



PIC Biosecurity Standards

Preamble

This is the second edition of PIC's BioShield Standards, the foundation of the BioShield program. This edition of the Standards reflects a move from biosecurity ideation to clear conveyance of biosecurity practices for producers of PIC breeding stock and semen. There are 9 sections, organized by activity. Each standard has several points of guidance that will ensure compliance and achieve reduction of disease introduction risk.

This version benefits from some reorganization of standards to decrease redundancy in the document. Messages are much clearer and will translate across the global business more efficiently. You will also see some added information in the footer as this update is functionally split into multiple documents with processes in the background to facilitate document control.

All farm and PIC personnel must be familiar with BioShield Standards. These Standards and guidance are intended to drive development of SOP's, training, and assessments to drive execution and process improvement.



PIC Biosecurity Standards

Section 1: Facilities

1.1 - Location of Production unit is in an area of low pig density and activity.

- a. Official location assessment is completed at least every 3 years.
- b. Prior to placement of pigs, PIC health assurance must approve all new and existing facilities.
- c. If a new risk is identified, a full location assessment is completed and reviewed.

1.2 - Access of vehicles and people into the compound must be restricted.

- a. Land surrounding the production unit constitutes the compound and is defined by fencing. The compound has a controlled access point.
- b. A “no unauthorized access” sign is placed at the driveway entrance and includes a contact phone number for visitors to communicate with personnel inside the facility.
- c. Only authorized vehicles enter the compound.
- d. A barrier (gate, chain, or cable) must be in place on any driveway into the compound.
- e. The facility has a designated parking area for vehicles.

1.3 - Sanitary management of the compound needs to be maintained.

- a. Good housekeeping around the buildings is necessary to prevent harborage of pests and insects. This includes removal of feed spills when they occur.
- b. Grass is kept mowed within 50 feet of the farm.
- c. Courtyards without external access points are required to be managed with minimum maintenance upkeep and not be accessible through the farm hallways.
- d. A 2-foot-wide rock barrier must be maintained with weed control around the barn perimeter.
- e. No longstanding areas of water collection (pools) or standing water within 50 feet of the pig barns.
- f. Bait stations must contain fresh bait and be placed every 50 feet around the exterior perimeter of the buildings/structures.



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1.4 - All facilities will be structurally maintained to support daily operations and biosecurity standards.

- a. All building structures (new, existing, or remodeled) must be approved for biosecure facility design by PIC Director of Health Assurance. No pigs are allowed access to the outside or kept on dirt lots.
- b. Before initiating operations for PIC, a facility's biosecurity procedures and processes must be approved by PIC Director of Health Assurance.
- c. Quarantine and isolation facilities are subject to the same standards.

1.5 - All entry, exit and access points must be clearly designated with a clean/dirty line (CDL) throughout the facility.

- a. The CDL must be clearly demarcated with a single color (i.e. red) throughout the facility, easy to follow during work routines, logically designed to avoid cross-traffic, and strictly respected.
- b. The area inside the CDL is the clean area and includes the interior of the barns, office, connecting hallways, and all areas connected to the area where pigs are located.
- c. Sites must have a barrier (wall, fence, netting, or wire) to prevent nose-to-nose contact of all feral animals, birds and people with the herd.
- d. Passages between buildings must have an enclosed, bird-proof walkway.

1.6 - Facility entry design prevents uncontrolled access to the clean area.

- a. A 12"/30cm solid barrier/bench is located before the shower.
- b. The pre-entry / entrance must be kept clean, disinfected, organized, and remains at or above 70 degrees F/21 degrees C at all times of the year.
- c. NO ENTRY/RE-ENTRY signs must be posted on the outside surface of each exterior door.
- d. All exterior doors are kept locked to prevent access from the outside at all times. The front entrance must be kept closed and locked.

1.7 - All water in use in the clean areas and perimeter of the farm is sourced from a city, municipal, or deep well.

