## Examples from the CSIA Standard for your practice and reference

## EX 1:Large group and individually housed animals

- STEP 1. Identify how many pigs are kept in each type of housing

A producer has a breed-to-wean site with 120 gestating sows in one large group pen and 20 farrowing sows with their piglets housed individually in one room. The farm also has 5 boars for a total of 145 pigs on the site.

| EXMMPLE 1 | SIEP 1 |
| :---: | :---: |
| Total Pigs on Site | 145 |
| Total Pigs in Breeding | 145 |
| \# in Gestation housed individually |  |
| \# in Gestation housed in groups | 120 |
| \# in Farrowing housed individually | 20 |
| \# in Farrowing housed in groups |  |
| \# Boars on the site | 5 |
| Total Pigs in Non-Breeding |  |
| \# in Nursery (<10 whs) housed in groups |  |
| \# in Finishing ( $¢ 10$ wks) housed in groups |  |

## EX 1:Large group and individually housed animals

- STEP 2. Identify the minimum number of pigs you need to observe for each phase based on Table 1.

| TABEE 1: I OF WDIVIDUA PISS TO OSSERUE |  |
| :---: | :---: |
| Total \# of pigs per phase | Minimum \# of pigs to assess |
| 50 | 50 |
| 100 | 95 |
| 150 | 129 |
| 250 | 174 |
| 350 | 201 |
| 450 | 218 |
| 600 | 235 |



## EX 1:Large group and individually housed animals

- STEP 3. Calculate the percentage of pigs present in each phase (breeding and non-breeding and housing type.



## EX 1:Large group and individually housed animals

- STEP 4. Calculate the number of pigs to observe for each phase and housing type.

| EXAMPLE 1 STEP 1 |  | STEP 2 \# to observe from Table 1 | STEP 3 <br> Percentage | STEP 4 <br> \# of pigs <br> to ohserve |
| :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 145 |  |  |  |
| Total Pigs in Breeding | 145 | 129 |  |  |
| \# in Gestation housed individually |  |  |  |  |
| \# in Gestation housed in groups | 120 |  | 120 $\div 145=1.83$ | 129x0.83=108 |
| \# in Farrowing housed individually | 20 |  | $20 \div 145=0.14$ | 129x0.14=19 |
| \# in Farrowing housed in groups |  |  |  |  |
| \# Boars on the site | 5 |  | $5 \div 145=0.04$ | 129x0.04=5.16 |
| Total Pigs in Non-Breeding |  |  |  |  |
| \# in Nursery (<10 wks) housed in groups |  |  |  |  |
| \# in Finishing (>10 wks) housed in groups |  |  |  |  |

According to the calculations, 108 sows should be observed in gestation and 19 sows should be observed in farrowing, and all 5 boars observed on the site.

## EX 1:Large group and individually housed animals

- STEP 5. Determine which animals/pens you will be observing before you enter the barn.

| EXAMPLE 1 STEP 1 |  | STEP 2 <br> \# to observe from Tatle 1 | STEP 3 <br> Percentage | STEP 4 \# of pigs to observe | STEP 5 <br> Pens/pigs to observe |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 145 |  |  |  |  |
| Total Pigs in Breeding | 145 | 129 |  |  |  |
| \# in Gestation housed individually |  |  |  |  |  |
| \# in Gestation housed in groups | 120 |  | $120 \div 145=0.83$ | $129 \times 0.83=108$ | $108 \div 120=1$ pen |
| \# in Farrowing housed individually | 20 |  | $20 \div 145=0.14$ | $129 \times 0.14=19$ | $\begin{aligned} & 20 \div 19 \\ = & \text { every stall } \end{aligned}$ |
| \# in Farrowing housed in groups |  |  |  |  |  |
| \# Boars on the site | 5 |  | $5 \div 145=0.04$ | $129 \times 0.04=5.16$ |  |
| Total Pigs in Non-Breeding |  |  |  |  |  |
| \# in Nursery ( $<10 \mathrm{wks}$ ) housed in groups |  |  |  |  |  |
| \# in Finishing ( $>10$ wks) housed in groups |  |  |  |  |  |

