Canadian Food Inspection Agency | Agence canadienne d'inspection des aliments

CFIA-ACIA

National Farm and Facility Level Biosecurity Standard for the Equine Sector

Growing Forward 2 | Cultivons l'avenir 2

EQUINE CANADA HIPPIQUE

Canada

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Section 1: Glossary

Access management: Controlling the movement of horses, equipment, vehicles, and people on-and-off a farm or facility, as well as movement between different areas of a farm or facility to minimize the transmission of pathogens. It may include physical barriers (for example: fencing and gates that clearly indicate entry and exit points) and /or procedural measures (for example: hand washing, boot cleaning and disinfection).

Aerosol: Solid or liquid particles suspended in air that can be distributed over short distances.

Best practices: For this document a best practice is a program, process, strategy, or activity that has been shown to be most effective in preventing and controlling disease. Best practices may have to be modified before implementation to accommodate a specific farm or facility and enhance practicality. Note: additional best practices covered in the User Guide may help direct readers.

***Bio-exclusion*:** A set of practices to minimize the introduction of pathogens into a population of animals from an outside source.

***Bio-containment*:** A set of practices to minimize the release of pathogens from a population of animals in a particular location (for example: a farm or facility).

***Bio-management*:** A set of practices to minimize the transmission of pathogens within a population of animals (for example: the spread of disease among horses within a farm or facility).

Biosecurity: A set of practices used to minimize the transmission of pathogens and pests in animal and plant populations including their introduction (bio-exclusion), spread within the populations (bio-management), and release (bio-containment).

Biosecurity zone: A defined area on a farm or facility established by natural or man-made physical barriers and/or the use of biosecurity procedures designed to reduce the transmission of pathogens (for example: a controlled access zone and/ or restricted access zone)

Closed herd: A population of animals that remains distinct by preventing the introduction of new animals from external sources, maintains their own breeding stock, and prevents direct contact with other herds of similar species.

Commingle: Where horses from different locations or a different health status are brought together and exposed to each other, either directly or indirectly; may be short or long term. Some examples of commingling sites include boarding stables, auctions, summer pastures, staging sites, horse shows, rodeos, 4-H events, and horse clinics.

Controlled Access Point (CAP): A designated and visually defined entry point to a horse farm or facility, a controlled access zone or restricted access zone to manage the traffic flow of people, horses, vehicles, equipment and materials.

Controlled access zone (CAZ): A designated area that contains the land, buildings, equipment and infrastructure involved in the care and management of horses where access and movements are controlled. Entry is restricted and managed through a controlled access point. The controlled access zone is often the first zone that is entered on a farm or facility and frequently includes laneways, equipment, storage sheds,

and riding arenas, although some of these may be in the restricted access zone in other facilities. It usually excludes the house and office space of the farm owner and/or manager. The controlled access zone may include pastures and barns that horses are not currently occupying. A controlled access zone has its own specific biosecurity protocol and often encompasses the restricted access zone(s).

Custodian: Any person who has control of horses and is responsible for their care, whether on a short-term or long-term basis. This may include owners, stable owners and staff, volunteers, clients, service providers and family members.

Disease: A change from the normal state. A deviation or disruption in the structure or function of a tissue, organ or part of a living animal's body.

Disinfection: The process that is used to inactivate, decrease or eliminate pathogens from a surface or object.

Direct contact: Close physical contact between animals (for example: nose to nose, social interaction or breeding).

Emerging disease: A new infection resulting from the evolution or change of an existing pathogen or parasite resulting in a change of host range, vector, pathogenicity or strain; or the occurrence of a previously unrecognized infection or disease.

Endemic disease: The continued presence of a disease in a specific population or area usually at the same level – often a low level. In animals, it is sometimes referred to as enzootic disease.

Event: An organized gathering of horses from 2 or more farms or facilities for a set amount of time. A horse event or activity is defined as any market, sales or auction, fair, parade, race, horse show, meeting, recreational activity, demonstration or clinic, rodeo, competition, or any other horse gathering.

Foreign animal disease: An existing or emerging animal disease that poses a severe threat to animal health, the economy, and/or human health that is not usually present in the country.

Facility: A defined area of land and all associated buildings used primarily for the short-term care and maintenance of horses for commercial purposes and events where commingling is common (for example: competition grounds, race tracks and auction markets.).

Farm: A defined area of land and all associated buildings used primarily for the long-term care and maintenance of horses (for example: boarding stables, breeding farms and riding centres).

Federal Reportable disease: Refers to diseases in federal and/or provincial acts and regulations. Federally reportable diseases are outlined in the *Health of Animals Act* and *Reportable Diseases Regulations* and are usually of significant importance to human or animal health or to the Canadian economy. Animal owners, veterinarians and laboratories are required to immediately report the presence of an animal that is contaminated or suspected of being contaminated with one of these diseases to a Canadian Food Inspection Agency (CFIA) district veterinarian. Control or eradication measures may be applied immediately. A list of federally reportable diseases is available on the CFIA website at:

http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/2014/eng/1329499145620/1329499272021

Fomite: Any inanimate object or substance, such as clothing, footwear, equipment, tack, water or feed that mechanically transmits a pathogen from one individual to another.

Gymkhanas: Equestrian events that are often timed and involve speed, completing patterns around poles, barrels and other fun activities.

Health status: Current state of health of the animal or herd, including both its condition and the presence of pathogens in the animal or herd. Information used to establish the health status includes the disease history and the results of any diagnostic testing, herd health management practices, vaccination and deworming protocols in sufficient detail to determine compatibility with the resident herd, and housing and movement detail sufficient to identify any potential recent disease exposure.

Horse: Refers to all domestic equine species, namely horses, ponies, miniature horses, donkeys, mules and hinnies.

Immediately notifiable disease: In general, immediately notifiable diseases are diseases exotic to Canada for which there are no control or eradication programs and are to be reported immediately to a specific government agency.

The Canadian Food Inspection Agency can undertake control measures for such diseases when notified of their presence in Canada. This category also includes some rare indigenous diseases. A herd or flock of origin must be certified as being free from these diseases in order to meet import requirements of trading partners. Some provincial ministries may require notification for surveillance and/or control of certain immediately notifiable diseases.

Indirect contact: Refers to contact with a pathogen without directly coming into contact with the source (for example: aerosol or contaminated fomites).

Infection: The invasion and multiplication or reproduction of pathogens such as bacteria, viruses, and parasites in the tissues of a living animal.

***Infectious disease*:** Disease caused by pathogens (for example: parasites, bacteria, viruses, fungi or prions).

Medical waste: Waste generated by administration of treatments (for example: needles, syringes, expired medications, and disposable materials used in the treatment of horses).

Mode of transmission: The method whereby pathogens are transmitted from one animal or place to another. An example of direct transmission is nose to nose contact. Examples of indirect transmission may include contact with contaminated bodily fluids, vectors or fomites.

Monitoring: This refers to the systematic observation and recording of clinical signs that reflect the health parameters of the horse [for example: heart rate, respiratory rate, temperature, for mental status (responsive and alert), for gait and posture (normal, coordinated, not lame), for body condition (thin, normal, obese)]. The level of monitoring is dependent on the health status of the horse.

Mortality: A measure of the number of deaths in a population.

Normal carrier or Subclinical carrier: A horse that displays no signs of illness but is harbouring a pathogen.

Pathogenicity: The ability or capacity of a pathogen to cause disease in a living organism.

Pathogens: Bacteria (including Mycoplasma), viruses, fungi, parasites and other microorganisms that can cause disease.

Peer group: Horses of similar age (for example: yearlings), use (for example: broodmares and school horses), or health status (for example: same preventive health program).

Personal Protective Equipment (PPE): Refers to specialized clothing and equipment worn by an individual to provide a protective barrier against exposure and injury from hazards. It can be used to protect against pathogens, chemicals (disinfectants and medications) and physical hazards (from needles or bites), however the specifications of the equipment is different for each hazard. For infectious diseases, personal protective equipment includes coveralls, boots, boot covers, gloves, and in some instances face shields and respirators that protect skin, mucous membranes and airways from pathogens. Personal protective equipment also reduces the transmission of pathogens to other horses from contaminated clothing, equipment and dirty hands.

Pests: Includes insects, spiders, ticks, rodents, birds and other animals that pose a nuisance to horses.

Physical barriers: The use of physical structures and items to minimize exposure to pathogens. This includes the use of fences and gates to manage access and traffic flow and solid pen partitions to minimize contact between horses. It also includes the use of protective clothing, boots and gloves that provide a barrier to contamination and/or infection of a person.

Procedural measures: The use of processes such as hand washing, cleaning and disinfection to minimize the transmission of pathogens, procedures for assessing the health status of new horses and vaccination to protect horse health.

Provincial Reportable/Notifiable Diseases: Some provincial agriculture departments require reporting of diseases outlined in their provincial animal disease legislation. For additional information, contact the respective provincial agriculture department.

Restricted access zone (RAZ): A designated area where horses commonly reside (are stabled, housed, pastured) and where access by people, equipment and materials is further restricted. The zone(s) include the pens, barns, and pastures, as well as separation areas used for new, visiting and ill horses. The layout and management practices of individual farms and facilities will determine whether manure storage and other production infrastructure directly involved in animal care and maintenance should be included within the restricted access zone.

Risk: the likelihood of an unfavorable event occurring and affecting health.

Examples of High and Low Risk

1. **Event**
   a) ***High risk event*** – a horse auction/sale poses a high risk to horse health when there are no disease prevention requirements and protocols in place, and there are a high number of horses from multiple locations commingling.
   b) ***Low risk event*** – an event such as the Pan-Am equine games poses a low risk to horse health where high level, healthy equine athletes are subject to strict biosecurity protocols including testing and vaccination requirements prior to arrival and regular monitoring by specially appointed equine veterinarians.

2) **Horses** – can pose a risk for spreading disease and/or be at risk of acquiring disease.
   a) ***Higher risk or High risk horse for transmitting disease:*** Horses that are a higher risk for harbouring and transmitting pathogens. This includes horses that are: visibly ill (clinical infection), infected but not showing signs of illness (subclinical infection), known to have been exposed to ill horses, and those that have recently recovered from illness.
   b) ***Higher risk or High risk of becoming infected or ill*** - a young horse which has little immunity to disease and is at a higher risk of becoming infected or ill. The lack of immunity may result from not being vaccinated, being improperly vaccinated, and/or having little previous exposure to small numbers of pathogens from other horses (which may occur when raised in a closed herd). Any horse that is debilitated, stressed, malnourished, dehydrated, very young, very old, one with a long-standing or underlying health issue would be at high risk. If these horses are then exposed to a high risk event where there is exposure to many other horses of varying health status, they may become ill.
   c) ***Lower risk or Low risk horse for transmitting disease or becoming infected or ill*** – Horses that are healthy, well vaccinated, well-nourished and managed under a herd health program and rarely travel or are rarely exposed to horses of different health status are a low risk or a lower risk for transmitting disease or becoming infected or ill when exposed to pathogens.

Sanitize: A process that reduces the number of pathogens without completely eliminating all microbial forms on a surface.

