

# BC Broiler Hatching Egg Commission Newsletter

May 15, 2015



Congratulations to the  
**2014 Producer of the Year**  
**Jack and Tracy Bosma** of  
Bosma Chicken Farm Ltd.

## BCBHEC WEBSITE UPDATE:

The 'Producers Only' section has been completed. If you have not received your login info please contact Veronica.  
The Classified section is also now available for listing your ads.  
If you are selling roosters, please ensure they have been vet tested and are free of any infections.



The Emergency Response Team members received a special award from Stephanie Nelson at the recent BC Hatching Eggs Banquet. *Left to right:* Al Mulder, Allan Cross, Bryan Brandsma, Calvin Breukelman, Joe Neels and Garnet Etsell.

**PLEASE READ  
THE  
ATTACHED  
NOTICE FROM  
CHEP.**



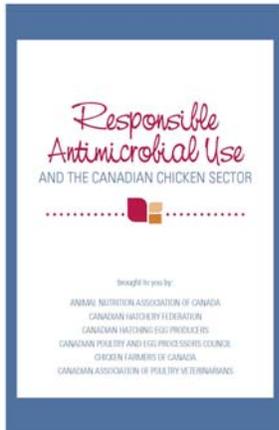
### Pricing Orders - Corrected

Period	Live Chicken	Hatching Eggs	Saleable Chicks	Day-Old Broiler Chicks
A-126	165.80¢/kg	508.99¢/doz	53.02¢/chick	71.94¢/chick
A-127	168.40¢/kg	518.43¢/doz	54.00¢/chick	72.92¢/chick
A-128	163.60¢/kg	507.49¢/doz	52.86¢/chick	71.78¢/chick
A-129	162.45¢/kg	505.76¢/doz	52.68¢/chick	71.60¢/chick
A-130	164.54¢/kg	507.45¢/doz	52.86¢/chick	71.87¢/chick

### Production Cycles

Period	Start Date	End Date
A-128	Dec.28, 2014	Feb.21, 2015
A-129	Feb.22, 2015	Apr.18, 2015
A-130	Apr.19, 2015	Jun.13, 2015
A-131	Jun.14, 2015	Aug.8, 2015
A-132	Aug.9, 2015	Oct.3, 2015
A-133	Oct.4, 2015	Nov.28, 2015
A-134	Nov.29, 2015	Jan.23, 2016

## Responsible use of antibiotics



CHEP, along with the rest of the Canadian poultry industry, is part of an industry-wide approach to demonstrate responsible antibiotic use in the poultry sector. Responsible use of antibiotics, in consultation with your veterinarian, is an important part of good poultry health, and maintaining treatment options when they are required.

As part of this approach, the Canadian poultry and egg sectors have collaborated to develop a policy regarding the preventive use of Category I antibiotics (such as Excenel® or Baytril®) in Canadian poultry and egg production:

- ✓ Preventive use of Category 1 antibiotics will no longer be allowed on the farm for commercial meat birds (chicken and turkey), layers and breeders as of May 15, 2014.
- ✓ Preventive use of Category 1 antibiotics will no longer be allowed in the hatchery for commercial meat birds (chicken and turkey) and layers as of May 15, 2014.
- **Preventive use of Category 1 antibiotics will no longer be allowed for use in parent breeder chicks or poults as of May 15, 2015.**

The antibiotic use policy does not impact therapeutic use for disease treatment when prescribed by a veterinarian. All medication use must be recorded under the Canadian Hatching Egg Quality (CHEQ™) program.

For more information, please contact CHEP, or your provincial board or commission.

**Are you ready?**

**Follow CHEQ™ program requirements. Review CHEP's Principles of Responsible Use of Antibiotics in the Broiler Breeder Industry (page 3).**

### Brooding

- Before chicks arrive, make sure the barn is clean and in good repair. Maintain strict biosecurity.
- Preheat the barn, and provide plenty of feed, water, light, ventilation and litter.
- Monitor chicks often for behaviour and crop fill, and record your observations.

Read more...