## EX 2: Group and individually housed animals

- STEP 1. Identify how many pigs are kept in each type of housing.
- A producer has a farrow-to-finish site with 6435 pigs of which there are
- 435 in the breeding herd:
- 325 sows housed individually in gestation and 50 sows housed as one large gestation group in one room
- 50 sows housed individually in one farrowing room
- 10 boars housed individually in the gestation barn
- 6000 in the non-breeding herd:
- 100 pens of nursery pigs with 20 pigs per pen in one barn
- 200 pens of finisher pigs with 20 pigs per pen in two barns

| ExMPIE2 SII | SIEP 1 |
| :---: | :---: |
| Total Pigs on Site | 6435 |
| Total Pigs in Breeding | 435 |
| \# in Gestation housed individually | 325 |
| \# in Gestation housed in groups | 50 |
| \# in Farrowing housed individually | 50 |
| \# in Farrowing housed in groups |  |
| \# Boars on the site | 10 |
| Total Pigs in Non-Breeding | 6000 |
| \# in Nursery ( < 10 wks) housed in groups | 2000 |
| \# in Finishing ( $>10 \mathrm{wks}$ ) housed in groups | 4000 |

## EX 2: Group and individually housed animals

- STEP 2. Identify the minimum number of pigs you need to observe for each phase based on Table 1.



## EX 2: Group and individually housed animals

- STEP 3. Calculate the percentage of pigs present in each phase (breeding and non-breeding and housing type.

| 5xMPrez St | STEP 1 | $\begin{aligned} & \text { STEP } 2 \\ & \text { to ohserve } \\ & \text { from lable 1 } \end{aligned}$ | $\text { SIEP } 3$ <br> Percentage |
| :---: | :---: | :---: | :---: |
| Total Pigs on Site | 6435 |  |  |
| Total Pigs in Breeding | 435 | 218 |  |
| \# in Gestation housed individually | 325 |  | $325 \div 435=0.75$ |
| \# in Gestation housed in groups | 50 |  | $50 \div 435=0.12$ |
| \# in Farrowing housed individually | 50 |  | $50 \div 435=0.12$ |
| \# in Farrowing housed in groups |  |  |  |
| \#Boars on the site | 10 |  | $10 \div 435=0.03$ |
| Total Pigs in Non-Breeding | 6000 | 294 |  |
| \# in Nursey (<10 wiss) housed in groups | 2000 |  | $2000 \div 6000=0.33$ |
| \# in Finishing (>10 wss housed in groups | 4000 |  | $\begin{gathered} 4000 \div 6000= \\ 0.67 \end{gathered}$ |

## EX 2: Group and individually housed animals

- STEP 4. Calculate the number of pigs to observe for each age and housing type.

| 5xMPIE 2 STEP 1 |  | STEP 2\#to ohserve from latle 1 | STEP 3 <br> Percentage | SIP 4 tof nies <br> to observe |
| :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 6435 |  |  |  |
| Total Pigs in Breeding | 435 | 218 |  |  |
| \# in Gestation housed individually | 325 |  | $325 \div 435=0.75$ | 218×0.75=164 |
| \# in Gestation housed in groups | 50 |  | $50 \div 435=0.12$ | $218 \times 0.12=27$ |
| \# in Farrowing housed individually | 50 |  | $50 \div 435=0.12$ | $218 \times 0.12=27$ |
| \# in Farrowing housed in groups |  |  |  |  |
| \# Boars on the site | 10 |  | $10 \div 435=0.03$ | $218 \times 0.03=7$ |
| Total Pigs in Non-Breeding | 6000 | 294 |  |  |
| \# in Nursery < 10 wks) housed in groups | 2000 |  | $2000 \div 6000=0.33$ | $294 \times 0.33=98$ |
| \#in Finishing (>10 wis) housed in groups | 4000 |  | $\begin{gathered} 4000 \div 6000= \\ 0.67 \end{gathered}$ | $294 \times 0.67=197$ |

## EX 2: Group and individually housed animals

- STEP 5. Determine which animals/pens you will be observing before you enter the barn.

