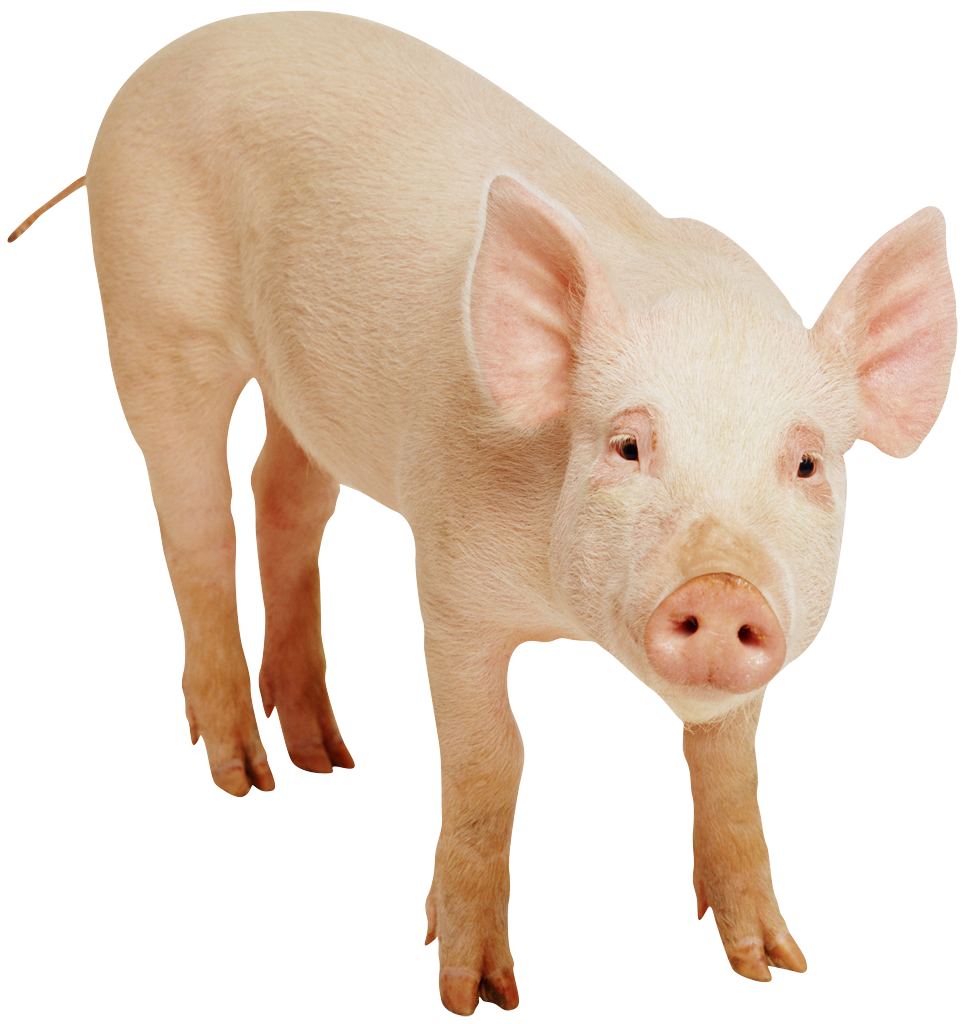
****

(Producer Name)

SITE NAME: (Enter Site Name)

PREMISES ID: (Enter Premise ID)

OUTBREAK INVESTIGATION DATE: mm/dd/yyyy

VETERINARIAN(S) CONDUCTING INVESTIGATION: (Enter Name of Farm Veterinarian and ISU Veterinarians Conducting the Investigation)

# Description of Current Outbreak

|  |  |  |
| --- | --- | --- |
| 1. Date that clinical signs were initially observed: | |  |
|  | |  |
| 1. Describe clinical presentation of infection: | | |
|  | | |
|  | | |
| 1. Were the clinical signs observed in a specific barn, room or pen? | | |
| Yes *(describe location and pattern of spread below)*  No | | |
|  | | |
| 1. Date of diagnostic confirmation of outbreak: |  | |

|  |
| --- |
| 1. If the pathogen is unknow, has the outbreak been reported to the State Animal Health Officials? |
| Yes *(describe location and pattern of spread below)*  No |

**Table 1.** Describe diagnostic results performed after the outbreak.

|  |  |  |
| --- | --- | --- |
|  | **Test 1** | **Test 2** |
| Test Performed |  |  |
| Date Submitted |  |  |
| Type of animal(s) tested |  |  |
| Specimen(s) collected |  |  |
| Number of samples |  |  |
| Pooling (Y or N; if yes, #samples/pool) |  |  |
| Result |  |  |
| Diagnostic Lab |  |  |
| Accession Number |  |  |
| Virus Sequence (if available) |  | |

**Notes:**

# Characteristics of the Herd

|  |
| --- |
| 1. Purpose of herd? |
| Genetic production, nucleus  Genetic multiplier  Commercial meat production |

|  |
| --- |
| 1. Stages of production on premises? |
| 1. Sow farm (breed-to-wean) Yes No Inventory\_\_\_\_\_\_\_\_\_ 2. Nursery (wean-to-feeder) Yes No Inventory\_\_\_\_\_\_\_\_\_ 3. Finishing (feeder-to-market) Yes No Inventory\_\_\_\_\_\_\_\_\_ 4. On-site gilt development unit (nursery age) Yes No Inventory\_\_\_\_\_\_\_\_\_ 5. On-site gilt development unit (finishing age) Yes No Inventory\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| 1. Is the herd part of a production system? |
| Yes  No (Skip to question 6) |

|  |
| --- |
| 1. Breeding female inventory of production system? |
| <5,000  5,001 – 20,000  20,001 – 40,000  40,001 – 100,000  >100,000 |

|  |
| --- |
| 1. Did the size of the production system increase by more than 10% in the past year? |
| Yes  No |

|  |
| --- |
| 1. What is the parity structure of the herd? |
| Mixed parity  All gilts (or gilts and first parity sows)  All parity 1 and higher (or all parity 2 and higher) |

|  |  |
| --- | --- |
| 1. What is the average parity of sows in the herd? |  |

**Notes:**

# Site Summary

## Characteristics of the Premises

### Premises Map and verified physical address

Paste image of premises map here.

|  |
| --- |
| 1. What is the business arrangement for this premises? |
| Producer or production system owns pigs but facilities and labor are contracted  Producer or production system owns pigs and provides labor but facilities are contracted  Producer or production system owns pigs and facilities and provides labor |
| 1. Are the buildings on the premises surrounded by a perimeter fence? |
| Yes  No |
| 1. Is there a closed gate at all entrances to the premises? |
| No  Yes, closed and locked at all times  Yes, closed and locked only after hours  Yes, but never locked |
| 1. Are there doors at all entrances to the barns? |
| No  Yes, closed and locked at all times  Yes, closed and locked only after hours  Yes, but never locked |
| 1. Do any pigs on premises have access to the outdoors (excluding uncovered walkways between buildings)? |
| Yes  No |
| 1. Are all swine barns on the premises under a common roof or connected by walkways that are enclosed with solid walkways or other bird proof material? |
| Yes  No |
| 1. How many vehicle entrances are there to the premises? |
| 1  2  3  Other *(explain in observations)* |
| 1. Is there an occupied house on the premises? |
| Yes  No |
| 1. Is there a common vehicle entrance to the barns and residence on the premises? |
| Yes  No  Not applicable |
| 1. Is there a disinfection/wash area used for vehicles entering the premises? |
| Yes  No |
| 1. Are there tree windbreaks on the premises? |
| Yes  No |
| 1. Are the premises well maintained (grass mowed, minimal feed spills, no junk piles, etc.)? |
| Yes  No *(describe in observations)* |
| 1. Is the premises located in a forested area (>50% of the area within a 3-mile radius is trees)? |
| Yes  No |
| 1. Are other livestock present on site? |
| Yes *(explain in observations)*  No |

**Notes:**

## Characteristics of Surrounding Area

### 1-Mile radius map

Paste image of 1-mile radius map here.