- a. Use of surface water or shallow wells (less than 50 feet deep) is not permitted.
- b. Storage tanks and cisterns are kept covered and inaccessible to wildlife.



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1.8 - Loading areas are structured to prevent cross-traffic of pigs, people, and entry of bedding or water into pig rearing areas.

- a. Chutes and loading areas are constructed in a way that can be washed, disinfected, and dried.
- b. Two-stage loading process is used for the loading of breeding stock, markets, and culls.
- c. Dedicated equipment in the loading area includes sort boards, rattle paddles, boots, and coveralls are clearly marked as chute only or are of a different color than those used inside of the farm.
- d. Dedicate power-wash drop and disinfectant applicator for the chute with storage for hoses and wands used only to wash loading areas, clearly and not be used elsewhere inside the farm.
- e. Chutes are covered, bird-proofed, kept enclosed when not in use, and heated to maintain a temperature above 70F.
- f. A clean/dirty line is present and strictly enforced.
- g. Drainage from the chute into the pens, alleys, and walkways is prohibited.

1.9 - Garbage collection units are located outside the compound.

- a. Waste collection route vehicles are not to enter.



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Section 2: Live Animal & Semen Sourcing

2.A - Live Animal Sourcing

2.A.1. - PIC affiliate, owned, and TAME herds are established only from PIC approved sources.

- a. Stocking of multipliers and elite farms is done with a single source.
- b. Herd Health status and biosecurity features of sourcing and receiving farms are reviewed by Health Assurance.

2.A.2. - All replacement pigs must successfully complete an isolation/quarantine period.

- a. Location and facilities for isolation/quarantine must meet PIC biosecurity standards.
- b. Facility is not to be used concurrently for isolation/quarantine of non-PIC sourced pigs.
- c. The period lasts no less than 30 days, beginning with the date of the last introduction of pigs into the designated facility.
- d. Follow PIC surveillance program designed for the destination facility.

2.A.3. - Growing and finishing facilities are dedicated to a single flow.

- a. No pigs can be brought into the farms other than those from a PIC approved and monitored herd.
- b. Sites are designated for a single source; source switching is not allowed without prior PIC HAV approval.

2.A.4. - Breeding projects use PIC approved farms, are sourced by PIC approved and monitored herds, and obtain semen from a PIC approved GTC.



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2.B - Semen Sourcing, Delivery, and Entry

2.B.1. - No semen can be brought into a PIC herd other than directly from a PIC approved GTC.

2.B.2. - Semen introduction to the farm must follow a decontamination process.

- a. Farm obtains semen from a PIC approved and monitored GTC. The GTC must have a method to notify the receiving farm that semen is cleared for use.
- b. Follow the double bag process; the outer bag must be removed and the inner bag decontaminated when entering the farm.
- c. If semen is determined to present a risk for disease introduction, it is discarded in a trash dumpster outside the farm in its original packaging.

2.B.3. - Semen delivery is biosecure.

- a. Carriers used to deliver semen are dedicated and traceable.
 - i. Delivery of semen follows a planned route.
- b. Drivers delivering semen are trained in biosecurity.
 - i. Transport biosecurity training is completed for new drivers at the time of hiring and on an annual basis for existing drivers.
 - ii. Drivers entering a commercial farm compound to **pick up** semen must wear shoe covers and disposable gloves.
 - iii. Drivers entering a commercial farm compound to **deliver** semen must wear shoe covers and disposable gloves and have a minimum of one (1) night downtime before returning to a farm.
 - iv. New disposable gloves and shoe covers are donned for each delivery.
 - v. No pets may accompany any driver in any delivery vehicle.
- c. Equipment for semen delivery is cleaned, disinfected, dried, inspected and stored biosecurely **after completion of each delivery route:**
 - i. Exterior of courier vehicles are washed daily.
 - ii. The interior of vehicles is disinfected (focus on floorboards and steering wheel).
 - iii. The interior and exterior of coolers are wiped clean.
 - iv. All disposable PPE (gloves, shoe covers) and garbage are discarded at a neutral location after the final delivery of the day.



