

# BC Poultry Biosecurity Reference Guide



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# **BC Poultry Biosecurity Reference Guide**

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# Preface

This Reference Guide has been developed as an information resource to assist poultry producers in developing biosecurity plans for their farming operations. Biosecurity planning and implementation reduces the risk of infectious disease transfer within and among poultry flocks. Enhancing your farm's biosecurity protects both your economic interest and that of the industry. Furthermore, it reduces the risk to public health that may result from certain poultry diseases.

This Guide provides current information on a variety of biosecurity related practices. It includes references to legislative requirements, details about beneficial biosecurity practices, a glossary of terms and sources of further information.

The BC Poultry Biosecurity Reference Guide is part of the BC Poultry Biosecurity Program. The Program provides producers with the opportunity to plan and implement biosecurity practices that meet the mandatory biosecurity standards required by the relevant Boards and Commissions. The Reference Guide is intended to be used in conjunction with the Poultry Biosecurity Planning Workbook. The Planning Workbook provides a step by step process for producers to evaluate their on-farm biosecurity. With funding assistance from the program, producers can correct identified deficiencies prior to completing a biosecurity audit and receiving biosecurity certification.

The BC Poultry Biosecurity Program builds upon companion programming delivered through the BC Agriculture Council's Environmental Farm Program. Planning Advisors knowledgeable about both programs are available to assist poultry producers in undertaking and implementing either or both programs.

The BC Biosecurity Program is an industry led initiative that is supported by the federal government, the provincial government and the provincial poultry boards and commissions. The BC Poultry Association, in conjunction with its partners encourages producers to take full advantage of the opportunities the program offers. Doing so will demonstrate your commitment to help protect your farm future and the health of the poultry industry in British Columbia.

Sincerely

Ray Nickel  
President, BC Poultry Association

Calvin Breukelman  
Chair, BC Poultry Biosecurity Committee

# Limits of Liability

The primary purpose of the BC Poultry Biosecurity Reference Guide is to assist producers in developing a Biosecurity Program for their farms.

Every effort has been made to ensure the accuracy and completeness of this Guide but, the Guide should not be considered the final word on areas of practice that it may cover. You should seek the advice of appropriate professionals and experts as the facts of your situation may differ from those set out in this Guide.

All information in this Guide is provided entirely “as is” and no representations, warranties or conditions, either expressed or implied, are made in connection with your use of, or reliance upon, this information. This information is provided to you as the user entirely at your risk.

The Government of Canada or the BC Poultry Industry Biosecurity Committee, its directors, agents, employees, or contractors will not be liable for any claims, damages or losses of any kind whatsoever arising out of the use of, reliance upon, this information.

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# Introduction

If you refer to a dictionary, you will not find a definition of the word *biosecurity*. The word *security*, however, is defined as “freedom from danger”. So, what we have done is to coin a new word that can be defined as “freedom from danger represented by biological agents”. The biological agents that present “danger” to the poultry industry are, of course, those microscopic organisms that include viruses, bacteria, and parasites. The viruses, bacteria, and parasites that we are concerned with are pathogenic organisms that require a host in which to grow and reproduce, particularly those that require the avian species as a host. The BC Poultry Biosecurity Program is a series of protocols that are designed to reduce the “danger” of biological agents to poultry flocks under our care.

When a bird is infected with a pathogenic organism, there may or may not be obvious signs of clinical disease. Nevertheless, that organism is reproduced in the bird then shed in greater numbers from the infected bird into the environment through body excretions, including feces, urates from the kidneys, or moisture droplets from the respiratory system. The organisms contained in these excretions contaminate the materials in the surrounding environment, which then carry the infection to the next bird. If the amount of the pathogen is high enough to overcome a susceptible bird’s immune system, the bird becomes infected and the cycle continues. As the pathogenic organism passes through more and more birds, its numbers in the environment multiply rapidly.

Because pathogenic organisms are microscopic, they are not visible to the naked eye. Yet they can be found in large numbers in dust, in water droplets suspended in the air, and in visible fecal contamination. Enough pathogenic organisms to be an infective dose can be contained in an invisible amount of contaminated material. Such a small amount of contaminated material can be on equipment, clothing, footwear, or, even hands. By this means, the disease can be carried from one flock to another.