### 5-Mile radius map

Paste image of 5-mile radius map here.

|  |
| --- |
| 1. What is the topography of the surrounding area? |
| Steep hills or mountains  Flat or gentle rolling hills |
| 1. Distance (miles) to the nearest public road with intensive swine transportation? |
| Name of road: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Distance from farm:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ miles  Direction from farm (North, South, etc.): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 1. Does the nearest public road with intensive swine transportation carry the following swine related traffic, excluding traffic to and from this premises, more than 3 times per week? |
| 1. Market pigs or culls to markets Yes No  Unknown 2. Growing pigs to other swine premises Yes No  Unknown 3. Vehicles traveling to or from a wash facility Yes No  Unknown 4. Rendering trucks Yes No  Unknown 5. Feed trucks Yes No  Unknown |
| 1. What is the distance (miles) to the nearest swine market, slaughter point, or collection point? |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ miles |
| 1. Are there any other farms, or other locations, that reported relevant clinical signs within a 5-mile radius of this farm? |
| Yes *(explain in table below)*  No  Unknown |

**Table 2.** Farms within a 5-mile radius of this farm.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Farm Name | Type of Farm *(breeding herd, nursery, etc.)* | Approximate capacity *(number of animals)* | Approximate distance from farm *(miles)* | Direction from farm *(N, S, E, W, NE, SE, NW, SW)* | Pathogen Positive? *(Yes/No/Unknown)* |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Notes:**

# Entry events that Occurred During the Investigation Period

## Swine Movements

##### Semen delivered to farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period was semen delivered to the farm? |  |
| Dates of delivery (if possible): |  |
|  | |
| **SEMEN PRODUCTION, COLLECTION, PROCESSING AND PACKAGING** | |
| 1. What is the name(s) of the semen source(s) used during the investigation period *(note health status of sources, if possible)*? If there is more than one semen source include the dates of delivery from each source. | |
|  | |
| 1. Did any of the semen source(s) change in the 3 months prior to the outbreak? | |
| Yes *(explain)*  No | |
| 1. Are all the boar stud(s) from which semen is delivered naïve to the pathogen? | |
| Yes  No *(explain)* | |
| 1. Have any of the boar stud(s) from which semen is received had a pathogen outbreak in the previous 3 years? | |
| Yes *(explain)*  No | |
| 1. Do all of the boar stud(s) from which semen is received filter incoming air? | |
| Yes  No | |
| 1. Do any of the boar stud(s) from which semen is received have other swine premises within a 3-mile radius? | |
| Yes  No | |
| 1. How is the boar stud(s) managed? | |
| Managed by the producer or production system  Managed by a 3rd party that exclusively supplies semen to the producer or production system  Managed by a 3rd party that supplies semen to other producers or production systems | |
| 1. Which samples from boars are tested for pathogen by PCR? | |
| a. Semen Every collection Weekly Monthly No  b. Serum Every collection Weekly Monthly No  c. Oral fluids Every collection Weekly Monthly No  d. Fecal Every collection Weekly Monthly No  e. Environmental Every collection Weekly Monthly No | |
| 1. Is use of semen always delayed until the PCR results are obtained? | |
| Yes  No | |

**Notes:**

|  |  |
| --- | --- |
|  | |
| **SEMEN DELIVERY ENTRY OF SEMEN INTO BARNS** | |
| 1. What is the method of delivery for semen to the farm? | |
| By courier directly to the farm  By mail  Dropped off and picked up at centralized location *(skip to Question 13)*  Semen is transferred at off-site location dedicated to this farm *(skip to Question*  *13)* | |
| 1. Approximately how many other swine premises is semen delivered to by the same driver and vehicle *(note names of premises, if possible)? If by mail or courier* | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number of premises | |
| 1. What biosecurity procedures are in place for semen delivery? *If by mail or courier* | |
| 1. Driver not allowed past a clearly defined clean/dirty line. 2. Driver wears disposable boots when exiting the vehicle or changes boots between premises 3. Delivery vehicles are restricted to designated entrances and / or parking areas 4. A disinfectant is used to decontaminate floor mats, steering wheel, etc. inside semen delivery vehicle. 5. Deliveries are routed according to pathogen status | Yes No Unknown  Yes No Unknown  Yes No Unknown  Yes No Unknown  Yes No Unknown |

|  |  |
| --- | --- |
| 1. What biosecurity procedures are in place for semen delivery? *If by centralized drop off/pick up location or off-site location* | |
| 1. Location is dedicated for only drop off/pick up of semen 2. Semen is picked up prior to initial farm entry of day or end of day with no farm re-entry or no farm entry at all-checking wording 3. Vehicles are restricted to designated entrances and / or parking areas 4. Driver wears disposable boots when exiting the vehicle at the location 5. A disinfectant is used to decontaminate floor mats, steering wheel, etc. inside vehicle used to deliver or pick up semen. 6. Location is not shared with other pathogen positive farms | Yes No Unknown  Yes No Unknown  Yes No Unknown  Yes No Unknown  Yes No Unknown  Yes No Unknown |
| 1. What steps are taken to prevent contamination or to decontaminate the semen packaging? | |
| 1. Double layer of clean, disposable packaging used to protect semen inside an insulated cooler 2. Packaging is decontaminated with disinfectant or other methods (UVC, etc.) before entering the facility | Yes No Unknown  Yes No Unknown |
| 1. Did anything related to semen delivery change in the 3 months prior to the outbreak? | |
| Yes *(explain)*  No | |
| **Notes:** | |
| **Likelihood that semen was responsible pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** | |
| **Brief justification for risk assessment:** | |
| **Follow-up and/or biosecurity recommendations:** | |

*Considerations when assessing risk for* ***semen entry****:*

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

1. Breeding replacements entered into herd

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were gilts delivered to the farm? |  |
| Dates of delivery (if possible): |  |

|  |
| --- |
| **BREEDING REPLACEMENT SOURCE AND GILT DEVELOPMENT** |
| 1. How many breeding herd sources were breeding replacements obtained from during the investigation period? If there is more than one gilt source include the dates of delivery from each source. |
|  |
| 1. What is the name(s) of the replacement gilt sources used during the investigation period? |
|  |
| 1. What are the names of the premises(s) from which gilts were delivered during the investigation period? *(specify, if different than above)* |
|  |
| 1. Did the source of replacement gilts change in the 3 months prior to the outbreak? |
| ☐Yes *(describe in notes)*  ☐No |

**Notes:**

|  |  |
| --- | --- |
| **BREEDING REPLACEMENT ACCLIMATION AND ISOLATION** | |
| 1. Are breeding replacements acclimated to the pathogen by exposure to any of the following prior to entry into the breeding herd? | |
| a. Live animals actively shedding  b. Feedback of feces or other tissues from animals  actively shedding  c. Serum from animals actively shedding  d. Commercially available modified live vaccine  e. Other commercially available vaccines  f. Killed autogenous vaccine  g. Other vaccines or source of live pathogen | Yes No  Yes No  Yes No  Yes No  Yes No  Yes No  Yes No |
| 1. After the last exposure to acclimate breeding replacements how many days pass before they are entered into the breeding herd? (if no prior exposure, write N/A) | |
|  | |
| 1. How many days are breeding replacements isolated at another premises (off-site) before they are hauled to this premises? | |
|  | |
| 1. How many days are breeding replacements isolated at this premises (on-site) before they are entered into the breeding herd? | |
|  | |
| 1. Are breeding replacements naive to the pathogen at entry or, if acclimated, before they are acclimated? | |
| Yes  No *(describe in notes)* | |
| 1. Prior to entry into the breeding herd, how are breeding replacements tested for the pathogen? | |
| a. PCR on serum Yes No  b. PCR on oral fluids Yes No  c. ELISA on serum Yes No  d. ELISA on oral fluids Yes No  e. Other *(describe in notes)* Yes No | |
| 1. Did anything related to replacement animal acclimation change in the 3 months prior to the outbreak? | |
| Yes *(describe in observations)*  No | |