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Section 3: Visitor, Personnel/Staff Farm Entry

3.1 - Minimum downtime is observed going between farms and farm entities. If the origin and/or destination isn't listed in the chart, consult with PIC biosecurity manager, PIC HAV, or HTV. Additional time may be required once the risk is assessed.

a. Downtime applies regardless of ownership of origin or destination farm.

Minimum Downtime Requirements for entering PIC Production Units				
Herd to be entered	International Visitors	Away from pigs or other pig premises		
		Sale barn or slaughter plant	From any commercial or non-PIC Multiplication site or Stud site	Between PIC Owned, TAME, or Affiliate production sites
Elite Farms (GN/Boar Multiplier)	By special permission only. 3 nights down from FAD negative country & 5 nights down from FAD positive country.	Three (3) nights	Three (3) nights	Two (2) nights
AI Stud (GTC)	By special permission only. 3 nights down from FAD negative country & 5 nights down from FAD positive country.	Three (3) nights	Three (3) nights	Two (2) nights
Grand or Parent Multiplier	By special permission only. 3 nights down from FAD negative country & 5 nights down from FAD positive country.	Three (3) nights	Three (3) nights	Two (2) nights
Gilt Multiplier and Flow	By special permission only. 3 nights down from FAD negative country & 5 nights down from FAD positive country.	Three (3) nights	Three (3) nights	One (1) night



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3.2 - All people entering PIC Production Units, including Production Staff, Veterinary Staff, and any other authorized visitors, must declare prior pig contact and follow appropriate downtimes with the production staff responsible for the enforcement.

- a. Visitors are defined as those that are non-essential to farm's operation or assigned to work at the specific farm location. A process for authorizing visitors should exist.
- b. Pig contact is defined as direct contact with a pig, pig material, or facility where pigs are located. Examples are, but not limited to, rendering, slaughterhouse, sale/auction barn, taxidermy, veterinary hospital/diagnostic laboratory, animal science teaching farms, zoos, and county/state fairs.
- c. Indirect contact is visitation that doesn't result in direct contact with the pigs or pig material. Examples are delivery of feed or delivery of breeding stock to a farm.
- d. The outlined downtime requirements are viewed as a minimum.
- e. At least 1 night downtime is observed between visiting a quarantine/isolation facility and the main herd. HTV and HAV may require an extended downtime based on local risk.
- f. System/flow specific charts must incorporate minimum PIC downtime requirements including access inside the compound as well as inside the clean area.

3.3 - International visitors by special permission.

- a. Follow minimum downtime specified in chart.
- b. For international travelers, identify all countries visited within the last 5 days.
- c. FAD status of country origin or embarkation, whichever is longer, is to be considered for defining duration of downtime.
- d. Employees returning from international travel must also observe appropriate downtime.

3.4 - All staff and visitors that will have pig contact are approved by site/system management and logged, in addition, to meeting downtime.

- a. A process for approving and logging entrants must be established and enforced
- b. Follow minimum downtime specified in chart in Section 3.1.
- c. Staff and visitors must receive and document biosecurity training annually.
- d. Visitors must wear shoe covers when exiting their vehicle.
- e. Anyone who is unwell should not be admitted.



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3.5 - All personnel, visitors, and production staff must adhere to farm-specific processes in order to enter the farm.

- a. A 12"/30cm solid barrier/bench before the shower where shoes are left to prevent organic material from crossing into shower room.
- b. Leave personal clothing and items including jewelry on the dirty side of shower.
- c. Cell phones are not to be brought into the shower room.
- d. Farm entry is defined as crossing a CDL.
- e. Anyone crossing the CDL must take a 3-minute shower that includes washing hair with shampoo, body soap, and use nail brush to clean under fingernails. After showering, wear dedicated site-specific clothing and boots.

