



Never  
Stop  
Improving

# BIOSECURITY STANDARDS

for PIC Multiplication Units and Gene Transfer Centers



**BioShield** 

**PIC**<sup>®</sup>

# New biosecurity standards and protocols from Genus PIC

To All PIC employees and Partners,

I am pleased to enclose an important set of guidance for you: the latest outputs from PIC's global biosecurity program.

We all know how important biosecurity is, but also how fragile it can be. Recent outbreaks of diseases like African Swine Fever (ASF) in different parts of the world highlight that we can never be complacent. We must constantly improve what we do, and how we do it, to prevent the start or spread of such outbreaks and minimize their potentially devastating impact on animals, businesses and the industry as a whole.

Over the last year, the global PIC team has been working with customers, stakeholders, and industry experts to review and reformulate biosecurity standards in the light of the industry's latest health challenges. PIC has always played a leading role in this area: some of the protocols that have informed industry-wide practices (e.g. showering before entering facilities and 1000-point location scoring) were originally developed by this business.

This latest work involved planning, updating and testing protocols and practices to help prevent disease entering or leaving production facilities. The guidance enclosed is the output from this year-long program: we believe that following it will help you protect your operation.

The guidance is relevant to every facility, from a large commercial operation to a small family farm. It also highlights the role that every individual plays in protecting – or unwittingly undermining – biosecurity. I encourage you to share this material with your employees, partners and anyone else you work with: it will help us all, as an industry, rise to the challenges we face.

I hope you find this material helpful. If you have any questions about it, please contact Megan Mitchell – Biosecurity Manager.

*Bill Christianson*  
Chief Operating Officer, Genus PIC  
July 2019

# Introduction

The PIC Health Assurance Program is based on systematic risk assessment and mitigation (biosecurity), early detection of disease and opportune communication among stakeholders.

These standards embody PIC's biosecurity philosophy based on science, experience and implementation feasibility. This living document works as the foundational standards of PIC BioShield, the PIC biosecurity program to be implemented in each farm, (genetic nucleuses, gene transfer centers (GTCs) and multipliers) as well as the support structure (feed mills, truck washes and service providers) of the PIC system.

As BioShield is introduced to the PIC Multiplication system, the first phase focuses on Biosecurity Priority Items. These Priority Items specifically emphasize topics that set an important foundation for a biosecurity program. These are listed in Appendix 0.2. The second phase focuses on standards that further define and create a comprehensive biosecurity program.

*The goal of the BioShield program is to prevent disease introduction and dissemination; thereby promoting animal wellbeing and maximum performance of PIC herds.*

Farm managers/staff, production supervisors, multiplication partners, PIC Supply Chain (SC) and PIC Technical Service are all **accountable** for the dissemination and implementation of the program with guidance from the veterinary team. The Health Team Veterinarian (HTV) and the PIC Health Assurance Veterinarian (HAV) are **responsible** for the design and evaluation of the biosecurity program at each site.

*Any deviations from the protocols or standards outlined in this document must be communicated to PIC Health Assurance and reviewed by Health Assurance and/or the Biosecurity Action Team.*



# Biosecurity Action Team

The **PIC Biosecurity Action Team (BAT)**, comprised of Health Assurance and Supply Chain representatives, is responsible for the continuous review, dissemination and implementation of BioShield. The mission statement of BAT is:










*Instill a culture of biosecurity within PIC by providing standardized processes, resources, and training to promote a mindset of personal accountability for maintaining our high-health supply and protecting customer herds.*

To achieve this goal, BAT meets monthly to monitor biosecurity metrics, address risk factors, measure progress of mitigation plans and prepare an executive risk/action report for the business.

The biosecurity metrics to be monitored and targeted goals include:

Key Performance Indicator	Target
Number of lateral disease outbreaks	0
Percent completed disease outbreak investigations and agreed corrective action plans within first month	100%
Percent updated risk assessments at the end of each month	100%
Percent sites meeting PIC biosecurity standards & specific corrective action plans	>95%
Percent SCAN observations with mitigation plans in place within 14-days	>95%
Percent PIC Staff current on annual Biosecurity Training	100%

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# Facilities



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*“Facilities are one of the main strongholds we have for keeping out disease. Working to keep facilities updated and designed in a way to help follow bio-secure practices, will help keep the animals healthy and give the employees confidence and security in following the program.”*

*-Brian Melody, Owned Production Supply Chain Director, PIC*

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## 1.1 Location

PIC Health Assurance (HA) must approve all existing and new herd locations. PIC uses a location scoring system called the 1000 Point Score (*Appendix 1.1-1*). The 1000 Point Score considers location risks associated with pig density, potential transport traffic, livestock markets and land topography.

***A formal PIC 1000 Point Location Assessment will be completed/updated at each PIC Owned Production Site, Multiplication Unit and Gene Transfer Center (GTC) every three years by the HTV, HAV or PIC SC.***

- Formalized reporting mechanisms are available for conducting 1000 Point Location Assessments.

***To understand area swine density in real-time, a Location Self Assessment will be performed at each site, once per quarter, by the farm manager using the most updated location assessment report as a guide.***

- See *Appendix 1.1-2* for Location Self Assessment Standard Operating Procedure (SOP).

***Sites with location scores falling below the minimum standard for their genetic level of production must be reevaluated for use in genetic production within 14-days to avoid a health hold.***

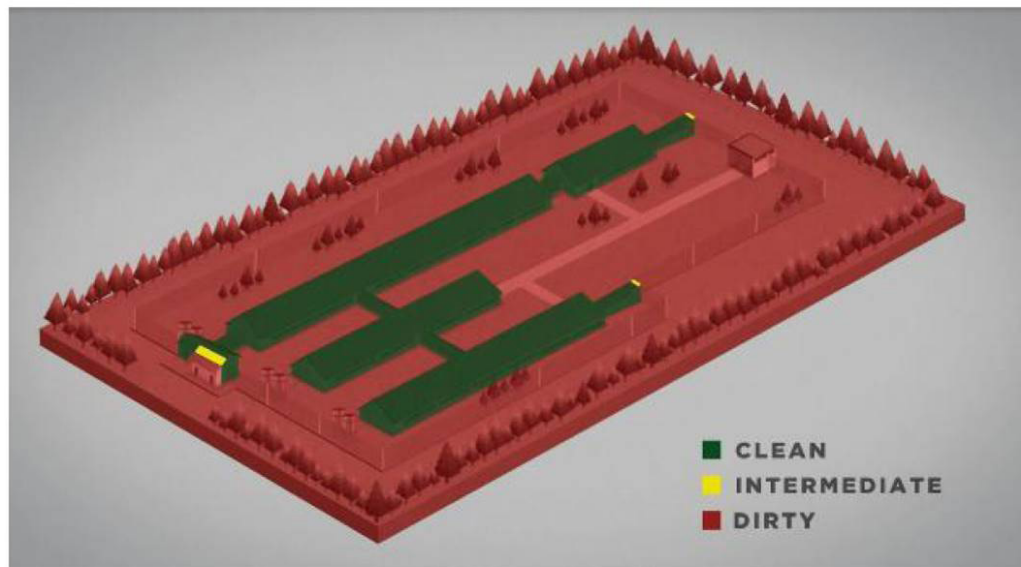
- See *Appendix 1.1-3* for Minimum Score Values by genetic level and reevaluation SOP.

## 1.2 Compound Definitions

The **clean areas** include the interior of the barns, office and connecting hallways, in addition to, all the areas and equipment in contact with live pigs. The **clean area perimeter** is a set of physical barriers including solid walls, cool cells, curtains and doors that protect and define the clean areas within a barn. Doors, showers, decontamination rooms and chutes, which border the clean areas, are referred to as **clean/dirty lines (CDL)**. Everything outside of the clean area is considered the dirty area; nothing may cross the CDL without an intervention or decontamination protocol.

