



Biggest Mistakes With Gilts

Mark E. Wilson, PhD Reproductive Physiology



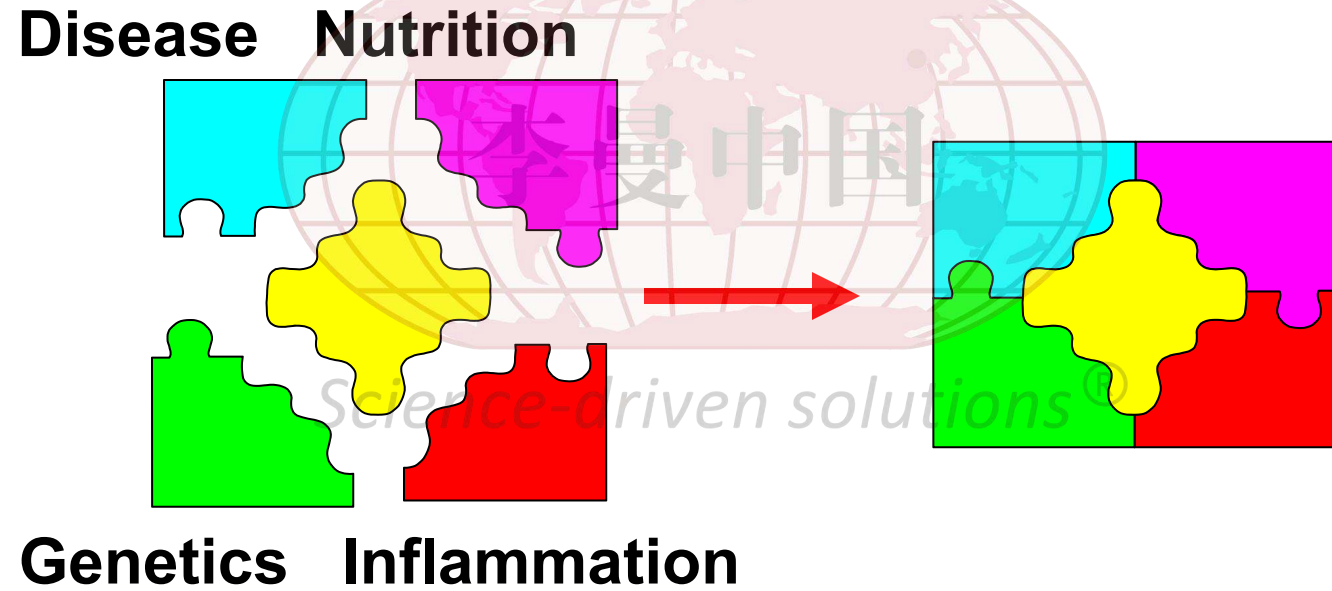
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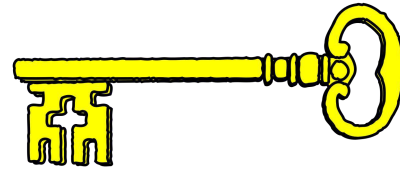
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Reproductive Success has a lot of pieces to the puzzle



Gilts Are The That Makes Sow Herds Productive



- Female pure line gilts are more difficult reproductively
- F1 gilts are easier to heat check
- Gilts impact parity profiles
- Gilt litter's impact grow finish performance The better job that is done on developing gilts the greater the herds success

Goal

- Minimize body weight losses in lactation
- Improve birth weights
- Decrease wean to estrus interval

