



» Never Stop Improving

Sow Robustness: Key areas to improve retention rate

- AASV March 4th , 2022

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PIC Technical Services

PIC®

SOW ROBUSTNESS

Genetics

Successful P1
Development

Sow Care

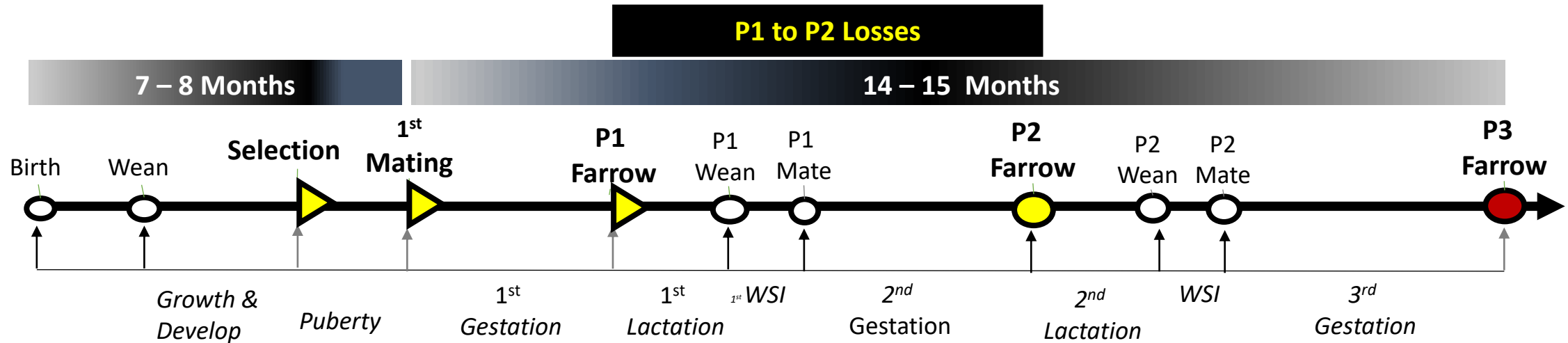
Sow Body
Condition &
Feeding

HEALTH

Start With The End In Mind – Key Messages

- Today's female has changed. In addition to improved reproductive traits, modern females are leaner and faster growing.
- Retention rate as a key performance indicator is not difficult to measure. However, a key challenge is developing key action items that integrate it into production processes.
- Change the **subject** from “Gilt Development” to “Successful P1 Development plan”. Change the approach to consider the desired outcome rather than where the process is executed.

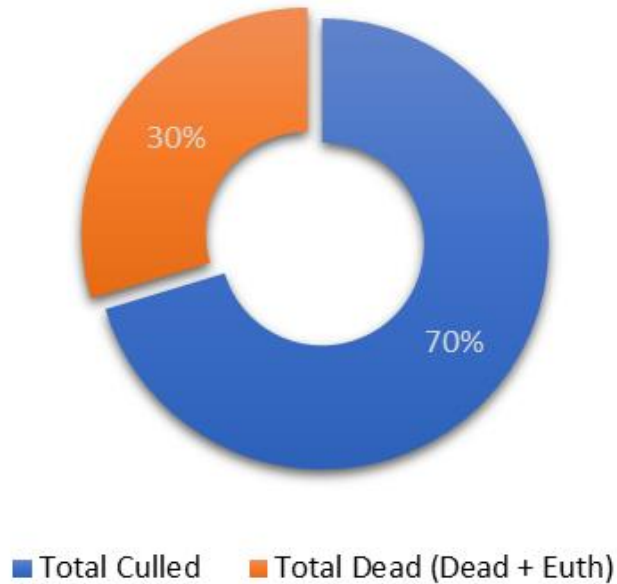
Sow Retention up to Parity 3 – Process Big Picture