| ExMPRE2 STEP 1 |  | STPP 2tometom ante | STEP 3 <br> Percentage | SIEP 4 <br> If pizs tochecrive | SIEP 5 <br> Pans/piss <br> thohserve |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 6435 |  |  |  |  |
| Total Pigs in Breeding | 435 | 218 |  |  |  |
| \# in Gestation housed individually | 325 |  | $325 \div 435=0.75$ | $218 \times 0.75=164$ | $325 \div 164=$ very $2^{2 d}$ stall +2 |
| \# in Gestation housed in groups | 50 |  | $50 \div 435=0.12$ | $218 \times 0.12=27$ | $27 \div 50=1$ pen |
| \# in Farrowing housed individually | 50 |  | $50 \div 435=0.12$ | 21880.12=27 | $50 \div 27=$ every $2^{\text {ru }}$ stall +2 |
| \# in Farrowing housed in groups |  |  |  |  |  |
| \# Boars on the site | 10 |  | $10 \div 435=0.03$ | $218 \times 0.03=7$ | $7 \div 10=$ every stall |
| Total Pigs in Non-Breeding | 6000 | 294 |  |  |  |
| \# in Nursery (<10 wks) housed in groups | 2000 |  | $2000 \div 6000=0.33$ | $294 \times 0.33=98$ | $\begin{gathered} 98 \div 20=5 \text { pens } \\ 100 \div 5=\text { every } 20^{\circ} \text { pen } \end{gathered}$ |
| \# in Finishing ( $>10$ wis) housed in groups | 4000 |  | $\begin{gathered} 4000 \div 6000= \\ 0.67 \end{gathered}$ | $294 \times 0.67=197$ | $\begin{gathered} 197 \div 20=10 \text { pens } \\ 200 \div 10=\text { every } 20^{\circ} \text { pen } \end{gathered}$ |

## EX 3: Group housed animals

## - STEP 1. Identify how many pigs are kept in each type of housing.

- A producer has a wean-to-finish site with 5,000 pigs of which:
- 2,000 are in the nursery in groups of 25 pigs per pen across 4 rooms
- 3,000 are in finishing in groups of 1500 pigs per pen in two barns

| ExMmple 2 Ste | SIEP 1 |
| :---: | :---: |
| Total Pigs on Site | 5000 |
| Total Pigs in Breeding |  |
| \# in Gestation housed individually |  |
| \# in Gestation housed in groups |  |
| \# in Farrowing housed individually |  |
| \# in Farrowing housed in groups |  |
| \# Boars on the site |  |
| Total Pigs in Non-Breeding | 5000 |
| \# in Nursery (<10 wks) housed in groups | 2000 |
| \# in Finishing (>10 wks) housed in groups | 3000 |

## EX 3: Group housed animals .

- STEP 2. Identify the minimum number of pigs you need to observe for each phase based on Table 1.

| EXMMPIE 2 STEP 1 |  | STEP 2 tho observe trameatial |
| :---: | :---: | :---: |
| Total Pigs on Site | 5000 |  |
| Total Pigs in Breeding |  |  |
| \# in Gestation housed individually |  |  |
| \# in Gestation housed in groups |  |  |
| \# in Farrowing housed individually |  |  |
| \# in Farrowing housed in groups |  |  |
| \# Boars on the site |  |  |
| Total Pigs in Non-Breeding | 5000 | 289 |
| \# in Nursery (<10 wks) housed in groups | 2000 |  |
| \# in Finishing ( $>10 \mathrm{wss}$ ) housed in groups | 3000 |  |


| TABEE 1: \# OF INDIVIDUM PISS TO OBSENE |  |
| :---: | :---: |
| Total \# of pigs per phase | Minimum \# of pigs to assess |
| 50 | 50 |
| 100 | 95 |
| 150 | 129 |
| 250 | 174 |
| 350 | 201 |
| 450 | 218 |
| 600 | 235 |
| 700 | 243 |
| 800 | 249 |
| 1000 | 258 |
| 2000 | 278 |
| sse | 284 |
|  | 0 |
| 5000 | 289 |

## EX 3: Group housed animals

- STEP 3. Calculate the percentage of pigs present in each phase (breeding and non-breeding and housing type.