Separation: Using physical barriers or distance to prevent direct contact between horses. Separation is a management tool to minimize the risk of introduction and spread of disease. Other terminology such as *isolation* and *quarantine* is commonly used for specific purposes of separation

> ***Quarantine:*** A process of separating an animal(s) and restricting movement of the animal; it can be considered a 'state of enforced isolation'. Frequently, it is a regulatory approach to separate horses to establish and maintain a desired health status.
>
> ***Isolation:*** The process of separating animals that are ill, suspected to be ill, or of an unknown or lesser health status from healthy animals. The period of separation ends when animals have recovered, or been determined to be healthy, or aligned with the health status of the herd. Separation includes measures to prevent direct contact (nose to nose) and indirect contact (shared equipment) between isolated animals and the remainder of the herd.

Sharps: Common medical items including needles, scalpels, scissors, staples, and other objects capable of puncturing or cutting skin.

Sharps container: A container used to safely store used needles and other sharps for disposal. Only "approved" sharps containers should be used as they are designed to prevent injuries by being puncture resistant and to prevent spillage or removal of disposed items.

Shedding: Transmission of an infectious agent from an animal to another animal or to the environment; can occur in the absence of clinical signs.

Standard operating procedure (SOP): A defined and documented procedure to be followed, detailing the steps to be taken to meet an objective. This includes any formal process that a custodian uses to define how

they manage their operations on a day to day basis. The protocol may be formally documented or a non-documented process that is strictly followed. The intent is to focus on the process rather than the documentation.

Susceptible host: A person or animal who lacks the immunity or ability to resist the invasion of pathogens which then multiply or reproduce resulting in infection.

Vector: An organism such as a mosquito, fly, flea, tick, rodent, animal or person that transmits pathogens from an infected host (a horse) to another animal. A biological vector is one in which the pathogen develops or multiplies in the vector's body before becoming infective to the recipient animal. A mechanical vector is one which transmits an infective organism from one host to another but which is not essential to the life cycle of the pathogen.

***Wildlife*:** All undomesticated animals (fauna) living freely in their natural habitat. Wildlife may come into occasional inadvertent contact with domestic horses on their farm or facility.

Zoonotic disease: A disease caused by pathogens that can occur in both animals and humans (for example: Methicillin resistant *Staphylococcus aureus* (MRSA) and *Salmonella* sp.).

Section 2: Introduction and Background

This national biosecurity standard contains guidelines and recommendations to benefit horse owners and custodians in protecting their horses from contagious diseases; participation is voluntary. To assist readers, an introduction, background information on disease transmission, special biosecurity considerations and a glossary of terms are included. A companion document (a biosecurity User Guide) provides greater detail and practical information on specific interventions at the farm and facility level including tools to assist horse owners and custodians in developing and implementing biosecurity.

The standard identifies "what" biosecurity objectives should be achieved and "why" they are important. The user guide identifies "how" the guidelines and recommendations in the standard can be implemented.

2.1 What is biosecurity?

Biosecurity is a set of principles and practices that are used to reduce the risks posed by pathogens. The biosecurity standard provides measures that horse owners and custodians may take to minimize the introduction of pathogens onto a property, their spread within the operation, and spread off the property.

Biosecurity is not a new concept, nor are most biosecurity measures difficult or expensive to implement. Many daily activities that horse owners and custodians perform include biosecurity measures (for example: hand washing and monitoring horse health).

Biosecurity relies on the consistent use of a combination of physical barriers and procedural measures designed to disrupt the transmission of pathogens. These barriers and measures target opportunities for transmission that occur during routine horse care (for example: contact with other horses), risks posed by less frequent activities (for example: introduction of new horses to the herd) and changing risks (for example: increased movements of resident horses off of and onto a property). To be effective, biosecurity measures must be applied consistently. Like the links of a chain, the failure of any one element weakens the entire chain.

Biosecurity may be defined as: "A set of practices used to minimize the transmission of pathogens and pests in animal and plant populations including their introduction (bio-exclusion), spread within the populations (bio-management), and release (bio-containment)."

Biosecurity requires balancing the:

- **risk of disease transmission;**
- **consequences of disease occurring; and**
- **measures required to minimize disease.**

Biosecurity measures need to be tailored to the needs of individual farms and facilities. The plans should be developed with the assistance of the attending veterinarian taking into account the owner's or manager's goals, management practices and the internal and external disease threats.

2.2 Why is equine biosecurity important?

Goals:

1. **To assist horse owners and custodians in protecting the health and welfare of their horses by minimizing the transmission of contagious diseases and reducing the frequency and severity of disease if infection occurs.**
2. **To achieve a Canadian national herd that has a high health status with horses in good condition, with strong immunity to pathogens and an overall decrease in the number of pathogens.**
3. **To maintain a country that is eligible to export horses worldwide.**

Infectious disease in horses continues to rank as one of the major challenges to the equine industry, leading to illness (and potentially death), financial costs, welfare concerns and potential risks to human health. The need for preventive measures will always be an important management process against the backdrop of ongoing or rapidly spreading regional or global concerns and emerging or re-emerging diseases in the Canadian herd.

The impacts of infectious disease in horses are significant and can be devastating. Disease can range from mild illness to death, from sporadic cases to extensive disease outbreaks. Even mild disease can result in chronic or permanent damage and impaired function. Farms and facilities with poor biosecurity may become a significant risk to the rest of the industry. Every horse farm and facility should have a biosecurity plan that they implement. Biosecurity can:

- reduce the transmission of endemic, newly emerging, and foreign animal diseases;
- enhance animal health and welfare by reducing the negative outcomes of disease which can include: decreased function, permanent disability or death;
- protect public health by reducing the transmission of zoonotic diseases (diseases that can be spread from horses to people) including salmonellosis (*Salmonella*), fungal infections like dermatophytosis (ringworm) and diseases caused by antibiotic resistant organisms such as Methicillin-resistant *Staphylococcus aureus* (MRSA) infection;
- reduce direct costs associated with the treatment of disease;
- reduce indirect costs to the equine industry resulting from disease control activities including decreased revenue from sparsely attended or cancelled events, reduced purses for participants and unemployment; and
- protect Canada's horse health status, thereby maintaining export markets and the ability to move horses internationally.

Your Horse – Part of a Larger Herd

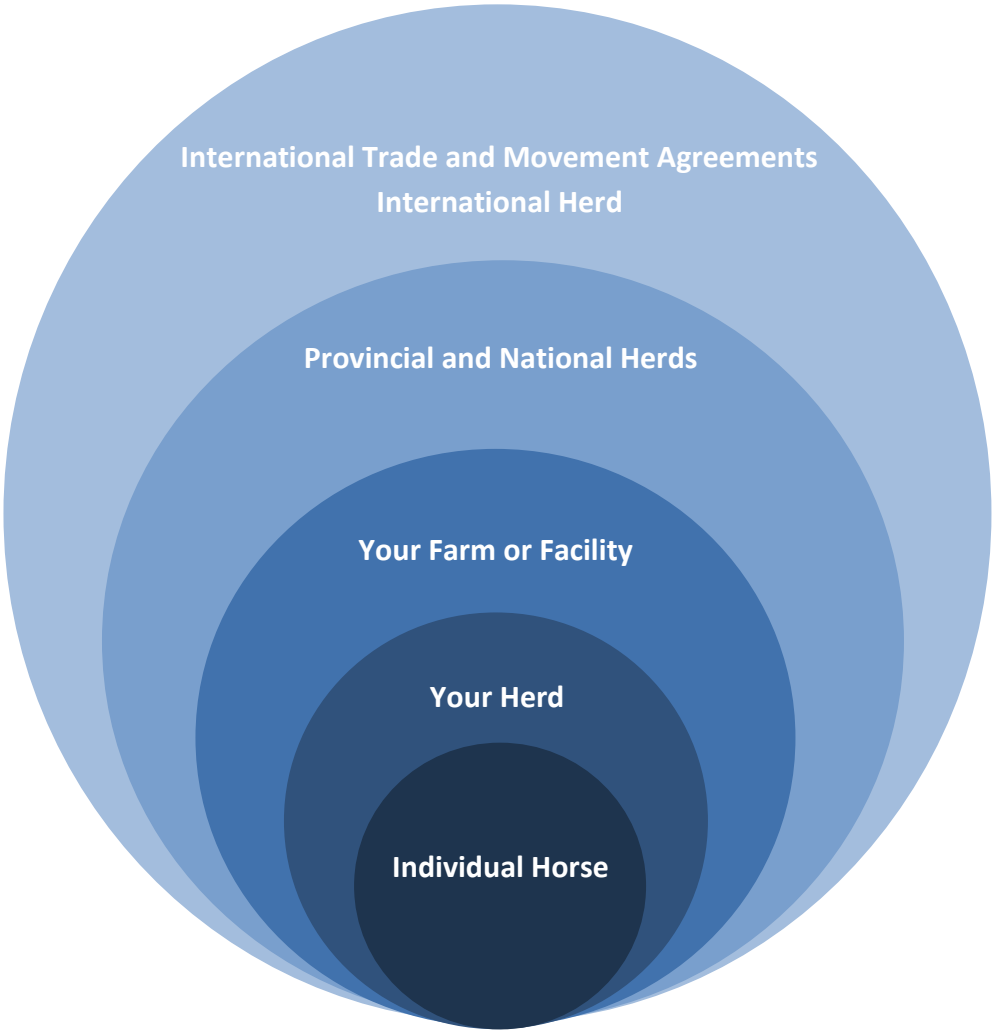

Figure 1: Your Horse – Part of a Larger Herd *This diagram illustrates the relationship of an individual horse to the national and international horse industry. It emphasizes the impact that disease left uncontrolled from an individual horse can have on the horse industry in Canada. Modified from Equine Biosecurity Principles and Best Practices: Disease Transmission; Government of Alberta.*

Disease control and prevention is complex. This complexity is compounded by the inherent biosecurity challenges in the equine industry, including:

- various environments to which horses are exposed;
- the significant degree of horse movement locally, regionally, nationally, and internationally;
- close proximity and / or contact of animals from different owners (commingling) both on individual premises and during events;
- different vaccination and deworming programs used among horse custodians;
- different management practices (for example: grouping foals, yearlings and senior horses together);
- layout of farms and facilities and competition schedules that may not permit adequate separation of horses of different health status;

- absence of vaccines and treatments for all pathogens;
- variability of vaccines to provide adequate protection from disease;
- increase in antimicrobial and anthelmintic resistant organisms;
- variability of owner or custodian compliance with biosecurity measures; and
- absence of a consistent national approach to biosecurity in the horse industry across Canada.

2.3 Who is this document for?

Everyone in the horse industry has an important role to play in biosecurity.

All have a role protecting the health and well-being of horses from infectious diseases. Biosecurity in the horse industry is a shared responsibility between:

- horse owners and custodians of farms or facilities;
- organizers and their staff and volunteers of any event at which horses commingle including but not limited to auctions, competitions, gymkhanas, clinics, trail rides, and race tracks;
- everyone who handles horses including coaches, riders, drivers and grooms;
- service providers (for example: veterinarians, farriers, feed suppliers and transporters) accessing horse farms and facilities;
- horse associations, industry bodies, and government; and
- visitors to any horse facility.

The guidance in this document is primarily for custodians, those individuals directly responsible for the care of horses or who have influence on those directly responsible.

"Closed herd"? Many horse owners have the perception that their horses are safe from disease because they have a closed herd since there is no movement of horses on or off the property. However, all diseases risks have not been eliminated and the horses are still vulnerable to pathogens transmitted by biological and mechanical vectors such as: mosquitoes, flies, ticks, feed, people, and tack or equipment.