**Notes:**

|  |
| --- |
| **BREEDING REPLACEMENT DELIVERY AND UNLOADING** |
| 1. How is the trailer(s)/vehicle(s) that hauls breeding replacements to this premises owned and managed? |
| Dedicated to this premises only *(Skip to Question 14)*  Managed by the producer or production system *(Skip to Question 14)*  Contracted to a 3rd party that hauls exclusively for this production system  Contracted to a 3rd party that hauls swine for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. From how many other swine premises may swine be hauled, to or from, by the same trailer(s)/vehicle(s) used to transport breeding replacements? |
|  |
| 1. Is the trailer(s)/vehicle(s) that haul breeding replacements to this premises allowed to haul other swine? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Are PATHOGEN positive animals ever knowingly hauled on the trailer(s)/vehicle(s) that transport breeding replacements to this premises? |
| Yes  No  Unknown |
| 1. Are environmental swabs collected from the trailer(s)/vehicle(s) that transport breeding replacements to this premises and tested for PATHOGEN by PCR? |
| Always  Sometimes  Never |

|  |
| --- |
| 1. What sanitation and decontamination procedures are used on the trailer/vehicle(s) that haul breeding replacements to this premises? |
| a. Always washed between every load Yes No Unknown  b. Detergent is used during washing Yes No Unknown  c. Disinfectant is used during washing Yes No Unknown  d. Always allowed to dry naturally before next load Yes No Unknown  e. Always dried using a TADD system Yes No Unknown  f. Minimum of 24 hours downtime is allowed Yes No Unknown  between loads  g. Disinfectant is used to decontaminate the floor Yes No Unknown  mats, steering wheel, etc. inside vehicle between  every load |
| 1. Describe the source of bedding for the trailers(s)/vehicle(s) transporting breeding replacements? |
|  |
| 1. How are the truck washes where trailer/vehicle(s) that haul breeding replacements are washed owned and managed? |
| a. Owned and managed by the producer or Yes No Unknown  production system  b. Workers washing trucks and trailers are employed Yes No Unknown  by the producer or production system  c. Used only to wash trucks and trailers for producer Yes No Unknown  or production system |
| 1. What biosecurity procedures, training and auditing are done for the truck washes where trailer/vehicle(s) that haul breeding replacements are washed? |
| a. SOPs are written in all languages spoken as first Yes No Unknown  language by employees  b. New employees are formally trained Yes No Unknown  c. All employees are periodically retrained Yes No Unknown  d. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a 3rd party  e. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  producer or production system  f. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  truck wash |
| 1. Did anything change regarding trailer sanitation in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |
| 1. Who loads/unloads the breeding replacement trailers? |
| On Farm Employees *(skip to Question 25)*  Driver  Other *(describe in observations)* |
| 1. What biosecurity procedures are followed by the driver of the trailer/vehicle(s) that haul breeding replacements to this premise? |
| 1. Wears disposable boots or changes boots Yes No Unknown   between sites   1. Wears clean or disposable coveralls on-site Yes No Unknown 2. Restricted from entering the chute or buildings Yes No Unknown |
| 1. What biosecurity procedures are followed by the on-site employees that load/unload breeding replacements to this premise? |
| 1. Wears boots and clothing that is dedicated to Yes No Unknown   the unloading area   1. If re-entering farm after unloading is complete, Yes No Unknown   do on-site employees shower in and change clothing |
| 1. Are sort boards, rattle paddles and other tools used cleaned and disinfected prior to loading the breeding replacements? |
| Yes  No  Unknown |
| 1. Did anything change regarding the breeding replacement unloading in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

|  |
| --- |
| 1. How is the unloading area for breeding replacements designed? |
| 1. Transfer station used on-site Yes No Unknown 2. Transfer station used off-site Yes No Unknown 3. Bumper-to-bumper transfer done off the Yes No Unknown   premises   1. Bumper-to-bumper transfer done on the Yes No Unknown   premises   1. Separate, unattached unloading area on the Yes No Unknown   premises   1. Attached to buildings housing swine Yes No Unknown 2. Chute is washed after every load Yes No Unknown 3. Chute is disinfected after every load Yes No Unknown |

**Notes:**

|  |  |
| --- | --- |
|  | |
| **Likelihood that breeding replacements were responsible pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***breeding replacement entry****:*

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

1. Cull sows hauled from farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were cull sows removed from the herd? |  |
| Dates of removal (if possible): |  |

|  |
| --- |
| **CULL SOW MARKET** |
| 1. What is the name(s) of the market(s) to which culls were sent during the investigation period? |
|  |
| 1. Did the market(s)/location(s) to which cull sows were sent change in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **CULL SOW TRAILER BIOSECURITY** |
| 1. How is the trailer(s)/vehicle(s) that haul cull sows from this premises owned and managed? |
| Dedicated to this premises only *(Skip to Question 5)*  Managed by the producer or production system *(Skip to Question 5)*  Contracted to a 3rd party that hauls exclusively for this production system  Contracted to a 3rd party that hauls swine for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. From how many other swine premises may swine be hauled, to or from, by the same trailer(s)/vehicle(s) used to transport cull sows? |
|  |
| 1. Is the trailer(s)/vehicle(s) that hauls cull sows from this premises allowed to haul other swine? |
| Yes *(describe in observations)*  No  Unknown |
| 1. May cull sows from more than one source be comingled on the same trailer(s)/vehicle(s)? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Are pathogen positive animals ever knowingly hauled on the trailer(s)/vehicle(s) that transport cull sows from this premises? |
| Yes  No  Unknown |
| 1. Are environmental swabs collected from the trailer(s)/vehicle(s) that transport cull sows from this premises and tested for the pathogen by PCR? |
| Always  Sometimes  Never |
| 1. Describe the source of bedding for the trailers(s)/vehicle(s) transporting cull sows? |
|  |
| 1. What sanitation and decontamination procedures are used on the trailer/vehicle(s) that haul cull sows from this premises? |
| a. Always washed between every load Yes No Unknown  b. Detergent is used during washing Yes No Unknown  c. Disinfectant is used during washing Yes No Unknown  d. Always allowed to dry naturally before next load Yes No Unknown  e. Always dried using a TADD system Yes No Unknown  f. Minimum of 24 hours downtime is allowed Yes No Unknown  between loads  g. Disinfectant is used to decontaminate the floor Yes No Unknown  mats, steering wheel, etc. inside vehicle between  every load |
| 1. How are the truck washes where trailer/vehicle(s) that haul breeding replacements are washed owned and managed? |
| a. Owned and managed by the producer or Yes No Unknown  production system  b. Workers washing trucks and trailers are employed Yes No Unknown  by the producer or production system  c. Used only to wash trucks and trailers for producer Yes No Unknown  or production system |
| 1. What biosecurity procedures, training and auditing are done for the truck washes where trailer/vehicle(s) that haul cull sows are washed? |
| a. SOPs are written in all languages spoken as first Yes No Unknown  language by employees  b. New employees are formally trained Yes No Unknown  c. All employees are periodically retrained Yes No Unknown  d. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a 3rd party  e. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  producer or production system  f. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  truck wash |

|  |
| --- |
| 1. Did anything change regarding trailer sanitation in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |
| 1. Who loads/unloads the cull sows in the trailer? |
| On Farm Employees *(skip to Question 17)*  Driver  Other *(describe in observations)* |
| 1. What biosecurity procedures are followed by the driver of the trailer / vehicle(s) that haul cull sows from this premises? |
| a. Wears disposable boots or changes boots Yes No Unknown  between sites  b. Wears clean or disposable coveralls on-site Yes No Unknown  c. Restricted from entering the chute or buildings Yes No Unknown  d. Changes boots at or wears disposable boots that are Yes No Unknown  removed before re-entering the vehicle at the  slaughter plant or collection point? |
| 1. What biosecurity procedures are followed by the on-site employees that load cull sows for this premise? |
| 1. Wears boots and clothing that is dedicated Yes No Unknown   to the unloading area   1. If re-entering farm after loading is completed, Yes No Unknown   do on-site employees shower in and change clothing |
| 1. Are sort boards, rattle paddles and other tools used cleaned and disinfected prior to loading the cull sows? |
| Yes  No  Unknown |
| 1. Did anything change regarding cull sow loading in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **CULL SOW LOADING PROCEDURE** |
| 1. How is the loading area for cull sows designed? |
| 1. Separate staging area Yes No Unknown 2. Stage loading technique used Yes No Unknown 3. Transfer station used on-site Yes No Unknown 4. Transfer station used off-site Yes No Unknown 5. Bumper-to-bumper transfer done off the Yes No Unknown   premises   1. Bumper-to-bumper transfer done on the Yes No Unknown   premises   1. Separate, unattached loading area on the Yes No Unknown   premises   1. Attached to buildings housing swine Yes No Unknown 2. Chute is washed after every load Yes No Unknown 3. Chute is disinfected after every load Yes No Unknown |