*The CDL must be clearly demarcated, easy to follow during work routines, logically designed to avoid cross-traffic and strictly respected.*

The land surrounding the clean area perimeter, which is managed by the Multiplier/GTC, constitutes the **compound**. Access of vehicles, people or animals must be restricted. Interventions must be in place to prevent contact of the resident swine with other livestock, wild animals or people. The quarantine facility must also have a contained clean area and is considered dirty to the main barn until the quarantine process has been completed. See *Appendix 1.2* for compound diagram.





### 1.3 Barn Perimeter and Compound

*An intact barn perimeter, as defined above, is required to avoid contact of the resident swine with other livestock, wild animals or people to minimize the risk of disease transmission.*

- Sites must have a barrier (fence, netting, wire, etc.) to prevent nose-to-nose contact of all feral animals, birds and people to the resident pig population by protecting curtains and open hallways. A barrier to protect cool cells is highly recommended.
- A sign stipulating that no unauthorized access is permitted onto the compound must be placed as close as possible to the main road.
- A barrier (gate, chain, cable, etc.) must be in place on any driveway into the compound that directly connects to a public access road. The barrier must obstruct driveway access when the farm is not attended. It is highly advised to have the barrier shut and locked at all times.
- NO ENTRY/RE-ENTRY signs must be posted on the outside surface of each exterior door. Designated personnel entrance must be clearly marked.

*All exterior doors must be kept closed and locked to prevent access from the outside at all times.*

- Door and gate codes need to be changed with any employee turnover.

#### 1.4 Air Filtration

Filtering air entering swine facilities for prevention of aerosolized pathogens is not required. Air filtration is scientifically proven to prevent pathogen introduction and should be considered as part of a comprehensive biosecurity program. Farms located in regions with increasing pig density are advised to consider air filtration. Filtration standards, auditing specifications, checklists and filter testing documents are available in *Appendix 1.4*.

## 1.5 Buildings

PIC building standards must be followed for all new and existing sites per contractual agreements. All new building designs must be approved by PIC Health Assurance in regards to biosecure facility design.

***All sites must complete a yearly 1000 Point Biosecurity Assessment (Appendix 1.5-1) and monthly Biosecurity Checklist (Appendix 1.5-2).***

- A PIC 1000 Point Biosecurity Assessment must be completed for each new site prior to initiating operations.
- All buildings will be structurally maintained to support daily operations and biosecurity parameters specified in this document.
  - Any sites that do not update or maintain biosecure functionality will be placed on a health hold.
- Buildings must not be used for demonstration purposes by builders, equipment suppliers, feed suppliers, etc.
- Sites must have a process or device at the gate for visitors to communicate with personnel inside the farm.
- Good housekeeping, in and outside the buildings in general and around feed bins in particular, should be exercised to minimize pest and insect attraction. Feed spills should be cleared promptly (at minimum daily).
- A 2 foot wide rock barrier, composed of a minimum size 1 inch rock, must be maintained with excellent weed control around the barn perimeter.
- Grass should be neatly mowed within 50 feet of all areas of the farm. At no time should piles of debris be allowed to collect around the farm.
- Longstanding areas of water collection (pools) or standing water within 50 feet of the pig barns must be addressed.
- No pigs are to be kept outside or on dirt lots.
- Passages between buildings must have a covered concrete walk-way, that is bird-proof, easily cleaned and disinfected. Facility location, purpose and design will determine the required criteria for the passages.
- Land locks are not to be opened for lawn care equipment to pass through the farm hallways. Land locks should have minimum maintenance upkeep and not be accessible through the farm hallways.

## 1.6 Pest Control

***All compounds and buildings must follow a pest management plan to control birds, rodents, varmints and insects.***

- All buildings must be bird proofed. Any damage to bird netting or the facility exterior which allows pest entry must be repaired immediately.

***Continuous measures must be taken to control the rodent population on the compound, utilizing an effective control program. An effective program includes:***

- ***A 2 foot wide rock barrier, composed of a minimum size 1 inch rock, must be maintained with excellent weed control around the barn perimeter.***
  - ***Farm staff are responsible for rodent control in the clean areas of the barn.***
  - ***Baiting must be monitored monthly, at minimum.***
  - ***It is highly recommended that external rodent control be the responsibility of a specialized firm, provided the vendor can complete the program in a biosecure manner.***
  - ***If the external rodent control will be completed by the farm staff:***
    - ***At minimum, this program will consist of bait stations, placed every 50 feet around the perimeter of the facility (main barns and quarantine) and mortality disposal area.***
    - ***Bait stations should be checked at minimum monthly to ensure functionality and bait freshness.***
- A log should be kept to indicate and initial when rodent baiting is performed both internally and externally.
  - Varmint deterrent protocols need to be practiced on the compound and buildings. This is especially important to prevent attraction to the mortality disposal area. See Mortality Management section for more details.
  - Effective fly and mosquito control must be practiced. This includes but is not limited to spraying the premises, reducing the presence of standing water and/or other insect reduction methods.

## 1.7 Water Source, Treatment and Quality Monitoring

Appropriate water sources are a deep well, city or rural water and must be deemed suitable for human consumption.

***Use of surface water or shallow wells (less than 50 feet deep) is not permitted.***

- Pending testing results, routine treatment of deep well water sources is required to control bacterial growth in water lines.
- If a storage tank is used, it must be fully enclosed.
- Recommendations for water testing, treatment and filtration protocols are available in *Appendix 1.7*.

# Live Pigs and Semen



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*“Biosecurity is about a culture of doing what is right and needed even when no one is looking. Introducing live animals or semen involves risk; however, following the processes and procedures associated with quarantine, introduction, testing and movement will significantly lower the risk for PIC, our production partners and our customers and maximize the probability of success for all of us.”*

*-Matt Culbertson, Global Product Development Director, PIC*

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No pigs or semen can be brought into a multiplier herd or GTC other than directly from a PIC approved and monitored herd. All delivered animals must go through the multiplier quarantine. Routine boar testing of the GTC must be documented.

## 2.1 Animal Quarantine

***Quarantine barns must have PIC approval, be separated from the main herd and have its own air space, manure pit, people entry, supply entry, feed bins, pest control and chutes.***

The quarantine period begins with the last animal entry and is released into the acclimation phase with appropriate diagnostic testing. Any new animal entry into the same space as resident quarantine pigs, starts a new quarantine period.

***The minimum requirements for quarantine/acclimation are:***

- ***Mortality disposal must meet the applicable governmental (Federal, State, Provincial) regulations.***
- ***Quarantine should have a dedicated chute and/or hallway for movements.***
- ***Personnel entry into the quarantine/acclimation area must be shower in-out with barn specific attire.***
- ***Quarantine/acclimation should have barn-specific internal equipment/supplies, entered via a decontamination process.***
- ***Quarantine/acclimation units must be chored after exiting the main farm, and an overnight of downtime is required prior to returning to the main unit. Quarantine personnel, separate from the main farm staff, is preferred.***
- ***The quarantine period should be no less than 30-days, beginning with the date of the last introduction of pigs into the quarantine facility.***
- ***Biosecurity of the quarantine/acclimation unit will be maintained and follow all applicable requirements in this document.***
- ***All animal movements into a PIC multiplication unit or GTC quarantine must follow PIC transport biosecurity standards. All trucks, trailers and drivers must have appropriate downtime and follow approved cleaning, disinfection and drying protocols at PIC approved facilities.***
- ***Action plans must be in place for any quarantine groups of animals that have unexpected diagnostic results.***
- ***If a novel agent is confirmed in the quarantine/acclimation, HTV and HAV must be notified immediately.***

See Appendix 2.1 for recommended minimum quarantine testing.

## 2.2 Semen Delivery and Introduction

Semen must be delivered in accordance with the PIC dynamic biosecurity pyramid. For reference, consult the 2017 Boar Stud Management Guidelines (*Appendix 2.2-1*).

- Semen courier must wear clean gloves, shoe covers and arrive to the delivery point in a clean/disinfected/dried vehicle. See *Appendix 2.2-2* for semen transport SOP.
- Semen must be delivered to a neutral site. Neutral sites are defined as an area physically separated from the farm compound that minimizes cross-over traffic with the semen courier.