2.4 What is the purpose of a National standard?

This document has been developed to serve as a national standard that provides guidelines and recommendations to benefit horse owners and custodians in developing biosecurity plans to minimize the risk of disease to horses. It provides a national framework for industry and government to proactively manage disease. The Biosecurity standard will create awareness and a common understanding of biosecurity, plus serve as an education tool.

The standard provides guidelines and recommendations rather than prescribing what **must** be done on all farms and facilities. The complex and variable nature of the horse industry, regional differences, limited data, and other factors prevent the development of one set of specific guidelines and recommendations that are optimal for all farms and facilities.

This standard is accompanied by another document (a biosecurity User Guide) that provides practical information specific to biosecurity measures at the farm and facility level.

Diseases respect no boundaries. Every horse in Canada is part of the national herd and can be affected by diseases from another area.

2.5 How to use the document (organization of the document)

The standard consists of seven biosecurity components that comprise a comprehensive on-farm or facility biosecurity program:

1) Developing your biosecurity plan: Self-evaluation assessment checklist
2) Monitoring and Maintaining Animal Health and Disease Response
3) New Horses, Returning Horses, Visiting Horses, Movements and Transportation
4) Access Management
5) Farm and Facility Management
6) Biosecurity Awareness, Education and Training
7) Farm and Facility Location, Design, Layout and Renovations to Existing Facilities

For each biosecurity component a broad goal is established which is supported by a number of best practices to provide the overall direction for reducing disease transmission risks. The owner of a single horse that rarely leaves an isolated property faces different biosecurity challenges than horse owners or custodians and managers at a busy boarding facility or race track. Some components of biosecurity recommendations are divided into two groups: small farms and facilities and large facilities (which include but are not limited to event facilities and race tracks).

Section 3: Farm and Facility Specific Biosecurity Plan

3.1 Developing a farm or facility biosecurity plan

Developing a farm or facility biosecurity plan involves achieving the right balance between disease risk and prevention. (Note: Additional details on developing and maintaining a biosecurity plan provided in Section 3 of the user guide).

It is helpful to have knowledge of horse diseases, how they are transmitted and methods of protecting your horse from disease. This and additional information and resources are included in the biosecurity user guide that accompanies the standard. Work with your farm or facility veterinarian and industry experts on developing a plan.

Step 1: Prepare a diagram of the farm or facility

A farm or facility diagram is useful for visualizing and identifying opportunities for horses to come into contact with other animals, people and equipment which are potential sources of disease. Create a diagram of the premises and identify traffic routes, animal housing areas, storage areas and other areas on the site where people, horses and equipment may come into contact.

Review the diagram and create a list of the biosecurity concerns**.**

Step 2: Identify the risks – what diseases are concerns and how are they transmitted?

Diseases present in the local horse population and diseases that have previously occurred on the property are of primary importance. Owners or custodians travelling with their horses should also consider disease risks from geographic areas to which they travel.

Step 3: Review management practices and complete the self-assessment tool

Most horse care and management practices pose a risk for introducing and spreading disease. Identify your daily care and management practices and any less frequent activities (for example visits of non-resident horses to the property and resident horses returning after commingling with other horses) that might result in the transmission of pathogens. Review your diagram to help with this step.

Complete the biosecurity self-assessment tool using the information and biosecurity concerns identified in Steps 1 and 2 and the management practices identified above. An example of the self-assessment tool is attached to guide the process in Annex 2. It is organized based on the seven components of a biosecurity plan.

When completed, review the self-assessment and identify areas where biosecurity practices are being effectively managed and those where improvements can be made.

Step 4: Identify biosecurity goals and best practices

From the review of the self-assessment tool and farm or facility diagram, identify the biosecurity challenges and risks. Using the biosecurity standard and guide, identify biosecurity goals and best practices that can be implemented to address the biosecurity gaps. Discuss the strategies with your veterinarian and other sources of biosecurity expertise (provincial government livestock and extension specialists, industry associations, and universities) as necessary.

Step 5: Develop an implementation strategy

While all biosecurity risks need to be addressed, some will be more critical than others. Prioritize the biosecurity tasks and establish a timeline for their completion.

Step 6: Review the effectiveness of the biosecurity plan and seek continuous improvement

The effectiveness of the biosecurity plan is measured by the adoption of its biosecurity practices, their integration into daily routines and the impact on the health status of horses located on the property. When necessary, design and implement improvements to the biosecurity plan.

Section 4: Principles of Infection Prevention and Control Programs

In order to protect your horse(s) from infectious diseases, it is important to have an understanding of the factors required for infection and disease to occur. Infectious diseases in horses result from a complex interaction of three factors referred to as the disease triad:

- a horse that is susceptible to disease (the host);
- a pathogen such as bacterium, virus, fungus or parasite capable of causing disease (the agent);
- an opportunity for the host and agent to come into contact (the environment).

The Disease Triad

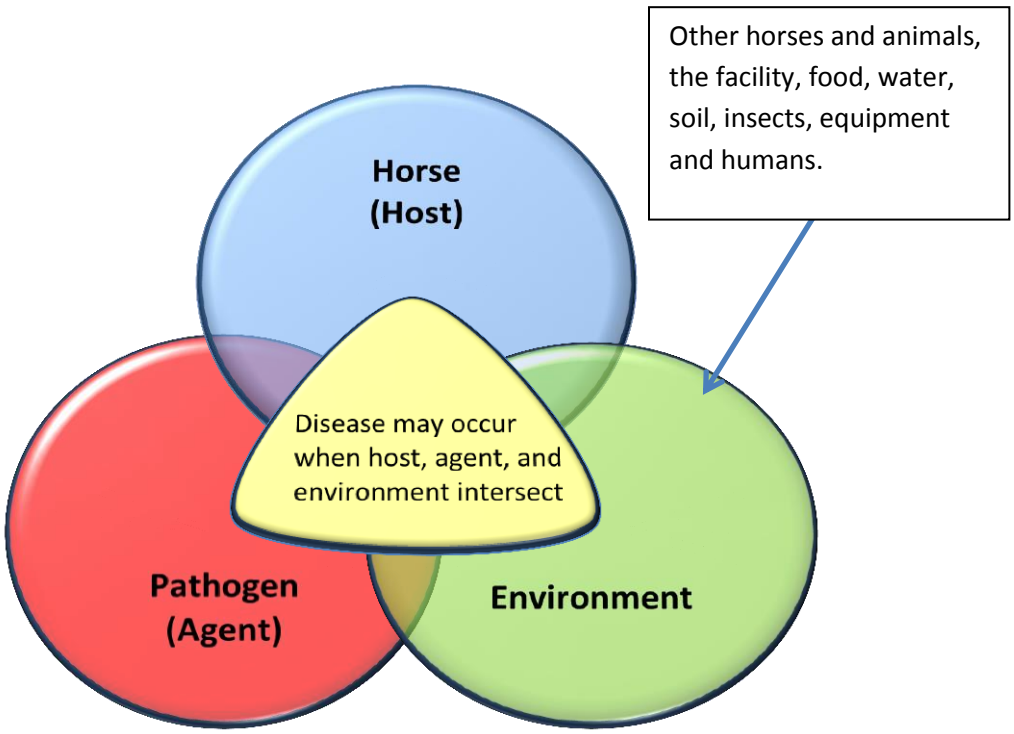

Figure 2: The Disease Triad *illustrates that disease may result from the interaction of a susceptible horse (the host), a pathogen (the disease agent), and an environment favourable for disease development. Horse diseases may be prevented by managing or eliminating any of the three factors.*

4.1 Sources of pathogens

- Subclinical inapparent carrier
- Diseased horses
- Other domestic animals including pets
- Humans
- Food, water, and soil
- Equipment and other items (fomites)
- Housing areas and immediate surroundings
- Wildlife
- Pests (insects, spiders, ticks, rodents, birds and other animals that pose a nuisance to horses)

4.2 Methods of transmission

Pathogens can be transmitted by a number of routes; however, not all pathogens are transmitted by all routes. Pathogen characteristics, such as the ability to survive in the environment, can significantly affect the mode of transmission.

Methods of Pathogen Transmission	
Direct Transmission - Pathogens transmitted between animals through close physical contact.	
Direct Contact	transmission through close physical contact between a susceptible animal and an infected animal, their bodily fluids or tissues.
Indirect Transmission - Some pathogens can be transmitted through an intermediate that has been contaminated and/or infected. This may be an inanimate object (a bridle, dirty clothing, contaminated feed and/or water) or a live animal (insect, rodent).	
Indirect Contact	transmission through contact with people (for example: contaminated clothing, footwear, and/or hands), or with an inanimate object (fomite) through the shared use of equipment such as needles, syringes, artificial vaginas and dentistry equipment.
Ingestion	transmission by consuming feed and water contaminated by pathogens.
Aerosol transmission within a droplet	pathogens transmitted short distances by large fluid droplets generated by coughing, sneezing snorting and whinnying.
Airborne	transmission by very small particles that can be generated by disturbing contaminated materials.
Vectors (living organisms)	transmission by a living organism (for example: people, animals, insects and ticks) infected with or contaminated by pathogens.

4.3 General concepts of infection prevention and control

Four broad approaches to infection, prevention and control include:

A) **Decrease exposure to pathogens: this is the most important approach; eliminating contact between animals and pathogens prevents infection and disease.**

i) **a) Separation of new arrivals** – separate new horses and horses returning to a herd until their health status is determined and/or specific preventive measures are applied.

b) Separation of potentially higher risk horses – identify horses that are a higher risk for harbouring and transmitting pathogens and manage them appropriately (separate and treat) to minimize the risk. This may include horses that are visibly ill, known to have been exposed to ill horses and those recently recovered from an illness.

c) Separation of susceptible horses – separate horses that are more susceptible (young, pregnant, senior) to infection from other horses.

ii) **Cleaning and disinfection (for example: barns, stalls, alleyways, and trailers)** – perform routine cleaning and disinfection to reduce the number of pathogens that are present.

iii) **Hand hygiene** – perform hand washing, use hand sanitizers, and when necessary use clean disposable gloves (washing hands or using hand sanitizer after removal of gloves) to minimize pathogen spread.

iv) **Personal protective equipment** – change clothing and use protective outerwear (boots, coveralls and gloves) to provide a barrier to the transmission of pathogens.

v) **Access control** – manage access to the property and horses to limit exposure.

vi) **Traffic flow** – manage opportunities for direct and indirect contact between horses, people, equipment, vehicles, trailers and other materials on the property.

vii) **Pest management** – minimize pests by decreasing sources of feed and water, and opportunities for their entering and establishing populations in barns and buildings**.**

viii) **Pasture management** – manage pastures to minimize the accumulation and transmission of pathogens and parasites among horses.

B) Decrease susceptibility to disease: The best way to decrease susceptibility is to ensure your horse has a high health status. This can be accomplished in the following ways: providing proper nutrition, managing underlying disease, reducing stress, and implementing a good parasite control program. Develop and implement a horse health management program.

C) Increase resistance to disease: vaccination is the primary method used to improve resistance to certain infectious diseases. Develop a vaccination program and vaccinate horses against diseases using a risk based approach.