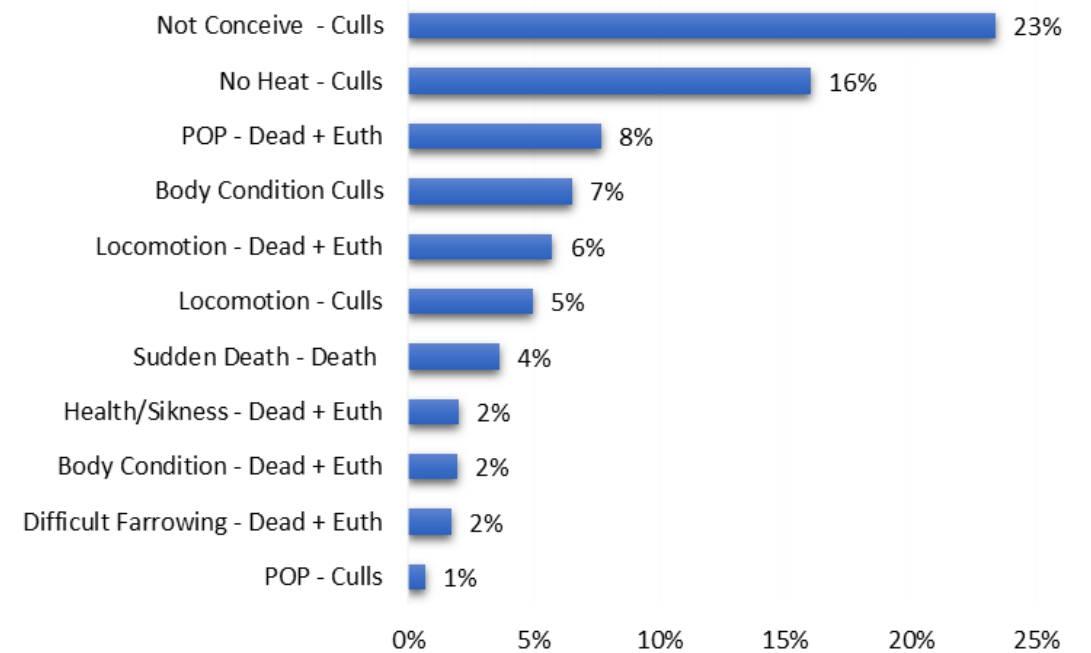
- It is a long process – It takes 15 months to reach out P3 since gilt first mating.
- Retrospective analysis – prospective outcome. Trust the Process is key.
- Complex and influenced by many factors (Genetic, Health, Nutrition, Reproduction & Facilities)
- Why to talk about retention rate up to P3? **Understanding P1 to P2 loses is key.**

Understand P0 to P3 Loses – Big Picture

Total Removed Distribution

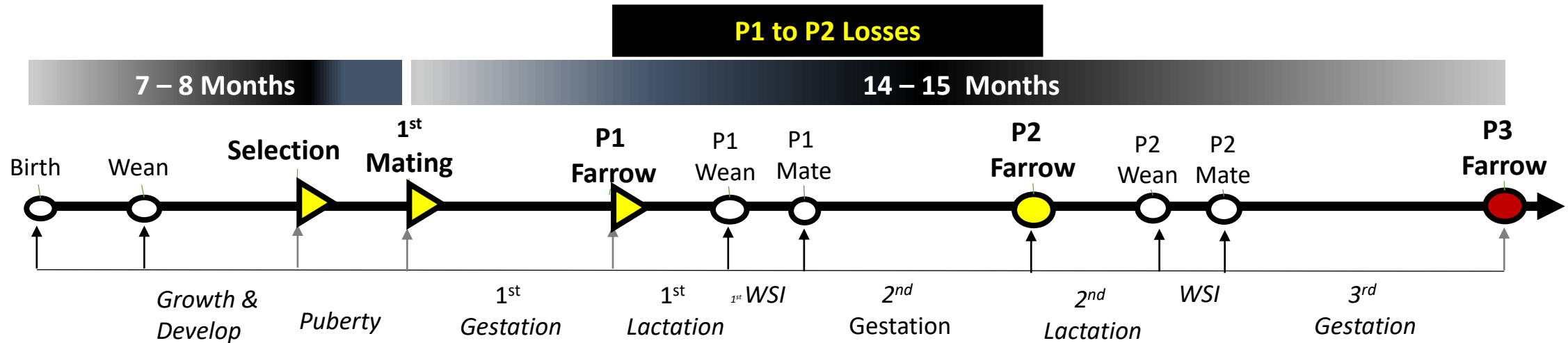


Removed Reasons (Percentage out of Total Removed)