***Semen introduction to the farm must follow a decontamination process.***

- When utilizing a double bag process, the outer bag must be removed and the inner bag decontaminated when entering the farm.
- Once semen has entered the farm, it should stay in its original inner packaging until approved for use.
  - In the event that diagnostics confirm contaminated semen is in the farm, under no circumstances should the individual semen bags be opened. Dispose of the entire lot of contaminated semen in its original packaging in the outside trash dumpster.





### 2.3 Herd Establishment and Multiplication Pig Flow

PIC establishes all herds with the healthiest animals available. Nucleus herds must be populated exclusively with PIC genetics.

- Breeding herds, especially those dedicated for genetic multiplication, must be populated from a minimum number of source herds with the most equivalent health status. Single source is desired to minimize dissemination or destabilization of endemic agents.

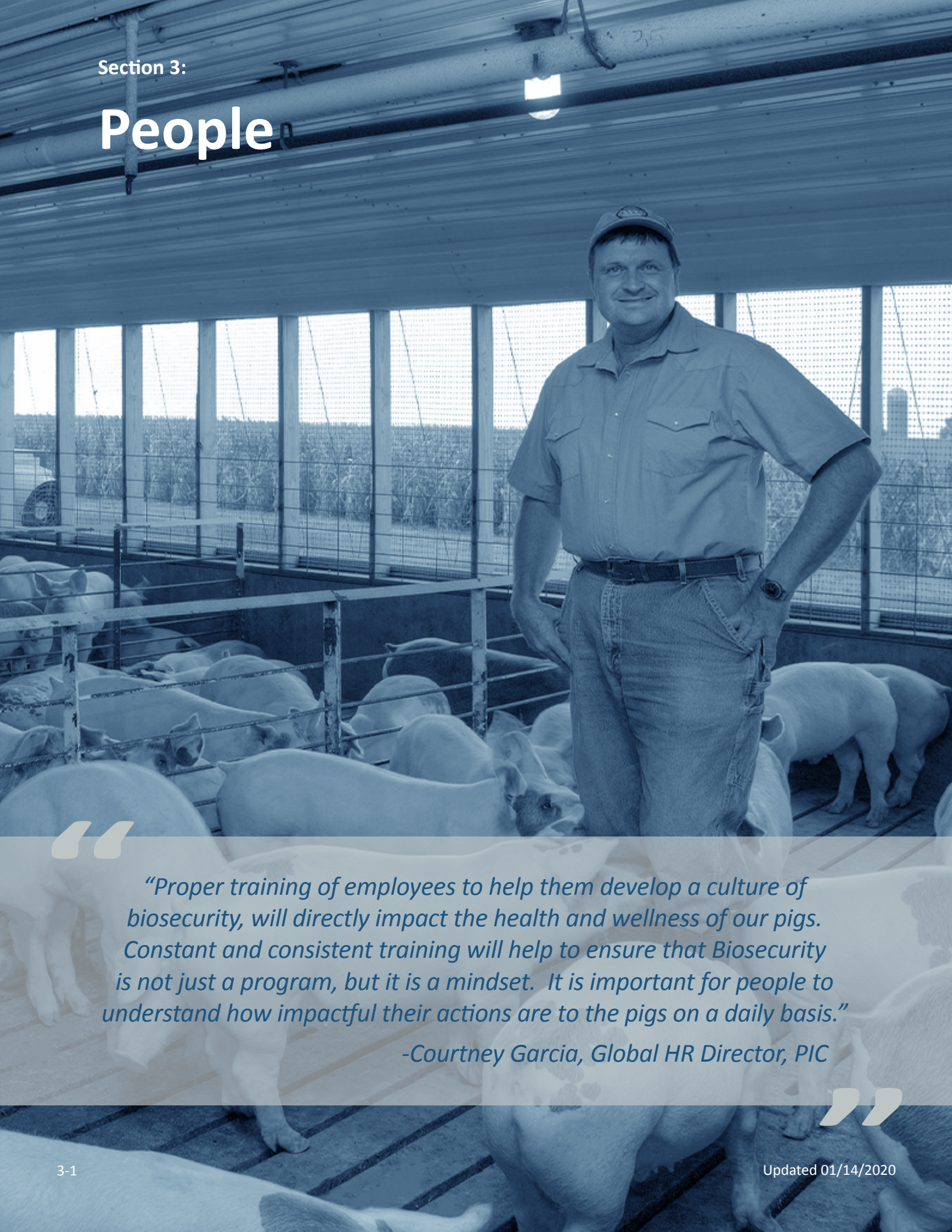
***Ideally, all breeding stock sales must originate from populations without any new pig introductions in the last 2 weeks. All-in/All-out flow is recommended.***

- Preferably, new and existing sites should be compliant with two weeks between animal introductions. If unattainable due to facility or pig flow constraints, this must be disclosed in a Vet-to-Vet consultation (V2V) including PIC health testing protocols, alternative pig flows, and biosecurity procedures to avoid cross-traffic.

***Gilts and boars must be placed in single sourced growing facilities. Co-mingling of flows can only occur when breeding herds share the same source farm for replacements.***

- Any deviation from these pig flow standards must be individually discussed and approved by BAT.

# People



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*“Proper training of employees to help them develop a culture of biosecurity, will directly impact the health and wellness of our pigs. Constant and consistent training will help to ensure that Biosecurity is not just a program, but it is a mindset. It is important for people to understand how impactful their actions are to the pigs on a daily basis.”*

*-Courtney Garcia, Global HR Director, PIC*

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### 3.1 Visitors

A visitor is anyone who is not essential to the farm's daily operation. In general, visitors other than service personnel and maintenance workers are not permitted inside PIC Production Units unless by special permission of the Health Team Veterinarian or PIC Health Assurance.

***Any visitor entering the compound, regardless of farm entry, is subject to biosecurity training and process.***

Anyone requesting to visit a PIC Production Unit must adhere to the following steps:

1. complete basic biosecurity training
2. comply with farm specific visit requirements and approvals
3. contact the farm manager to coordinate the visit

Any visitors granted entrance must complete an interview process and will be asked a series of questions by the farm manager on site. With final farm manager approval, visitors will be signed into the log book. See *Appendix 3.1* for more details on farm visit permission and entry interview process.

***Pig contact includes the following:***

- ***Direct contact with live or dead pigs***
- ***Entering a pig barn compound area***
- ***Visiting auction markets, slaughter plants and livestock assembly yards***
- ***Visiting petting zoos where pigs are kept***
- ***Visiting trade fairs with live swine displays***
- ***Entering veterinary diagnostic laboratories***
- ***Visiting any other site deemed contaminated by PIC Health Assurance***  
- ***Refer to section 3.5 downtime requirements***

- All visitors or non-dedicated site personnel must arrive to the compound in a clean vehicle and must put on shoe covers when exiting their vehicle. Arrangements for acquiring shoe covers must be made prior to arrival at the compound.
- The farm manager (or other designated employee) should meet all visitors in a designated area, on the dirty side of the entrance, prior to the shower entry.

***Prior to granting access, the manager is required to ask visitors the following set of questions. If their answers are not satisfactory they should be denied access to the unit. If the manager is unsure or has concerns the visitor may compromise the health of the unit, they must contact their supervisor for instruction before allowing access.***

- ***What is your name and what is the purpose of your visit?***
- ***Did you arrive in a clean vehicle?***
- ***Did you put on shoe covers when exiting your vehicle? (Visually verify)***
- ***When was your last contact with livestock other than pigs and where?***
- ***When was your last pig contact and where?***
- ***When was your last visit outside of the country and where?***
- ***Do you understand the boot bench and shower in protocol?***
- ***Do you feel well today?***
- ***Have you, or anyone in your household, been ill or had a fever in the last 7-days?***

### 3.2 Production Staff

The following criteria applies to members of the Production Staff for Multiplier Units or GTCs. It is the responsibility of the employee to notify Health Assurance if any of these conditions are not met.