Humans face a common example of this principle of disease transfer daily. While we may assume that our hands are clean because we cannot see any evidence of contamination, they are, in fact, teeming with bacteria and viruses. Among those organisms can be the cold virus, picked up by simply shaking a person’s hand, opening the door to the pharmacy, or handling a shopping cart. This is the most likely way in which we pick up that virus. The virus is then transferred to our respiratory tract as we put our hands to our face or eat our food. We then spread it to others through the droplets from our respiratory tract as we sneeze or cough and, of course then shake hands with someone, or go to the pharmacy for cold medication, or go shopping. If we were to design biosecurity standards to prevent ourselves from catching or spreading a cold, they would be:

1. *Frequently wash your hands*
2. *Keep your hands away from your face*
3. *Use a tissue when sneezing or coughing*

Biosecurity is not quite as simple when applied to poultry operations, but the fundamental principles are the same. In general we are trying to prevent or, at the very least, minimize the number of organisms entering and leaving the farm. Because we know that pathogenic organisms can leave and enter the farm carried on outer clothing, footwear, and equipment, to minimize this risk we set up two levels of defense. The first step is to define a secured area and implement procedures that prevent contamination from entering that secured area. Access to the secure area is limited to only those people and that equipment that is necessary. When it is necessary, controlled entry procedures are designed to prevent or minimize organisms from entering the area with visitors, equipment, and vehicles. This is achieved by removing any contaminated material by washing and, if necessary, disinfection.

Because we cannot control the environmental factors such as wild birds, rodents, and dust that may contaminate the secured area, we set up a second barrier, which is the barn or enclosure itself and referred to as the Restricted Access Zone. Entry to the barn is restricted to only those people that are absolutely necessary, and

entry is controlled through the anteroom to the barn. While passing through the anteroom, we prevent contamination from entering the barn by using footbaths, removing outerwear and putting on clean or barn-only outerwear, putting on clean or barn-only footwear, and washing hands. In addition all equipment entering the barn is cleaned and disinfected prior to entry.

Farm operations are designed to minimize the load of organisms in the flock's environment and to keep the flock healthy. Records are designed to allow the producer to recognize quickly when problems may be occurring. Ultimately, if a problem does occur on the farm, good records will allow for the tracing of all movement in an attempt to define the source of the infection and to identify other potentially infected flocks so measures can be taken to limit the spread of the disease.

The protocols contained in this group of biosecurity standards are based on scientifically sound, tried principles that reduce the risk of introduction of a disease into a production unit, regardless of species. The effort and cost of the implementation and maintenance of this program will protect the health of each flock, the health of the industry, and, indirectly, the health of British Columbians.

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## USE OF THIS DOCUMENT

The **Mandatory Standards** are collected under four major sections or chapters that group them according to specific elements of biosecurity. Each chapter of the document describes particular control point areas that must be addressed to achieve good biosecurity.

**Chapter 1** covers “Farm Access Standards”, including methods for excluding unnecessary visitors and methods by which necessary visitors can minimize the chances of carrying disease-causing organisms onto or off of the farm.

**Chapter 2** addresses the next control point for the exclusion of diseases, “Barn Access Standards”. The elements covered for this next level of control include methods to discourage entry into the barn and procedures allowing entry that, when followed, will significantly reduce the risk of disease entry into or exit from the flock.

**Chapter 3** describes “Flock Health Management Standards”. Mortality within a flock of birds represents both a potential disease risk to other birds on the farm and to other farms in the area as well as a good indicator of the health of the flock. For that reason, these standards describe methods by which information about flock health can be gathered, allowing an early alert to possible serious disease problems, and methods for handling dead birds to minimize their contribution to disease spread.

**Chapter 4** includes “Farm Management Standards”, addressing the management practices that will improve overall biosecurity. Some of these practices include internal biosecurity issues, such as rodent control and cleaning and disinfection procedures. Other practices described cover issues that will help to contain and track a disease, should an outbreak occur.

## Sub Headings

Within each section describing individual Mandatory Standards, there are five subsections giving information on understanding, implementing, and improving the conditions of the standard. These subsections are titled and colour-coded as follows:

### **x.y.1 Mandatory Standard #**

This section presents the mandatory standard.

### **x.y.2 Interpretive Guidelines**

Interpretive guidelines are points that help the reader to understand the rationale of and elements that contribute to the spirit of the Mandatory Standard.

### **x.y.3 Regulatory Requirements**

There are many regulatory issues, legislated municipally, provincially, and federally that will affect the manner in which some Standards may be implemented. This section outlines some of the legislation that may be relevant.

### **x.y.4 Complying with Mandatory Standard**

Procedures and examples are given in this section that will assist the reader in putting practices into effect that will help ensure compliance with the Standards.

### **x.y.5 Implementing Enhanced Measures**

The Mandatory Standards cover the most basic practices required to achieve reasonable biosecurity. Practices that go beyond the basic Standards are strongly encouraged. This section describes some areas that would be regarded as enhancements to the Standard.