3.6 - Biocontainment is practiced at the exit of farm.

- a. Shower-out is required. Leave farm clothes and towels on clean side.

3.7 - No uncooked pork products enter the farm/cross the CDL.

- a. Cooked pork products must be obtained from a government-inspected establishment. Imported meat products are not allowed.
- b. Home processed meat products, regardless of species, are not allowed.

3.8 - Personnel, visitors, and production staff must not live in the same house (cohabitate) with anyone who works with pigs other than those owned by or produced for PIC.

- a. Cohabitation across differing health status' is not permitted.

3.9 – After contact with non-pig livestock, a shower, change of clothes, and change of footwear must occur before entering a farm. Additional steps may be required based on disease diagnosis in that livestock species.



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Section 4: Supply Entry

4.1 - Supplies enter and complete the decontamination process before passing into the clean area.

- a. A designated area is established to perform disinfection that prevents cross-traffic, keeps items off the floor, allows coverage of all sides of item, and also is not used for storage. The area is maintained at or above 86F/30C. Items that require specific thermal ranges like vaccines are removed from outer shipping container, exterior of packaging is disinfected, then kept overnight in on-site storage before entering farm.
- b. No products containing animal origin ingredients ie. dairy/goat milk replacer, Bovine IgG for making amplified feedback.
- c. No item with visible organic material on its surface or still contained in outer shipping/packaging materials enters the decontamination area.
- d. Bulk items (examples are drying agent, feed) are to be transferred to a farm-specific container prior to decontamination.
- e. A disinfectant is applied to all surfaces, at the proper concentration, and sufficient contact time is allowed to inactivate the pathogen.
- f. A 24-hour holding time is required after disinfection and prior to item entry.
- g. Keep a log in the entry area that describes origin/source of items, time and date of entry, and initials of person entering supplies.
- h. A UV chamber is not to be used for entering farm supplies.

4.2 - Entry of non-routine items is dealt with individually.

- a. For these items (including but not limited to animal bedding, animal enrichment, those items sensitive to moisture or too large for designated area), contact HTV/HAV for assistance with evaluating necessity for entry and a decontamination plan for such items.



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Section 5: Feed Mill, Ingredients, & Delivery

5.1 - Ingredient storage, mill, and delivery equipment is located in an area that will prevent indirect contact with pigs or pig material.

- a. No livestock transport vehicles are allowed on-site.
- b. No pigs or other operational contacts on-site at mill.
- c. Scales are only for ingredients and finished feed. Scales are not used to weigh any livestock trailers (empty or loaded).
- d. Notify PIC when switching between approved mills.
- g. Segregate traffic of ingredient deliveries from finished feed deliveries within mill.

5.2 - Ingredient sourcing allows for ration ingredients to be traced to origin and follow risk-based holding times.

- a. Distributor or purchaser verifies that internationally sourced ingredients have been segregated and quarantined as follows:
 - 1. Environmental control upon arrival in country: 30 days storage at a minimum of 68 F upon arrival in country would meet this guideline. Documentation must be available validating surface temperatures during quarantine.
 - 2. No environmental control: Imported ingredients should be stored for a minimum of 78 days following arrival in country.
 - 3. All holding times are in a segregated/off-site location from the mill manufacturing complete feed.
- b. Origin verification for any supplier that sources mill's choice white grease, bovine/non-porcine sourced plasma, poultry meal, beef tallow, DDGS, and whey is required.
- c. Adjust ingredient sourcing based on in-country risk of disease contamination.
- d. Ingredients are stored on-site at the mill and in enclosed storage facilities. Feeding directly from a ground pile is a biosecurity risk.
- e. Determine country of origin for each ingredient.
- f. Equipment (tractors, trailers, box trucks, tanks or totes) used for the transport of ingredients does not have contact with facilities rearing swine [or performing animal rendering].