D) Treatment with medications to control an infectious disease: There are many different medications that can be used to help manage infectious disease, thus decreasing the chances of it spreading to other horses. The medications most commonly used to control bacterial infections are antibiotics. Because of the risk of infectious organisms developing resistance to the various antibiotics and potential adverse effects (e.g. diarrhea), they should be used with discretion and only under the direction of a veterinarian.

When normal biosecurity measures fail, horses may become infected with pathogens that require treatment. Treatment should always be conducted under the consultation and supervision of a veterinarian. The veterinarian is the person best able to prescribe the right drug for the condition at the right dose for the proper duration of time to effect a proper treatment and response.

Poor biosecurity and inappropriate or indiscriminate drug use can lead to antimicrobial resistance which has a significant effect on human and animal health.

Records Management - Good record keeping and written protocols provide the ability to instruct staff on appropriate protocols and improves consistency in horse management. Written records provide the ability to evaluate, verify and make adjustments to the biosecurity program over time.

Section 5: Preventive Horse Health Management Program

Goal: **There is a horse health management program implemented at the farm or facility that details daily care, disease prevention, and control practices. Every horse on the farm or facility is in compliance with the program to optimize disease prevention in a commingling environment.**

Description: An implemented and well documented preventive health management program encourages participation at stables and events; "promotes credibility of horse industry level responsibility;" supports awareness of horse health and welfare; and will mitigate "perception-based" liability. It is essential to realize that just as important as your own horses' health is the health of other horses.

5.1 Communication

Goal: The identification or suspicion of horse sickness is promptly communicated to maintain the health and welfare of other horses within a barn or facility where horses are kept. The staff and all the personnel are fully informed of the program and its importance.

Description:
Prompt communication of reliable information upon the suspicion or diagnosis of an infectious disease is important in:

- ensuring horse owners, custodians and participants at the farm or facility understand the biosecurity measures being taken and what they need to implement;
- advising neighbouring horse farms and facilities of the disease risk; and
- minimizing anxiety, panic, and overreaction of horse owners and the public.

Best Practices:

- develop a written and signed contract[1] between the custodian of the farm or facility and the horse owner or specified agent[2] that requires:
  - aligning the preventive care of the horse with the farm or facility requirements;
  - sharing all information regarding a health event that could affect other horses on the property;
- identify an individual to be the point of contact for horse health information from owners and custodians;
- inform the designated individual promptly when a horse is suspected to be ill;
- identify a spokesperson in advance that is responsible for sharing information; and
- identify who is "doing what"; the roles and responsibilities.

5.2 Horse (herd) health management program

Goal: To achieve and maintain a consistent high level of health for all the horses within a farm or facility, develop, implement and maintain a horse health management program.

Description: A preventive health management program is only effective if all horse owners or custodians comply with the program to establish and maintain horse health. This also applies to horses that are temporarily at the farm or facility.

[1] The terms of the contract are often established by the custodian of the farm or facility and presented to the horse owner or specified agent.
[2] An individual that has legal authority for the care of the horses and can provide consent to share information about the horse.

The ability to distinctly and accurately identify premises and horses is necessary for managing and monitoring herd health at the farm and facility level and when horses are moved to other premises, between provinces and out of country. This is often referred to as traceability. Some provinces have implemented premises and horse identification systems and requirements for documenting animal movements. Horse owners and custodians must ensure the horses under their care and the properties they reside on or visit can be distinctly identified to allow appropriate horse health management.

Best Practices:

- develop and document the farm or facility health management program;
- elements of a horse (herd) health management program may include:
  - diet and nutrition;
  - vaccination requirements prior to entry and protocols post entry;
  - disease testing requirements;
  - parasite control program (deworming: type of product, timing, testing[3]);
  - observation and monitoring procedures for horse health; and
  - identification of ill health and response procedures.

5.3 Monitoring and maintaining animal health

Goal: To promptly identify disease; to minimize potential spread to other horses; and to manage the well-being of the sick horse.

Description: Horses are routinely observed (on a daily basis) to ensure their continued good health and welfare. Increased observation is required when horses are at a greater risk for exposure to disease such as commingling at a show, event, track, following travel and on returning from any of these activities and on the introduction of a new horse to the herd.

Best Practices:

- maintain up-to-date records of management practices;
- routinely observe and monitor horse health. As a minimum, observation should occur on a daily basis. Increase the frequency of observation and monitoring when horses travel to and return from events, shows, tracks and other activities where commingling occurs; and
- establish criteria for identifying an ill horse. These criteria are "trigger points" for taking additional action. For example, an elevated temperature above the normal range of 37.0 to 38.5°C (98.6- 101.3° f) is an important trigger point.

If there are health concerns, consult a veterinarian. The best practice to minimize suffering of the horse and protect other horses from potential disease is to ensure the capacity for an immediate response.

5.4 Disease response and emergency preparedness protocols

Goal: To protect the health and welfare of horses, develop and implement a disease response and emergency preparedness protocols. All emergency preparedness protocols should include biosecurity considerations. In a disease response the welfare of the sick horse(s) is protected and measures are

[3] Testing may be required or performed if it is part of the management program or at a specific request to rule out parasitic overload in horses that may appear to be unhealthy or a "poor doer". Testing may also be used to validate the parasite control program and identify high shedders and potential resistance to the type of anti-parasitic medication used.

implemented to minimize the potential disease risk to other horses. For non-disease emergencies such as flooding and fire, the health and welfare of all the horses are protected during evacuation, transport and housing in an alternative facility.

Description: An immediate response may be required for disease and non-disease related situations. In both circumstances it is important to have response protocols developed and custodians trained prior to the event. Traceability which includes distinct and accurate animal identification, premises identification and movement records is fundamental to disease response and emergency preparedness protocols.

Animal and premises identification

- ensure all horses at farms and facilities are readily identifiable by all custodians;
- ensure all premises are distinctly identified; and
- facilitate traceability by permanently identifying horses and maintaining a record of their home premises and owner's contact information.

Best Practices:

Roles and responsibilities

- for disease responses and non-disease emergencies, ensure protocols, roles and responsibilities, emergency contact numbers and facility identification (geographic location) are visibly available.

Disease response

- Processes following the suspicion or identification of disease in a horse at a farm or facility:
    - **Notification** – notify the owner or person that is authorized to act on the owner's behalf.
    - **Separation** – whenever possible, physically separate the suspect and ill horses from the other horses and manage them as a distinct group to prevent direct and indirect transmission of pathogens.
    - **Obtain tentative diagnosis** – consult a veterinarian to determine if the horse is infected with a contagious disease. If a veterinarian is not immediately available to attend the property, request advice from the veterinarian for measures to prevent further spread.
    - **Activate disease response team and implement the communication strategy** – for large facilities and events, a team of individuals with different backgrounds and expertise is useful for managing the situation. Designate a spokesperson to communicate the information. Your veterinarian may be required to report certain diseases (a federal reportable disease or a provincial reportable/notifiable disease) to the appropriate government agency.
    - **Identify other potentially exposed horses** – while obtaining a tentative diagnosis, determine which other horses may have been exposed. Focus on those that may have had direct contact (nose to nose) or indirect contact (for example: shared equipment, adjacent stall, shared water, and contact with other participants).
    - **Restrict movement** – temporarily restrict movements of ill, suspect and exposed horses, along with their handlers, until a veterinarian has made a tentative diagnosis and a response plan is implemented.
    - **Monitor horses** – observe ill and exposed horses for changes in health status.
    - **Release horses** – prior to removing movement restrictions, consult with the attending veterinarian. Brief all participants leaving the event about the disease and the need to monitor their horses for signs of illness. Horses that are ill and/or exposed through direct and indirect contact should upon their return home, be separated from other horses and, monitored, and treated as appropriate until their illness clears or their health status is determined. Unexposed horses may be transported to other venues – disclose previous attendance at an event where infectious disease was present.

Non-disease response - emergency preparedness action plan (for example: flood, fire, natural disaster)

- develop an evacuation, transport and alternative facilities plan to protect the health and welfare of horses while considering biosecurity continuity. Establish and pre-arrange an emergency transport plan and housing in an alternative facility for short and longer term emergencies;
- designate custodians to specific tasks; and
- the preservation of life is the primary objective. Once the threat has been mitigated, if biosecurity protocols have been compromised then perform a situation assessment and implement appropriate biosecurity measures.

Section 6: New Horses, Returning Horses, Visiting Horses, Movements and Transportation

Goal: Movement of horses is done in a manner that minimizes the risk of introduction and spread of pathogens.

Description: New horses can pose a significant risk for the introduction of pathogens to the resident herd. Establishing the health status of the horse and ensuring there is sufficient space and staff to perform routine care is necessary prior to acquiring the horse.

6.1 New horses (purchase consideration), new arrivals, and returning horses

Goal: Determine the health status of new horses and align the health status with the resident herd. This will direct the procedures that may need to be taken before introducing horses to the herd. Separate and implement measures based on the level of risk for newly arriving and returning horses to protect the health of other horses.

Description: New horses may pose a risk for the introduction of disease to horses on the property. This can be complicated by horses that are sub-clinically infected; they appear healthy yet are carrying a pathogen. Measures can be taken to reduce this risk (for example: testing for diseases and veterinary health exams prior to arrival), however, some infected horses will not be identified depending on the tests used and the stage of infection. Therefore, it is important to separate new arrivals from the other horses for a period of time to ensure they do not pose a health risk.

Although the risk is most often lower, returning horses may pose a risk for introducing and transmitting pathogens depending on their potential exposure while off the farm or facility.

Best Practices:

- prior to the horses arriving obtain proof (documentation) of the vaccination, deworming history and other health tests as required (for example equine infectious anemia {swamp fever} and other diseases). When this is not feasible, perform these tests while the horses remain separated from other horses;
- review the health records detailing past illnesses, treatments, veterinary exams and travel history;
- ensure horses are distinctly identified;
- when purchasing multiple horses, purchase from as few sources as possible;
- when purchasing multiple horses, consider managing them as groups based on similar risks;
- if using semen and embryos, ensure donor animals are free of venereal disease and acceptable veterinary methods are used for collection, processing and storage of semen and embryos;
- when purchasing horses at sales or auction barns, recognize the significant risks to horse health where there is the opportunity for commingling, the shared use of halters, lead ropes, water troughs and stalls. Additionally, be aware of the historical health status of the facility (for example: endemic strangles);
- separate new arrivals from the resident horses on the farm for a period of time sufficient to determine their freedom from disease. There are a number of factors that influence the length of the separation period - consult your veterinarian to identify an appropriate time;

Negative test results for key diseases, a thorough medical history, and recent veterinary exam with negative results may shorten the separation time.

- vaccination:
    - develop vaccination protocols based on disease risk and veterinary recommendations;
    - keep records of vaccination; and
    - report any adverse effects that occur to your veterinarian.
- implement a parasite control program as determined with your veterinarian;
- obtain a certificate of veterinary examination completed within 7 days prior to entry to the facility to determine the health status of the horse and the biosecurity procedures that are appropriate;
- separate horses using physical barriers and/ or procedural measures to prevent direct or indirect contact between the new animals and resident horses;
- monitor new horses daily for any change in their health including daily body temperature assessments and record these findings in a log book; and
- immediately separate and have a veterinarian examine any horse suspected of having a contagious disease such as diarrhea, respiratory disease or a fever of unknown origin.