***Production Staff members must not live on a farm where pigs are kept or harvested. This includes production units, 4-H pigs, pet pigs, or pig hunting.***

- Production Staff must not live in the same house with anyone who works with pigs other than those owned or controlled by PIC.
- Production Staff cannot share housing with other employees unless: 1) they work at the same unit or 2) they have obtained written consent from the HTV or HAV to the proposed living arrangement.
- Production Staff must not live in on-site housing at one flow and work at a different flow.
- Production Staff routinely working with any other production livestock enterprises must obtain written approval from HTV/HAV for risk assessment and mitigation.
- Any staff member that houses and cares for cattle, horses or poultry at their residence must change clothing and footwear before arriving at the farm. Regional animal health concerns may create more stringent precautions.
  - Staff members must report any unexplained illness or mortality in their herd/flock to their supervisor, HTV or HAV. Staff must follow HTV/HAV instructions regarding downtime and/or decontamination and containment protocols.
- Staff must shower and dress in a full change of clothes prior to their shift if they participated in a successful hunt or game processing. Pig exposure is to be treated as pig contact downtime whether from swine hunting or a processing facility.
- Production Staff finding themselves in direct contact with people involved in pig production (i.e. hardware or farm supply store) or finding themselves in any situation which might compromise the health of a unit must contact their supervisor/HTV/HAV for instruction regarding proper downtime and protocols before returning to the production unit.
- Production staff must wear site-specific footwear to complete tasks within the compound.

### 3.3 Visitor/Production Staff Entrance Process

All visitors and production staff must adhere to the following processes when entering the farm. Instructions for farm entry must be posted:

***A solid-sided barrier/bench must be present and utilized at the farm entrance, a minimum of 12 in/30 cm in height***

- Shoes, jackets, and hats are to be left on the dirty side and all visitors/farm personnel must swing their legs over the barrier/bench to enter the shower area, without allowing their feet/socks to touch the floor on the dirty side. Shoes are never permitted in the shower area.

***All visitors to PIC production facilities must sign into the visitor log book and measure their basal body temperature and last contact with pigs***

- Before entering the unit showers, all visitors/staff must have their basal body temperature measured.
  - Persons with a temperature of 100F/37.8C must follow their company specific Herd Health Protection Protocol. See *Appendix 3.3*, Herd Health Protection Protocol with information regarding Influenza A personnel procedures.
- All personal clothing and jewelry must be left on the dirty (outer) side of the shower. In the event that jewelry cannot physically be removed, additional washing and scrubbing is required.

***All visitors/production staff must take a complete shower, 3-minutes minimum duration with body soap and shampoo, prior to entry. Hand washing and scrubbing under fingernails with a nail brush is also required.***

- Cell phones and other personal electronic devices are not permitted in the farm. All other items that employees consider essential (i.e. lunches, medical devices) must be approved by the farm manager before use in the barn.
  - All approved items must either:
    - Pass through the fumigation room
    - Be disinfected at the pass-through window with disinfectant spray or wipes with 10-minutes minimum contact time
    - Through a UV light chamber (254nm wavelength) with 10-minutes minimum exposure time
  - No food or drink is permitted in the pig areas

***Uncooked pork products are not allowed.***

***All clothing and supplies needed on the clean (inner) side of the shower will be provided by the farm.***

- Towels must remain on the clean side of the unit
- After entering the production unit, no person shall leave the compound before showering and changing into their own clothes

### 3.4 Entrance Maintenance

Entry procedures and instructions must be posted in the barn entry area.

***The site entrance should always be locked.***

- The site entrance must be heated (greater than 70 degrees F/21 degrees C) to keep the area warm and dry.
- The entrance must be kept clean and disinfected regularly (See Approved Disinfectant List, *Appendix 3.4*).
- Items used on the clean side of the shower must enter the farm through the fumigation room.
- Floor mats utilized in the shower and on the dirty side of the shower are not allowed to enter the farm for cleaning.

### 3.5 Downtime

Minimum Downtime Requirements for Entering PIC Production Units					
Herd to be entered	International Visitors	Away from pigs or other pig premises			Away from pig people or meetings
		Sale barn or slaughter plant	From any commercial or non-PIC Multiplication site	Between PIC multiplication	
Elite Farms (GN/Boar Multiplier)	By special permission only	Three (3) nights	Three (3) nights	Two (2) nights	Overnight
AI Stud (GTC)	By special permission only	Three (3) nights	Three (3) nights	Two (2) nights	Overnight
Grand or Parent Multiplier	Two (2) nights PRIOR to arrival in NA and 1-5 nights POST arrival in NA†	Three (3) nights	Three (3) nights	Two (2) nights	Overnight
Gilt Multiplier and Flow	Two (2) nights PRIOR to arrival in NA and 1-5 nights POST arrival in NA†	Three (3) nights	Three (3) nights	-Overnight (same flow) <sup>1</sup> -Two (2) nights between flows	Overnight

1. Overnight is required between breeding herds of same gilt source flow. Same day is acceptable for downstream finishing flow.

\*Downtime within a flow must follow a dynamic biosecurity pyramid. Refer to Appendix 3.5 for a dynamic biosecurity pyramid example.

\*\*Downtime Definitions: One night = minimum of 12-hours, Two nights = minimum of 36-hours, Three nights = minimum of 60-hours.

\*\*\*Always follow your most recent Dynamic Biosecurity Pyramid for health status.

†POST arrival in NA: one night for visitors from a country free of ASF, CSF and FMD. Five nights if the country of origin is positive for any of the listed foreign animal diseases.

**All people entering PIC Production Units, including Production Staff, Veterinary Staff and any other authorized visitors, must observe the following downtimes with the production staff responsible for the enforcement.**

# Equipment and Supply Entry

*“Working on accomplishing the main goal of decontamination, while also making it feasible for the farms, is the key goal. We need to be sure the process is clear and able to be monitored to ensure that equipment and supplies are not a vector for introduction of disease.”*

*-Bob Thompson, Health Assurance Veterinarian, PIC*



***A written, farm-specific protocol, for entry of equipment and supplies is required and must be approved by the HTV or HAV.***

The entry of supplies and equipment protocol must be posted on both the dirty and clean side of the supply entry room. Supplies entering the farms should be kept to a minimum and deemed necessary equipment. Consideration must be given to the following issues:

- Source of materials
- Risk of contamination
- Ability to disinfect materials
- Use of a disinfection process with downtime

#### **4.1 Decontamination Process**

General guidelines for material and equipment entry are as follows:

- Unless size or weight prohibits, supplies and equipment must be brought in through the fumigation room. See Appendix 4.1-1 for the Alternative Fomite Entry Protocol.
- Cell phones and other personal electronic devices are not permitted in the farm. All other items that employees consider essential (i.e. lunches, medical devices) must be approved by the farm manager before use in the barn.