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5.3 - Ingredient reception is located in an area that prevents indirect contact with animals or porcine origin materials.

- a. Spill-over should not be swept into the receiving pit.
- b. Receiving pit is uncovered only when receiving ingredients. A cover is placed to keep foreign materials out of the receiving pit when vehicles are driving over it.
- c. Drivers and visitors wear shoe covers while on feed mill premises.
- d. Trucks must remove mud/sludge/ice pack from the hopper before entering the receiving area.

5.4 - Mill processes prevent contamination during manufacturing of rations intended for or delivered to farms.

- a. Porcine origin ingredients in rations intended for or delivered to pigs owned by or produced for PIC are prohibited.
- b. Do not purchase rations from mills using porcine origin ingredients. This includes porcine plasma and meat/bone meal.
- c. Do not purchase rations from mills that allow feed that has been on a farm to be returned to a mill (referred to as reclaiming).
- d. No dust from manufacturing is to be incorporated into the ration at any stage of production. Do not recycle "dust" into the mixer.
- e. Based on risk, use of a mitigant may be necessary. When using mitigants to reduce risk of feed serving as a fomite, they are to be used at concentrations or temperatures known to inactivate specific pathogen(s).
- f. Use separate cleaning tools (brooms, mops, shovels, etc.) in each area of the mill; do not share with other areas of the mill.
- g. PIC Feed Mill Biosecurity Assessment is completed annually. This applies to all locations supplying feed to the farm, including on-farm feed manufacturing.

5.5 - Feed delivery follows a biosecurity pyramid to manage the risk of cross-contamination between farms.

- a. Feed transfers between farms are prohibited.
- b. Feed trucks delivering to a breeding stock farm are not used to transfer feed.
- c. Dedicate the tractor and trailer to deliveries to breeding stock farm/system.
- d. A process for communicating health status changes of mill clients to prevent disease spread with delivery equipment is available.
- e. Drivers must wear shoe covers during deliveries.



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f. Transport of bagged feed to the farm prevents environmental contamination (i.e. moisture, dirt, other road grime). Process for entry is covered in Supply Entry.

g. Feed that is spilled outside the truck, auger, or bin during the delivery process is not to be fed to breeding stock.

h. Delivery drivers are not to have contact with finished feed.



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Section 6: Live Animal Transport

6.1 - Live animal carriers used to deliver PIC breeding stock use dedicated, segregated, and traceable transport equipment.

- a. Carriers are approved by PIC Director of Health Assurance before hauling.
- b. Dedicated trailers are those only used by PIC and only for hauling breeding stock. They are not used for non-PIC pigs.
- c. Transportation schedule and updates must include load details; driver, tractor, and trailer assignments. These are reviewed by PIC Health Assurance prior to execution.
- d. Each trailer is washed, disinfected, dried, and inspected before arriving at the farm.
- e. Breeding stock from different sources within PIC are not transported on the same delivery vehicle at the same time.
- f. Milk runs create an inherent risk because people and trailers must move between farms. Loads are created to minimize making multiple stops within the same flow.
- g. Delivery of pigs is traceable and follows a planned route.
- h. Following delivery to commercial farms, transport vehicles have 3 nights downtime before re-entering a breeding stock farm compound.

6.2 - Transport vehicles used for inner sanctum are managed to prevent pathogen introduction.

- a. Do not use transport vehicles to haul non-PIC sourced pigs or to transport pigs to terminal markets.

6.3 - Transport vehicles used for non-selects, culls, and market pigs are managed to prevent pathogen introduction.

- a. Minimum of 3 nights downtime of drivers, trailers and tractors is required to re-enter the farm compound after delivery to terminal markets.

6.4 - Drivers follow biosecurity.

- a. Transport biosecurity training is completed for new drivers before being assigned to a load and on an annual basis for existing drivers.
- b. No pets may accompany any driver in any delivery vehicle.
- c. Drivers are required to wear shoe covers when exiting the truck cab/vehicle at origin and destination.