6.2 Visiting horses

Goal: Decrease the risk of disease transmission from horses visiting the farm or facility for a short period of time (for example: lessons, training, day events, recreational riding, and breeding).

Description: Visiting horses that do not share the same health status of the resident herd may pose similar risks as new arrivals to a farm or facility, if permitted to commingle. Visiting horses that will be housed on the farm or facility require the same biosecurity considerations as new horses.

Best Practices:

- establish health status criteria for visiting horses that aligns with the health management program at the farm or facility;
- validate horse health status;
- ensure paddock and stall areas are available that allow for separation of the visiting horse(s) from the resident herd;
- do not allow horses to have direct contact during activities;
- at facilities that have all or a large percentage of the population coming and going such as with racehorses at training facilities, separating horses may not be practical or accommodated with the facility design. In these situations, these horses should be managed in peer groups and / or separated from resident horses that never leave the premises if appropriate (relevant); and
- establish criteria for equipment accompanying visiting horses. This may include the following: cleaning and disinfecting the trailer prior to arrival, parking in a designated area, bringing clean and disinfected buckets to water and feed visiting horses (for cleaning and disinfection of equipment see section 8.5).

6.3 Movement within the farm or facility

Goal: Horse movements within a farm or facility are managed to reduce exposure from higher-risk horses[4] to horses with lower disease resistance.

[4]Factors that could place a horse into a higher risk category include: unknown health status, previous exposure to horses or areas of known disease, no vaccination history, not on a deworming program, a history of disease and exhibiting signs of disease. Custodians should consult their veterinarian.

Best Practices:

- house horses of similar risk groups (health status, use, and age) together and limit cross contact between personnel, equipment and exposure to common environments (paddocks, pastures);
- house mares and foals separately from the remainder of the herd; and
- maintain the physical separation[5] of sick, new, returning, and visiting horses from the resident herd.

Horses that play together should stay together.

6.4 Attendance at events

Goal: Minimize risks for disease transmission from horses and equipment (buckets and tack) taken to and returning from events**.**

Description: Commingling of horses at events pose a significant risk for disease transmission. Participants and event organizers share responsibility in minimizing the risks and have complimentary roles.

6.4.1 Responsibility of the custodian

Best Practices:

- ensure horses are healthy and properly vaccinated manage horses from the same barn or farm as a group and stall together at the event;
- minimize contact between riders, grooms, trainers and coaches with horses that are not their own;
- dedicate equipment to your horses and prevent sharing amongst horses;
- ensure supplies for cleaning and disinfection are provided or brought to the event and the assigned stalls cleaned if necessary;
- monitor horse health including body temperature daily while at the event. Report any abnormalities to the event organizer (and veterinarian; event designated or other);
- avoid any form of direct (for example: nose-to-nose) and indirect (for example: common surfaces in wash stalls) contact between horses; and
- do not submerge the end of a common use water hose into a water bucket.

6.4.2 Responsibility of the event organizer

Best Practices:

- it is the responsibility of the event organizer to establish health requirements for entry;
- restrict spectator access to the stabling area or to the trailer area;
- ensure stall areas have complete barriers between horses;
- provide a specified stall and area for ill or suspect horses;
- ensure stalls are cleaned and disinfected prior to arrival and between each horse;
- ensure wash stalls are cleaned and disinfected frequently and ideally, between horses;
- provide hand sanitizers or hand wash stations in the stabling area; and
- have established provisions for veterinary services (for example: on-call or on-site).

[5] See glossary for the expanded definition of separation.

An Industry Best Practice is to require the person with legal authority for the care of the horse to sign an agreement that requires informing the event organizer of a health issue that is potentially infectious. The event organizer, with veterinary guidance, will implement the biosecurity protocol that has been developed.

6.5 Transportation

Goal: Horses are transported in a way to minimize exposure to or dissemination of disease.

Best Practices:

- ensure horse transport complies with all applicable legislation including the requirements in the *Health of Animals Act*[6] and *Regulations*[7], applicable provincial regulations, and the *Code of Practice for the Care and Handling of Equines*[8];
- transport only your horses or at least only those for which you know the management and health status;
- a horse that shows signs of or is compromised by infectious disease should only be transported to a facility where it will receive proper care and should not be transported with healthy horses (clean and disinfect the trailer before it leaves the care facility);
- avoid mixing young horses when shipping (for example: yearlings mixed together from different farms or with young racehorses); and
- after transporting horses, clean to remove all organic material and disinfect the trailer.

[6] http://laws-lois.justice.gc.ca/eng/acts/H-3.3/
[7] http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._296/
[8] https://www.nfacc.ca/codes-of-practice/equine

Section 7: Access Management

Goal: Management and control of farm or facility access and identified risk areas limits disease introduction and spread on-site and enables the implementation of biosecurity practices.

Description: Access management refers to the use of physical barriers and/or procedural measures to reduce the transmission of pathogens onto, within and between horse farms and facilities by people, horses, equipment, materials, vehicles and trailers.

Essentials of access management include:

- Identifying pathways for disease transmission
- Interrupting or blocking pathways of disease transmission
- Controlling unwanted or unnecessary access to a farm, facility and horses
- Managing the movement of people, horses and equipment on site
- Employing biosecurity measures to reduce the risk of exposure to and spread of disease should an outbreak occur.

Consideration given to proper access management in the early implementation of biosecurity plans provides an improved capability to respond should disease occur.

7.1 Movement onto and within farms and facilities (zones)

Goal: Establish and identify biosecure zones, controlled access points, and pathways to control access to the premises, barns and horses and to minimize pathogen transmission by animals, people, vehicles, trailers and equipment**.**

Description: Biosecure zones simply allow the separation and protection of horses and areas used for their care from sources of pathogens by mapping out and then controlling movements of people, animals, equipment and materials through zones. It starts with dividing a facility into management areas and identifying access points (controlled access points) to each area. Management areas might include the site as a whole, an individual barn, or arenas and other locations including wash stalls and feed rooms. Controlled access points should be equipped with the necessary materials and supplies to implement biosecurity procedures.

The design of zones and applicable biosecurity requirements should reflect the specific disease risks and the management goals of the equine owner, custodian or facility manager. Properly established biosecurity zones facilitate day-to-day activities without the unnecessary interruption associated with application of dissimilar biosecurity procedures. In many countries, including Canada, zones for the purpose of controlling movement and biosecurity management, are called either controlled access zones or restricted access zones based on the risk of activities carried out within them.

1) A **controlled access zone** is a designated area that contains the land, buildings, equipment and infrastructure involved in the care and management of horses where access and movements are controlled. Entry is restricted and managed through a controlled access point. The controlled access zone is often the first zone that is entered on a farm or facility and frequently includes laneways, equipment, storage sheds, and riding arenas, although some of these may be in the restricted access zone in other facilities. It usually excludes the house and office space of the farm owner and manager. The controlled access zone may include pastures and barns that horses are not currently occupying. A controlled access zone has its own

specific biosecurity protocol and often encompasses the restricted access zone(s).

2) A **restricted access zone** is a designated area where horses commonly reside (are stabled, housed, pastured) and where access to people, equipment and materials is further restricted. The zone(s) include the pens, barns, and pastures, as well as separation areas used for new, visiting and ill horses. The layout and management practices of individual farms and facilities will determine whether manure storage and other production infrastructure directly involved in animal care and maintenance should be included within the restricted access zone.

It is important to remember that equine owners and custodians may decide to use a <u>single</u> zone to manage biosecurity on a farm or facility, depending on its complexity and risk factors that exist.

Figure 3: Zoning on a Horse Facility: *A simple horse facility demonstrating the concept of two biosecurity zones. The controlled access zone (yellow fenced area) establishes a boundary between everything outside the facility and areas of the property involved in horse care and management. It provides the ability to manage the risks of the introduction of disease into areas where it may be easily transferred to horses and reduce the spread of disease off of the property. Storage areas for feed, bedding and manure and bleachers for viewing the arena are located in this zone. Restricted access zones (areas bounded in red) require stricter biosecurity and limit direct access to horses or the areas that they may reside. Controlled access points (purple gates) and signage assist in managing and directing traffic flow into and out of the controlled and restricted access zones. Parking for visitors is established outside the controlled access zone and a separate driveway and parking area is established for the property owner's house.*

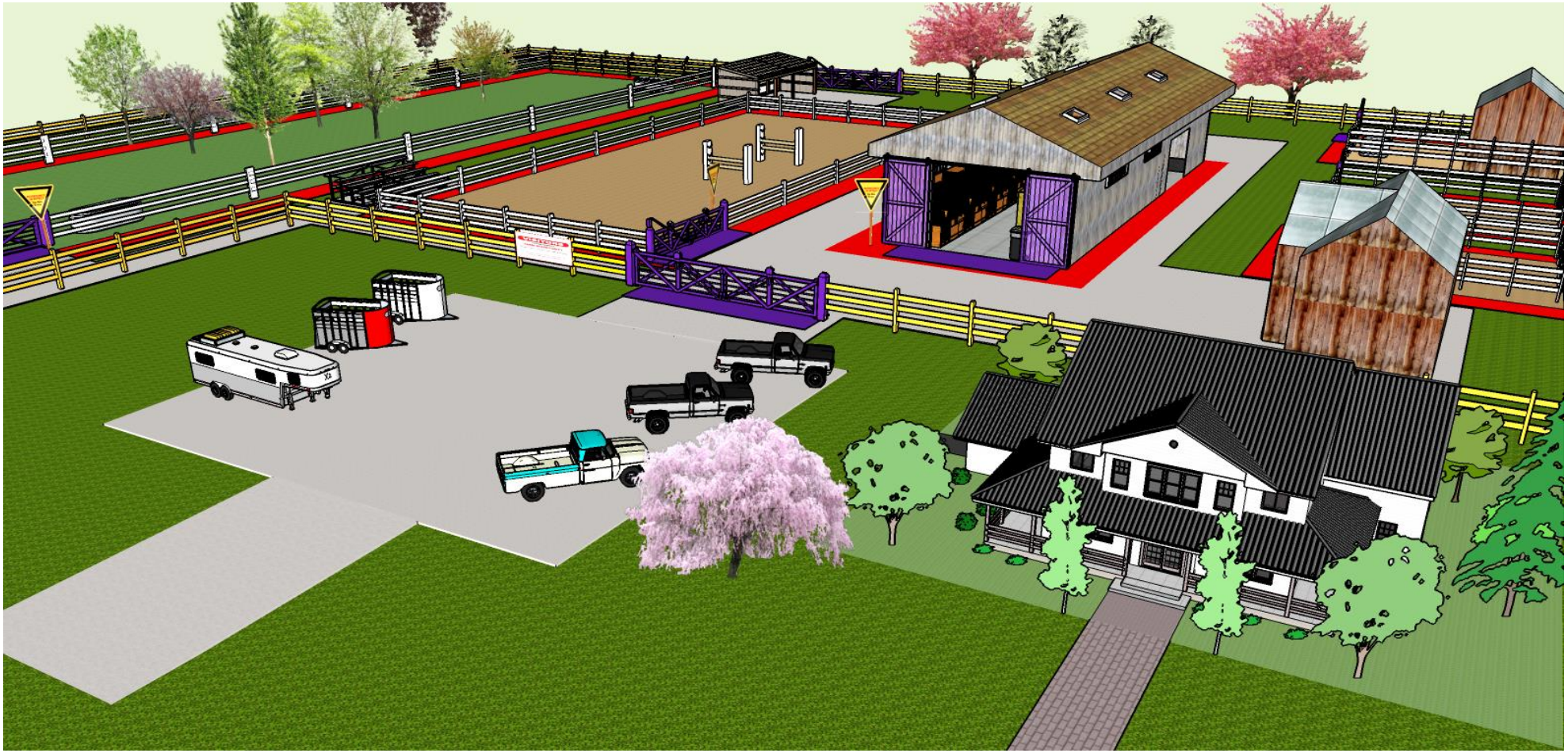

Figure 4: Zoning on a Horse Facility

An alternate view of the horse facility depicted in figure 3. Clockwise from the upper left: Pastured horses are separated from other horses on the property and traffic flow minimizes interaction with resident horses. Covered manure storage is located at the back edge of the property with a dedicated controlled access point (purple gate) allowing access and manure removal, minimizing entry into the property. The arena and resident horse barns are restricted access zones. Hard surface pathways facilitate movement around the property and completely surround the barn which is a high traffic area.