***All approved items must either:***

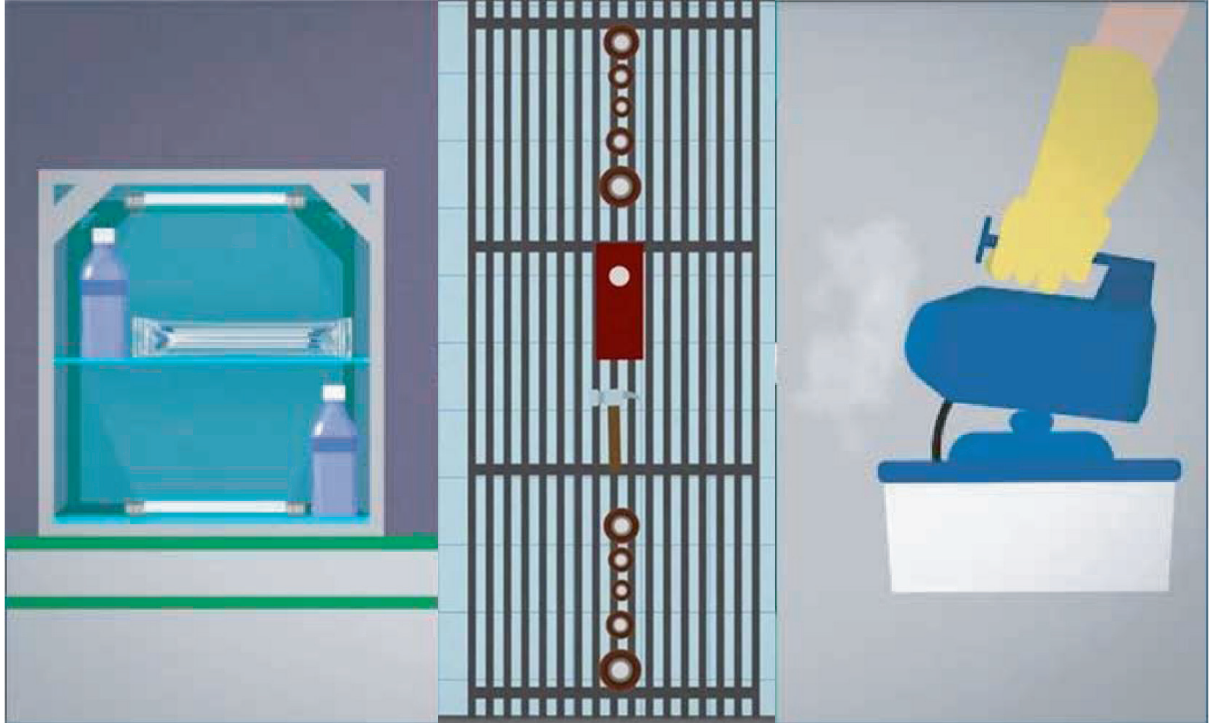
- 1. Pass through the fumigation room***
- 2. Be disinfected at the pass-through window with disinfectant spray or wipes with 10-minutes minimum contact time***
- 3. Through a UV light chamber (254nm wavelength) with 10-minutes minimum exposure time***
  - ***No food or drink is permitted in the pig areas***
  - ***Uncooked pork products are not allowed***

- Fumigation rooms must be maintained at or above 70 degrees F/21 degrees C.
- All items entering the fumigation room must be free of organic material.
- Cardboard boxes or paper bags are not allowed to enter the farm.
  - When loading the fumigation room, all items must be unpackaged and external cardboard or bags discarded. Items must be disinfected in a single layer (not stacked) on open bottom shelves to allow contact with disinfectant on all surfaces.
- The fumigation room must be designed in a manner that prevents cross traffic between where supplies are entered and where supplies are accessed by the farm.
- Approved disinfectants are available in Appendix 3.4. Manufacture dilution rates must be followed.
- Process to decontaminate supplies must include complete coverage of the items with disinfectant by spraying or fogging, followed by 1 hour minimum contact time. See Appendix 4.1-2 for example decontamination SOPs.
- Supplies should not be stored for extended periods of time (more than 24-hours) in the fumigation room after disinfectant contact time is complete.


***Fumigation logs must be kept with the following information: initials of person bringing in supplies, brief description of supplies, date/time placed in fumigation room, and date/time entered into the farm.***

## 4.2 Special Items

Special items are necessary farm supplies that cannot be coated or exposed to disinfectant. Examples include computers, ultrasound machines and semen holding containers. To enter special supplies, they must be placed in a clean area, segregated away from the main farm, for a minimum period of 7-days and maintained at 70 degrees F/21 degrees C. See *Appendix 4.2* for Special Item Disinfection Protocol.



# Feed



*“Due to a tremendous number of foreign animal diseases that have been identified globally, and also to the ever-increasing global travel and international trade of feed ingredients; a biosecurity program for feed and ingredients is becoming a practical tool to reduce the likelihood of introducing pathogens into the feed chain. Achieving the biosecurity of feed, ingredients, and manufacturing involves the understanding of its importance, the commitment to implement and follow it, and the dedication for continuous improvement.”*

*-Uislei Orlando, Global Director of Nutrition, PIC*

## 5.1 Ingredients

All ingredients must be purchased and handled in a biosecure manner.

- All ingredients received by the feed mill, should be transported in power units/trailers that have not previously transported swine or been used to haul ingredients to farms with swine on the premises.
- All reasonable attempts must be made to purchase grain ingredients from producers with no swine.
- Feed ingredients must be maintained and controlled in a manner that prevents exposure to contaminated materials.

### ***The use of porcine origin ingredients in the rations is prohibited.***

- If porcine origin ingredients are utilized in the feed mill, written permission must be acquired from PIC HA and the HTV.
  - Ingredients that may be permissible if origin is verified:
  - Bovine plasma or non-porcine source blood meal, spray dried egg protein, poultry meal, bakery meal or beef tallow - when no swine products are processed at the plant of origin, transported in the same vehicles or stored in the same container.
  - Choice white grease - when biosecurity protocols are followed during delivery and heat is applied during holding.
  - Dried distillers grain with solubles (DDGS) - when stored in bird-proof facilities or when bird-control protocols are in place.
- All imported ingredients must have a feed ingredient risk assessment completed and appropriate mitigation strategies implemented before use, if required. Please refer to *Appendix 5.1-1*, PIC Feed Biosecurity Guidelines for details regarding ingredients and risk mitigation strategies.
- Routine use of antibiotics in the feed (except for Phase I & II starter diets if no other alternatives exist) or water, should not be practiced. Any short-term inclusion may be carried out under the direction of the HTV if PIC HA is informed in advance.
- Nutritional quality of the feed should be adequate to prevent any clinical or sub-clinical deficiencies from occurring, which could reduce the life of the pigs serving as Breeding Stock.
  - Refer to *Appendix 5.1-2*, PIC Nutrition Manual for supporting documentation on dietary specifications and recommendations.
- Withdrawal times for all products must be followed.

## 5.2 Manufacturing

Manufacturing feed for PIC Production Units must be done at PIC approved facilities.

***To become an approved facility, a feed mill biosecurity assessment must be completed and approved by both HA and Supply Chain.***

- Please see Appendix 5.2 for PIC Feed Mill Assessment.
- Approved feed mills must be audited by PIC HA or the HTV, using the feed mill biosecurity assessment with the following frequency:
  - Owned, GTC, and tame production: annually
  - In the event of any significant changes in protocols or quality of work.
- If the feed mill services other non-PIC pig sites, they should be high-health, monitored farms. The feed mill should have PIC dedicated trucks and protocols to segregate PIC feed deliveries from other pig sites they service.
- The mill should have a defined traffic pattern to control people and vehicle traffic.
- The feed mill must comply with the protocols and recommendations outlined in the PIC Feed Biosecurity Guidelines (Appendix 5.1-1).

***The following rules apply to the ingredient reception process:***

- ***Trucks entering the receiving area must have operational mud flaps and remove sludge/ice pack from the hopper.***
- ***A discharge cone or collar at the bottom of the hopper must be used to minimize unwanted materials from falling into the pit during the unloading process.***
- ***Drivers should stay inside their truck when possible. If they must exit their vehicle, driver access should be limited to the ingredient reception area and they are required to utilize shoe covers.***
- ***The receiving pit must be covered when not in use to minimize open areas for birds, rodents and debris contamination.***
- ***The receiving areas, including pits, must be cleaned daily. Spill-over materials should never be swept into the receiving pit, but discarded into an on-site dumpster.***

***The following rules apply to the manufacturing process:***

- ***Warehouse and manufacturing area foot traffic should be limited to employees only. No outside suppliers or customers should be allowed.***
- ***Separate pathways for incoming ingredients and outgoing deliveries should be utilized to minimize potential traffic crossover.***
- ***A No Access Policy should be enforced to prohibit livestock transport vehicles from using the on-site scale and reclaimed feed must not return to the mill.***
- ***Manufacturing areas should be cleaned weekly, especially the hand-add area that gives direct access to the mixer.***
- ***Collected dust from air cleaning systems or floor sweepings must not be recycled into the mixer. These materials have high pathogen concentration and should be disposed of properly.***
- ***All feed manufacturing and delivery equipment must be flushed routinely, especially before pig feed is produced.***
- ***Batches/feed orders must be sequenced by species and biosecurity pyramid in multi-species mills.***
- ***An aggressive pest control for both birds and rodents must be maintained. A monthly log of control measures taken must also be kept.***

### 5.3 Delivery

From a biosecurity perspective, it is highly recommended to utilize a dedicated truck and trailer for feed delivery.