[Aviagen  
Pocket Guide  
The First 24 Hours](#)

[Cobb  
Brooding Fundamentals](#)

## Biosecurity

- Ensure your on-farm biosecurity program is current and implemented.
- Change footwear at the entrance to restricted area.
- A documented pest control program must be in operation that includes:
  - o barn maintenance, including building and screen repairs, to prevent rodents, wild birds and insects from entering;
  - o regular checks for signs of rodents, wild birds and insects;
  - o pest control measures;
  - o appropriate corrective actions if signs of pest activity increase.
- Handle birds and mortalities separate from egg collection. Wash and sanitize hands prior to and after handling eggs to reduce the risk of cross contamination.
- Make sure your standard operating procedures (SOPs) for pest control and cleaning and disinfection are effective and up-to-date.



## Litter Management

- Effective litter management can contribute to increased egg quality. To determine if the moisture content of the litter is acceptable, squeeze some of the litter in your hand. It should be loosely compacted. If the litter is too wet, it will be tightly compacted and may result in an increased number of contaminated eggs. If the litter is too dry, it will not compact.

*Biosecurity, sanitation and litter management are important considerations for maintaining bird health and good egg quality.*

## Cleaning and disinfection

- Pullet and egg barns must be thoroughly cleaned, washed, and disinfected after each production cycle.
- Clean and disinfect egg storage rooms following egg pickup or once per week at minimum.
- Egg collection tables must be cleaned daily and disinfected weekly, with a product that is approved for food contact surfaces. Any feed spills outside the bird production area must be cleaned up.
- A documented cleaning and disinfection program that is reviewed annually must be followed.

## Egg handling

- Review your protocols for egg collection, sorting, handling, packaging and storage. Read more on pages 5 to 6.



## Principles of Responsible Use of Antibiotics in the Broiler Breeder Industry

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 antibiotics in both human medicine and agriculture, and subsequent effects on antimicrobial resistance has received significant attention over the past several decades.

Canadian Hatching Egg Producers (CHEP) is committed to contributing to chicken supply chain antibiotic use initiatives to preserve effective treatment options.

# CHEQ<sup>TM</sup>

### *On-Farm Food Safety Program*

CHEQ<sup>TM</sup> is CHEP's on-farm food safety program for broiler hatching egg producers.

CHEQ<sup>TM</sup> is a national, audited 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*.

Responsible use of medications is a CHEQ<sup>TM</sup> Critical Control Point (CCP). The purchase, storage, use, handling and recording of medications and vaccines is covered in the CHEQ<sup>TM</sup> Good Production Practices (GPPs).

## Principles of responsible antibiotic use

1. Antibiotics are generally used infrequently in broiler breeders, and are imperative to maintain breeder health and welfare. Only antibiotics approved for use by the Veterinary Drugs Directorate of Health Canada can be used to treat broiler hatching egg flocks. All antibiotic use must follow either the directions as contained on the product label/monograph, or the directions of a veterinary prescription.

*All antibiotic 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 antibiotic prescriptions are to be obtained within the confines of a valid Veterinary–Client–Patient Relationship (VCPR).
4. The categorization of antibiotics 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 antibiotics shall not be used in a preventive manner, and will be used therapeutically only if no other effective alternatives are available. In these situations a veterinary prescription is required with a valid CgFARAD reference number. The application, duration and dose shall be carried out according to label requirements or veterinary prescription. The prescription will identify the flock and the treatment will be prescribed for a limited period of time.
6. Producers 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.
8. Broiler hatching egg producers shall comply with the requirements for antibiotic use outlined in the Canadian Hatching Egg Quality (CHEQ<sup>TM</sup>) Program, including requirements for documentation that is audited annually.
9. Broiler hatching egg producers shall implement food safety, biosecurity and poultry health management practices outlined in CHEQ<sup>TM</sup> as well as in other applicable programs (e.g. provincial biosecurity requirements) that may prevent and reduce the incidence of disease and the need for antibiotics.
10. All sectors in the chicken supply chain shall be subject to the general principles of responsible use of antibiotics to ensure the best possible chance of success for industry antibiotic use initiatives.