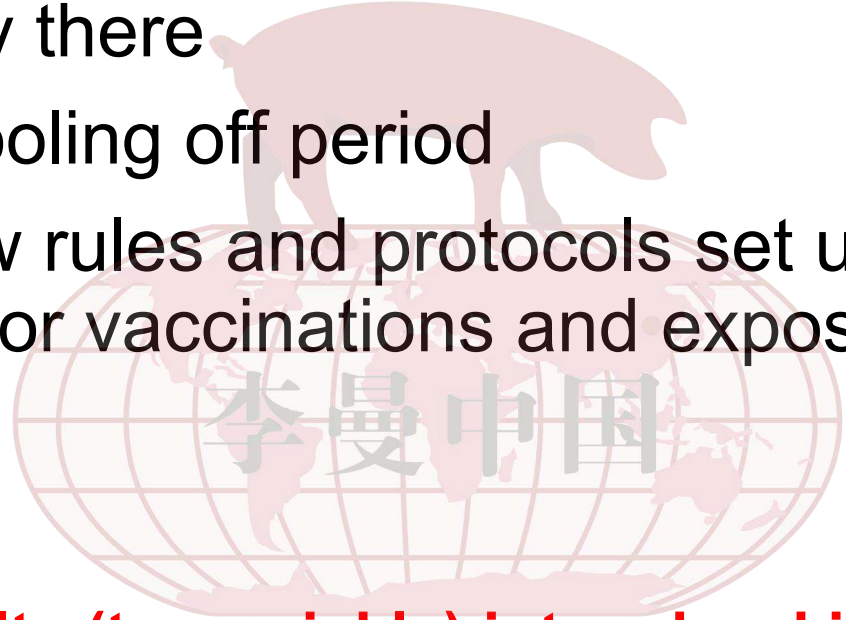


Rules For Bringing In Gilts To The Breeding Herd

- Strive to bring higher health status into the herd than those already there
- Have adequate cooling off period
- Meticulously follow rules and protocols set up by your veterinarian for vaccinations and exposure



- **“Infusing gilts (too quickly) into a herd is similar to pouring gasoline onto a fire”**



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Estrous

- Defined as a period of sexual receptivity to the male
- The pubertal estrus generally occurs around 170 d to 200 d
- **Goal is to get > 90% of the selected gilts to have had an estrus by 200 d**



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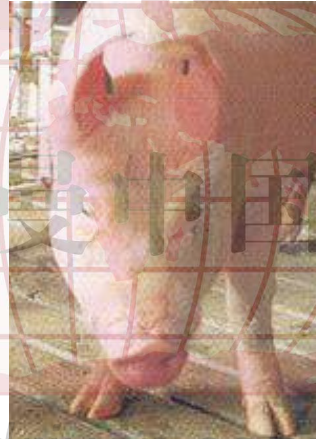


What Are Some Signs That Gilts Are in Heat?

- Swollen Red Vulva in Gilts



- Ears perked up

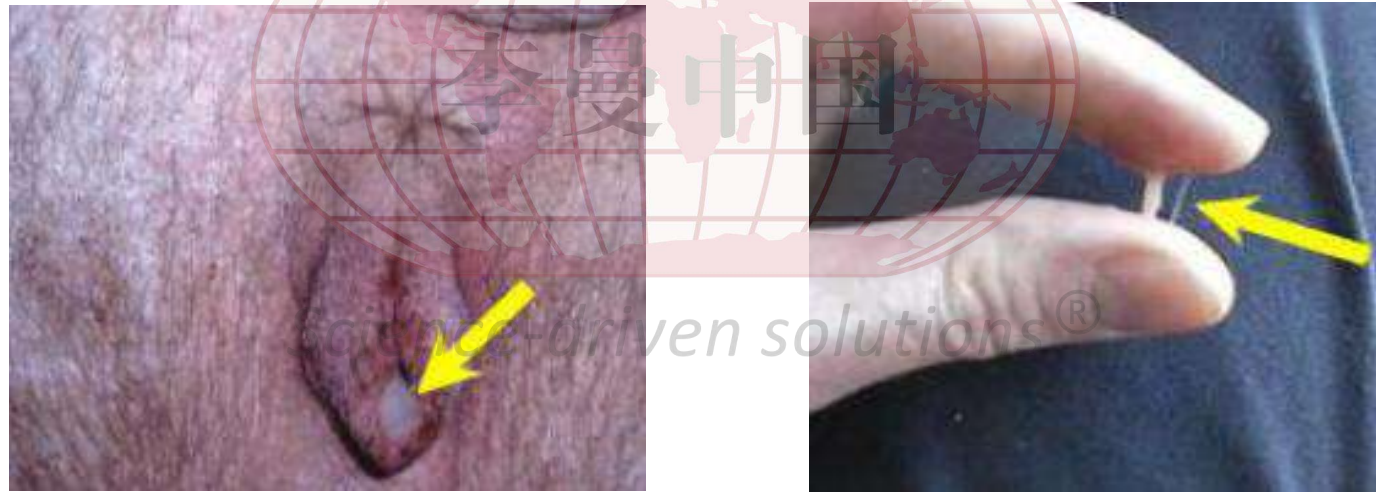


- Rubbing on the udder or fore and rear flanks



What Are Some Signs That Gilts Are in Heat?