**Notes:**

|  |
| --- |
| **Likelihood that cull sows were responsible pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***hauling cull sows:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Weaned pigs hauled from farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were weaned pigs removed from the herd? |  |
| Dates of removal (if possible): |  |

|  |
| --- |
| **WEANED PIGS DESTINATION** |
| 1. What is the name(s) of the premises(s) to which weaned pigs were delivered during the investigation period? |
|  |
| 1. Were any of the premises(s) to which weaned pigs were delivered during the investigation period pathogen positive? |
| Yes *(describe in observations)*  No  Unknown |

**Notes:**

|  |
| --- |
| **WEANED PIGS TRAILER BIOSECURITY** |
| 1. How is the trailer(s)/vehicle(s) that hauls weaned pigs from this premises owned and managed? |
| Dedicated to this premises only *(Skip to Question 5)*  Managed by the producer or production system *(Skip to Question 5)*  Contracted to a 3rd party that hauls exclusively for this production system  Contracted to a 3rd party that hauls swine for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. From how many other swine premises may swine be hauled, to or from, by the same trailer(s)/vehicle(s) used to transport weaned pigs? |
|  |
| 1. May pigs from more than one source comingled on the same trailer(s)/vehicle(s)? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Is the trailer(s)/vehicle(s) that hauls weaned pigs from this premises allowed to haul other swine? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Are PATHOGEN positive animals ever knowingly hauled on the trailer(s)/vehicle(s) that transport weaned pigs from this premises? |
| Yes  No  Unknown |
| 1. Are environmental swabs collected from the trailer(s)/vehicle(s) that transport weaned pigs from this premises and tested for PATHOGEN by PCR? |
| Always  Sometimes  Never |

|  |
| --- |
| 1. Describe the source of bedding for trailers(s)/vehicle(s) transporting weaned pigs? |
|  |
| 1. What sanitation and decontamination procedures are used on the trailer/vehicle(s) that haul weaned pigs from this premises? |
| a. Always washed between every load Yes No Unknown  b. Detergent is used during washing Yes No Unknown  c. Disinfectant is used during washing Yes No Unknown  d. Always allowed to dry naturally before next load Yes No Unknown  e. Always dried using a TADD system Yes No Unknown  f. Minimum of 24 hours downtime between loads Yes No Unknown  g. Disinfectant is used to decontaminate the floor Yes No Unknown  mats, steering wheel, etc. inside vehicle between  every load |
| 1. How are the truck washes where trailer/vehicle(s) that haul breeding replacements are washed owned and managed? |
| a. Owned and managed by the producer or Yes No Unknown  production system  b. Workers washing trucks and trailers are employed Yes No Unknown  by the producer or production system  c. Used only to wash trucks and trailers for producer Yes No Unknown  or production system |
| 1. What biosecurity procedures, training and auditing are done for the truck washes where trailer/vehicle(s) that haul weaned pigs are washed? |
| a. SOPs are written in all languages spoken as first Yes No Unknown  language by employees  b. New employees are formally trained Yes No Unknown  c. All employees are periodically retrained Yes No Unknown  d. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a 3rd party  e. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  producer or production system  f. Compliance with biosecurity procedures are Yes No Unknown  formally audited by a party affiliated with the  truck wash |

|  |
| --- |
| 1. Did anything change regarding trailer sanitation in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |
| 1. Who loads the wean pigs in the trailer? |
| On Farm Employees *(skip to Question 17)*  Driver  Other *(describe in observations)* |
| 1. What biosecurity procedures are followed by the driver of the trailer/vehicle(s) that hauls weaned pigs from this premises? |
| a. Wears disposable boots or changes boots Yes No Unknown  between sites  b. Wears clean or disposable coveralls on-site Yes No Unknown  c. Restricted from entering the chute or buildings Yes No Unknown |
| 1. What biosecurity procedures are followed by the on-site employees that load wean pigs for this premise? |
| 1. Wears boots and clothing that is dedicated Yes No Unknown   to the unloading area   1. If re-entering farm after unloading is completed, Yes No Unknown   do on-site employees shower in and change clothing |
| 1. Are sort boards, rattle paddles and other tools used by the driver cleaned and disinfected prior to loading the weaned pigs? |
| Yes  No  Unknown |
| 1. Did anything change regarding the weaned pig loading in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **WEANED PIGS LOADING PROCEDURE** |
| 1. How is the loading area for weaned pigs designed? |
| 1. Separate staging area Yes No Unknown 2. Staged loading technique used Yes No Unknown 3. Transfer station used on-site Yes No Unknown 4. Transfer station used off-site Yes No Unknown 5. Bumper-to-bumper transfer done off the Yes No Unknown   premises   1. Bumper-to-bumper transfer done on the Yes No Unknown   premises   1. Separate, unattached loading area on the Yes No Unknown   premises   1. Attached to buildings housing swine Yes No Unknown 2. Chute is washed after every load Yes No Unknown 3. Chute is disinfected after every load Yes No Unknown |

**Notes:**

|  |
| --- |
| **Likelihood that weaned pigs were responsible pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***hauling weaned pigs****:*

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

## Vehicles/Deliveries

##### Removal of Mortalities from farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period did rendering/mortality removal vehicles remove mortalites from the farm? |  |
| Dates of removal (if possible): |  |

|  |
| --- |
| **MORTALITY REMOVAL FROM BARNS** |
| 1. How often are mortalities removed from the barn: |
| Multiple times a day  Once a day  Every other day  Few times a week  Weekly  Other *(specify in observations)* |
| 1. What are the standard operating procedures for removing mortalities from swine barns at this premises? |
| a. Single, designated point of removal from barns Yes No  b. Clear line of separation established at point of removal Yes No  c. Clean side of line of separation is elevated relative to dirty side Yes No  d. Mortality removal equipment used inside the barn(s) Yes No  is not used outside of the barn(s) for mortality removal  e. Mortalities removed as last chore of the day Yes No  f. Outside farm staff handle mortality outside that don’t enter barns Yes No |

|  |
| --- |
| 1. What are the standard operating procedures for removing placentae and piglet mortalities from swine barns at this premises? |
| a. Single, designated point of removal from barns Yes No  b. Clear line of separation established at point of removal Yes No  c. Clean side of line of separation is elevated relative to dirty side Yes No  d. Containers do not cross the line of separationYes No  e. Mortality removal equipment used inside the barn(s) Yes No  is not used outside of the barn(s) for mortality removal  f. Mortalities removed as last chore of the day Yes No  g. Outside farm staff handle mortality outside that don’t enter barns Yes No |

**Notes:**

|  |
| --- |
| **MORTALITY DISPOSAL FROM PREMISES** |
| 1. Where are mortalities disposed? |
| Onsite  Offsite *(skip to Question 14)* |
| 1. How are animals disposed of if on-site? |
| Burial *(skip to Question 11)*  Incineration *(skip to Question 11)*  Compost |
| 1. Was their evidence of birds and/or wildlife entering the compost facility during the investigation period? |
| Yes  No |
| 1. Describe the type and source of the carbon source for composting? |
|  |
| 1. Is a grinder utilized to compost? |
| Yes  No |
| 1. Is temperature monitoring performed for compost? |
| Yes  No |
| 1. How is finished compost disposed of? |
|  |
| 1. Where is the on-site mortality disposal located relative to swine barns and how is it designed? |
|  |
| 1. Is transport of mortalities to on-site disposal site routed to avoid cross contaminate of other pathways (people and other vehicle traffic)? |
| Yes  No |
| 1. What are the standard operating procedures for handling mortalities outside barns at this premises |
| 1. Dedicated clothing and boots worn by personal Yes No Unknown   handling mortalities outside of barns   1. Employees handling mortalities outside of barns Yes No Unknown   do not re-enter barns on same day   1. Equipment cleaned and disinfected after Yes No Unknown   handling mortalities |
| 1. How are animals removed from the premises if disposal is off-site? |
| Removed with vehicle other than rendering truck that goes to off site/central location  Rendering transported directly to rendering collection point |
| 1. If the mortality removal vehicle transports mortalities to an off site or central location, how is the vehicle managed? |
| Vehicle dedicated to premise  Vehicle dedicated to mortality removal only  Vehicle that runs a route between farms  Other (describe in observations) |
| 1. How are animals disposed of if off-site? |
| Dedicated to premise offsite  Central compost shared  Central rendering  Central incineration  Central burial |
| 1. Is the transportation of mortalities to the rendering pick-up site routed to avoid cross contamination of other pathways (people and other vehicle traffic)? |
| Yes  No |