(* Other Removals – 25%)

Four Strategic Areas



1

Gilt Development Quality

Maximize gilt selection intensity or gilt availability to be part of prime selection

2

Gilt Selection Practices

Reinforce gilt selection practices for higher Lifetime performance

3

Gilt Eligibility at 1ST Mating

Maximize the number of gilts bred within the targeted range of weight, HNS event, age at puberty and age.

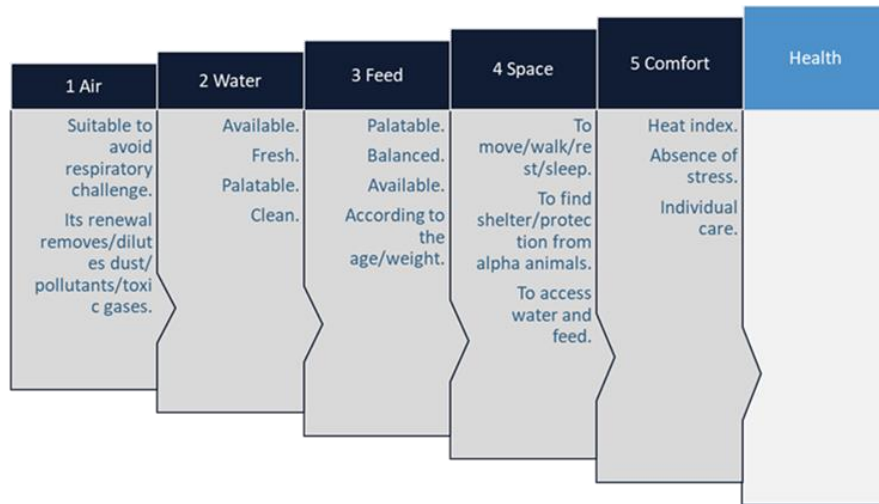
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P1 preparation for LTP

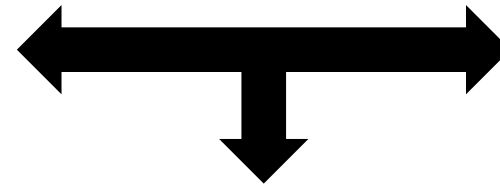
Improve the quality of gilt at farrowing and P1 at weaning for current & subsequent litter performance.

1 Gilt Development Quality

Gilt Vital Needs

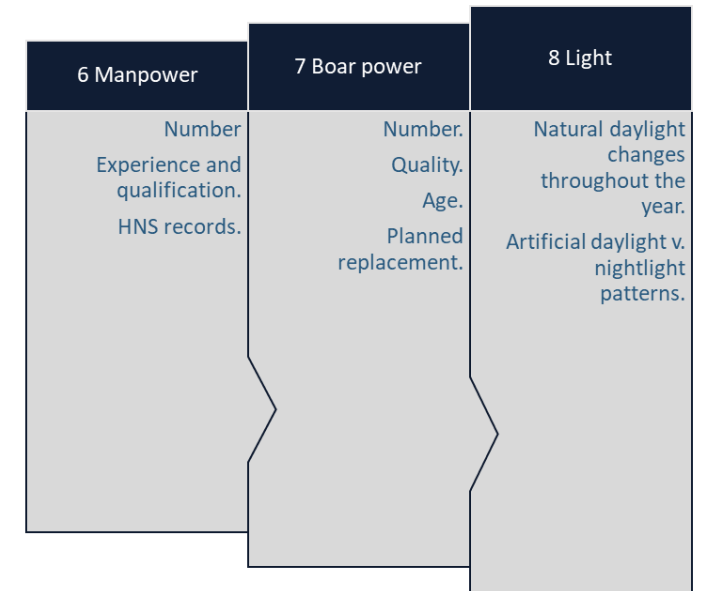


Growth – ADG
Reproductive Development



Selection Intensity

Puberty Management



- Housing and environmental conditions determinate gilts growth and its reproductive outcome.