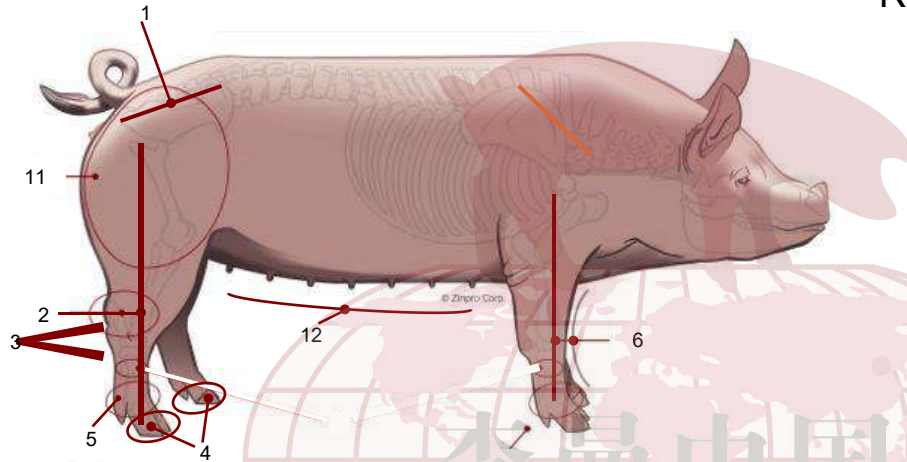
- Thumb Check: If mucus strings between the thumb and finger signals time for an insemination



Is this gilt properly Stimulated?



Desirable Traits for Replacement Gilts



Prioritized Evaluation areas:

Rear Leg Structure (hip to toe)

1. Rump slope
2. Hock set Straight v. Posty v. Sickle Hocked vs Posty vs
3. Hock alignment
Straight v. Pigeon o v. Cow hocked vs O vs Feet and Legs
4. Toes
Straightness, Evenness & Spread
5. Pastern Set
Correct v. Post Legged v. Soft