In the upper right hand corner, a restricted access zone surrounds a small barn (stable) and paddock area established for the care of ill or suspect horses. Separate feed, water, equipment and tack are stored here and dedicated for the care and maintenance of horses. Two day turn-out paddocks (also restricted access zones) allow separation of peer group horses. Feed and bedding are stored in the small barn adjacent to them.

Best Practices:

- review farm or facility layout to determine what biosecurity risks exist with current horse stabling locations;
- establish controlled access zones and restricted access zones and, when necessary, establish segregation areas for new horses, for horses returning from off farm events, and areas for treatment of sick horses;
- minimize unnecessary access by limiting the number of entrances (access points);
- ensure the necessary biosecurity equipment is provided at designated access points;
- establish and identify pathways to reduce the risk of disease spread by separating the movement of horses of different health status, used and new materials (bedding), visitors and farm personnel;
- maintain the pathways clean and free of potential sources of disease; and
- post biosecurity signage to guide and direct custodians and visitors.

Best Practices: Large event facilities

- apply farm or facility zoning "best practices" to the degree possible;
- manage the access and movements of people and pets onsite;
- establish separate entrances and parking areas for participants and visitors;
- ensure resident horses, if present, are housed and exercised separately from visiting participant horses or if this is not possible ensure resident horses are required to be held to the same health status as competition horses;
- encourage the use of housing that prevents nose-to-nose (direct) contact between horses;
- ensure common use areas such as wash stalls or racks prevent direct contact between horses and to the degree possible, common contact surfaces (fomites);
- stable horses in groups (cohorts) to create distinct management units with their own wash stalls, feed and equipment storage; and
- establish a segregation area for sick horses that is physically separated from the housing and exercise areas used by resident and participant horses.

7.2 Procedures for moving between zones

Goal: Establish requirements and implement procedures to manage the entry and movement of people, horses, equipment, vehicles and trailers.

Description: To achieve the benefits zones can provide depends on controlling access to the zone(s) and the application of appropriate biosecurity measures when people, horses, equipment, vehicles and trailers cross zone boundaries.

People, particularly those that have had contact with livestock or other livestock premises, and horses, primarily those that are of an unknown or lower health status, that enter the farm or facility pose a risk for the introduction of disease. Additionally, pathogens that may be present in manure, respiratory fluids, urine and blood, can contaminate equipment and trailers and transmit disease when they come into contact with horses.

The biosecurity measures required for people, equipment and horses moving across zones can be viewed as a gradient occurring at different levels based on risk. As the risk of the introduction and transmission of pathogens increases, the degree of biosecurity measures required increases.

Larger boarding stables and event venues pose an increased risk for disease transmission due to:

- increased numbers of horses;
- potential for uncontrolled commingling of horses with different health management backgrounds; and
- more frequent movement of people, horses and equipment and the associated stress of transport.

Day-to-day access management in large facilities is more difficult to accomplish, increasing the importance of vaccination programs, prescribed health standards for attendance, and monitoring the health of horses in attendance.

Section 8 Farm and Facility Management

Goal: Promote horse health by providing a clean, well maintained, low stress, and safe environment that minimizes biosecurity risks.

Description:
Farm and facility management includes but is not limited to any structures that may house or shelter horses, paddocks, pastures, equipment, bedding, feed and manure storage areas as well as riding arenas, race tracks and show areas. The implementation of proactive biosecurity in all aspects of the farm and facility management is important to the health and well-being of horses.

8.1 Feed, water, and bedding

Goal: Obtain good quality feed, water, and bedding and protect them from contamination by manure, water, pests, and wildlife**.**

Description: Good quality feed, water, and bedding are vital to horse health. The source, processing, transport and storage of feed, water and bedding are important considerations to minimize exposure to pathogens.

Best Practices:
Feed:

- obtain and provide high-quality feed from a known source;
- store concentrates and roughage in a manner that prevents contamination (by water, pests and manure) or spoilage; and
- dispose of feed that is contaminated or substandard quality.

Water[9]:

- communal (shared) water sources can be a source of transmission of pathogens. Where horses are comingling at temporary location (event, show), provide water to all horses individually, preventing the sharing of water buckets or the use of common water troughs;
- identify the source of the water and evaluate for quality and palatability;
- do not submerge common use water hoses into water buckets;
- where possible prevent access to natural surface water sources; and
- test water quality at least annually to ensure it meets standards for livestock consumption.[10]

Ideally horses should have their own water buckets; they should not be shared between risk and peer groups (for example: new horses and horses with suspected illness).

Bedding:

- store fresh bedding in a manner that prevents contamination by manure, water, pests and wildlife;
- provide a consistent source of dry absorbable bedding which is removed and replaced when soiled and on a regular schedule with a stall cleaning routine; and

[9] References: Water Quality and Horse Keeping Facilities (June 2003), Ministry of Agriculture, Food and Rural Affairs: Fact Sheet- water requirement of livestock and FAO corporate document repository: Water quality for agriculture section 6).
[10] Olkowski, Andrew A. Livestock Water Quality : A Field Guide for Cattle, Horses, Poultry and Swine. 2009. Agriculture and Agri-Food Canada

- remove bedding and clean and disinfect stalls prior to placing a different horse in the stall.

8.2 Property and pest management

Goal: Maintain the property to provide a healthy and safe environment for horses. Minimize pest and parasite populations; manage pet activities and exposure to wildlife through an integrated pest management and wildlife control plan.

Description: Properly storing equipment, feed and manure, as well as keeping the facility and surrounding area free of debris is important for the health and safety of horses. Initiate primary methods of pest and wildlife control by reducing sources of habitat and attractants prior to initiating secondary measures such as insecticides and pesticides.

Best Practices:

- initiate primary methods of pest control by reducing sources and habitat for insects and pests;
    - keep vegetation mowed short and compost or contain manure;
    - remove hiding and nesting areas for pests and wildlife; and
    - minimize pooling water on the site.
- remove attractants for pets, pests, wildlife and other domestic animals by securely storing feed, promptly cleaning up feed spills and properly storing garbage;
- as necessary, treat horses and / or the premises with repellants and insecticides on a seasonal basis and according to manufacturer's recommendations. Consult a pest specialist (exterminator) if required for significant infestations;
- install live traps for rodents and monitor their activity. Use rodent bait stations and traps only after careful consideration and with caution as they pose a threat to pets, wildlife and children;
- screen windows and doors, seal openings to barns and facilities, and move horses inside during high risk times (for example: dusk to dawn) during the vector season; and
- minimize contacts with pets, other livestock and wildlife which can act as potential disease vectors.

8.3 Pasture management

Goal: Manage pastures to minimize the accumulation and spread of pathogens and poisonous plants.

Description: Overstocking on pastures can contribute to overgrazing, dusty pasture conditions and the accumulation of pathogens which can affect horse health.

Best practices:

- manage pastures to prevent overstocking;
- require all horses to participate in a parasite control program;
- rotate pastures to minimize overgrazing and to assist in reducing parasite burdens. If rotation is not possible, consider an all-weather paddock for horses to allow pasture grass to regrow, protect saturated ground and manage the amount of green grass the horses are eating; and
- only spread thoroughly composted manure on fields used for grazing.

8.4 Interior and perimeter fencing

Goal: Interior and perimeter fencing is used to safely contain horses and facilitate management of horses on the property.

Description: Fencing serves a number of purposes essential to maintaining the health and welfare of horses including: safe containment, separation of horses of different health status and age as well as protection from predators and identification of property boundaries

Best practices:
Fence design, construction and placement

- enclose the property with a clearly visible perimeter fence capable of preventing the escape or intrusion by horses;
- routinely inspect the integrity of fences and gates and repair to prevent indiscriminate **commingling**;
- under some circumstances, there should be adequate space (at least 10 feet) between double fencing such as fenced paddocks and/or pasture areas to prevent contact between horses (See figure 5 at the end of this section: Example of facility layout and paddock separation); and
- use gates and signage to restrict access to the property and areas within the facility.

8.5 Cleaning and disinfection of barns and equipment

Goal: Cleaning and disinfection is conducted prior to and after use, as well as in the routine maintenance of barns, stalls, infrastructure and equipment.

Description: Day-to-day cleaning and disinfection is required to reduce ongoing risk of disease transmission on the farm or facility. Equipment and tools that are used to move feed or manure, or to maintain the farm or facility, particularly those used for separated or ill horses, require specialized cleaning and disinfection practices. It is important that barns, stalls, relevant infrastructure (such as water troughs and fences) and equipment are cleaned and disinfected when there is an outbreak of disease or a suspected case of disease in the herd.

Best Practices:

- implement a cleaning and disinfection plan for pathogen control on equipment and environmental surfaces;
- establish cleaning and disinfection protocols and a schedule for cleaning and disinfecting the farm or facility (for example: barns, stalls, water troughs, feed and water buckets) equipment and vehicles;
- clean and disinfect common contact surfaces in paddocks and arenas (for example: gates and fences where horses congregate);
- clean and disinfect trailers, stalls and paddocks between horses and following illness in horses;
- avoid sharing tack and equipment between horses and when necessary clean and disinfect between horses;
- always clean before disinfecting because disinfectants are typically ineffective in the presence of organic material;
- avoid high pressure power washing as this can spread pathogens; and
- use an effective disinfectant that can inactivate the relevant pathogens.

Thoroughly cleaning surfaces removes the majority of pathogens and is the most important step. Only apply disinfectants to clean surfaces and follow the manufacturer's label directions.

8.6 Barn maintenance, ventilation and wash stalls

Goal: Manage and maintain barns, buildings and wash stall areas and optimize ventilation in horse housing areas.

Description: Maintaining buildings and surfaces in good condition allows effective cleaning and disinfection which reduces the accumulation of pathogens. Good ventilation is an important consideration for the respiratory health of a horse. Ventilation is necessary to provide frequent air exchange and the even distribution of fresh air, to remove moisture and irritants (such as ammonia and particulates), and regulate temperature. Design and drainage of wash stalls and racks is important to reduce contact among horses and between horses and environmental surfaces.