| ExMPIE 2 STEP 1 |  | STEP 2 to otserve from rable 1 | STEP 3 <br> Percentage |
| :---: | :---: | :---: | :---: |
| Total Pigs on Site | 5000 |  |  |
| Total Pigs in Breeding |  |  |  |
| \# in Gestation housed individually |  |  |  |
| \# in Gestation housed in groups |  |  |  |
| \# in Farrowing housed individually |  |  |  |
| \# in Farrowing housed in groups |  |  |  |
| \# Boars on the site |  |  |  |
| Total Pigs in Non-Breeding | 5000 | 289 |  |
| \# in Nursery ( < 10 wks) housed in groups | 2000 |  | $2000 \div 5000=0.4$ |
| \# in Finishing (>10 wks) housed in groups | 3000 |  | $3000 \div 5000=0.6$ |

## EX 3: Group housed animals

- STEP 4. Calculate the number of pigs to observe for each age and housing type.

| Example 2 St | SIEP 1 | STEP 2 \#to observe fromitale 1 | STEP 3 Percentage | STEP 4 <br> of plas <br> to ohserve |
| :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 5000 |  |  |  |
| Total Pigs in Breeding |  |  |  |  |
| \# in Gestation housed individually |  |  |  |  |
| \# in Gestation housed in groups |  |  |  |  |
| \# in Farrowing housed individually |  |  |  |  |
| \# in Farrowing housed in groups |  |  |  |  |
| \# Boars on the site |  |  |  |  |
| Total Pigs in Non-Breeding | 5000 | 289 |  |  |
| \# in Nursery (<10 wks) housed in groups | 2000 |  | $2000 \div 5000=0.4$ | $289 \times 0.4=116$ |
| \# in Finishing ( $>10$ wks) housed in groups | 3000 |  | $3000 \div 5000=0.6$ | $289 \times 0.6=174$ |

## EX 3: Group housed animals

- STEP 5. Determine which animals/pens you will be observing before you enter the barn.

| ExMMPLE 2 STIP 1 |  | STEP 2 to observe from ration | STEP 3 Percentage | STEP 4 <br> Hipigs to ahserme | SIEP 5 <br> Pensplys <br> to ohearve |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site | 5000 |  |  |  |  |
| Total Pigs in Breeding |  |  |  |  |  |
| \# in Gestation housed individually |  |  |  |  |  |
| \# in Gestation housed in groups |  |  |  |  |  |
| \# in Farrowing housed individually |  |  |  |  |  |
| \# in Farrowing housed in groups |  |  |  |  |  |
| \# Boars on the site |  |  |  |  |  |
| Total Pigs in Non-Breeding | 5000 | 289 |  |  |  |
| \# in Nursery (<10 wks) housed in groups | 2000 |  | $2000 \div 5000=0.4$ | $289 \times 0.4=116$ | $\begin{aligned} 116 \div 25 & =5 \text { pens } 80 \div 5 \\ & =\text { every } 16^{10} \text { pen } \end{aligned}$ |
| \# in Finishing (>10 wks) housed in groups | 3000 |  | $3000 \div 5000=0.6$ | $289 \times 0.6=174$ | $174 \div 1500=1$ pen |

Now let's complicate it: some real world complex scenarios for your reference

## Sample Size

- Calculate Sample Size based on Production Phase
- Breeding Herd
- Gestation
- Farrowing (Sow and Litter are one unit)
- Boars

| Total <br> Number <br> Animals <br> on Site | Minimum <br> Number <br> To <br> Sample |
| :---: | :---: |
| 50 | 50 |
| 100 | 95 |
| 150 | 129 |
| 250 | 174 |
| 350 | 201 |
| 450 | 218 |
| 600 | 235 |
| 700 | 243 |
| 800 | 249 |
| 1000 | 258 |
| 2000 | 278 |
| 3000 | 284 |
| 4000 | 287 |
| 5000 | 289 |
| 10,000 | 294 |

## Sampling Process

- Each Room with pigs * Spreadsheet Tool is used must be sampled
- Housing type will define sampling process
- Individually housed
- Group housed
- Account for variation in group size within site
- Expect pen sizes to vary

May result in oversampling - OK
to estimate sampling proportions by housing type \& pen layout

- With multiple buildings, rooms, pen sizes, and housing types, auditors will need to randomize and choose which pens in a room/building to sample