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- d. Clean rubber overshoes or multiple layers of disposable shoe covers, along with clean cloth or disposable coveralls must be worn inside the trailer when loading or unloading pigs.
- e. Downtime requirements for drivers to haul breeding stock follow the same visitor requirements as in Section 3 – Visitor, Personnel/Staff Farm Entry.
- f. Drivers must perform and record a visual inspection of the tractor prior to departing on route.
- g. Drivers must perform a visual assessment of the trailer immediately prior to departing on the route for cleanliness, including signs of bird or rodent activity.
- h. Drivers must follow route specifications if given.

6.5 - Equipment for transport of live animals is cleaned, disinfected, dried, inspected, and stored biosecurely before each delivery route.

- a. Trailers that have contact with a PIC farm are washed, disinfected, dried, and inspected at a PIC HAV approved truck wash.
- b. Only washed, disinfected, dried, and inspected tractors and trailers enter the farm compound.
- c. When transport trailers intended for breeding stock are stored outside for more than 5 days, another wash, disinfection, and dry must occur before use.
- d. Clean or dirty transport equipment is not stored inside a farm compound.
- e. Bedding is new in package with its origin visible and is stored in a segregated space. The outer packaging is disinfected before loading onto the trailer and remains sealed until use.
- f. If load requires feed, it needs to be authorized and approved. It shows up as part of the route plan.

6.6 – Trailer Wash

- a. Facility used for decontaminating trailers, which includes truck washes and dryers/TADDs, are assessed annually.
- b. Truck wash employees are trained at hiring then annually thereafter. Training covers removal and disposal of organic material, application of detergent and disinfectant (mixing, coverage, and contact time) as well as bio-containment of shavings, and bio-segregation between trailers within the bays.
- c. Truck wash has designated parking for clean equipment that is separate from dirty equipment.
- d. Do not use recycle water.
- e. Washing is done with hot water with a temperature at a minimum of 110F/43.4C.



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- f. Use detergent on inside and outside of trailer and winter panels when present.
- g. Use a disinfectant at label concentration to inactivate swine pathogens.
- h. Disinfectant is applied to inside and outside of the trailer and winter panels when present. Disinfectants are to remain on surfaces and wet for minimum contact time specified by the disinfectant label.
- i. Trailers are completely dry before use.
- j. Have a process to verify that proper temperature, concentration, and time, is achieved for each washing, disinfection, and drying step.

6.7 - Loading area and processes ensure one-way animal movement.

- a. Only load vehicles that have been washed, disinfected, dried, and inspected.
- b. After receiving or shipping pigs, the loading area is washed and disinfected the same day.
- c. The clean-dirty line (CDL) is the rear edge of the trailer. Farm staff at origin or destination are not to cross the CDL and enter breeding stock trailers. Drivers do not cross CDL.
- d. The loading area is designed to prevent cross-traffic of pigs, drivers, and farm staff.
- e. Pigs and people must not cross the CDL into the trailer then be allowed re-entry to the chute/farm.
- f. Farm staffing is adequate to execute staged-loading process.



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Section 7: Mortality Management

7.1 - Farm staff must be trained in mortality removal.

- a. Training should occur no less than annually. Adequate training addresses the biosecurity hazards of the process including the use of designated coveralls and footwear.

7.2 - Promptly remove mortalities from direct contact (e.g. group pens) with other animals.

7.3 - Elevated extraction points must be designated with a clean-dirty line (CDL).

- a. All personnel and equipment used to collect mortalities and afterbirth (buckets, carts, barrels) must stay on the clean side of the CDL during the removal process.
 - i. Keep internal mortality removal equipment tidy, clean, and orderly.
- b. Elevated extraction point is a minimum 18 inches (45 cm) relative to ground level.
- c. A minimum number of extraction points (e.g. doors) are exclusively dedicated for this purpose.
- d. Nothing from the dirty side can cross CDL for carcass extraction (e.g. chains, snares, rope).