Best practices:

- ensure the surfaces that horses will come into direct contact with are in good repair;
- ensure there is adequate airflow throughout the barn;
- manage and monitor ventilation to ensure that humidity, airborne particulates and temperature are controlled to reduce their impact on horse health;
- review wash stall and rack design and implement measures to reduce direct contact between horses and common contact with environmental surfaces; and
- ensure wash stalls and racks are well drained, cleaned and disinfected according to use.

8.7 Manure management

Goal: Manure is regularly removed, stored and disposed of in a manner that minimizes contact with the herd and prevents contamination of feed and water sources.

Description: Manure is a source of potential pathogens. Potential pathogens can remain infectious for long periods of time in the environment and the routine removal of manure will reduce environmental contamination. Ensure manure storage and disposal methods comply with federal, provincial, and municipal government regulations.

Best Practices:

- remove manure from horse stalls, paddocks and pastures on a regular schedule to minimize accumulation;
- dedicate tools and equipment used for manure handling to this activity. If equipment cannot be dedicated to manure removal activity or designated to specific areas, clean and disinfect the equipment between activities or areas;
- design and locate manure storage areas to prevent contact with the herd, contamination of feed and water supplies and access by pests and wildlife;
- compost the manure to inactivate pathogens (including parasites) if manure is to be used as fertilizer in horse pastures (or other susceptible species); and
- wash or sanitize hands and clean and disinfect footwear after handling manure.

8.8 Garbage management

Goal: Garbage, medical waste, and sharps are regularly removed and managed to minimize the transmission of pathogens.

Description: Garbage, medical waste and sharps can be a source of pathogens and if improperly managed, they can easily spread disease when moved within and/or off of farms and facilities. Ensure garbage, medical waste and sharps disposal methods comply with federal, provincial, and municipal government regulations.

Best Practices:

- store household and stable garbage in closed containers and dispose of regularly; and

- contain medical waste and sharps in separate approved medical waste and sharps containers and dispose of according to local regulations.

8.9 Deadstock management

Goal: Deadstock is managed and disposed of to minimize the transmission of pathogens and contamination of the environment.

Description: Ensure the method of carcass disposal and storage complies with municipal and provincial bylaws and regulations. Depending on the region, acceptable methods of disposal may include burial, composting, cremation, rendering, natural means and landfill.

Disposal by natural means and burial is not permitted in some provinces; check with your provincial authority.

Best Practices:

- determine the cause of death, if not obvious, to rule out contagious or infectious sources;
- if removal of the carcass and cleaning and disinfection of the area (for example: a stall or pen) is not immediately possible, ensure the carcass is in a location that prevents access by pets, pests, wildlife, other livestock, and other horses;
- ensure carcass holding areas prevent access by pets, pests and scavengers and where carcasses are picked up by a disposal service, the location minimizes entry to horse housing areas; and
- dedicate equipment or clean and disinfect equipment used for the collection and disposal of carcasses.

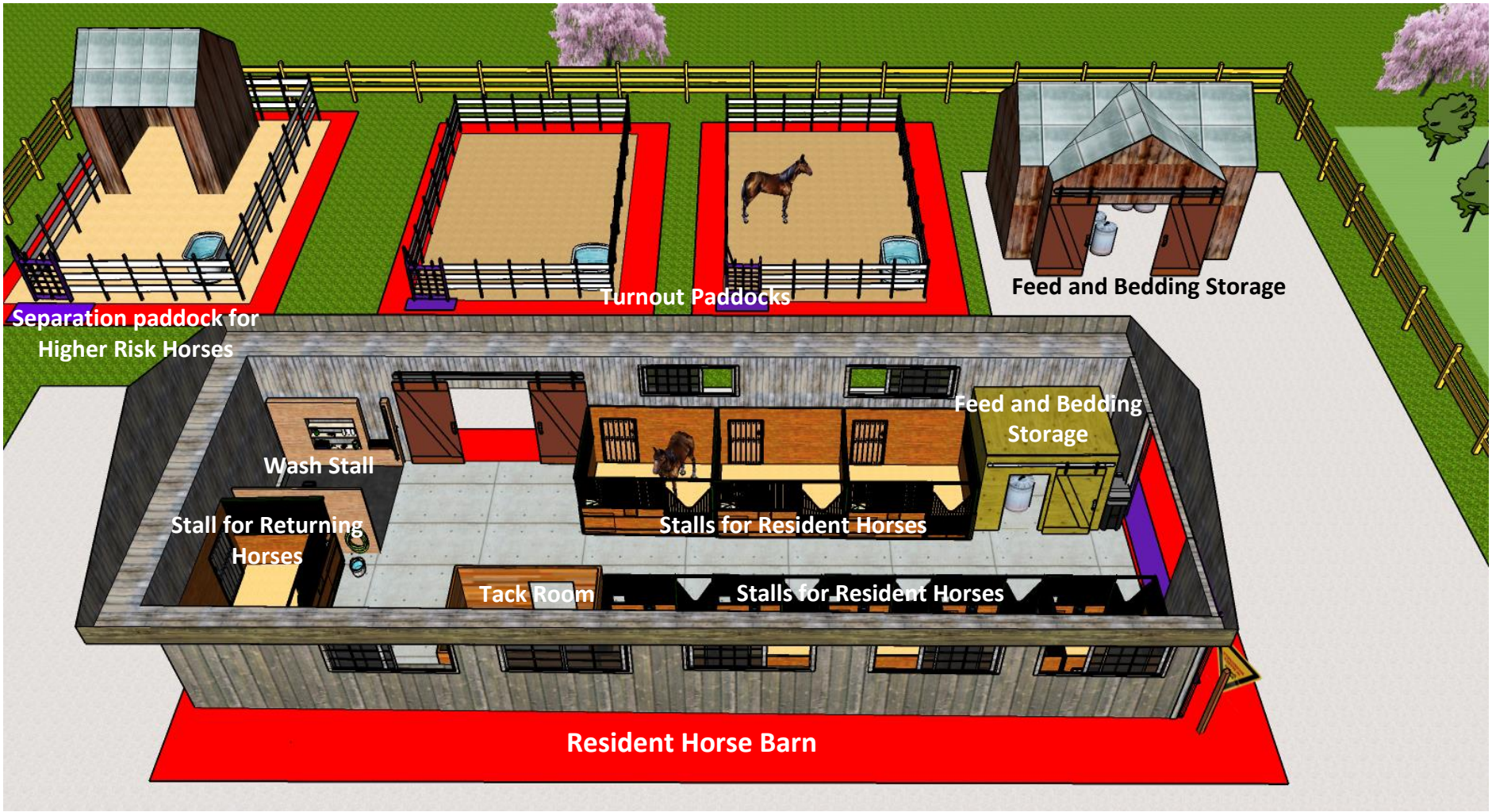

Figure 5: Example of facility layout and paddock separation: *Separating the paddock and stabling areas for horses that have a different health status or belong to different peer groups assists in minimizing pathogen transmission and facilitates management of the horses on the farm or facility. The resident horse barn, turnout paddocks and separation paddock are all restricted access zones accessible through controlled access points (gates). The two day turnout paddocks are fully fenced and separated by more than 10 feet which prevents direct contact between horses and each is supplied with their own watering trough. New and returning horses can be separated in a stall at the end of the barn and a turnout paddock set aside for their use.*

Ill horses require the highest level of biosecurity and, ideally, should be physically separated from other horses on the property (Separation Barn). Restrict entry to only those people necessary for the care of these horses and require hand washing before and after entry. Dedicate coveralls and footwear specifically for this barn or clean and disinfect boots on entry and exit. Dedicate and label all tack and equipment (buckets, rakes, shovels etc.) and ensure none of it is removed and used with other horses. If a separate location is not available, a stall that is isolated from other horses within the resident horse barn can be used, however, the shared air space and close proximity to other horses can result in the inadvertent transmission of pathogens by airborne routes and other indirect methods of contact.

Section 9: Biosecurity Awareness, Education and Training

Goal: All people attending a farm or facility or coming into contact with the horses are aware of, knowledgeable about and comply with current biosecurity practices. Standard Operating Procedures (SOPs) for biosecurity protocols are developed and reviewed at least annually.

9.1 Leadership and biosecurity awareness

Goal: Custodians take responsibility for ensuring the biosecurity practices are established and communicated to everyone attending a farm or facility or coming into contact with horses.

Description:
Custodians of horses and farms or facilities are ultimately responsible in ensuring the health and well-being of their horses including establishing and communicating biosecurity protocols.

Best Practices:

- custodians take responsibility for establishing and communicating biosecurity requirements;
- designate a key person to be responsible for organizing, communicating and administering the biosecurity program;
- maintain a contact list of owners, custodians, clients, farm, veterinarian, and facility workers to facilitate distribution of biosecurity materials;
- ensure horse owners and custodians take responsibility for people accessing the property on their behalf (they should provide confirmation that these individuals are aware of the biosecurity protocols and received the necessary training and education to comply with the requirements);
- maintain a copy of the biosecurity protocols in a centralized location that is accessible to all potential users; and
- provide signage applicable to good biosecurity protocols.

9.2 Education and training

Goal: All custodians and /or horse owners, their family members, clients and farm or facility workers are educated, trained and regularly updated on the biosecurity risks, protocols and results. Service providers and visitors are advised and provided an orientation on biosecurity protocols.

Description:
Successful biosecurity relies on people understanding the importance, purpose and their role in the farm/facility biosecurity program and adopting the practices as part of their routine.

Best Practices:

- appoint a key person to lead this process of developing and reviewing Standard Operating Procedures (SOPs);
- include your veterinarian in the development and/ or review of your standard operating procedures to target the relevant risks;
- integrate the standard operating procedures into all training and orientation;
- designate a person to be responsible for organizing and educating custodians and visitors and to administer the program;
- ensure staff training is provided at least annually and when there are changes to the biosecurity program;
- train staff on measures relevant to their job functions and that address the current risks;

- maintain records of all staff training; and
- train all staff and volunteers to understand and conduct a horse health check assessment and record the results in the log book along with any concerns and follow-up.

Effective, ongoing communication is a critical component of a biosecurity plan and helps to handle concerns early and quickly. Changes in procedures or risks need to be communicated effectively to all participants. Feedback to staff is critical to developing good techniques.

Section 10: Farm and Facility Location, Design, Layout and Renovations to Existing Facilities

Goal: Good planning and assessment of your farm or facility from a biosecurity perspective can help reduce the risk of the spread of disease or introduction of disease to your property. A diagram of the farm or facility layout can be helpful to assess the high and low risk areas, including the traffic flow, visitor areas, manure management and fencing needs for pathways as well as prevailing winds and water run-off.

Description:
Biosecurity principles should be included when designing or re-designing the physical environment. Often small changes may be implemented that can have a positive impact. Priority areas for assessment include: geography, topography, facility layout, traffic flow and design of the facility. The biosecurity guide provides additional details on this section.

10.1 Geography

The overall geography of the area and of the facility should be assessed from the point of view of reducing the spread of disease and minimizing its introduction to the facility. Constructing new facilities in areas that are less densely populated with horses and livestock can reduce the risk of exposure to pathogens. Assess your needs and balance these benefits with the need for access to veterinary services, feed suppliers, and equine event complexes that are often located in areas of higher density.

10.2 Topography

Incorporate natural surface features (topography) in the design of the site as they will influence the overall use of the property, the location of buildings, turnout areas, pastures and other necessary infrastructure of your farm or facility. The slope and type of soil will affect drainage, ease and cost of grading and building, pasture quality and footing for horses. Trees and hills can provide protection from summer sun and influence wind patterns and ventilation. Ponds and streams can reduce useable area, attract wildlife and pests and affect drainage.