This greatly reduces cross-contamination risks with shared vehicles servicing other swine farms and flows.

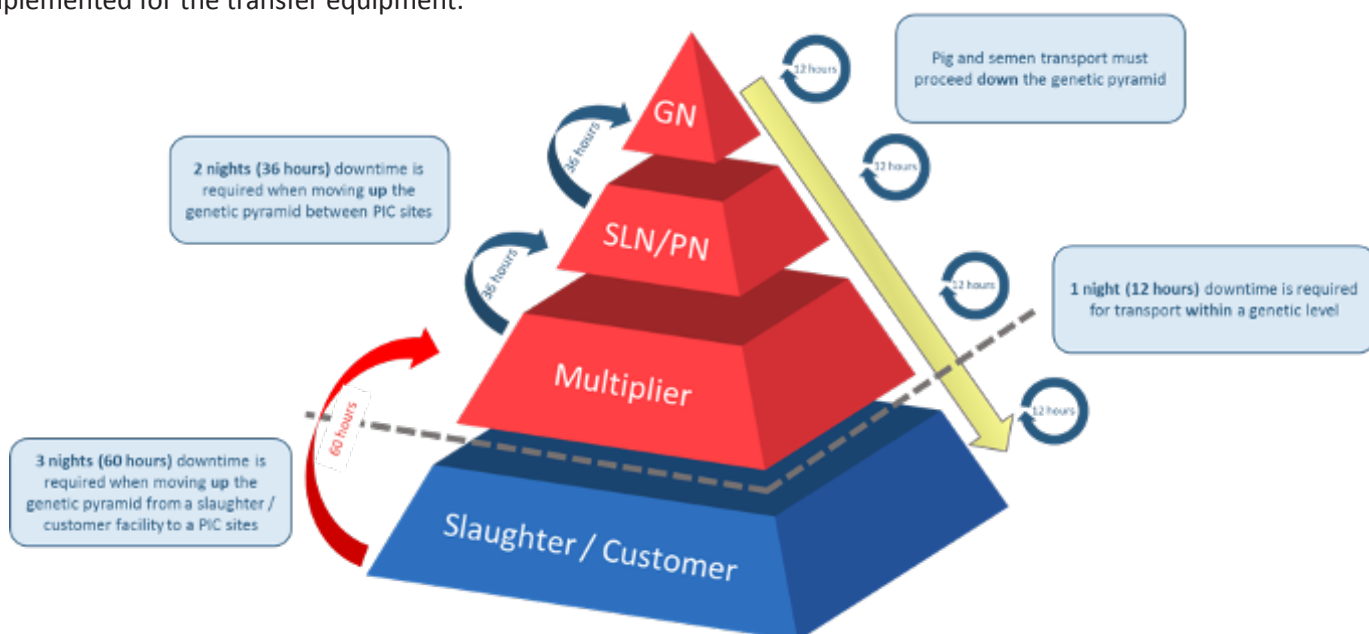
If use of a dedicated feed truck and trailer is not feasible and shared deliveries occur with non-multiplication farms, the following parameters must be adhered to:

- A dynamic biosecurity delivery pyramid must be documented, followed, and reviewed routinely by the HTV/HAV.
- Feed trucks and trailers must be washed, disinfected, and allowed to dry before moving back up the biosecurity pyramid. SOPs must be reviewed by the HTV/HAV.
- After feed delivery to a commercial site, post decontamination, 60 hours of downtime must occur before feed delivery to a GN/Boar or Parent Multiplier/GTC and a minimum of 12 hours of downtime before feed delivery to a Gilt Multiplier.
- All feed trucks must follow the most current dynamic biosecurity pyramid for the system and flow. Every time vehicles need to move up the biosecurity pyramid they must be washed, disinfected, dried and inspected before coming to the unit.
- Truck drivers should never come in contact with the feed. If a problem occurs during the delivery and the driver does contact the feed, the truck should be sent back and the feed not accepted.
- If an object is needed to assist with dislodging feed inside the truck, the driver must place a clean, heavy-duty trash bag over the object before placing it into the truck. Bag must be discarded after use.
- Any feed spillage must be cleared promptly. The driver should immediately report the spill to the farm staff for cleaning. Feed spills must be disposed of in an on-site dumpster or mixed in the compost.

**Bagged feed transport and entry protocols must be reviewed and approved by the Health Team Veterinarian.**

**The following rules apply to bagged feed entry:**

- **Plastic (non-permeable) bags can be disinfected in the fumigation room. Bags must be free of organic matter and spread out in a single layer on shelves to ensure full contact with disinfectant on the entire bag surface.**
  - **For feed in paper bags, each individual bag must be opened and the feed contents poured into barrels or carts specifically designated for feed storage. The dirty bag must not touch the clean barrel or cart.**
  - **Feed for use in transit must follow a biosecure process (See Appendix 5.3, Bagged Feed for Use in Transit).**
- Once feed is delivered to a multiplication farm, it cannot be reclaimed to a another multiplication site.
  - Reclaimed feed can be transferred to a commercial site as needed with proper biosecurity considerations implemented for the transfer equipment.



# Transport



*“In order to keep animals free of disease, we need to continue to refine and improve our bio-secure practices during transportation. Transport is a very easy way to spread disease quickly between farms, so it’s imperative that the expectations, execution and culture around biosecurity is at the forefront of everyone’s mind. ”*

*-Nick McCulley, Global Supply Chain Director, PIC*



## 6.1 Equipment

***All transport equipment that docks to a PIC multiplier/GTC must originate from a carrier previously approved by PIC Health Assurance and Supply Chain.***

***Before entering a PIC breeding stock production site, trucks and trailers that dock to a PIC multiplier/GTC must be cleaned, disinfected, dried, and inspected.***

- Truck disinfection, wash and inspection must occur at a PIC HA approved truck wash that incorporates approved protocols outlined in the PIC Transportation Biosecurity Protocols (*Appendix 6.1-1*). Refer to *Appendix 6.1-2* for the Truck Wash Facility Audit.
- The cargo area and equipment used therein, must be made of materials that are in good repair and of appropriate design to allow for proper cleaning and disinfection.
- All trailers must be empty before loading at any PIC Production Unit, unless sites are from the same production flow. Breeding stock from different sources within PIC will not be transported on the same delivery vehicle without PIC HA approval. Refer to *Appendix 6.1-3* for the PIC Transportation Assessment.

***Transportation Assessments will be conducted annually.***

- PIC breeding stock vehicles must avoid any location where other livestock trucks are likely to frequent (e.g. truck stops, rest stops, etc.).
- Transport routes will be determined with high consideration to biosecurity and efficiency by PIC logistics.
- Trucks that have carried dead animals or porcine origin products are not allowed into the compound. Trucks must maintain a minimum distance of ¼ mile (400 meters) from the closest production building, unless they are part of the inner-sanctum movement.
- Livestock trucks must be kept as far away as possible from PIC Production Sites. Trucks should never approach the compound unless they have first been properly cleaned, disinfected, dried and inspected at a PIC approved facility.
- Breeding stock trucks, drivers and trailers must be segregated from market, cull, feeder or roaster transportation units.
- If a tractor, driver and trailer previously hauling non-breeding stock must be re-purposed for breeding stock transport, it is required that the unit/driver must have a minimum of 60-hours downtime. The tractor (exterior/cab) and trailer must be decontaminated per PIC protocol. A third party inspection must be submitted to PIC HA.
- All vehicles must follow the most current dynamic biosecurity pyramid for the system and flow. Every time vehicles move up the biosecurity pyramid they must be decontaminated before coming to the unit.