## Site Information - Animals and Housing Type

Step 1: Identify rooms, pens per room, and average pigs per pen type within rooms/buildings for each production phase present on the site. (example breeding herd)

|  | \# of animals | \# of rooms | \# of pens/ crates | \# of pigs per pen |
| :---: | :---: | :---: | :---: | :---: |
| Gestation - group housed |  |  |  |  |
| Barn 1 | 180 | 1 | 30 | 6 |
| Barn 2 | 180 | 1 | 30 | 6 |
| Barn 3 | 180 | 1 | 30 | 6 |
| Barn 4 | 180 | 1 | 30 | 6 |
| Barn 5 | 180 | 1 | 30 | 6 |
| Barn 6 | 180 | 1 | 30 | 6 |
| Barn 7 | 180 | 1 | 30 | 6 |
| Barn 8 | 330 | 1 | 55 | 6 |

Lots of different size barns/rooms! Real world.


## Site Information - Animals and Housing Type

Step 1: Identify rooms, pens per room, and average pigs per pen type within rooms/buildings for each production phase present on the site. (excel calculator tool)

| Table Key | Fill in inventory numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site $=$ | 0 | average number of pigs/pen or room | Total number of pens/stalll per room | Number of <br> Rooms |
| Total Pigs in Breeding = | 0 |  |  |  |
| \# in Gestation housed: |  |  |  |  |
| - individually = | 0 |  |  |  |
| - in groups = | 0 |  |  |  |
| - in groups = | 0 |  |  |  |
| - in groups = | 0 |  |  |  |
| \# in Farrowing housed: |  |  |  |  |
| - individually = | 0 |  |  |  |
| - in groups = | 0 |  |  |  |
|  |  |  |  |  |
| \# Boars - individually | 0 |  |  |  |
| \# Boars - group | 0 |  |  |  |
|  |  |  |  |  |

## Sampling Animals

Step 2: Identify the number of pigs you need to assess for each phase based on the sampling table or spreadsheet
Total on site $=3757$
From Table $=287$ minimum

|  |  |  | \# of pens/ crate |  |  | 50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \# of animals | \# of rooms |  |  | $100$ | 95 |
| Gestatio | -group housed |  |  |  | 150 | 129 |
| ${ }_{\text {Barn } 1}{ }_{\text {Barn }}$ | 180 180 |  | 30 30 | ${ }_{6}^{6}$ | 250 | 174 |
| Barn ${ }^{\text {B }}$ | 180 180 180 |  |  | - ${ }_{6}^{6}$ |  |  |
| ${ }_{\text {Barn }}$ | 180 <br> 180 |  | 30 30 | - ${ }_{6}^{6}$ | 350 | 201 |
| ${ }_{\text {Barn }}{ }^{\text {a }}$ | 180 |  | ${ }^{30}$ | - 6 | 450 | 218 |
| Barn 8 | ${ }_{330}^{180}$ |  | $\begin{array}{r}35 \\ \hline\end{array}$ | -6 |  |  |
|  | 000 | 析 |  |  | 600 | 235 |
| Barn 1 | 460 |  | NA |  | 700 | 243 |
| ${ }_{\text {Barn } 2}$ | 460 270 |  | Na |  |  |  |
| Barn ${ }^{\text {B }}$ | 270 270 |  | NA |  | 800 | 249 |
| Barn 4 | ${ }_{1460}$ |  |  |  | 1000 | 258 |
| Farrowing | - individua 126 | al crates | 18 |  |  |  |
| Barn 2 | ${ }^{144}$ |  |  |  | 2000 | 278 |
| ${ }^{\text {Barn }}$ | ${ }_{216}^{216}$ |  | ${ }_{36}^{36}$ |  | 3000 | 284 |
| Boars (Teasers) - individual stals ${ }_{5}$ |  |  |  |  | 4000 | 287 |
|  |  |  |  |  | 5000 | 289 |
| ouality aut |  |  |  |  | 10,000 | 294 |