Front Structure

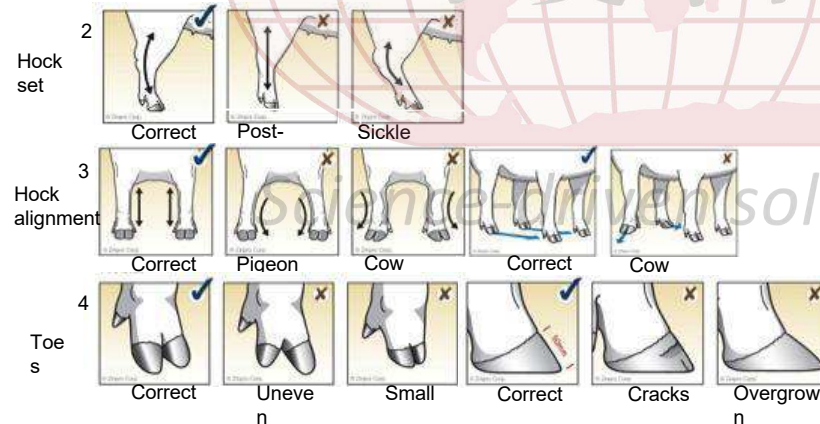
6. Shoulder to toe

Body capacity

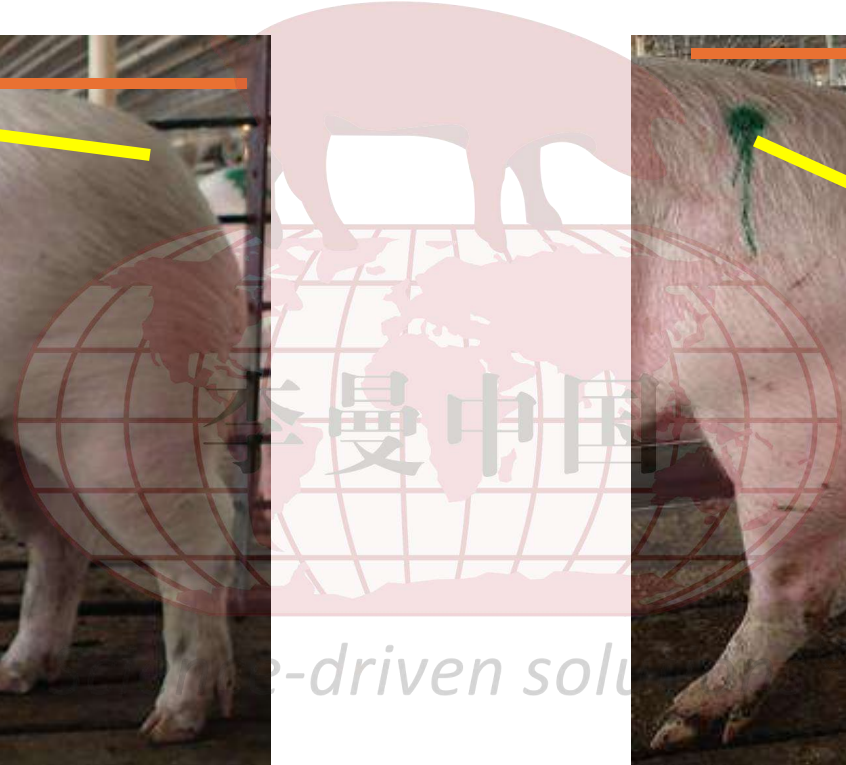
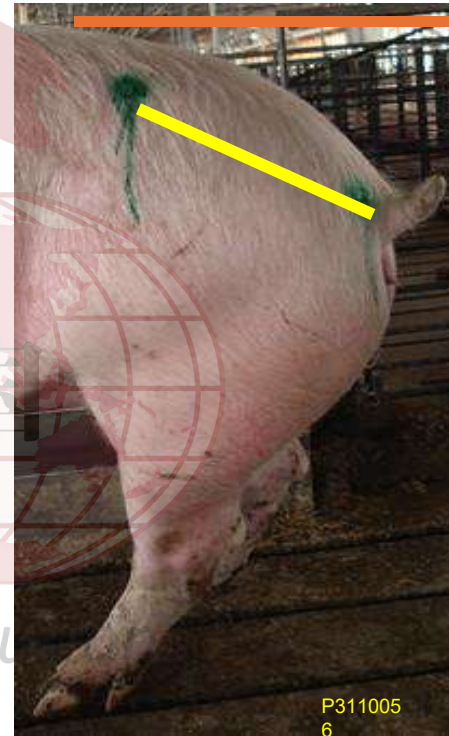
7. Depth of fore rib
8. Depth of rear rib & flank
9. Spring of rib
10. Width of chest

Others

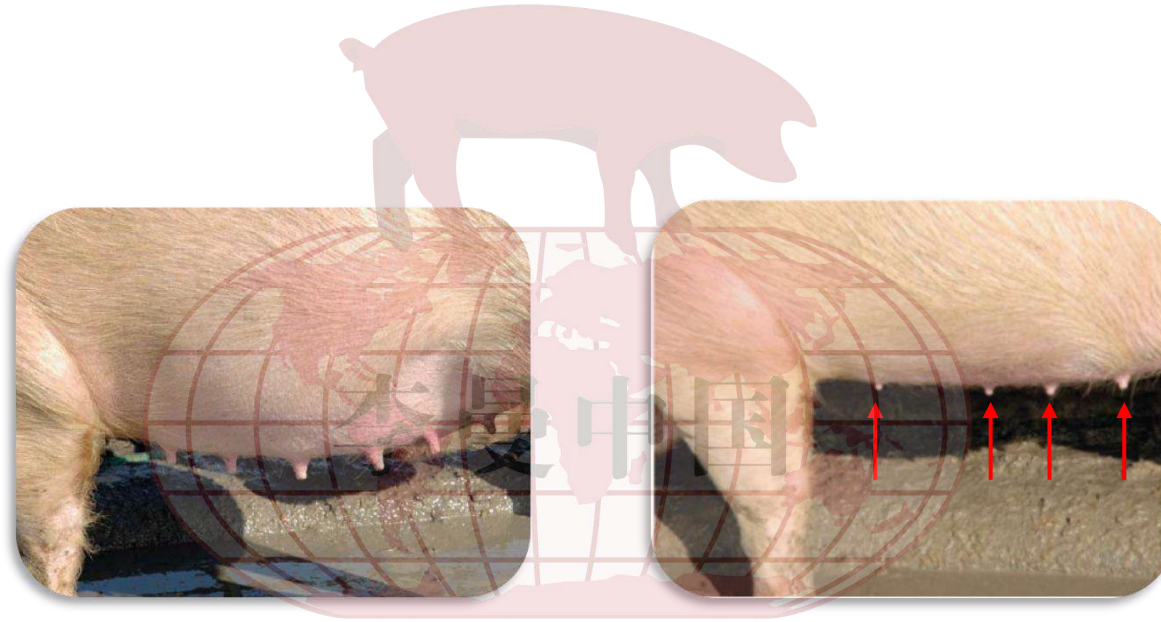
11. Muscle and condition
 12. Underline
 13. Vulva
- Locomotion/movement