## 6.2 Driver

***All drivers and/or carriers transporting PIC genetics must be trained and approved by PIC Health Assurance and Supply Chain.***

- Unapproved truck drivers must not enter the farm compound. All drivers must be TQA+ (Transport Quality Assurance plus) certified and have annual biosecurity training.
- PIC transport biosecurity training will be completed for new drivers at the time of hiring and on an annual basis for existing drivers.
- Any passengers accompanying the driver must follow the same biosecurity practices and downtime as the driver and remain inside the cab at pickup and delivery.
- No pets may accompany any driver in any delivery vehicle.
- Transport employees may not live on premises where pigs are kept, nor may they live with another person who works with swine or has contact with organic material originating from swine (e.g. nutrient management, rendering). PIC Logistics or PIC HA must be contacted if there are any questions.
- Drivers are required to wear shoe covers when exiting the truck cab at a PIC Production Unit. Clean rubber overshoes or multiple layers of disposable shoe covers, with clean cloth or disposable coveralls must be worn in the cargo area when loading or unloading pigs.

***Drivers must follow the most current dynamic biosecurity pyramid for the system and flow.***

- Drivers must observe a minimum of 12-hours of downtime (away from livestock and poultry) before loading breeding stock, and a minimum of 60-hours downtime after contact with commercial nurseries/finishers, terminal markets or cull stations. *See Appendix 6.2, PIC Transport Biosecurity Pyramid for driver/tractor downtime.*

### 6.3 Vehicle decontamination process

***PIC transport vehicles must only be washed and dried at PIC approved facilities.***

- To become an approved facility, a Truck Wash Facility Audit (Appendix 6.1-2) must be completed and approved by both HA and Supply Chain.

***Approved truck washes must be audited by PIC HA or Logistics using the PIC Truck Wash Facility Audit***

***Truck Wash Facility Audits must be conducted with the following frequency:***

- ***Owned, GTC and Tame production: annually***
- ***In the event of any significant changes in protocols or quality of work.***

- Approved truck washes must maintain compliance with PIC biosecurity guidelines. In the event a truck wash becomes non-compliant, farm(s) utilizing the facility will be placed on health hold until biosecurity concerns are suitably addressed.
- Truck wash facilities utilizing recycled water are prohibited from washing breeding stock trailers.
- All trucks and trailers must be cleaned, disinfected, dried, and inspected in accordance with approved protocols outlined in the PIC Transportation Biosecurity Protocols (Appendix 6.1-1).
- If a shuttle vehicle is used to transfer pigs to a vehicle that is not washed and disinfected under PIC health control, the shuttle vehicle must be washed, disinfected, and dried prior to contacting the load-out again.



## 6.4 Storage

Once a transport unit has been cleaned and disinfected it must be kept clean prior to loading. Ideally, transport units should be stored in an area that is:

- Physically and functionally separate from transport units that have not been cleaned or disinfected.
- Away from pets, farm animals, rodents, birds and wildlife.
- Away from people, contaminated equipment, feed and bedding.
- Away from exhaust fans and dusty areas.

***All clean trailers must have a visual inspection (observing for signs of bird or rodent activity) completed within 12-hours of use.***

- If any contamination is present, the trailer must have another wash, disinfect, and dry before use. Documentation of visual inspection must be kept including date, pass/fail status, and initials of the inspecting party. Refer to *Appendix 6.4, Trailer Inspection Standards*.

***Trailers which have undergone TADD (Thermo Assisted Decontamination and Drying) must be marked with a tag indicating the date. Trailers naturally dried must be tagged to indicate the wash date.***

## 6.5 Load-in and load-out

The load-out must be constructed and procedures executed to reduce the possibility of contamination of the PIC Production Unit with an infectious agent from transport vehicles, rodents, birds, etc.

***All sites must submit farm-specific designs and procedures for load-out to PIC Health Assurance, the design must be approved before execution of a Multiplier Agreement***

The load-out must be designed and constructed to facilitate proper animal handling. The following rules apply:

- There will be a farm (clean) section and a transport vehicle (dirty) section with a clean-dirty line clearly defining both areas. No crossover is allowed other than one-way animal movement.
- Once pigs have entered an area that may be contaminated by materials from the transport vehicle, the pigs must not re-enter the farm. A one-way door or gate must be in place between the farm section (clean) and the transport vehicle section (dirty) of the load-out to facilitate this. The load out facility must be designed so there is no direct contact between the pig personnel in the farm and the truck or driver.
- The entire load-out must be covered, bird-proofed, and constructed of materials that allow for thorough cleaning and disinfection.
- A loading area designated as a load-in only must also be covered and bird-proofed. As a load-in only facility, it does not need to have a one-way door and farm (clean)/transport vehicle (dirty) sections.
- All breeding stock shipments must be unloaded/loaded through a clean chute.
  - The load-out must be washed and disinfected between uses (same day).
- Drainage into the buildings from the dirty section of the chute is prohibited.
- The load-out should be heated and have a separate pressure washing system or pressure washing line and hose.
- New PIC Production Units must submit load-out design and procedures for PIC HA approval, which must be obtained before execution of the Multiplier Agreement. Example load-out designs are available in *Appendix 6.5*.

***The following rules apply to the load-in and load-out process:***

- ***Clean rubber overshoes or multiple layers of disposable shoe covers must be worn by the driver in the cargo area when loading or unloading pigs.***
- ***Disposable or clean cloth coveralls must be worn by the driver in the cargo area.***
- ***The clean-dirty line is the rear edge of the trailer. Drivers are not permitted to enter the multiplier, customer loading chutes or facilities.***
- ***Farm staff must not cross the CDL from the loading chute into the trailer and utilize dedicated equipment in the load-out area (e.g. sort boards, rattle paddles, boots, coveralls and cleaning equipment). Deviations from this protocol require a written, site-specific protocol approved by HA.***
- ***All sequencing loading, unloading and load-out chute decontamination procedures must be designed for each facility, approved by PIC HA and made easily available for all production staff and drivers. This includes any use of shuttle vehicles to transfer pigs to commercial trucks.***
- ***If a loading area is deemed a potential biosecurity risk, the driver and/or site manager has the authority and responsibility to question the situation and communicate to the HTV, PIC HA or Logistics.***



# Mortality Management

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*“...most of the outbreak investigations that we have performed include mortality management as one of the possible routes of introduction. These Biosecurity Standards provide a science-based and feasible framework to design effective protocols to remove and dispose mortality with the lowest possible risk. By respecting the clean/dirty line and assuring a disposal process that minimizes contact with wildlife or other external factors, our teams will be consistently successful...”*

*-Jean Paul Cano, North America Health Assurance Director, PIC*

”

## 7.1 Collection and Removal

Mortality is an expected part of animal production. Carcasses, tissues and fluids can carry pathogens. Upon discovery, dead pigs and afterbirth must be removed from the pen/crate in a timely and biosecure manner.

***Farm-specific protocols for mortality collection and removal must be established by the production unit following PIC standards and must be approved by the HTV and the HAV.***

- Farm-specific protocols for mortality collection and removal must be always accessible for farm staff.
- Farm staff must be trained on mortality removal during on-boarding and receive annual re-training. The production unit must keep updated training records which includes date of training, facilitator and trainees.
- A clean-dirty line (CDL), separating the inside (clean area) and the outside (dirty area), must be established at every extraction point, under the supervision of the HTV. The CDL needs to be clearly demarcated, easy to follow and strictly respected.
- A minimum number of extraction points (doors) will be designated by the production unit, under the supervision of the HTV, to remove mortalities and afterbirth. Where feasible, these exit points should be exclusively dedicated for this purpose. Appropriate signage must be posted to remind workers of the strict CDL and protocols.
- The extraction point(s) must be elevated, at minimum 18 inches (45 cms) relative to ground level, to facilitate carcasses falling by gravity across the CDL without the need for personnel assistance.
- As mortalities and afterbirth are collected throughout the day, they must stay on the clean side of the extraction point(s) and may not be removed from the barn until the end of the workday.
- 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. If an object or person contacts the dirty area, full decontamination and/or shower is required before re-entering the farm.
- Mortality collection equipment must be cleaned and disinfected weekly.
- Farm garbage must be taken out through the mortality extraction points using the same biosecurity protocol for mortality removal. Once on the dirty side of the farm, bagged waste must be disposed of according to local regulations and available services. Garbage dumpsters or barrels should be located on the edge of the compound to prevent waste collection vehicles from entering the site for collection.

## 7.2 Disposal

The following standards apply to the disposal of mortalities.