## Selecting Animals

Step 2: Identify the number of pigs you need to assess for each phase based on the sampling table or spreadsheet

| Total Pigs on Site $=$ | 3757 | average number of pigs/pen or room | Total number of pens/stall per room | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { Rooms } \end{gathered}$ |  | Minimum Number to Assess |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Breeding $=$ | 3757 |  |  |  |  | 287 |
| \# in Gestation housed: |  |  |  |  | Percentage |  |
| - individually = | 1460 |  | 1460 |  | 0.39 | 112 |
| - in groups = | 1260 | 6 | 30 | 7 | 0.34 | 97 |
| - in groups = | 330 | 6 | 55 | 1 | 0.09 | 26 |
| - in groups = | 0 |  |  |  | 0.00 | 0 |
|  |  |  |  |  |  |  |
| \# in Farrowing housed: |  |  |  |  |  |  |
| - individually = | 702 |  | 702 |  | 0.19 | 54 |
| - in groups = | 0 |  |  |  | 0.00 | 0 |
|  |  |  |  |  |  | $\square$ |
| \# Boars - individually | 5 |  | 5 |  | 0.00 | 1 |
| \# Boars - group | 0 |  |  |  | 0.00 | 0 |

## Selecting Animals

Steps 3 and 4: For each phase (breeding and nonbreeding) calculate the percentage of pigs present in each phase, housing type, and pen size

| Total Pigs on Site $=$ | 3757 | average number of pigs/pen or room | Total number of pens/stall per room | Number of Rooms |  | Minimum Number to Assess | Minimum \# rooms to Assess | Minimum \# of pens to assess per room | Assess a pen or every $\qquad$ th pen or stall |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Breeding = | 3757 |  |  |  |  | 287 |  |  |  |
| \# in Gestation housed: |  |  |  |  | Percentage |  |  |  |  |
| - individually = | 1460 |  | 1460 |  | 0.39 | 112 | ALL |  | 13 |
| - in groups $=$ | 1260 | 6 | 30 | 7 | 0.34 | 97 | 7 | 3 | 3 |
| - in groups $=$ | 330 | 6 | 55 | 1 | 0.09 | 26 | 1 | 5 | 5 |
| - in groups $=$ | 0 |  |  |  | 0.00 | 0 | 0 |  |  |
| \# in Farrowing housed: |  |  |  |  |  |  |  |  |  |
| - individually = | 702 |  | 702 |  | 0.19 | 54 | ALL |  | 13 |
| - in groups $=$ | 0 |  |  |  | 0.00 | 0 | 0 |  |  |
| \# Boars - individually | 5 |  | 5 |  | 0.00 | 1 | ALL |  | 5 |
| \# Boars - group | 0 |  |  |  | 0.00 | 0 | 0 |  |  |

## Example: 5010 hd. Breeding Site (5010 head)

- 120 pens, 1200 sows $=10$ per pen avg.
- 100 pens with 2000 sows $=20$ per pen avg.
- 1000 individual stalls

| Total <br> Number <br> Animals on <br> Site | Minimum <br> Number <br> To Sample |
| :---: | :---: |
| 50 | 50 |
| 100 | 95 |
| 150 | 129 |
| 250 | 174 |
| 350 | 201 |
| 450 | 218 |
| 600 | 235 |
| 700 | 243 |
| 800 | 249 |
| 1000 | 258 |
| 2000 | 278 |
| 3000 | 284 |
| 4000 | 287 |
| 5000 | 289 |
| 10,000 | 294 |

- 294 Animals to Assess


## Example: 5010 hd. Breeding Site

- 120 pens, 1200 sows $=10$ per pen avg.
- 100 pens with 2000 sows $=20$ per pen avg.
- 1000 individual stalls
- 10 individually stalled boars
- 800 individual farrowing stalls

| Total Pigs on Site $=$ | 5010 | average number of pigs/pen or room | Total number of pens/stalll per room | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { Rooms } \end{gathered}$ |  | Minimum Number to Assess |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Breeding = | 5010 |  |  |  |  | 294 |
| \# in Gestation housed: |  |  |  |  | Percentage |  |
| - individually = | 1000 |  | 1000 |  | 0.20 | 59 |
| - in groups = | 1200 | 10 | 120 | 1 | 0.24 | 71 |
| - in groups = | 2000 | 20 | 100 | 1 | 0.40 | 118 |
| - in groups = | 0 |  |  |  | 0.00 | 0 |
| \# in Farrowing housed: |  |  |  |  |  |  |
| - individually = | 800 |  | 800 |  | 0.16 | 47 |
| - in groups = | 0 |  |  |  | 0.00 | 0 |
|  |  |  |  |  |  |  |
| \# Boars - individually | 10 |  | 10 |  | 0.00 | 1 |
| \# Boars - group | 0 |  |  |  | 0.00 | 0 |