# Factsheet - Hatching Egg Hygiene and Quality

## Why are egg hygiene and quality important?

Eggs can be contaminated by pathogenic bacteria such as *Salmonella* spp. and *Escherichia coli*. These bacteria can be found either in the flock or in the environment.

Contaminated hatching eggs carry bacteria into the incubator in the hatchery and these bacteria may infect other chicks at hatching or later in the broiler barns. These broiler chicks may require treatment to prevent morbidity and mortality.

**The Canadian poultry industry is working to reduce the need for antibiotics in poultry due to bacterial infections. Hatching egg producers have an important role in controlling bacterial contamination by providing high quality hatching eggs to hatcheries, and continuing to implement rigorous on-farm protocols.**

**Clean, good quality hatching eggs, that are properly stored, have a better chance of producing good quality broiler chicks.**

Bacteria need three main things to survive and grow:



Time



Temperature



Moisture

On-farm practices, such as **egg collection, sorting, handling, packaging and storage**, can all affect egg quality. Biosecurity, sanitation and litter management are also important considerations.

## Egg Collection

- Collect eggs at least four times daily, including floor eggs, throughout the production cycle. During peak production periods, six collections are recommended.
- Eggs collected using mechanical systems must not be allowed to pile up on the collection tables.
- Check nests and collection belts regularly, and clean these if there are problems with egg quality.
- Egg collection tables must be cleaned daily and disinfected weekly.
- Wash and sanitize hands prior to and after handling eggs to reduce the risk of cross contamination.

Reduce bacteria by following a few simple steps:

1. **Wash your hands**, including prior to and after handling eggs to get rid of bacteria.
2. **Collect eggs often**, to reduce the chance of bacteria entering the egg.
3. **Send only good quality hatching eggs to the hatchery.**
  - Sort eggs into acceptable and unacceptable quality. Document your practices.
  - **Discard excessively dirty and cracked eggs.**
4. **Disinfect** eggs as required by your hatchery.
5. **Monitor litter quality and moisture content.**
6. **Follow the CHEQ™ program requirements.**

## Egg Sorting

- During your sorting process, sort out eggs of unacceptable quality.
- Discard excessively dirty and cracked eggs. For cracked eggs, if the shell membrane is not intact, the egg is not suitable for incubation.
- Floor eggs should be handled as required by your hatchery, e.g., placed on different trays than those used for nest eggs, and labeled on egg dollies.
- Check the effectiveness of your hatching egg sorting process (CHEQ™ Critical Control Point)
  - o Hatching egg sorting procedures must be monitored at a minimum frequency of once every two weeks by examining at least 1 percent of a day's production to determine if the number of dirty, stained or cracked eggs exceeds the critical limit set by the hatchery.
  - o Corrective action must be taken if the number of cracked or dirty eggs is above the critical limit, such as reviewing your sorting procedures.
  - o Comparing CHEQ™ Record #5 Egg Sorting and the hatchery report will help you confirm that your sorting procedures are on track.

## Egg Handling

- Do not wipe or handle eggs unless necessary. It is important that the protective cuticle surrounding the eggshell is disturbed as little as possible.
- Eggs with stains or dirt that do not exceed the CFIA requirements may be gently cleaned with a clean, mild abrasive, such as a new paper towel, brush or sandpaper. Do not use products not intended for this use (e.g. baby wipes, Lysol wipes).

## Egg Packaging

- Pack eggs into clean containers. Use only clean and disinfected supplies, or new paper products for egg packaging. Store packaging to minimize potential contamination.
- Your hatchery must supply clean, disinfected flats, dollies, cases and skids for storing and transporting hatching eggs.



## Egg Storage

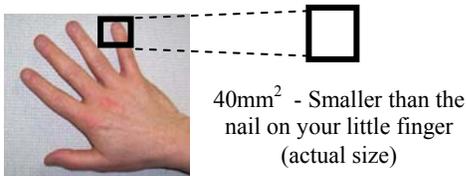
- Follow the egg disinfection protocol required by your hatchery.
- Several methods are available for sanitizing hatching eggs, including fumigation, spray disinfectants, ultraviolet (UV) light, and egg washing (if permitted).
- Clean and disinfect egg storage rooms following egg pickup or once per week at minimum.

