chicks on the day of placement will allow farmers to assess flock uniformity, while weighing chicks at day seven and 14 will allow for an assessment of weight gain and opportunities for management considerations. Day seven weights should be anywhere from four to five times higher than the weight at day of placement. There is a strong correlation between body weights at seven days and the body weights at processing, further re-enforcing the importance of the brooding period on flock performance.

This data can be used by farmers to assess if there are opportunities for improvements, and can be used to discuss with value-chain stakeholders about chick quality. **AMU**



Dr. Scott Gillingham discusses the importance of chick weight during the brooding process.



CROP FILL

Crop fill is an important tool for farmers to assess the success of the transition to the barn and helps to indicate if the birds have found their comfort zone and are finding feed and water.

Crop fill can be assessed within the first day and after 24 hours. Chicks eat approximately every two to three hours, so the level of crop fill across the flock will increase over the first 24 hours. Within 24 hours, between 90-100% of the birds should have full crops.

Birds should also be assessed in different regions of the barn to gauge flock uniformity.

Not only is crop fill important, but the texture of

the crop is also very relevant. When the crop is full of feed and water, it should feel soft and pliable – almost like porridge.

If the flock crop fill is low, or if the texture is more like bedding, then this can be an indication that the flock is sick or not in their comfort zone.

For more information on crop fill, check out the Chick Champs brooding program video from Dr. Martine Boulianne on page 10. **AMU**



Dr. Scott Gillingham discusses the importance of crop fill during the brooding process.



FLOCK MONITORING AND CULLING

Despite the quality procedures and diligence at the hatcheries and in early brooding in the barn, there will always be a small proportion of chicks that are unable to thrive.

These chicks can act as reservoirs of bacterial and viral infections. One of the most effective tools available to the farmer is the early culling of unthrifty, ill or injured chicks. The greatest positive impact is achieved when culling is performed immediately after those chicks are identified.

In many cases, an effective culling program can improve animal welfare, food safety, and minimize or replace the need for antibiotic therapy. It may be necessary to euthanize chicks for a variety of reasons, all of which impact the health, welfare, and productivity of a flock.

The following is a guide to identify compromised chicks in the first 10 days of life.

For more information on euthanasia techniques, visit the *Practical Guidelines for On-Farm Euthanasia of Poultry.* **AMU**



Starve Outs / Unthrifty Chicks



For 2-3 days after hatch, chicks can meet all their nutritional needs by absorbing the nutrients from their yolk. To grow, thrive and successfully compete, chicks must transition to feed and water supplied in the barn within this 2-3 day period. Failure to transition will result in a weak chicken which is not likely to recover. These chicks should be euthanized.

As chicks internalize the yolk from the egg, the navel is left as the last point where the body wall seals off. If the yolk is contaminated before internalization, or if bacteria enter the chick through the navel before it closes, the yolk acts as a nutrient source for bacteria, resulting in an overwhelming infection. Antibiotic treatment often keeps chicks alive but fails to resolve the original infection. Loss will occur when treatment is removed. Euthanasia will reduce suffering and limit the amount of bacteria shed into the environment.

Yolk Sac / Navel Infection (Mushy Chicks)



Injury

Chicks may be injured through the hatching, sorting, transportation and brooding processes. Injuries can result in wounds and lameness, which are painful to the chick. Due to resulting infections and the inability to compete for feed and water, injured

chicks should be euthanized immediately.

Disease



Diseased chicks/poults are more susceptible to other disease challenges which will have detrimental effects later in the flock. Euthanizing these chicks early will reduce the possible spread of disease to healthy birds.

Deformed, Abnormal Chicks



Chicks that are improperly formed, abnormal or unable to perform normal activities such as walking, feeding and drinking should be euthanized. These chicks will not compete well, will become small and weak and their welfare will suffer if they are not culled.



Chicken

Farmers

of Ontario

If you are

concerned, contact your veterinarian.









TESTING THE MEDICATOR

Testing the medicator in the barn is an important step to make sure that the medicator is dosing at the correct level, and that medication is administered to the flock over the correct amount of time.

In fact, Chicken Farmers of Canada's *Raised by a Canadian Farmer* On-Farm Food Safety Program requires that water medicators be tested before each new medication is administered. The results of the test and any deviations and subsequent repairs are to be recorded on the Flock-Specific Record Form, or equivalent record form.

Prior to calibrating your medicator, check the manufacturer's instructions for their calibration process. The following calibration method is an example of how to perform these tests. Other methods, including manufacturers' recommendations, can also be used to test accuracy.