## Example: 5010 hd. Breeding Site

- Sequence of Animals and Minimum Number of Rooms \& Pens to Assess within housing type

| Table Key | Fill in inventory numbers |  |  |  |  | Number to Assess |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs on Site $=$ | 5010 | average number of pigs/pen or room | Total number of pens/stalll per room | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { Rooms } \end{gathered}$ |  | Minimum <br> Number to Assess | Minimum \# rooms to Assess | Minimum \# of pens to assess per room | Assess a pen or every $\qquad$ th pen or stall |
| Total Pigs in Breeding = | 5010 |  |  |  |  | 294 |  |  |  |
| \# in Gestation housed: |  |  |  |  | Percentage |  |  |  |  |
| - individually = | 1000 |  | 1000 |  | 0.20 | 59 | ALL |  | 17 |
| - in groups $=$ | 1200 | 10 | 120 | 1 | 0.24 | 71 | 1 | 8 | 8 |
| - in groups $=$ | 2000 | 20 | 100 | 1 | 0.40 | 118 | 1 | 6 | 6 |
| - in groups = | 0 |  |  |  | 0.00 | 0 | 0 | \#DIV/0! | \#DIV/0! |
| \# in Farrowing housed: |  |  |  |  |  |  |  |  |  |
| - individually $=$ | 800 |  | 800 |  | 0.16 | 47 | ALL |  | 17 |
| - in groups $=$ | 0 |  |  |  | 0.00 | 0 | 0 | \#DIV/0! | \#DIV/0! |
|  |  |  |  |  |  |  |  |  |  |
| \# Boars - individually | 10 |  | 10 |  | 0.00 | 1 | ALL |  | 10 |
| \# Boars - group | 0 |  |  |  | 0.00 | 0 | 0 | \#DIV/0! | \#DIV/0! |

## Example: 14400 Non-Breeding Animal Site

- Nursery: 2 buildings, 1 or 3 rooms per building - 1200 head capacity buildings/rooms
- Finisher: 4 buildings, different number of rooms per building
- 2400 head capacity bldgs., configured with diff. pen sizes

|  |  | average number of pigs/pen | Total number of pens per room |  |
| :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Non-Breeding = | 14400 |  |  |  |
| \# in Nursery |  |  |  |  |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 1200 | 30 | 40 | 1 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 3600 | 40 | 30 | 3 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  |
| $-\#$ in Nursery (pigs <10wks of age) housed in groups $=$ | 0 |  |  |  |
| \# in Finishing |  |  |  |  |
| - \# in Finishing (pigs >10wks of age housed in groups = | 2400 | 100 | 6 | 4 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 50 | 12 | 4 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 120 | 10 | 2 |
| - \# in Finishing (pigs >10wks of age housed in groups = | 2400 | 600 | 2 | 2 |


| Total <br> Number <br> Animals on <br> Site | Minimum <br> Number <br> To Sample |
| :---: | :---: |
| 50 | 50 |
| 100 | 95 |
| 150 | 129 |
| 250 | 174 |
| 350 | 201 |
| 450 | 218 |
| 600 | 235 |
| 700 | 243 |
| 800 | 249 |
| 1000 | 258 |
| 2000 | 278 |
| 3000 | 284 |
| 4000 | 287 |
| 5000 | 289 |
| 10,000 | 294 |

## Selecting Animals

- Minimum Number of Animals to Assess within each category
- Rounded up

|  |  | average number of pigs/pen | Total number of pens per room | Number of Rooms |  | Minimum Number to Assess |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Non-Breeding $=$ | 14400 |  |  |  |  | 294 |
| \# in Nursery |  |  |  |  | Percentage |  |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 1200 | 30 | 40 | 1 | 0.08 | 25 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 3600 | 40 | 30 | 3 | 0.25 | 74 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  | 0.00 | 0 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  | 0.00 | 0 |
| \# in Finishing |  |  |  |  |  |  |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 100 | 6 | 4 | 0.17 | 49 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 50 | 12 | 4 | 0.17 | 49 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 120 | 10 | 2 | 0.17 | 49 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 600 | 2 | 2 | $0.17$ | 49 |