# What is an unacceptable hatching egg?

An unacceptable hatching egg is one that is not suitable to hatch a saleable broiler chick. These eggs may be too large, too small, may have poor shell quality, irregular shape, cracks, or dirt.

The Canadian Food Inspection Agency (CFIA) through the Hatchery Regulations defines a *dirty egg* as an egg with:

- obvious cracks or breakage or
- accumulated dirty spots exceeding 40 mm<sup>2</sup> or
- stains exceeding 320 mm<sup>2</sup>.



320 mm<sup>2</sup> - About the size of a postage stamp (actual size)

CFIA has also established a critical limit or standard for the percentage of dirty and/or cracked eggs that may be present in a lot of eggs. The critical limit for a lot is: not more than 5 per cent shall be dirty/stained and not more than 5 per cent shall be cracked. Total defects (dirt, stains or cracks) in a lot must not exceed 10%.

If your provincial board or commission has set or if you and your hatchery have agreed on a critical limit that is lower than the CFIA standard, then that critical limit will be applicable within your operation. You will need to adjust your practices and records accordingly.

## Floor Eggs

Floor eggs, while at times unavoidable, may present an increased risk of contamination and may not produce a good quality chick.



Recommended practices:

1. Collect floor eggs at least three times daily throughout the production cycle. During peak production periods, more collections are recommended.
2. Collect floor eggs on separate trays from nest eggs, and identify these eggs as required by your hatchery.
3. Do not use baskets or buckets as they result in more eggs becoming cracked and contaminated.
4. Walk the barn often (at least 6 and up to 12 times a day) to gently disturb birds and encourage them to lay in the nest boxes.
5. Ensure sufficient nest space, uniform lighting and correct feeder space. Avoid the presence of dark and shaded areas next to walls, corners and in the areas next to steps and slat fronts.
6. Ensure all electrical equipment is maintained and that there are no electrical charges that would cause birds to avoid the nests.

## Factsheet – Egg Washing

If eggs are washed, it must be done properly, and as soon as possible after collection and sorting. Excessively dirty eggs should be discarded and not washed. The wash water must be at the correct temperature with an appropriate amount of disinfectant in order to be effective.

### Improper egg washing can increase the chance of contamination.

The following provides some helpful information about washing hatching eggs properly.

Egg washing as a means of sanitizing\* the shell, if it is performed, needs to be strictly controlled and monitored if contamination of the egg contents is to be prevented. Under normal circumstances, bacteria will not travel from the surface of the shell to the egg contents in the absence of water. By bringing the egg into contact with water, the risk of bacteria or viruses on the shell surface penetrating the shell is significantly increased. If, however, certain simple rules are followed, the shells of table and hatching eggs can be efficiently and effectively washed and sanitized, without significantly increasing the risk of microbial contamination of the egg contents.



**Egg washing does not compensate for poor production practices.** It is imperative that individuals involved in the production of eggs and the operation of washing machines recognize that a heavily contaminated egg will almost certainly be contaminated internally. It must be treated as such, even though the shell may appear clean following washing.

### Equipment

Two main types of processes exist:

1. Batch process

Machines operating on the batch principle tend to rely upon immersion of the egg in the washing solution combined with agitation of either the eggs or the wash solution to remove any solid contaminants such as faecal material.

2. Continuous process

Continuous egg washers differ from batch washers in as much as the egg is automatically moved through the washer and the washing solution is applied as a spray, immersion of the egg being avoided. Typically, either brushes or high pressure jets of washing solution are utilised by continuous machines as a means of removing solid contaminants from the shell surface. In addition, continuous machines frequently incorporate a final stage which uses either warm air or air-jets and infra-red heat to dry the shell surface.

Although the two types of machines described differ substantially in terms of design and operating mechanisms, they are used to clean the same product, the egg, and consequently the effective use of either relies upon the same principles being observed. Always check equipment before every use to make sure it is in good working order.