1

Gilt Development Quality

Troubleshoot Gilt Fall Out

- Troubleshooting fall out prior to selection
 - **GDU Mortality** Records
 - Reasons and DOF

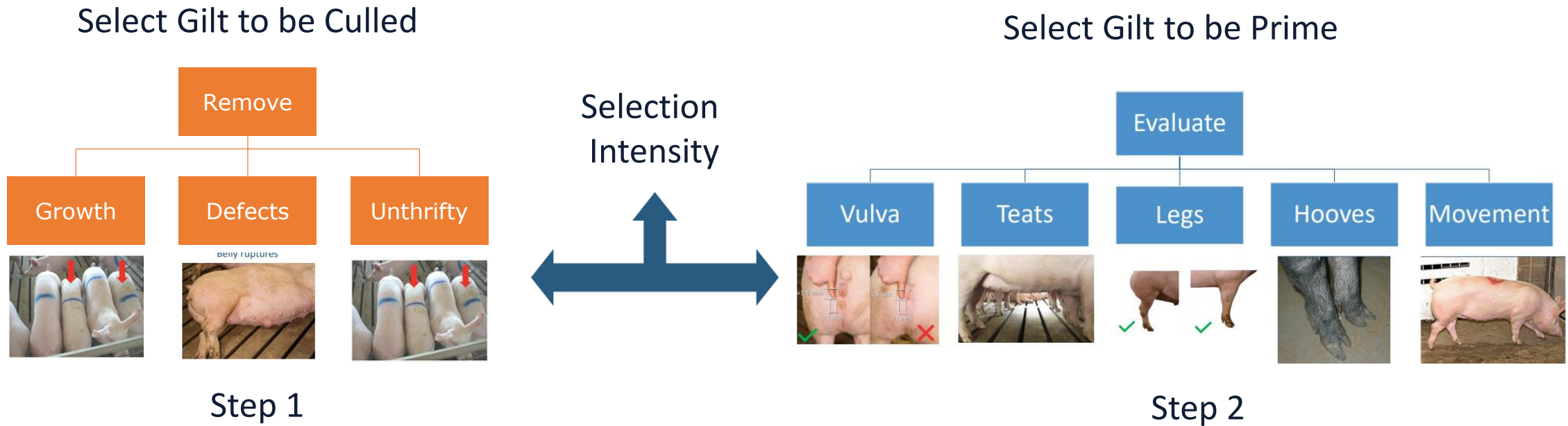
GDU Placement Plan

- **GDU Flow and Spaces.**
 - Review **limitations and bottleneck.**
 - Assess **Housing and environmental** requirements