7.4 - Mortality disposal should occur at the end of the workday.

- a. Staff observes an 1 night of downtime before re-entering the farm.

7.5 - Equipment used on the dirty side of the CDL for carcass disposal is appropriately sanitized before being used for other activities (e.g. snow removal).

7.6 - Carcass disposal does not connect different source flows and follows the health pyramid.

- a. Mortalities from the quarantine area or removed from a trailer, must be disposed of at the destination. Mortality cannot be disposed of at a different farm.
- b. Disposal area must be maintained in a manner that wildlife, fowl, and rodents are not attracted.
- c. Rendering is prohibited.
- d. In the event of a catastrophic mortality event, the producer and HTV are to notify the HAV, and all parties work together to devise a biosecure removal plan.

7.7 - Personnel completing necropsies are subject to the origin farm downtime requirements.

- a. Necropsy equipment and sample collection materials must follow approved supply entry protocols and cannot be transferred between farms.



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Section 8: Manure Management

8.1 - No recycle/recharge water used in pits.

8.2 - Management, maintenance, and removal of manure from farm must be done in a way that does not create a risk for pathogen entry.

a. Any person or equipment entering the compound for manure removal or maintenance of storage locations is recorded and the information recorded is equivalent to the information gathered in the visitor logbook specifically last pig/pig effluent contact of people and equipment. Pumping crew and their equipment follow compound entry requirements described in section 3: People and Visitor Entry which includes training, authorization, and downtime.

b. Regular manure removal practices maintain the CDL.

c. Notify farm manager and staff prior to beginning manure removal. A record must be kept of the date of manure handling activities.

d. If an isolation/quarantine is attached to the main barns, the manure storage must be separated from the main barn.

8.3 - Farm-specific protocols for manure handling and equipment cleaning and disinfection must be established by the farm management and HTV/HAV that follow PIC standards.

a. Hoses, agitators, and anything that crosses the CDL, i.e. coming in direct contact with the pit, are dedicated to the farm.

b. Manure pumping/handling following a disease outbreak is discussed with HTV/HAV before it occurs.



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Section 9: Health Risk Communications

9.1 – Each farm, flow, and system has a dynamic health pyramid.

- a) The health pyramid is developed locally, reflects the health status, potential risk and impact of the source/origin farm on downstream/destination farms, and is updated in real time when new information about health status and disease risk occurs.
- b) The health pyramid is available and changes are communicated to farm staff, support personnel, and visitors.
- c) The health pyramid is used to inform decisions in the operation including downtime requirements for personnel and visitor movements, transportation, feed delivery, and animal movements.

9.2 – The farm has a plan for production indicators, clinical observations, diagnostic sampling, and disease surveillance to inform assessment of current or changing health status or risk.

- a) All owned by PIC or raising pigs or semen for PIC sites follow an approved diagnostic and surveillance plan.
- b) Farm staff is trained in clinical observation, reporting processes, and health assurance notification expectations.
- c) Clinical signs and diagnostic results inform decisions concerning health status changes and need for further investigation at the discretion of the veterinary team (HTV and HAV).

9.3 – Biosecurity concerns influence the current health status and the assessment of risk to other farms and downstream customers.

- a) Everyone associated with a farm or flow has the responsibility to report biosecurity concerns (SCANs) immediately.
- b) Significant biosecurity risk may change the health status of the farm from “Open” to “Hold” while the risk is evaluated or mitigated by or at the discretion of the veterinary team (HTV and HAV).
- c) Local or regional area health conditions may pose a significant risk to the health of the farm even if that farm is not experiencing disease. The veterinary team will advise farms of local or regional restrictions.

9.4 – Knowledge of health status is critical to practicing good biocontainment.

