

# FACT SHEET 11

## SELECTING THE SAMPLE FOR ANIMAL BASED MEASURES (ABM)

**STEP #1:** Calculate the total number of breeding stock and non-breeding pigs present on the site.

Breeding stock <sup>1</sup>	Number present on the site
a. Mature gilts and sows in group pens	
b. Mature gilts and sows in individual stalls	
c. Mature gilt and sows in farrowing crates	
d. Mature boars	
e. Total number of breeding stock (a + b + c + d)	

<sup>1</sup> Include mature pigs in sow barns and in quarantine and acclimatization barns.

Non-breeding pigs <sup>2</sup>	Number present on the site
f. Nursery pigs	
g. Grow/finish pigs	
h. Total number of non-breeding pigs (f + g)	

<sup>2</sup> Include immature pigs in gilt and boar development units, and newly weaned piglets held in pens for more than 24 hours at farrowing sites.

**STEP #2:** Determine the minimum number of breeding stock and non-breeding pigs that need to be observed, respectively, for ABM using Table 1 below.

Table 1: Minimum sample size for ABM observations of breeding stock and non-breeding pigs

Total pigs per category (breeding / non-breeding) <sup>3</sup>	Minimum number required for observation <sup>4</sup>
1 to 50	All pigs
51 to 100	50
101 to 200	80
201 to 500	120
501 to 1,000	200
1,001 to 3,000	250
3,001 to 8,000	300
> 8,000	400

<sup>3</sup> Use the respective numbers calculated in Step #1.

<sup>4</sup> Minimum sample size for breeding stock is determined separately from minimum sample size for non-breeding pigs.

Breeding/Non-breeding pigs ABM Samples	Minimum number to observe
i. Minimum number of breeding stock to observe	
j. Minimum number of non-breeding pigs to observe	

## FACT SHEET 11 **SELECTING THE SAMPLE FOR ANIMAL BASED MEASURES (ABM)**

**STEP #3:** Calculate the representative sample of pigs from each housing area on the site using the formulas in the table below.

Échantillon représentatif de porcs provenant de chaque section du site	Formula (using results calculated in Steps # 1 and 2)	Minimum number to observe
<b>Category 1: Breeding stock</b>		
Minimum number of mature gilts and sows to observe in group pens	$= i \times (a \div e)$	
Minimum number of mature gilts and sows to observe in individual stalls	$= i \times (b \div e)$	
k. Minimum number of mature gilts and sows to observe in farrowing crates	$= i \times (c \div e)$	
Minimum number of mature boars to observe <sup>5</sup>	$= d$ (up to a maximum of 10)	
<b>Category 2: Litters of suckling pigs</b>		
Minimum number of litters to observe (= <i>k</i> above) <sup>6</sup>	$= k$	
<b>Category 3: Non-breeding pigs</b>		
Minimum number of nursery pigs to observe	$= j \times (f \div h)$	
Minimum number of grow/finish pigs to observe	$= j \times (g \div h)$	

<sup>5</sup> All boars must be observed unless there are more than 10; in that case, only 10 need to be observed.

<sup>6</sup> Only the litters that are present with the gilts and sows in farrowing crates that were selected as part of the ABM sample need to be observed.

**STEP #4:** Develop a plan for conducting the ABM sample on the site.

Whenever possible, randomly select the sample of pigs to be observed. To reduce bias, determine in advance which rooms, pens and pigs will be observed. Not all animals need to be sampled, but those chosen must be representative of the entire site.

Use the Farm Plan (Record R-L) and/or Space Allowance Record (R-Z) prior to conducting the ABM sample to help in developing an objective sampling plan.

**DO NOT include pigs that:**

- are being housed in a dedicated sick pen.
- have conditions that meet the ABM criteria in Section 7.1 but **are not part of the predetermined sample group**. Validators can note these pigs on the Validation Report and discuss it with barn personnel, but they should not be counted as part of the ABM sample.

**DO include (provided they were selected as part of the ABM sample):**

- pigs in individual stalls, crates or pens that are being treated for a condition.
- pigs that have not been segregated from regular (healthy) group pens.

### Category 1: Breeding Stock

#### **Mature gilts and sows in group pens**

Determine the number of pens that need to be included to achieve at least the minimum sample and then randomly select pen(s) throughout the barn(s) until at least the minimum number of pigs to be observed in this sub-category has been reached. Randomize the pens or stalls to be observed. For example, if sampling one pen per room, vary the location of the sample pens so that the same pen in each room is not the only pen observed. If it only takes half of one randomly selected pen to achieve the entire minimum number needed for the ABM sample, half of the pen can be blocked off and only half of the pigs in the pen need to be observed.

#### **Mature gilts and sows in individual stalls**

Walk past all individual stalls containing mature gilts and sows and collect ABM on every  $n$ th pig until at least the minimum sample size is observed. For example, if 30 pigs must be observed out of 75 individual stalls ( $75 \div 30 = 2.5$ , round down to every 2nd stall), collect ABM on every second pig until at least the minimum sample size has been reached. If a stall is empty, proceed to the adjacent one.

#### **Mature gilts and sows in farrowing crates**

Walk through all farrowing rooms and past all farrowing crates containing mature gilts and sows and collect ABM on every  $n$ th pig until at least the minimum sample size is observed. If a crate is empty or should not be included in the ABM sample (see exclusions below), proceed to the adjacent sow.

Note: Mature gilts and sows in farrowing crates do not need to be encouraged to stand to collect the ABM sample.

#### **DO NOT include:**

- sows that are currently farrowing.
- nurse sows.
- sows that have assembled litters of starve-out piglets.
- sows that are in dedicated recovery crates.
- sows whose litters are being treated for health issues.

#### **Mature boars**

All boars (up to a maximum of 10) must be observed. If there are more than 10 boars, every  $n$ th boar should be observed until the maximum of 10 has been reached.

### Category 2: Litters of suckling pigs

The litters of suckling pigs to be sampled are the ones that are with the mature gilts and sows in farrowing crates selected as part of the ABM sample. Refer to the section immediately above for instructions on how to collect this ABM sample.

### Category 3: Non-breeding pigs

All barns must be visited on the site. Make sure that you select a representative sample of both nursery pigs and grow/finish pigs on the site; maximizing the number of rooms observed in each barn increases the representativeness of the sample. If sampling only one pen per room, vary the location of the sample pens so that the same pen is not observed in each room.

#### **Nursery pigs**

Determine the number of pens that need to be observed to achieve at least the minimum sample, then randomly select the room(s) and pen(s) throughout the barn(s) until at least the minimum number of pigs to be observed in this sub-category has been reached. If it only takes half of one randomly selected pen to achieve the entire minimum number needed for the ABM sample, half of the pen can be blocked off and only half of the pigs in the pen need to be observed.

#### **Grow/finish pigs**

Determine the number of pens that need to be observed to achieve at least the minimum sample, then randomly select the room(s) and pen(s) throughout the barn(s) until at least the minimum number of pigs to be observed in this sub-category has been reached. If it only takes half of one randomly selected pen to achieve the entire minimum number needed for the ABM sample, half of the pen can be blocked off and only half of the pigs in the pen need to be observed.