Rump slope



Example On Spacing of Nipples



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Gilts With Infantile And Tipped Up Vulvas Should Be Culled

Tipped Up Vulva



Infantile Vulva



Infantile Vulva



Picture courtesy of NPPC and Dr. Jerry Shurson

Methods for Reproduction Tract Scoring as a Tool for Improving Sow Productivity

- Vulva width (VW)
- 958 prepubertal replacement gilts in a commercial system
- 15 weeks of age
- Gilts which averaged 20% of the small vulvas at 15 wk of age
- Gilts with reduced vulva score at 15 wk of age had lower inclusion rate into the breeding herd and produced fewer pigs through 2 parities
- Vulva score classification at an appropriate age could be a valuable tool for identifying gilts with the greatest reproductive potential.
- ◦

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Proportion of gilts achieving their first parity increased with score

- M or L using VSA increased total born over 2 parities compared to S (23.96 vs. 23.05 pigs $P < 0.01$) also born alive (21.13 vs. 23.05 pigs $P < 0.05$).
- Collectively, assessing VW at approx. 15 wk of age may identify sows with improved productivity through 2 parities as breeding herd females

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Plan To Have Enough Room And Space For Gilts



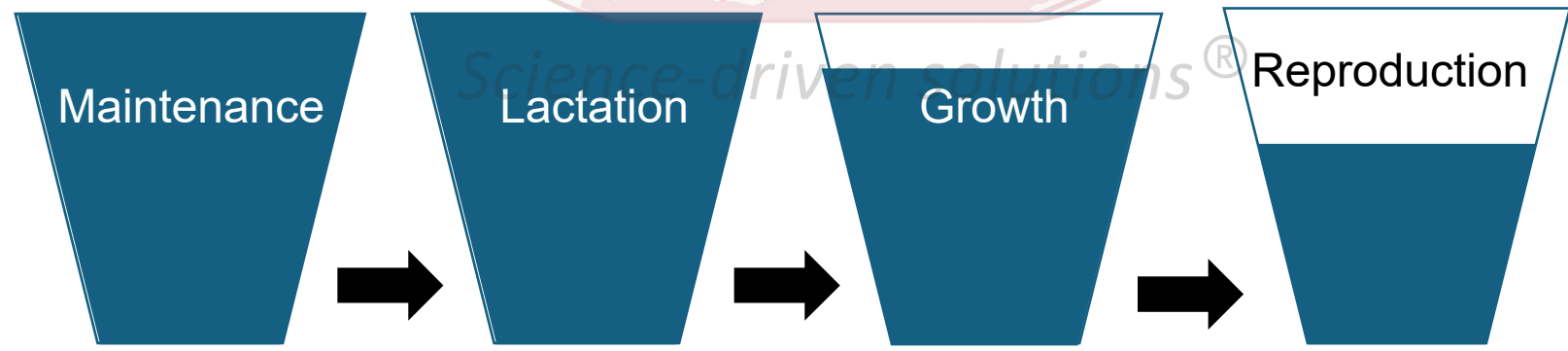
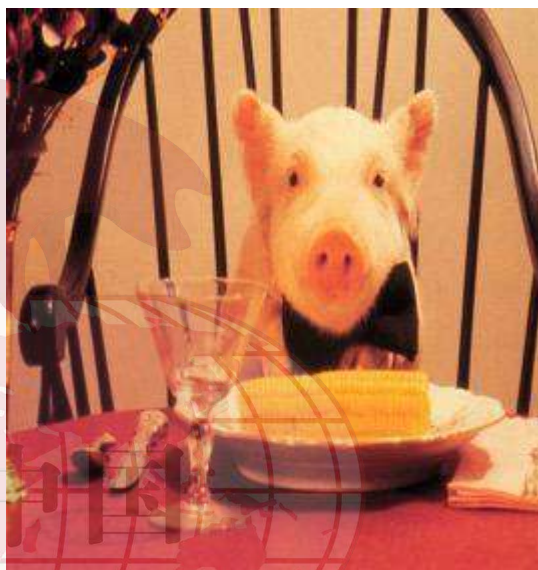
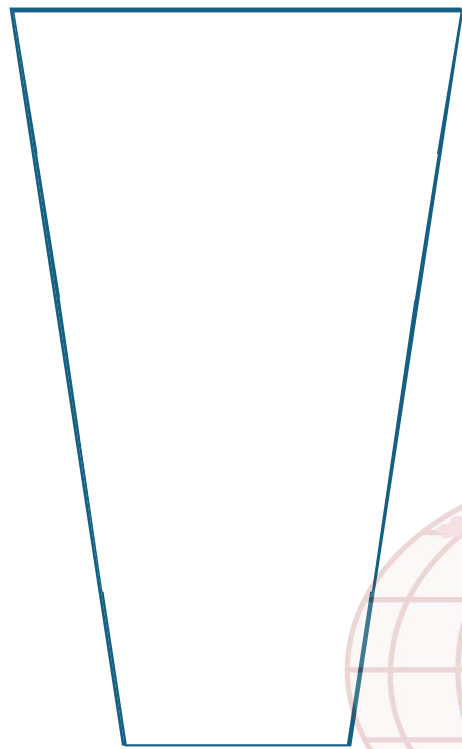
1.39 m² to 1.67 m² square feet for gilts

Production Flow and Management

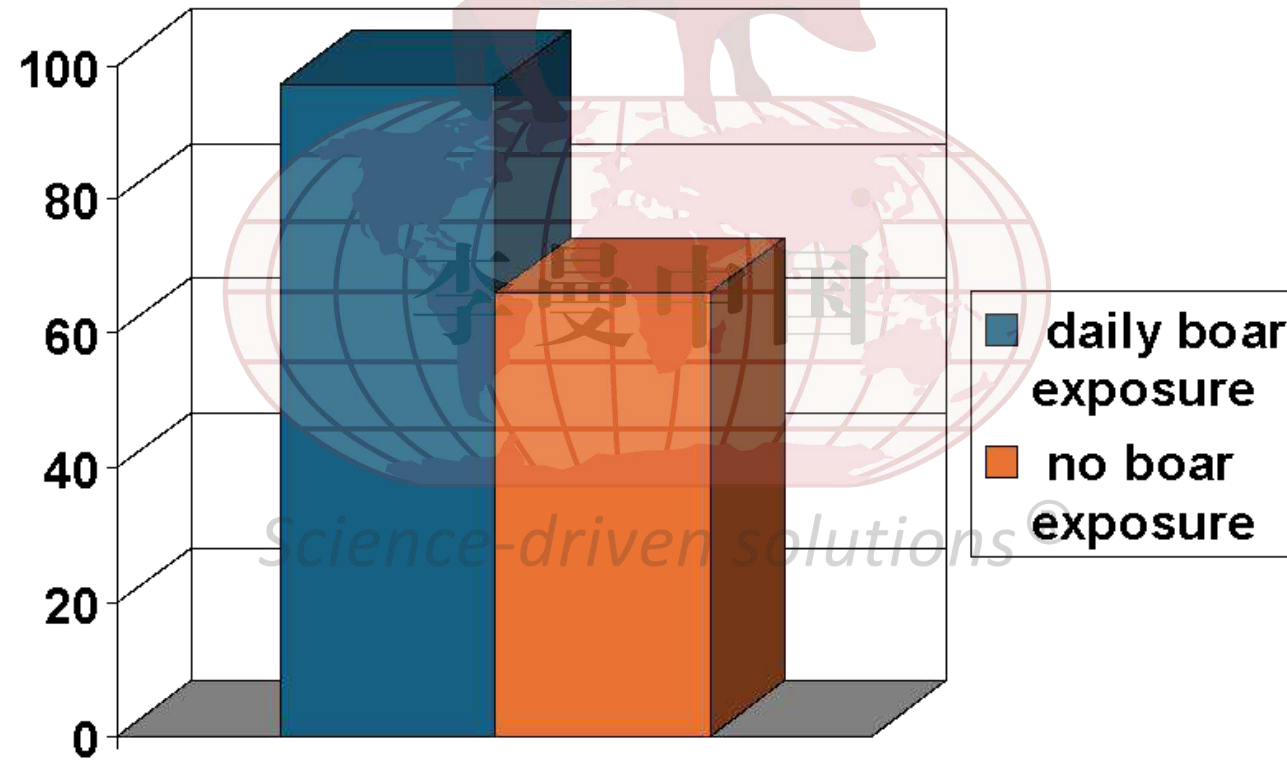
- Minimum meters² 1.67 m²
- Summer heat increases gilt numbers housed in a pen. Avoid reducing floor space below 1.39 m²
- Crowding in pens reduces reproductive performance and quality of heat checking