### **Sanitizers**

A wide range of sanitizers is available for use in egg washers (e.g. BioSentry®). The active ingredients range from quaternary ammonium compounds, formaldehyde, potassium peroxy sulphate and sulphamic acid to chlorine.

**Sanitizers must be used in strict accordance with the manufacturer's instructions.** Use of insufficient sanitizer may result in bacterial cross-contamination, whereas excess sanitizer may be toxic to the embryo.

\* "Sanitize" is a term widely used in the food and catering industry, and is frequently applied to the cleaning of eggs. A product that has been sanitised is usually free of most, but not all, micro-organisms. Bacterial spores are not usually destroyed by sanitising. A sterile product, by comparison, is free of all living organisms.

**The most important factors in preventing bacterial contamination of an egg's contents are the treatment and handling the egg receives between lay and washing.**

# Points to Consider When Washing Eggs

## 1. Do not wash eggs which are heavily soiled or broken.

It has been demonstrated that an egg which is laid onto faecal material, such as in a dirty nest box, will almost always be contaminated internally within minutes by micro-organisms. Once contaminated internally, the egg contents cannot be sanitized by normal commercial practices such as egg washing or fumigation. Egg washing should be performed as soon as possible after egg collection. Remove any bedding material on the egg before sanitizing to allow for more efficient cleaning of eggs.

It is imperative that dirty nest box or floor eggs are not repeatedly passed through egg washing machines in order to clean the shell. This causes the egg, which is probably contaminated internally, to be treated as a nest clean egg at the next stage in the chain, such as the hatchery. In addition, the organic material from heavily soiled or cracked eggs will quickly negate the efficacy of the sanitizing agent.



## 2. Ensure the water is changed frequently.

If water is allowed to re-circulate over the eggs, then the levels of organic material and active sanitizer must be monitored to avoid immersing the eggs in a bacterial "soup". This is a particular problem with the batch type machine. Do not wash more than 200 eggs per gallon of solution capacity before changing the washing solution.

## 3. The temperature of the wash water must exceed the temperature of the egg by at least 12°C.

Failure to ensure a suitable temperature differential between the egg and the water may cause the egg contents to contract inside the rigid shell, resulting in wash water and/or contaminating bacteria being sucked through the shell pore canals.

Care must be taken, however, that the egg temperature is not less than 10°C, or cracking may occur. While manufacturers' instructions should be adhered to, a wash water temperature of between 40-43°C is normally satisfactory. It is important that wash water temperature is monitored throughout to ensure that the requisite temperature is maintained.

## 4. Water used should be of potable quality and have an iron level of less than 2 parts per million (ppm).

If organic material is present in the water supply, it will reduce the efficacy of the sanitizer. Therefore, only potable quality water should be used. The egg's main chemical defence against bacteria is not lysozyme, as is commonly thought, but an iron chelating (binding) agent called ovotransferrin.

By making the iron that is present in the albumen unavailable, the growth and multiplication of micro-organisms is prevented. It is important, therefore, that additional iron, which may saturate the albumen's ovotransferrin, is not provided via the wash water or any metal components in the washing system.

## 5. Once washed, the egg should be quickly dried.

Following washing, the egg should immediately be dried and removed from the vicinity of the egg washing machine. This will help prevent water condensing on the surface of the egg, usually called "sweating". As soon as it is practical, the egg should be placed in a cool store at a temperature of approximately 12- 15°C.

## Further reading and references

- Canadian Hatching Egg Quality (CHEQ™) program, July 2010 [www.chep-poic.ca](http://www.chep-poic.ca)
- Canadian Hatching Egg Producers Animal Care Program - draft
- Cobb Breeder Management Guide, 2008 <http://www.cobb-vantress.com/>
- Ernst, R. A. 2004. Hatching egg sanitation: the key step in successful storage and production. Publication 8120. <http://anrcatalog.ucdavis.edu/pdf/8120.pdf> Accessed March 5, 2014.
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- Egg washing. Adapted from: Scottish Agricultural College – Avian Tech Notes