## Selecting Animals

- Oversampling example: Cause is pen configuration within varying numbers of pens.

|  |  | average number of pigs/pen | Total number of pens per room | Number of Rooms |  | Minimum Number to Assess | Minimum \# rooms to Assess | Minimum \# of pens to assess per room | Assess a pen or every __th pen or stall |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Non-Breeding $=$ | 14400 |  |  |  |  | 294 |  |  |  |
| \# in Nursery |  |  |  |  | Percentage |  |  |  |  |
| $-\#$ in Nursery (pigs <10wks of age) $\begin{gathered}\text { housed in } \\ \text { groups }=\end{gathered}$ | 1200 | 30 | 40 | 1 | 0.08 | 25 | 1 | 1 | 1 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 3600 | 40 | 30 | 3 | 0.25 | 74 | 3 | 1 | 1 |
| $-\#$ in Nursery (pigs <10wks of age) $\begin{gathered}\text { housed in } \\ \text { groups }=\end{gathered}$ | 0 |  |  |  | 0.00 | 0 | 0 | \#DIV/0! | \#DIV/0! |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  | 0.00 | 0 | 0 | \#DIV/0! | \#DIV/0! |
| \# in Finishing |  |  |  |  |  |  |  |  |  |
| - \# in Finishing (pigs $>10 \mathrm{wks}$ of age housed in groups = | 2400 | 100 | 6 | 4 | 0.17 | 49 | 4 | 1 | 1 |
| - \# in Finishing (pigs $>10 \mathrm{wks}$ of age housed in $\begin{array}{r}\text { groups }=\end{array}$ | 2400 | 50 | 12 | 4 | 0.17 | 49 | 4 | 1 | 1 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 120 | 10 | 2 | 0.17 | 49 | 2 | 1 | 1 |
| - \# in Finishing (pigs $>10 \mathrm{wks}$ of age housed in $\begin{array}{r}\text { groups }=\end{array}$ | 2400 | 600 | 2 | 2 | 0.17 | 49 | 2 | 1 | 1 |

## Selecting Animals

- Minimum Number of Pens to Assess within housing type and sequence of pens.

|  |  | average number of pigs/pen | Total number of pens per room | $\begin{array}{\|c} \text { Number } \\ \text { of } \\ \text { Rooms } \end{array}$ | Minimum Number to Assess | Minimum \# rooms to Assess | $\begin{gathered} \text { Minimum \# of } \\ \text { pens to } \\ \text { assess per } \\ \text { room } \\ \hline \end{gathered}$ | Assess a pen or every $\qquad$ th pen or stall | Final number sampled |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Pigs in Non-Breeding $=$ | 14400 |  |  |  | 294 |  |  |  |  |
| \# in Nursery |  |  |  |  |  |  |  |  |  |
| $-\#$ in Nursery (pigs <10wks of age) $\begin{array}{r}\text { housed in } \\ \text { groups }=\end{array}$ | 1200 | 30 | 40 | 1 | 25 | 1 | 1 | 1 | 30 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 3600 | 40 | 30 | 3 | 74 | 3 | 1 | 1 | 120 |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  | 0 | 0 | \#DIV/0! | \#DIV/0! | \#DIV/0! |
| - \# in Nursery (pigs <10wks of age) housed in groups = | 0 |  |  |  | 0 | 0 | \#DIV/0! | \#DIV/0! | \#DIV/0! |
| \# in Finishing |  |  |  |  |  |  |  |  |  |
| - \# in Finishing (pigs >10wks of age housed in groups = | 2400 | 100 | 6 | 4 | 49 | 4 | 1 | 1 | 400 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 50 | 12 | 4 | 49 | 4 | 1 | 1 | 200 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 120 | 10 | 2 | 49 | 2 | 1 | 1 | 240 |
| - \# in Finishing (pigs $>10$ wks of age housed in groups = | 2400 | 600 | 2 | 2 | 49 | 2 | 1 | 1 | 1200 |