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Nutrient Partitioning 1st Parity Sow



Proportion of Gilts found cycling over three cycles



Five Priorities For Optimal Gilt-Pool Management

- Breed gilts after they weigh > 140 kg to 165 kg
- Begin heat detection on gilts early 140-170 d
- Implement proper heat detection >90% gilts cycle after 4-6 weeks 4-
Provide adequate time to isolate, acclimate and cool off incoming
gilts
- Know your gilt supply –try to be 20 weeks ahead

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Factors That Impact Estrus Expression In Gilts

- Quality of heat check boars
- Limited access to feed
- Inadequate water supply
- Bacteria in water lines
- Overcrowding in heat detection pens
- Mycotoxins
- Vaccinations should be completed at least 21-28 days prior to breeding gilts



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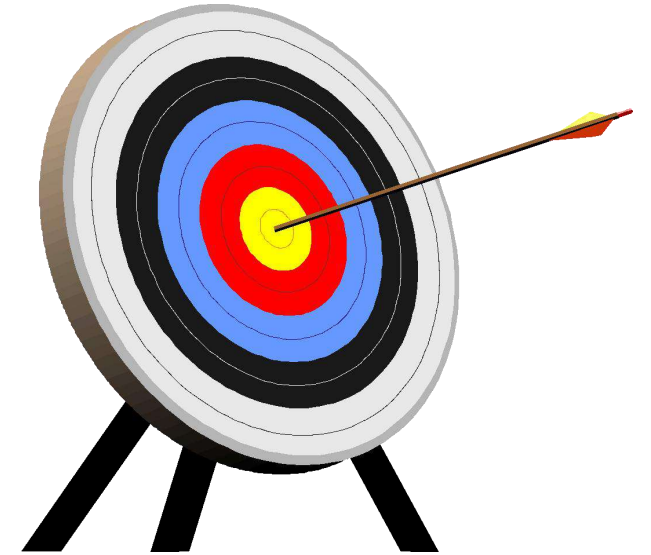
Summary For Heat Checking

- Most practical to begin at least by 170 d
- Much of the research shows that boar exposure at 140 d helps with bringing gilts into pubertal estrous sooner
- Aim for a target > 90% heat no service (HNS) gilts by 200 days
- **Heat check every day no exceptions!**
- **Each Gilt needs 30-40 seconds of time with boar directly in their face**
- **Always look back down your breed row as some gilts will lock up after you have passed by with the boar.**

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Targets For Gilts

- >140 kg at second estrus
- 2nd estrus prior to 1st mating
- Early detection of onset of estrus (heat no service)
- % weaned gilts converted to parity 2
- > 60 pigs per sow lifetime
- > 16 pigs total born
- < 10 kg body weight loss after farrowing



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