**Notes:**

|  |
| --- |
| **MORTALITY RENDERING/REMOVAL TRUCK** |
| 1. How is the rendering/mortality removal truck managed? |
| Dedicated to this premises only  Managed by the producer of production system  Contracted to a 3rd party that hauls exclusively for the producer or production system  Contracted to a 3rd party that hauls for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. Were there any changes to how the rendering/mortality removal vehicles were managed in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No  Unknown |

**Notes:**

|  |
| --- |
| **RENDERING/MORTALITY REMOVAL TRUCK BIOSECURITY** |
| 1. What procedures are followed to prevent pathogen from a contaminated rendering truck/mortality removal vehicle from being transmitted to the herd? |
| a. Mortality pick-up site is more than 100 yards Yes No  from swine buildings  b. Mortalities are stored in an enclosed container Yes No  c. Mortalities refrigerated  d. Rendering containers dedicated to farm Yes No  e. Mortality storage area is enclosed by a fence or  solid structure Yes No  f. Equipment used to move mortalities from barns to the Yes No  collection site is dedicated to this premises  g. Equipment used to move mortalities to the collection Yes No  site does not cross paths with the rendering truck  h. People and vehicle traffic is purposely routed to avoid Yes No  crossing paths with rendering trucks on the premises  i. Employees are not allowed to re-enter swine barns after Yes No  moving mortalities to the collection site |
| 1. What procedures are in place to prevent pathogen from a contaminated rendering truck driver from being transmitted to the herd? |
| a. Not allowed to leave truck Yes No Unknown  b. Wears disposable boots or changes boots between Yes No Unknown  premises |

**Notes:**

|  |
| --- |
| **Likelihood that dead animal removal was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***removing dead animals****:*

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Feed or feed ingredients delivered to farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were feed or feed ingredients delivered to the farm? |  |
| Dates of delivery (if possible): |  |

|  |
| --- |
| **FEED MILL** |
| 1. Is there a feed mill on the premises? |
| Yes  No *(skip to Question 3)* |
| 1. If the feed mill is on the premise, does it mill feed for other locations? |
| Yes  No |
| 1. If the feed mill is not located on the premise, how is the feed mill managed? |
| Managed by the producer or production system  Contracted to a 3rd party that manufactures exclusively for the producer or production system  Contracted to a 3rd party that manufactures for other producers or production systems |
| 1. What is the name(s) of the feed mill(s) from which feed was sourced during the investigation period prior to the outbreak? |
|  |
| 1. Does the feed mill have written biosecurity measures in place to reduce the risk of feed becoming contaminated with PATHOGEN? |
| Yes  No  Unknown |

**Notes:**

|  |
| --- |
| **FEED OR FEED INGREDIENT BIOSECURITY** |
| 1. What procedures are followed to reduce the risk of contaminated feed or feed ingredients transmitting the PATHOGEN to the herd? |
| a. Specific holding times for feed ingredients Yes No  b. Feed is pelleted or heat treated Yes No  c. No dried distillers grains (DDGS) in diets Yes No  d. No porcine derived feed ingredients in diets Yes No  e. No animal derived feed ingredients in diets Yes No |
| 1. Are any of the following feed additives utilized? |
| 1. Fomaldehyde Yes No 2. Fatty acids Yes No |
| 1. How is spilled feed handled? |
| a. Spilled feed is sometimes fed to pigs on the premises Yes No  b. Spilled feed is cleaned up within 24 hours of spill Yes No  c. Spilled feed is disposed of in trash, mortality  removal area, or away from the farm Yes No |
| 1. How frequently do wild animals have access to feed (i.e. open bags, bin covers left open, spillage that is fed to pigs, etc.)? |
| a. Non-migratory birds Always Sometimes Never  b. Migratory birds Always Sometimes Never  c. Rodents Always Sometimes Never  d. Wild animals (raccoons, coyotes, etc.) Always Sometimes Never |
| 1. Were there any changes to the mill, feed delivery, diets, feed ingredients, etc. in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **FEED DELIVERY PRACTICES** |
| 1. How is the feed delivery vehicle managed? |
| Dedicated to this premises only *(Skip to Question 14)*  Managed by the producer of production system *(Skip to Question 14)*  Contracted to a 3rd party that hauls exclusively for the producer or production system  Contracted to a 3rd party that hauls for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. What procedures are followed to prevent PATHOGEN being transmitted to the herd during feed delivery? |
| 1. Feed or feed ingredient deliveries are routed Yes No Unknown   according to pathogen status of the premise   1. Downtime is required for feed or feed Yes No Unknown   ingredient delivery vehicle before it delivers  feed to this premise |
| 1. Does disinfection of tires/undercarriage of feed or feed ingredient delivery vehicles occur prior to delivery of feed to this premise? |
| Yes  No  Unknown |
| 1. Is bagged feed utilized on this farm? |
| Yes  No *(skip to Question 16)* |
| 1. What procedures are followed to prevent PATHOGEN being transmitted to the herd during bagged feed delivery? |
| 1. Bagged feed deliveries are routed Yes No   according to pathogen status of the premise   1. Dedicated room with a clearly defined clean and dirty Yes No   side through which bagged feed is entered   1. Bagged feed is removed into a separate container Yes No   prior to entry into the clean side of the farm   1. Quarantined for a minimum of 24 hours Yes No 2. Decontaminated with disinfectant or other methods Yes No   before entering barns (UVC, temperature, etc.) |
| 1. Were there any changes to how feed delivery was managed in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No  Unknown |

**Notes:**

|  |
| --- |
| **ON-SITE FEED DELIVERY VEHICLE BIOSECURITY** |
| 1. What procedures are followed to prevent PATHOGEN from a contaminated feed delivery vehicle or driver from being transmitted to the herd? |
| a. Driver is not allowed inside buildings Yes No  b. Driver wears disposable boots or changes boots between Yes No  premises  c. People and vehicle traffic are purposely routed to avoid Yes No  crossing paths with feed delivery vehicles on the premises |

**Notes:**

|  |
| --- |
| **Likelihood that feed or feed ingredient delivery was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***feed or feed ingredient delivery:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Propane, fuel, and Bulk C02 delivered to farm

Consider the following carrying agents:

* Propane or fuel truck
* Propane or fuel truck driver

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period was propane and/or fuel delivered to the farm? |  |
| Dates of delivery (if possible): |  |

|  |
| --- |
| **PROPANE AND FUEL DELIVERY PRACTICES** |
| 1. How is the propane/fuel delivery vehicle managed? |
| Dedicated to this premises only  Managed by the producer of production system  Contracted to a 3rd party that hauls exclusively for the producer or production system  Contracted to a 3rd party that hauls for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. What procedures are followed to prevent pathogen from a contaminated propane or fuel delivery vehicle or driver from being transmitted to the herd? |
| a. Tanks located more than 50 yards from swine barns Yes No  b. Driver not allowed inside buildings Yes No  c. Driver wears disposable boots or changes boots between Yes No  premises  d. People and vehicle traffic is purposely routed to avoid Yes No  crossing paths with propane and fuel truck on the premises |
| 1. Were there any changes to how propane/fuel delivery was managed in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **Likelihood that propane and/or fuel delivery was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***propane and fuel delivery:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Garbage collection from farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period was garbage collected from the farm? |  |
| Dates of collection (if possible): |  |

|  |
| --- |
| **GARBAGE COLLECTION PRACTICES** |
| 1. What are the standard operating procedures for removing garbage from swine barns at this premises? |
| Single, designated point of removal from barns  Clear line of separation established at point of removal from barns  Clean side of line of separation is elevated relative to dirty side  Garbage removed as last chore of the day  Outside farm staff handle garbage outside that don’t enter barns |
| 1. How is the garbage truck managed? |
| Dedicated to this premises only  Managed by the producer of production system  Contracted to a 3rd party that hauls exclusively for the producer or production system  Contracted to a 3rd party that hauls for other producers or production systems  Garbage is removed to offsite location by employee |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |

|  |
| --- |
| 1. What procedures are followed to prevent pathogen from a contaminated garbage truck or driver from being transmitted to the herd? |
| a. Garbage pick-up is located more than 50 yards from barns Yes No  b. Driver never exits the truck Yes No  c. Driver not allowed to enter buildings Yes No  d. Driver wears disposable boots or changes boots between Yes No  premises  e. People and vehicle traffic is purposely routed to avoid Yes No  crossing paths with garbage trucks on the premises |
| 1. Were there any changes to how garbage removal was managed in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **Likelihood that garbage collection was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***garbage collection:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### New tools and supplies delivered to farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were new tools and/or supplies delivered the farm? |  |
| Dates of delivery (if possible): |  |

|  |
| --- |
| **SOURCE OF NEW TOOLS AND/OR SUPPLIES** |
| 1. What is the location(s) from which new tools and supplies were sourced during the investigation period? |
|  |
| 1. Are any new tools and/or supplies sourced from warehouse or storage shed where used parts or stored? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Were there any changes to new tool/supply delivery in the 3 months prior to the outbreak? Move to last |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
|  |
| **DELIVERY OF NEW TOOLS AND/OR SUPPLIES** |
| 1. What procedures are in place to prevent pathogen from a contaminated delivery vehicle or driver from being transmitted to the herd? |
| a. All new tools / supplies delivered by on-farm employees Yes No  b. Deliveries are scheduled or routed according to the Yes No  PATHOGEN status of the premises  c. Driver not allowed past a clearly defined clean/dirty line Yes No  d. Driver wears disposable boots or changes boots between Yes No  premises  e. Delivery vehicles are restricted to designated entrances Yes No  or parking areas |

|  |
| --- |
| **ENTRY OF NEW TOOLS AND/OR SUPPLIES BIOSECURITY INTO BARNS** |
| 1. What procedures are in place to decontaminate new tools or supplies? |
| a. Dedicated room with a clearly defined clean and dirty Yes No  side through which tools and supplies are entered  b. Quarantined for a minimum of 24 hours Yes No  c. Outer container (cardboard, etc.) is removed prior Yes No  to entering the barns  d. Decontaminated with disinfectant or other methods Yes No  before entering barns (UVC, temperature, etc.) |

**Notes:**

|  |
| --- |
| **Likelihood that new tools and/or supplies delivery was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***new tools and supplies:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*

*Strength of Evidence:*

##### Transferred tools and supplies delivered to farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were transferred tools and/or supplies delivered the farm? |  |
| Dates of delivery (if possible): |  |

|  |
| --- |
| **SOURCE OF TRANSFERRED TOOLS/SUPPLIES SOURCE** |
| 1. What is the location from which transferred tools and supplies were sourced during the investigation period? |
|  |
| 1. If transferred tools and supplies were sourced from a swine facility, what is the pathogen status of the swine facility? |
| Unknown  Positive  Negative  Naïve |

**Notes:**

|  |
| --- |
| **TRANSFERRED TOOLS AND SUPPLIES DELIVERY PRACTICES** |
| 1. What procedures are in place to decontaminate transferred tools or supplies? |
| 1. Dedicated room with a clearly defined clean and dirty Yes No   side through which tools and supplies are entered   1. Quarantined for a minimum of 24 hours Yes No 2. Outer container (cardboard, etc.) is removed prior Yes No   to entering the barns   1. Decontaminated with disinfectant or other methods Yes No   before entering barns (UVC, temperature, etc.) |
| 1. What procedures are in place to prevent pathogen from a contaminated delivery vehicle or driver from being transmitted to the herd? |
| 1. All transferred tools/supplies delivered by Yes No   on-farm employees  b. Deliveries are scheduled or routed according to the Yes No  PATHOGEN status of the premises  c. Driver not allowed past a clearly defined clean/dirty line Yes No  d. Driver wears disposable boots or changes boots between Yes No  premises  e. Delivery vehicles are restricted to designated entrances Yes No  or parking areas |
| 1. Were there any changes to transferred tool/supply delivery in the 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **Likelihood that transferred tools and/or supplies delivery was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***transferred tools and supplies:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

## People Movement

##### On-farm employees

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period did on-farm employees enter the farm?  *[avg. daily frequency (number obtained in Question #2) x # of days in investigation period]* |  |
| Dates of entry (if possible): |  |

|  |
| --- |
| **ON-FARM EMPLOYMENT** |
| 1. On an average day, how many people enter and work on the farm? |
| |  |  |  | | --- | --- | --- | | Day of Week | Number of Employees when fully staffed | Average Employees During Investigation Period | | Monday |  |  | | Tuesday |  |  | | Wednesday |  |  | | Thursday |  |  | | Friday |  |  | | Saturday |  |  | | Sunday |  |  | |
| 1. On average, how many times per day do employee exit and re-enter the barns?   *(# of employees x avg. daily frequency)* |
|  |
| 1. How long has the farm manager been at this farm? |
|  |

|  |
| --- |
| 1. What is the average annual employee turnover at this premises in the last two years? |
|  |
| 1. Are part-time or temporary employees used? |
| Weekly *(describe in observations)*  Less than weekly *(describe in observations)*  Never |

**Notes:**

|  |
| --- |
| **POTENTIAL PATHOGEN EXPOSURE OF ON-FARM EMPLOYEES** |
| 1. Did any on-farm employee visit another swine site in the four weeks prior to the outbreak? |
| Yes *(describe in observations)*  No |
| 1. Does any employee live with another individual who has: |
| 1. Swine-related activity with direct swine contact (work on Yes No   another swine farm, haul swine, work at swine markets,  exhibit swine, etc.)   1. Swine-related activity without direct swine contact (work Yes No   at feed mill, wash trucks, haul manure etc.) |
| 1. Are any of the following communal transportation of employees utilized? |
| 1. Communal transport of employees for this farm only? Yes No 2. Communal transport of employees shared among farms? Yes No 3. Carpooling of employees shared among farms? Yes No |
| 1. Are on-farm employee vehicles restricted to designated entrances and/or parking areas? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **ON-FARM EMPLOYEE BIOSECURITY PRACTICES** |
| 1. What procedures are followed by employees when entering barns on the premises? |
| 1. Shower-in required Yes No 2. Shower-out required Yes No 3. Shower design is unidirectional with clearly Yes No   defined clean/dirty line   1. Bench entry Yes No 2. Shoe cover station at entry way Yes No 3. Disinfection station at entry way Yes No 4. Hand sanitizer in the entry way Yes No 5. Required to wear boots dedicated to the premises Yes No 6. Required to wear clothing dedicated to the premises Yes No 7. Hands must be washed or hand sanitizer used prior to Yes No   entering barns |
| 1. Do the sanitation procedures for employees exiting and re-entering the barns differ from those when employees first arrive? |
| Yes *(describe in observations)*  No |
| 1. What biosecurity procedures are in place for personal items (e.g. Cell phones, watches, etc.) brought into barns by on-farm employees? |
| a. Items may not be entered Yes No  b. Items are entered through a dedicated room with a Yes No  clearly defined clean and dirty side  c. Items are decontaminated with disinfectant, UVC or Yes No  other methods before entering the facilities  d. Items are restricted to the office area Yes No |
| 1. Are on-farm employees allowed to perform: |
| 1. Swine-related activity with direct swine contact Yes No   (work on another swine farm, haul swine, work  at swine markets, exhibit swine, etc.)   1. Swine-related activity without direct swine contact Yes No   (work at feed mill, wash trucks, haul manure etc.) |

|  |
| --- |
| 1. What procedures are in place if employees visit or work on other swine premises? |
| a. Not allowed to visit or work on other swine premises Yes No  b. Minimum of overnight downtime is required Yes No  c. Employee must wash vehicle and disinfect interior Yes No  before returning to the premises  d. Members of on-farm employee households are not allowed Yes No  to be employed by other swine production or swine  related operations |
| 1. What are the biosecurity, training, and auditing protocols for the premises? |
| a. Standard operating procedures (SOP) are written in Yes No  all language(s) spoken as first language by employees  b. New employees are formally trained Yes No  c. Part time and temporary employees are formally trained Yes No  d. All employees are formally retrained on a routine basis Yes No  e. Farm has designated biosecurity manager on site Yes No  f. Compliance with biosecurity procedures is formally audited Yes No  by a party affiliated with the producer or production system  g. Compliance with biosecurity procedures is formally audited Yes No  by an independent 3rd party |

**Notes:**

|  |
| --- |
| **Likelihood that on-farm employee entry was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***on-farm employee entry:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?\**
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