10.3 Layout

The layout of the site affects the ease of conducting day to day operations and the ability to implement effective biosecurity practices. The layout must account for the intended number of horses and allow for expansion as needed. Being able to separate horses from different peer and risk groups is important as is the ability to minimize contamination of feed, water and clean bedding from manure and wash water.

10.4 Traffic flow

The uncontrolled movement of people, horses, equipment and materials on a farm or facility can quickly and easily spread pathogens. Identifying and planning traffic flows will reduce this risk.

10.5 Design of new physical structures or renovation to an existing physical structure

There are many types of structures that are used to house horses including structures that previously housed other species (for example: renovated cow barns). The structure needs to be assessed from the position of equine biosecurity, as the needs of other species may be very different than those required for horses. The following are best practices in the design of a new facility or renovating an existing structure to support the implementation of biosecurity:

- when repairing or enlarging the facility, select building materials that are smooth, non-porous, durable and easy to clean and disinfect (for example: metal, sealed concrete and some plastics);
- seal wooden surfaces (such as fences, barn and building walls) with multiple coats of a non-toxic marine grade enamel paint or urethane to provide a surface that can be more easily cleaned and disinfected; avoid sealing surfaces horses may chew or ingest;
- select building materials that will not shatter or splinter when kicked by horses; and
- ensure there are a sufficient number of taps and sinks for cleaning and hand washing and adequate subsurface drainage to remove waste water and storm water.

Always check with the product manufacturer before using any paint, sealer, cleaner or disinfectant to ensure it is approved for use in livestock buildings and will not negatively affect horse health.

Annex 1: Development of the standard and acknowledgements

Development of the standard

The standard was developed through a partnership of Equine Canada and the Canadian Food Inspection Agency in collaboration with Agriculture and Agri-Food Canada. An advisory committee representing a broad cross-section of the industry comprised of equine owners, subject matter experts, provincial government officials, representatives from regional and sector-specific equine industry organizations, academics, and the public sector, provided invaluable guidance throughout the process.

Prior to beginning work on the standard, an assessment was conducted to determine the size and scope of the equine industry, the biosecurity risks and challenges and the interest and ability of the industry to participate in the development of a national biosecurity standard. A detailed literature review of biosecurity practices and programs in Canada and internationally was conducted.

Equine Biosecurity Advisory Committee Members

Representative	Organization/Affiliation
Bill desBarres	Alberta Equestrian Federation and Horse Welfare Alliance of Canada
Dr. Adam Chambers	Ontario Racing Commission
Dr. Alison Moore	Ontario Ministry of Food, Agriculture and Rural Affairs
Dre Chantal Proulx	Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec
Dr. David Paton	Equine Private Practitioner (British Columbia)
Dr. Darrell Dalton	Alberta Veterinary Medical Association
Dorothy Willows	Horse Industry Association of Alberta
Dr. Daniel Schwartz	Canadian Food Inspection Agency
Gayle Ecker	Equine Guelph, University of Guelph
Isabelle Breton	Filière cheval du Québec
Jack de Wit	Equine Canada
Kathryn Tonita	Saskatchewan Ministry of Agriculture
Les Burwash	Alberta Agriculture and Rural Development
Dr. Mary Bell	Equine Canada and Equine Private Practitioner
Dr. Patricia Pentney	Canadian Food Inspection Agency
Renée Lévesque	Cheval Québec
Dr. Ron Clarke	Former Equine Private Practitioner (Alberta)
Dr. Ross A. McKague	Equine Private Practitioner (Manitoba), Manitoba Jockey Club and Assiniboia Downs (racetrack)
Sandra Conrad	Equine Canada (Atlantic Representative) and Nova Scotia Equestrian Federation
Dr. Scott Weese	Ontario Veterinary College
Dr. Susan Raymond (alternate for Gayle Ecker)	Equine Guelph, University of Guelph
Virginie Rochet	Sector Specialist, Agriculture and Agri-Food Canada
Dr. Wayne Burwash	Equine Private Practitioner (Alberta)

Annex 2: Self-Evaluation Check list for Risk Assessment

Equine Farm or Facility Level Biosecurity Self-Assessment Tool

The objective of the self-assessment is to identify areas of risk and identify appropriate biosecurity actions to develop your site specific biosecurity plan.

For the purpose of this self-assessment, *separation is defined as using physical barriers to prevent direct contact between horses. Separation is a management tool to minimize the risk of introduction and spread of disease. Other terminology such as isolation and quarantine is commonly used for specific purposes of separation (see separation in the glossary for additional information on other terminology).*

Date of Assessment: _____

Components of a Biosecurity Plan	
1. Information and Intelligence Gathering	
1a) Owner, farm or facility identification and other important contact information.	**Name:** **Location (Physical and Geographic Information System – GIS):** **Contact person:** **Emergency contact (people and numbers):** **Veterinarian:** **Farrier:** **Police:** **Fire;** **Ambulance:** **Other:**
1b) Identified resources and communication networks to adjust your biosecurity plan and training protocols to potential risks in your area and region.	

2. Monitoring and Maintaining Animal Health Response (*standard Reference: Section 5.0*)				
Biosecurity Activities **2a) All resident horses.** **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity measures that could be implemented on your farm or facility that would minimize the risk or concern.**
have a veterinarian that is familiar with your farm or facility and the herd health practices?				
have an agreement in place for horses under the care of individuals other than the owner, that provides for an immediate response in the event of potential welfare impacts or disease?				
have a preventive health program for resident horses?				
align new horses to the farm or facility preventive health program either:				
- prior to arrival or -separate the horses on arrival until measures have been implemented?				
monitor and inspect horses daily for signs of illness?				
separate horses with consideration to age, health status, use and social well-being?				
have established (and written) disease response and emergency protocols?; and				
-have staff and personnel been trained?				
maintain health records of horse treatments?				
obtain a veterinary diagnosis for horses that appear to have died from an infectious disease or an unknown cause?				

Biosecurity Activities **2b) Managing sick or ill horses.** **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity measures that could be implemented on your farm or facility that would minimize the risk or concern.**
have a separate stall and/or paddock for sick horses that prevents contact with other horses?				
work with healthy horses before attending to sick?				
wear gloves and protective clothing when handling sick horses?				
wash your hands after handling sick horses ?				
disinfect footwear (if boot covers are not available) after working with sick horses?				
use designated or dedicated equipment: -for treating sick animals?;				
- for cleaning the horse stalls or paddocks?				
clean and disinfect equipment used: -in the care and treatment of sick horses?;				
-in managing the contaminated areas of the farm or facility?				

3. New Horses, Returning and Visiting Horses (*Standard Reference: Section 6.0*)				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity action points that could be implemented on your farm or facility that would minimize the risk or concern.**
require validation of the health status of a horse prior to accepting arrival at the farm or facility? (This includes a review of health records to ensure deworming and vaccination status are consistent with the resident herd).				
have a procedure and written agreement to align the health status of horses prior to arrival if their health status is not consistent with the resident herd? (*For* example: vaccinate as indicated or align to the facility management de-worming program).				
have a separate stall and/or paddock that prevents contact with resident horses for new arrivals, returning and visiting horses?				
Or are there other protocols that prevent contact with resident horses?				
separate new additions or returning horses from the resident herd upon arrival?				
require the equipment for visiting horses (tack, grooming, feed and water buckets) to be designated to an individual horse, and be cleaned and disinfected prior to arrival at your farm or facility?				

3. New Horses, Returning and Visiting Horses continued (*Standard Reference: Section 6.0*)				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity action points that could be implemented on your farm or facility that would minimize the risk or concern.**
validate the health status of horses visiting for short term activities (not housed overnight)?				
Keep these horses separate from the resident herd at all times?				
provide event managers permission to take measures to minimize disease risks if disease is identified in your horse or a participant's horse while at an event?				
clean and disinfect trailers prior to use?				

4. Access Management *(Standard Reference: Section 7.0)*				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity action points that could be implemented on your farm or facility that would minimize the risk or concern.**
have established criteria that must be met to permit access to your farm or facility? (This includes criteria for equipment, horses, vehicles and people).				
have visible signage that identifies access and biosecurity considerations?				
restrict the access of visitors and visiting horses to only those areas that are required for their activities with biosecurity considerations? (For example their access is limited to only the areas that are necessary).				
require everyone to wash and sanitize their hands before and after contact with horses?				
limit farm and facility access to only essential people, equipment, vehicles, inputs, and horses?				
have access points that are secured or monitored to increase compliance to biosecurity protocols?				
have a perimeter fence that encloses the farm or facility to keep resident horses secured and other animals out?				
ensure fences and gates are maintained to prevent unplanned commingling of your horses with those from another operation?				
have a clearly identified parking area that is separate from the controlled access area?				

5. Facility Management *(Standard Reference: Section 8.0)*				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity action points that could be implemented on your farm or facility that would minimize the risk or concern.**
have a visitor log that is available to record visitors on the farm? And:				
-are all visitors required to sign in?				
have a location (station) for hand washing with hand sanitizer, paper towels, and signage indicating recommended procedures for bio-safety?				
clean and disinfect stalls regularly and between horses?				
clean and disinfect wash stalls frequently in accordance with use? And:				
-always following a horse with any skin disease?				
designate or dedicate equipment for specified activities (for example: dedicate shovels for manure handling from resident healthy horses)?				
designate or have specific equipment to be used only for each individual horse? (if not, do you clean and disinfect equipment between horses)?				
have an established pest and parasite control program in place? And:				
- do you manage the movements of pets and minimize exposure of horses to wildlife?				
test and treat water if indicated?				

5. Facility Management continued *(Standard Reference: Section 8.0)*				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity action points that could be implemented on your farm or facility that would minimize the risk or concern.**
clean and disinfect water distribution equipment regularly (weekly) between different horses? And:				
-if there is the suspicion or confirmation of the water system being contaminated by pathogens?				
source feed and bedding from reputable providers with verifiable quality assurance programs in place?				

6. Biosecurity Awareness, Education and Training *(Standard Reference: Section 9.0)*				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity activities that could be implemented on your farm or facility that would minimize the risk or concern.**
develop biosecurity standard operating procedures with input from your veterinarian and are they specific for your farm or facility?				
have a designated trained person to review and update the biosecurity standard operating procedures?				
have a training program for staff and all personnel that is based on the farm or facility biosecurity standard operating procedures?				
provide the training program to all staff; and				
-is it reviewed, and updated as required?				
have all training and procedures documented and posted for easy reference by staff and personnel?				

7. Farm and Facility Location, Design and Layout and Renovations to Existing Facilities *(Standard Reference: Section 10)*				
Biosecurity Activities **Do you…**	**Yes**	**No**	**Sometimes**	**If no, identify biosecurity activities that could be implemented on your farm or facility that would minimize the risk or concern.**
engage a diversity of expertise in the development of the design?				
consider the effects of local and regional geography in the evaluation of biosecurity implementation?				
consider the topography of the development site in the evaluation of biosecurity implementation?				
base (consider) the layout of the facility on the implementation of biosecurity to facilitate separation and manage the traffic flow of people, equipment, horses, and inputs?				