AHDB
PORK

BREEDING 4
ACTION FOR PRODUCTIVITY

Factsheet 31

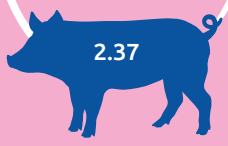
Optimising timing of service

Inseminating at the right time is essential to achieve the best farrowing rates and litter sizes. Follow the guidelines below to ensure good timing, successful insemination and improved reproductive performance.

Key Targets

1. Time it right – aim for a farrowing rate of 88%+

2. Improve reproductive performance and achieve 2.37 litters/sow/year



3. Reduce costs and non-productive days – aim for 13 days or fewer

KNOW YOUR BREEDING HERD

Know your breeding herd

Insemination must occur some hours prior to ovulation, which normally happens two thirds of the way through oestrus (e.g. 36-44 hours after onset of oestrus).'The right time' to inseminate varies between farms and individual sows, so it is important to adapt the insemination routine to individual farm characteristics.

Understand the process

- Undertake specialised training in pig breeding and artificial insemination (AI)
- Familiarise yourself with the oestrus cycle in pigs
- Understand what happens, when it happens and what the signs are
- Coincide your actions with biological events in the breeding female

Keep records

- Number of days between weaning and oestrus
- Oestrus duration
- Variations in these
- Make a note of seasonal changes (increased returns, longer days to service, etc.)

Use the information

- Review recorded information regularly to determine any trends for your farm or for individual females
- Determine if your herd is generally a two or three day standing heat herd
- Tailor the insemination routine accordingly

MANAGEMENT GUIDELINES

Identify start of standing heat accurately

- This is the single most important thing to get right when scheduling the best time to inseminate
- Being too early or late could result in poorer litter sizes and lower farrowing rates
- Undertake heat detection twice daily if possible, this allows more accurate heat detection and timing of insemination,compared with checking for heat once a day
- A variety of signals may be exhibited by females in standing heat, the most important one being standing to back pressure
- Make effective use of the boar, this helps to stimulate and identify standing heat in breeding females

Inseminate at least twice

- Acceptable fertilisation results are normally achieved by inseminating 24 hours before ovulation
- It is impossible to know exactly when ovulation will occur, or to inseminate every female in their optimum period
- Consider using the PIGSIS oestrus mapping programme, contact your regional knowledge exchange (KE) manager for details
- Carrying out multiple inseminations over the standing heat period will maximise success

AIM FOR TWO INSEMINATIONS DURING STANDING HEAT

- For sows, consider serving three times where appropriate or advised by using the PIGSIS system, no more than 24 hours a part
- For gilts/returns/old sows consider serving three times (e.g. AM – PM – AM)
- Adapt the service routine to individual farm circumstances
- Never inseminate a sow or gilt that is not showing a strong standing heat

ALLOW FOR VARIATION

Most sows weaned on the same day will be reasonably well synchronised but it is common to find sows coming into heat at different times after weaning. Seasonal effects also mean that the timing of standing heat can differ by around 12 hours between good and poor breeding times. It is important to adjust the timing of service to help maintain breeding performance.

Early sows

- Short weaning to oestrus intervals (four days or less) are associated with longer oestrous periods (three days) and later ovulation
- Adjust timings for insemination accordingly

Late sows

- Long weaning to oestrus intervals (six days or more) are associated with shorter oestrus periods (two days) and earlier ovulation
- Adjust timings for insemination accordingly

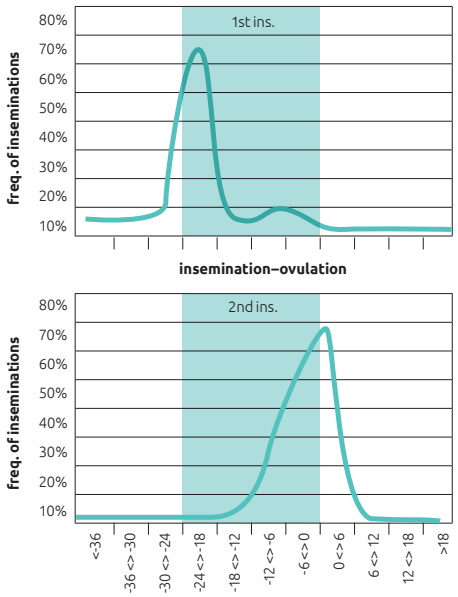
Spring

- Oestrus tends to occur earlier from January to May than in the Autumn
- Adjust timings for insemination accordingly

Autumn

- Oestrus tends to occur later from September to January than in the Spring
- Adjust timings for insemination accordingly

PIGSIS – Realised moment of insemination



Interval insemination-ovulation	Perc. 1st ins
<-36	3.5
-36 <> -30	43
-30 <> -24	8.7
-24 <> -18	67.8
-18 <> -12	3.5
-12 <> -6	5.2
-6 <> 0	7.0
0 <> 6	
6 <> 12	
12 <> 18	
>18	
Overall total	100.00

	Perc. 2nd ins
<-36	
-36 <> -30	
-30 <> -24	
-24 <> -18	4.0
-18 <> -12	7.1
-12 <> -6	21.2
-6 <> 0	67.7
0 <> 6	
6 <> 12	
12 <> 18	
>18	
Overall total	100.00

KEEP RECORDS AND USE MARKERS

- Being organised and efficient is essential for accurately timing insemination and achieving successful fertilisation
- Clear records and coloured marks make it easy to know what is happening with each female and what is to be done next

Aim to record the following

- Tag number (weaning to oestrus interval)
- Date and time of proestrus
- Date, time and duration of oestrus
- Date and time of first standing heat
- Date and time of all inseminations
- Projected and actual return dates
- Any other comments

- Use different coloured spray markers and/or the position, shape or number of marks, to show clearly the status of each female

Follow an effective service routine

Setting up and following an effective heat detection and service plan for your farm will help to detect the signs of heat accurately and schedule insemination at the optimum time. This is essential for optimising breeding performance and achieving the best results; review and adjust periodically. Develop an effective routine that is based on current best practice and information recorded on your farm, making allowances for variation.

Incorporate key information

- Weaning day
- Weaning to service interval for your breeding herd (day of the week your sows exhibit first standing heat)
- Duration of heat
- Use your records

Make it easy to follow

- Undertake training
- A step-by-step manual can help everyone follow the routine on the farm
- Use record books to help ensure key information follow the routine on the farm

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