- a) Although disease exclusion is a primary focus of biosecurity, biocontainment (keeping disease confined to one location) is critical to system, regional, and downstream customer biosecurity



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Glossary

- **Biosecurity** - a set of preventive measures designed to reduce the risk of transmission of infectious diseases
- **Clean-Dirty Line (CDL/LOS/RAZ)** – boundary where the external environment (dirty side) contacts the internal environment (clean side) of the farm
- **Complex** – A group of similar swine facilities in close geographical proximity operated as a flow with a high level of dedicated personnel, equipment (including trailers, truck wash) and sufficient isolation.
- **Compound (PBA/CAZ)** - the land surrounding the clean area perimeter that is managed by the Multiplier/GTC
- **Contact time** - the amount of time that a surface must remain wet to allow the chemical (disinfectant) to be in contact with the organism to kill
- **DDGs** - is the primary co-product of fermentation during ethanol production from corn, milo, or wheat, which results in removal of most of the starch. Corn DDGS is commonly used in swine diets to partially replace corn. As is the case for mycotoxins, the fermentation and drying processes may not remove a pathogen if present in the original corn source. Storage methods combined with large inclusion volumes makes this an ingredient of concern as a fomite for disease.
- **Dedicated** - means assigned exclusively to a specific task, location, or group to reduce biosecurity risks. For example, dedicated tools, clothing, or vehicles are used only for PIC or a flow within PIC and not shared with other genetics companies or other flows.
- **Downtime** – time during which a person is away from pigs or pig material before contacting pigs again
- **Dynamic biosecurity pyramid**- is a way of organizing farms by health status and relative risk. It is dynamic in that it will change as the health status of the farms change.
- **Flow** – the production sequence animals follow through facilities or locations during maturation
- **Fomite** – inanimate objects or materials that can become contaminated and carry infectious agents, such as clothes, utensils, and supplies
- **Innersanctum** - The **inner-sanctum (IS)** is the most biosecure, highly restricted travel system for people or animal transit. Equipment and people operating in this layer typically require enhanced hygiene measures and is limited to essential personnel to prevent pathogen introduction.
- **Internal** - In a biosecurity context, **internal** refers to operations, movements, or personnel that remain within a company, flow, or farm. Internal activities are subject to biosecurity protocols but pose less risk than external sources (e.g., trailers, visitors, deliveries).
- **Load In/Load Out** – area of the production facility where animals enter or exit the barn
- **Milk Runs** – refers to a scheduled route or sequence of stops made by personnel, vehicles, or equipment. In biosecurity, it emphasizes minimizing cross-contamination by following a strict order (e.g., visiting low-risk sites before high-risk ones)



PIC Biosecurity Standards

- **Mitigants** - is an additive containing a chemical or acid that, when mixed into animal feed, its purpose is to reduce the risk of disease transmission. The substance used as a mitigant may have another labeled purpose.
- **Necropsy** - a postmortem examination to discover the cause of death or the extent of disease
- **Perimeter** - the continuous line forming the boundary of a closed structure
- **Quarantine** - a place of isolation in which animals that have arrived from a non-associated source or been exposed to infectious or contagious disease are contained
- **Recycled system (Manure)** – a design where waste and manure re-enter the barn or pit from outside storage to flush or remove manure
- **Rendering** - a process that converts waste animal tissue into usable materials (fertilizer, animal feed ingredients, etc)
- **Segregated** - refers to the physical and operational separation of animals, equipment, or personnel to prevent disease transmission. This can include age or health status-based grouping, separate airspaces, or designated pathways to ensure that high-risk and low-risk populations do not interact.
- **Staged loading** – a process where pigs exiting the production facility are moved following an unidirectional flow from the clean area (barn) to the transition area (load out chute) to the dirty area (trailer) in consecutive order
- **Thermal Assisted Drying and Decontamination (TADD)** – is the use of heating to expedite the drying of the interior of a livestock trailer after it has been washed. By meeting specific time and temperature combinations, the process can be used for decontamination as a result of pathogen inactivation.