- Disconnect the outflow side of the medicator from the water line (usually connected by a union or a "quick connect" coupler)
- 2) Use a measuring cup that measures mL and fill with a known quantity of water
- 3) Place the end of the medicator intake tube into the measuring cup, place a pail under the outflow of the medicator, and turn on the water supply through the medicator
- If the correct amounts are disappearing out of the measuring cup, then the water medicator is working properly. If not, your medicator needs servicing AMU



Dr. Martine Boulianne, professor and Chair of Poultry Research at the University of Montreal, demonstrates how to test a water medicator



WATER LINE CLEANING & DISINFECTING

A proper cleaning and disinfecting program for water lines is imperative to remove biofilms – either invisible or built-up grunge inside the lines.

hese programs are necessary as biofilms create ideal conditions for the growth of harmful bacteria.

A basic water line cleaning program consists of these three steps:

- Acidify the water to a pH of four (let stand for 8-24 hours). This helps to dissolve the mineral complexes in the biofilm and the water line
- Add a product such as hydrogen peroxide in a final concentration of 0.8%– 3% (let stand for 12–72 hours). This step disrupts the organic component of the biofilm
- Add a disinfectant (let stand for 30 minutes to 48 hours based on product specifications). This step is to kill any remaining bacteria, which have been exposed to, but not killed by, the peroxide

During each step, walk the line and trigger the nipples with a clean broom to ensure that the whole system is exposed to the treatment.

A high-pressure flush of five minutes (or one minute per 100 feet of line) is necessary between each of these steps.

Always follow the manufacturer instructions when using water products in your water system. **AMU**





Raised by a Canadian Farmer



Chicken farmers are proud to raise the Canadian chicken you trust!

Canadians want fresh, high-quality Canadian chicken and our farmers are proud to raise it to some of the highest standards for food safety, animal care, and sustainability.

That's what Raised by a Canadian Farmer means.

www.chickenfarmers.ca www.chicken.ca



What do these logos mean?



Raised by a Canadian Farmer brand:

In response to growing demand to know where our food comes from, Chicken Farmers of Canada has introduced its *Raised by a Canadian Farmer* brand. The *Raised by a Canadian Farmer* logo will tell Canadians, right on the packaging, that their chicken is raised in Canada, by farmers dedicated to producing unmatched quality chicken, that meets the highest standards. These standards are upheld through CFC's On-Farm Food Safety Program and Animal Care Program, which are key elements of CFC's Sustainability Initiative.

Raised by a Canadian Farmer On-Farm Food Safety Program:

The *Raised by a Canadian Farmer* On-Farm Food Safety Program logo represents the mandatory and audited national On-Farm Food Safety standards adhered to by farmers. This program has received federal, provincial and territorial government recognition and full recognition by the Canadian Food Inspection Agency.



Raised by a Canadian Farmer Animal Care Program:

The *Raised by a Canadian Farmer* Animal Care Program logo represents the mandatory and audited national Animal Care Program that ensures that high animal care standards are being upheld on Canadian chicken farms across Canada. To verify this, the Animal Care Program is third-party audited by NSF International, an internationally-recognized, third-party certification body, accredited by the American National Standards Institute, to ISO 17065.



Raised by a Canadian Farmer Sustainability Commitment:

The *Raised by a Canadian Farmer* Sustainability commitment was launched in 2016 to effectively communicate all of the sustainability programs and activities that farmers are involved in. The logo represents the commitment of farmers to sustainability through innovation, by preserving the health of the land, providing value to Canada's economy, and making affordable food for Canadians.

CFC's Key Values of Sustainability are:

1. Protecting bird health and welfare through CFC's:

- Mandatory Animal Care Program
- Comprehensive Antimicrobial Use Strategy
- 2. Producing safe chicken for Canadians through CFC's:
 - Mandatory On-Farm Food Safety Assurance Program
 - Effective and responsive traceability system

3. Preserving the health of the land and of our farms by:

- Adopting on farm practices that reduce environmental impact
- Keeping greenhouse gas emissions low
- Conducting a Life Cycle Assessment of the Canadian chicken industry

- 4. Providing value to Canada and affordable food to Canadians through supply management which:
 - Allows farmers to invest with confidence in their operations
 - Allows industry to contribute positively to the Canadian economy and give back to local communities
 - Assures a steady supply of fresh, high-quality chicken at a reasonable price for consumers.

More information and the full Sustainability Excellence report can be viewed at: www.chickenfarmers.ca/what-we-do/sustainability/