*\*note: frequent movement on premises allows employees to act as common secondary carrying agent*

##### Repair/service personnel, working inside barns

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were repair/service personnel working inside of the barns? |  |
| What locations of the barn had repairs during the outbreak investigation? |  |
| Were any emergency repairs performed during the investigation? |  |
| Dates of repairs (if possible): |  |

|  |
| --- |
| **REPAIR/SERVICE PERSONNEL WORKING INSIDE THE BARNS** |
| 1. How are repairs that are done inside of swine barns managed? |
| Dedicated to this premises only  Managed by the producer of production system  Contracted to a 3rd party that provides maintenance exclusively for the producer or production system  Contracted to a 3rd party that provides maintenance for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |

**Notes:**

|  |
| --- |
| **INTERIOR REPAIR/SERVICE PERSONNEL BIOSECURITY PROCEDURES** |
| 1. What procedures are followed by repair, maintenance, electrical and plumbing personnel when entering barns on premises? |
| 1. Shower-in required Yes No 2. Shower-out required Yes No 3. Shower design is unidirectional with clearly defined Yes No   clean/dirty line   1. Bench entry Yes No 2. Shoe cover station at entry way Yes No 3. Disinfection station at entry way Yes No 4. Hand sanitizer in the entry way Yes No 5. Required to wear boots dedicated to the premises Yes No 6. Required to wear clothing dedicated to the premises Yes No 7. Hands must be washed or hand sanitizer used prior to Yes No   entering barns |
| 1. Are entry procedures relaxed when repair personnel exit and re-enter the barns? |
| Yes *(describe in observations)*  No |
| 1. What biosecurity procedures are in place for tools, supplies and equipment brought into barns by repair personnel? |
| a. Entered through a dedicated room with clearly defined Yes No  clean and dirty side  b. Quarantined for a minimum of 24 hours Yes No  c. Decontaminated with disinfectant or other methods Yes No  before entering the facility |
| 1. Are vehicles driven by repair personnel restricted to designated entrances and parking areas? |
| Yes *(describe in observations)*  No |
| 1. How are biosecurity practices communicated to repair personnel? |
| 1. Direct oral or written communication before every repair Yes No 2. Standard operating procedures (SOPs) are written in Yes No   all language(s) spoken as first language by employees   1. Repair personnel are formally trained Yes No 2. Repair personnel are periodically formally retrained Yes No |

**Notes:**

|  |
| --- |
| **Likelihood that repair/service personnel working inside the barn was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***repair/service personnel working inside barns:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Repair/service personnel, working outside barns

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period were repair/service personnel working outside of the barns? |  |
| Were any emergency repairs performed during the investigation? |  |
| Dates of repairs (if possible): |  |

|  |
| --- |
| **REPAIRS PERFORMED OUTSIDE OF THE BARNS** |
| 1. How are repairs that are done outside of swine barns managed? |
| Dedicated to this premises only  Managed by the producer of production system  Contracted to a 3rd party that hauls exclusively for the producer or production system  Contracted to a 3rd party that hauls for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |

**Notes:**

|  |
| --- |
| **EXTERIOR REPAIR/SERVICE PERSONNEL BIOSECURITY PROCEDURES** |
| 1. How much downtime (hours) is required for repair personnel? |
|  |
| 1. What procedures are followed to prevent pathogen from a contaminated repairmen’s vehicle or repair personnel from being transmitted to the herd? |
| a. Repair personnel wear disposable boots or changes Yes No  boots between premises  b. People and vehicle traffic is purposely routed to avoid Yes No  crossing paths with repairmen and their vehicles on the  premises |
| 1. Are vehicles driven by repair personnel restricted to designated entrances and parking areas? |
| Yes *(describe in observations)*  No |
| 1. How are biosecurity practices communicated to repair personnel? |
| 1. Direct oral or written communication before every repair Yes No 2. Standard operating procedures (SOPs) are written in Yes No   all language(s) spoken as first language by employees   1. Repair personnel are formally trained Yes No 2. Repair personnel are periodically formally retrained Yes No |

**Notes:**

|  |
| --- |
| **ELECTRICAL METER READING PERSONNEL** |
| 1. How many times per month is the electrical reader read on this premises? |
|  |
| 1. What procedures are in place to prevent pathogen from a contaminated vehicle or driver from being transmitted to the herd when the electrical meter is read? |
| a. Electrical meter is located more than 50 yards Yes No  from swine barns  b. Driver not allowed inside buildings Yes No  c. Driver wears disposable boots or changes boots Yes No  between premises |

|  |
| --- |
| **LAWN MOWING PRACTICES** |
| 1. How many times per month is the lawn mown? |
|  |
| 1. How is lawn mowing managed? |
| Mowing equipment is dedicated to this premises and lawn is mowed by on-farm personnel  Managed by the producer or production system  Contracted to a 3rd party that mows exclusively for the producer or the production system  Contracted to a 3rd party that mows swine sites for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |

**Notes:**

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| --- |
| **SNOW REMOVAL PRACTICES** |
| 1. How many times per month is the snow removed? |
|  |
| 1. How is snow removal managed? |
| Snow removal equipment is dedicated to this premises and is done by on-farm personnel  Managed by the producer or production system  Contracted to a 3rd party that removes snow exclusively for the producer or the production system  Contracted to a 3rd party that removes snow from swine sites for other producers or production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |

**Notes:**

|  |
| --- |
| **Likelihood that repair/service personnel working outside the barn was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***repair/service personnel working outside barns:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*

*Strength of Evidence:*

##### Veterinarians, vendors/visitors, and off-farm production personnel

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period did any of the above personnel enter the barns? |  |
| Dates of entry (if possible): |  |

|  |
| --- |
| **VETERINARIANS, VENDORS/VISITORS, OFF-FARM PRODUCTION PERSONNEL’S PREVIOUS EXPOSURE** |
| 1. Where did veterinarians, off-site production personnel, vendors, and other visitors have pig contact during the 3 days prior to their entry into the barn? |
|  |
| 1. If personnel visited a swine facility, what is the pathogen status of the swine facility? |
| Unknown  Positive  Negative  Naïve |
| 1. Does any veterinarian, vendor, visitor, or off-farm production personnel that entered your farm in the four weeks prior to the outbreak live with an individual that comes into contact with commercial or exhibition pigs on a regular basis? |
| Yes *(describe in observations)*  No  Unknown |
| 1. Does any veterinarian, vendor, visitor, or off-farm production personnel that entered your farm in the four weeks prior to the outbreak own exhibition pigs? |
| Yes *(describe in observations)*  No  Unknown |

**Notes:**

|  |
| --- |
| **VETERINARIANS, VENDORS/VISITORS, OFF-FARM PRODUCTION PERSONNEL BIOSECURITY PRACTICES** |
| 1. How much downtime (hours) is required for veterinarians, off-site production personnel, vendors, and other visitors? |
|  |
| 1. Are vehicles of veterinarians, off-site production personnel, vendors, and other visitors restricted to designated entrances and/or parking areas? |
| *Yes (describe in observations)*  No |
| 1. What procedures are followed by veterinarians, off-site production personnel, vendors, and other visitors when entering barns on the premises? |
| 1. Shower-in required Yes No 2. Shower-out required Yes No 3. Shower design is unidirectional with clearly defined Yes No   clean/dirty line   1. Bench entry Yes No 2. Shoe cover station at entry way Yes No 3. Disinfection station at entry way Yes No 4. Hand sanitizer in the entry way Yes No 5. Required to wear boots dedicated to the premises Yes No 6. Required to wear clothing dedicated to the premises Yes No 7. Hands must be washed or hand sanitizer used prior to Yes No   entering barns |
| 1. What biosecurity procedures are in place for tools, supplies and equipment (e.g. cell phones, veterinary equipment, etc.) brought into barns by veterinarians, off-site production personnel, vendors and other visitors? |
| a. May not be entered Yes No  b. Entered through a dedicated room with a clearly defined Yes No  clean and dirty side  c. Decontaminated with disinfectant or other methods before Yes No  entering the facility  d. Equipment is restricted to the office area Yes No |
| 1. Are vaccination crews used on this premises? |
| Yes *(describe in observations)*  No |

|  |
| --- |
| 1. Are load-out crews used on this premises? |
| Yes *(describe in observations)*  No |
| 1. Is a visitor’s log used to record visitors to the premises? |
| Always *(attach photograph of visitor’s log)*  Sometimes *(attach photograph of visitor’s log)*  Never |