- Dead animal disposal must meet the applicable governmental (Federal, State, Provincial) regulations.
- Mortality disposal should occur at the end of the workday. Once on the dirty side of the extraction point(s), carcasses and afterbirth must be disposed of within one hour.
- A designated employee and alternate must be responsible for outside mortality disposal. Staff are required to observe an overnight (minimum of 12-hours) of downtime before reentering the farm. Production units must provide footwear and clothing to be used, which must be washed outside the barn (dirty area).

***A farm-specific protocol for mortality disposal must be established by the production unit that follow PIC standards and is approved by the HTV and/or HAV.***

- See *Appendix 7.2-1* for Sample Mortality Removal SOP. The protocols must be accessible for farm staff and include:
  - A plan to deal with outdoor spills quickly and thoroughly.
  - A maintenance plan for the mortality disposal area and equipment.
  - Step by step instructions for mortality transport and processing.
- Equipment used on the outside (dirty area) for carcass disposal must never be used for moving materials that could come in contact with the main herd or caretakers.
- If the equipment utilized for mortality disposal (tractor, bucket, trailer, etc.) is needed for other activities on the outside (dirty area), it must be decontaminated following a protocol approved by the HTV or HAV.

***Rendering is prohibited.***

- Carcass removal from the compound/complex is not allowed for any reason. All mortalities must be disposed of through approved methods.
- On-site composting, incineration and burial are acceptable mortality and afterbirth disposal methods. Disposal areas must be maintained in a manner that wildlife, fowl and rodents are not attracted. Composting must be enclosed. The location must be approved by the HTV or HAV.
- Ideally, a daily log for mortality disposal, including date, time and responsible party, will be kept by the employee(s) responsible for the task and be accessible by the farm manager and supervisors. Reference *Appendix 7.2-2*, Daily Mortality Disposal Log.
- On-site composting bays must be emptied utilizing flow-dedicated equipment following the dynamic biosecurity pyramid or equipment that has been washed, disinfected, dried and inspected following the farm specific protocol developed by the production unit and approved by the HTV or HAV. Refer to *Appendix 7.2-3* for Compost Removal Equipment Decontamination Protocol.
- Mortalities from the quarantine area or removed from a trailer, must be disposed of after mortalities from the main herd. A protocol for equipment decontamination, post quarantine exposure must be approved by the HTV and/or HAV. Refer to *Appendix 7.2-4*, Protocol for Mortality Equipment Decontamination.

***A catastrophe management plan, meeting government regulations, must be developed by the production unit and approved by the HTV or HAV in situations of extremely high mortality.***

- Refer to *Appendix 7.2-5* for Catastrophe Management Plan

### 7.3 Necropsies

On-site necropsies must be performed in a designated area that allows for proper cleaning and biosecure removal of carcasses. Necropsy equipment and sample collection materials must follow approved supply entry protocols and cannot be transferred between farms.

- The health status of dead animals is equivalent to the health status of their herd of origin. Personnel completing necropsies are subject to the origin farm downtime requirements or, at a minimum, 12-hours of downtime. This will apply even if the veterinarian does not visit the herd, regardless of where the necropsy was performed.
- Pending the outcome of a necropsy evaluation that changes the health status of the source herd and flow, the downtime should be adjusted accordingly.



# Manure Management

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*“Biosecurity needs to be a priority every minute of every day without exception. Many farms have introduced a disease while simply emptying pits/lagoons; farm specific protocols must be created to address all potential risks and everyone is responsible for adhering to these protocols”*

*-Joe Jobin, Production General Manager - Apex & Aurora, PIC*

”

## 8.1 Storage

The following standards apply to manure storage.

- Manure management must meet government (Federal, State, Provincial) regulations to comply with environmental, health and safety requirements.
- Deep and shallow pit slurry systems and non-recirculating shallow gutter – lagoon systems are acceptable manure storage options.

### ***Recirculating systems are not allowed.***

- Manager and responsible employees must be trained on manure storage and removal during on-boarding and receive annual re-training. The production unit must keep updated training records including date, facilitator and trainees.
- The farm manager is responsible for coordinating manure handling procedures.

## 8.2 Removal, Transportation and Application

Where feasible, every flow should have dedicated manure agitation, pumping, transportation and application equipment. Extensive consideration should be given for dedicated equipment (agitators, hoses and pump) at GTCs and breeding herds. In the event that non-dedicated equipment is utilized:

- All non-dedicated equipment must be thoroughly washed, disinfected, dried and inspected between farms. See *Appendix 8.2-1* for Manure Equipment Inspection Form.

***Farm-specific protocols for manure handling must be established by the production unit that follow PIC standards and are approved by the HTV and/or HAV.***

- The Manure Handling Protocol must be accessible for farm staff and service providers. Refer to *Appendix 8.2-2* for Sample Manure Handling SOP.
- Shared use of pumping equipment is only allowed within a production system.
- The production unit will provide a dynamic biosecurity pyramid flow to be followed by service providers and equipment with the same downtime specifications indicated for farm visitors:
  - Higher health farms must be serviced before lower health farms.
  - Higher genetic level farms must be serviced before lower genetic level farms.
  - Sow herds and GTCs must be serviced before grower sites.
- Regardless of operating on the dirty side, service providers must be trained on manure handling biosecurity and meet all farm visit requirements as any other visitor. PIC can provide the Multiplier/GTC with digital tools to support biosecurity education for service providers, focusing on protecting herd health during manure removal.

***During manure removal, transport and application:***

- ***Must be scheduled in advance and all farm staff notified.***
- ***Both equipment and service providers must be registered in the farm visitor logbook recording previous pig contact place and date.***
- ***A strict clean/dirty line between people handling effluent and any pig population must be established and communicated.***
- ***Personnel and farm vehicle cross-traffic when pumping and transporting effluent must be minimized. If the site is unable to have separate driveways to eliminate all cross-traffic, biosecure processes must be established and followed. Considerations must be made regarding pig movement and feed deliveries. Complete separation is ideal.***

- Manure removed from PIC sites must be applied to adjacent fields, when possible.
- If considered necessary by the HTV or HAV, equipment sampling can be requested before use of the equipment.
- In the event of a disease outbreak, the farm agitator, hose and connection pieces will be decontaminated following a protocol approved by the HTV and/or HAV.
  - Pits must not be agitated for the 6 month period following.
- All potentially contaminated materials and the operating area must be decontaminated immediately after the procedure is completed.

***Farm-specific protocols for manure equipment disinfection must be established by the production unit that follow PIC standards and are approved by the HTV and/or HAV.***



# Health Hold

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*“Health Holds show the responsibility and commitment that PIC takes to protect customer health and ensure their success. While health holds are disruptive to both the multiplier and the customer, they are a necessary step in our biosecurity process to provide confidence that PIC and our multiplier partners have the customer’s best interest in mind.”*

*-Todd Wilken, North America Sales Director, PIC*

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## 9.1 Process and Criteria

***Health holds are a process used to stop all live pig and/or semen movements, with the exception of terminal or cull pigs from a facility.***

Source farm health holds may include downstream sites of the same flow, until health status is verified. The purpose of a health hold is to protect customer and connected PIC sites from a novel disease introduction.

***The following categories constitute a need for a health hold:***

- ***See Appendix 9.1 for a list of Biosecurity Observations that constitute an immediate Health Hold.***
- ***Abnormal clinical signs***
- ***Unexpected or incomplete diagnostic results***
- ***Health concerns within the same flow or neighboring farms***
- ***Biosecurity breach***
  - ***Examples include farm break-in, inability to shower in, improper supply entry, unauthorized trucks entering the facility, etc.***
- ***Non-compliant feed mill, truck wash, transport or biosecurity assessment***

All farm and PIC personnel must be observant and immediately report any abnormalities or concerns constituting a health hold. Concerns must be reported to PIC Health Assurance Operations and the PIC Health Assurance Veterinarian assigned to the farm. The determination to remove a site from health hold will be made by PIC Health Assurance, in cooperation with the Health Team Veterinarian, based on satisfactory follow-up, clinical signs, and diagnostics.





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