**Notes:**

|  |
| --- |
| **Likelihood that veterinarians, vendors/visitors, off-farm production personnel entry was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***veterinarians, vendors, off-farm production personnel:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*

*Strength of Evidence:*

## Pork/food product entry

##### Pork and other food products

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period did any pork or food products enter the barns?  *[avg. daily frequency x # of days in investigation period]* |  |
| Dates of entry (if possible): |  |

|  |
| --- |
| **PORK AND OTHER FOOD PRODUCT ENTRY PRACTICES** |
| 1. Are pork / food products prohibited from entering the premises? |
| a. Uncooked pork Yes No  b. Processed or cooked pork Yes No  c. Other food / beverages Yes No |
| 1. If pork / food products enter the premises, how are they entered? |
| a. Entered through a dedicated room with a clearly defined Yes No  clean and dirty side  b. Decontaminated with disinfectant or other methods before Yes No  entering the facility |
| 1. Are pork / food products restricted to the office or lunchroom area of the facilities? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **Likelihood that pork/food product entry was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***pork and food product entry:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

## Manure removal from farm

|  |  |
| --- | --- |
| **FREQUENCY** | |
| How many times during the investigation period was manure removed from the farm? |  |
| Dates of removal (if possible): |  |

|  |
| --- |
| **MANURE REMOVAL PRACTICES** |
| 1. How many times per year is manure or effluent removed from the premises? |
|  |
| 1. How is manure handled and stored? |
| a. Deep pit collection and storage under pigs Yes No  b. Shallow pit collection Yes No  c. Outdoor unenclosed lagoon or storage Yes No  d. Outdoor enclosed storage Yes No  e. Flush system using fresh water Yes No  f. Flush system using recycled water Yes No |
| 1. Were there any changes relating to manure of effluent removal or storage in 3 months prior to the outbreak? |
| Yes *(describe in observations)*  No |

**Notes:**

|  |
| --- |
| **MANURE REMOVAL PERSONNEL** |
| 1. What parties are involved with manure or effluent removal from the premises? |
| a. Manager or on-farm employees Yes No  b. Other personnel employed by producer or production Yes No  system  c. 3rd party that removes manure exclusively for the producer Yes No  or production system  d. 3rd party that removes manure for other producers or Yes No  production systems |
| 1. If contracted, what is the name(s) of the contracting company(ies)? |
|  |
| 1. Are parties involved with manure removal allowed to enter the barns? |
| Yes  No |

**Notes:**

|  |
| --- |
| **MANURE REMOVAL EQUIPMENT** |
| 1. How is manure removal equipment managed? |
| a. Some or all dedicated to this premises Yes No  b. Some or all managed by the producer of production system Yes No  c. Some or all contracted to a 3rd party that removes manure Yes No  exclusively for this producer or production system  d. Some or all contracted to a 3rd party that removes manure Yes No  for other producers or production systems |
| 1. Approximately how many other swine premises is the manure removal equipment used on? |
| 0-5 premises  5-10 premises  >10 premises |
| 1. If manure was removed during the investigation period, where was the manure equipment in the 3 days prior to entering the premises? |
|  |
| 1. Pathogen status of other site(s) manure equipment was used on during investigation period: |
| Unknown  Positive  Negative  Naïve |
| 1. How much downtime (hours) is required for manure removal equipment? |
| No downtime required  <12 hours  24 hours  48 hours  72 hours or more |
| 1. Is the manure removal equipment washed and disinfected before entering the premises? |
| Yes  No  Unknown |
| 1. Are environmental swabs collected from manure removal equipment and tested for PATHOGEN? |
| Always  Sometimes  Never |
| 1. Is manure removal equipment routed to avoid cross traffic with farm personnel? |
| Yes  No |
| 1. What procedures are in place to prevent pathogen from contaminated manure removal equipment from being transmitted to the herd manure is removed from the farm? |
| a. Pump is dedicated to the farm Yes No  b. Straw (mass agitation system) available on farm Yes No |

**Notes:**

|  |
| --- |
| **Likelihood that manure removal was responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***manure removal:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

*T*

## Entry of other animals

##### Other animals outside of barns

|  |
| --- |
| 1. How frequently are the following types of animals seen on the premises outside of barns? |
| a. Feral Swine Weekly Less than Weekly Never  b. Rodents Weekly Less than Weekly Never  c. Non-swine domestic animals Weekly Less than Weekly Never  d. Non-swine wild animals Weekly Less than Weekly Never  e. Migratory birds Weekly Less than Weekly Never  f. Non-migratory birds Weekly Less than Weekly Never |

##### Other animals inside of barns

|  |
| --- |
| 1. How frequently are the following types of animals seen inside swine barns? |
| a. Feral Swine Weekly Less than Weekly Never  b. Rodents Weekly Less than Weekly Never  c. Non-swine domestic animals Weekly Less than Weekly Never  d. Non-swine wild animals Weekly Less than Weekly Never  e. Migratory birds Weekly Less than weekly Never  f. Non-migratory birds Weekly Less than Weekly Never |
| 1. Are rodent bait stations used and checked regularly? |
| Always  Sometimes  Never |

**Notes:**

|  |
| --- |
| **Likelihood that other animals outside OR inside of the barns were responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***other animals:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

##### Insects

Consider the following carrying agents:

* Insects

|  |
| --- |
| 1. In SUMMER months, what is the concentration of insects seen inside of the barns? |
| Severe  Light to moderate  None |
| 1. In WINTER months, what is the concentration of insects seen inside of the barns? |
| Severe  Light to moderate  None |
| 1. Is insect control (e.g. Insecticide sprays, foggers, baits, etc.) used consistently? |
| Always  Sometimes  Never |

**Notes:**

|  |
| --- |
| **Likelihood that insects were responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***insects:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *How frequently does risk event occur?*
* *Does the contaminated or infected carrying agent have access to pigs in the herd?*
* *Strength of Evidence:*

## Air and water entry

Consider the following carrying agents:

* Air
* Water

|  |
| --- |
| **AIR ENTRY** |
| 1. Is incoming air filtered? |
| Yes  No |
| 1. Are barns negative pressure ventilated? |
| Yes  No |
| 1. How many years ago were filters installed? |
|  |

**Notes:**

|  |
| --- |
| **WATER ENTRY** |
| 1. What is the source of drinking water for the pigs? |
| Surface waters (lakes, ponds, etc.)  Well  Rural water  Municipal water |
| 1. Is drinking water treated? |
| a. Chlorination Always Sometimes Never  b. Acidifiers Always Sometimes Never  c. Iodine Always Sometimes Never  d. Peroxide Always Sometimes Never  e. Other Always Sometimes Never |

**Notes:**

|  |
| --- |
| **Likelihood that air and water entry were responsible for pathogen introduction***(circle one):*  **LOW MEDIUM HIGH** |
| **Brief justification for risk assessment:** |
| **Follow-up and/or biosecurity recommendations:** |

*Considerations when assessing risk for* ***air/water entry:***

* *Is there opportunity for the carrying agent to be contaminated or infected with an infectious pathogen?*
* *Is the contamination or infection mitigated prior to entering the farm?*
* *Strength of Evidence:*

# Detailed weather summary during investigation period

Airport in closest proximity to the site that reports both daily and hourly observations, used to identify conditions favorable for aerosol spread of the PATHOGEN: **(List Airport name, and description here)**

Weather during the four-week investigation period had the following general characteristics:

* Daily Temperatures
  + Maximum:
  + Average:
  + Minimum:
* Daily Wind Speed
  + Maximum:
  + Average:
  + Minimum:
* Daily Cloud Cover
  + Maximum:
  + Average:
  + Minimum:
* Daily Relative Humidity
  + Maximum:
  + Average:
  + Minimum:

**Table 3.** Weather that was favorable for aerosol spread of the PATHOGEN in the 4 weeks before the outbreak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Time | Cloud cover | Temperature | Wind direction | Wind speed | Humidity |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Meteorological conditions used to detect weather conditions favorable for aerosol spread of the PATHOGEN include:

Temperature - Low 27.32°F, High 40.64°F

Humidity – Low 77%, High 82%

Wind speed – Less than 4.25 mph