GDU Flow to Sow Herd

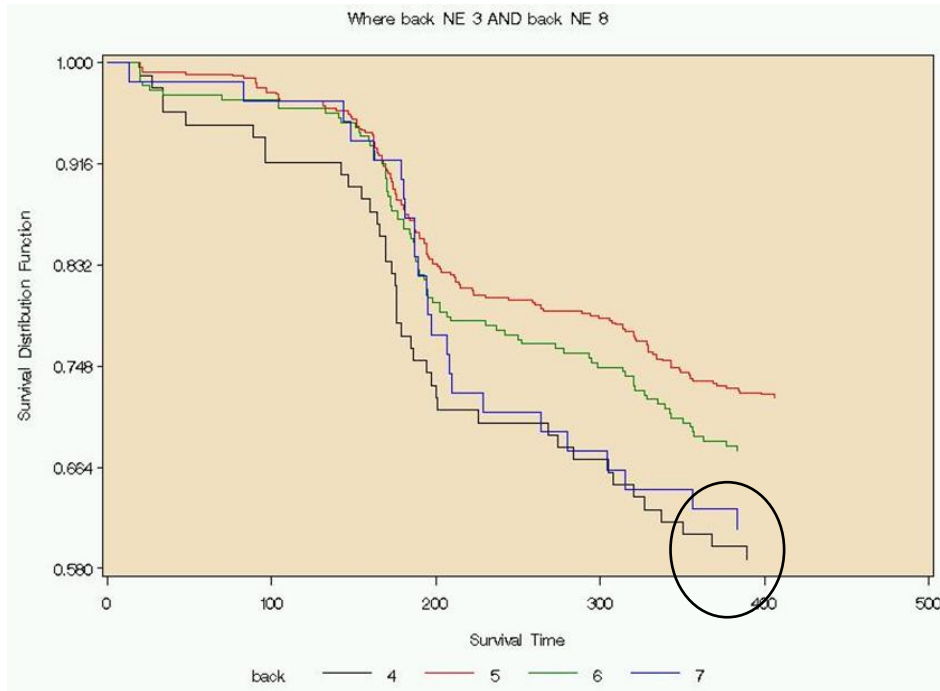
- Manage Herd sow inventory and GDU Flow integrity to **avoid disruptions.**
 - **HNS target** and flow.
 - Gilt breeding target.
 - Gilt not select and Cull sows
- Placement Plan**

2 Gilt Selection Practicalities

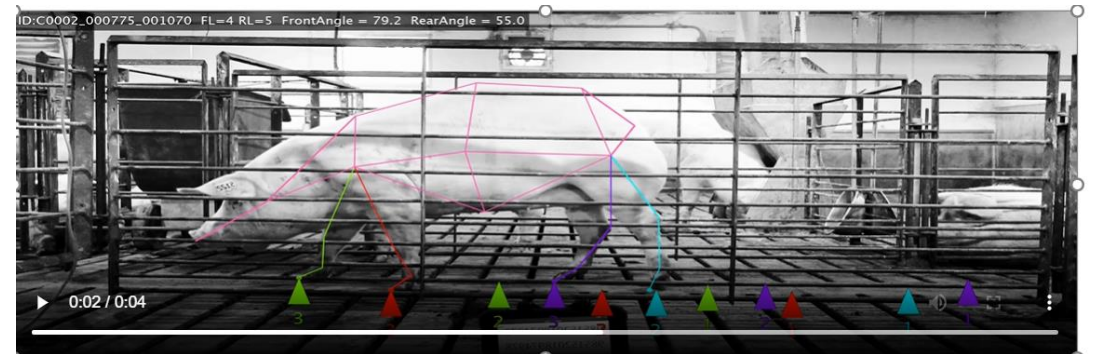
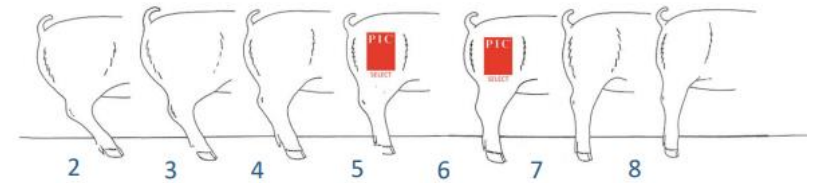


- First Step to improve gilt quality is to manage the size and quality of gilts available to select from – **Gilt Pool at selection.**

2 Impact of Leg Structure on Retention Rate



Back Leg Scores



- Visual leg scoring system work. Avoid select females with poor leg structures
- Digital feet and leg assessment will make the process more accurate.

2

Gilt Selection Practices Recommendations

Gilt Pool Size Management

- Anticipate and prevent situations that would impact the **gilt pool size at selection**
- Find the **right time** and place to select
- Placement plan for **non selected**

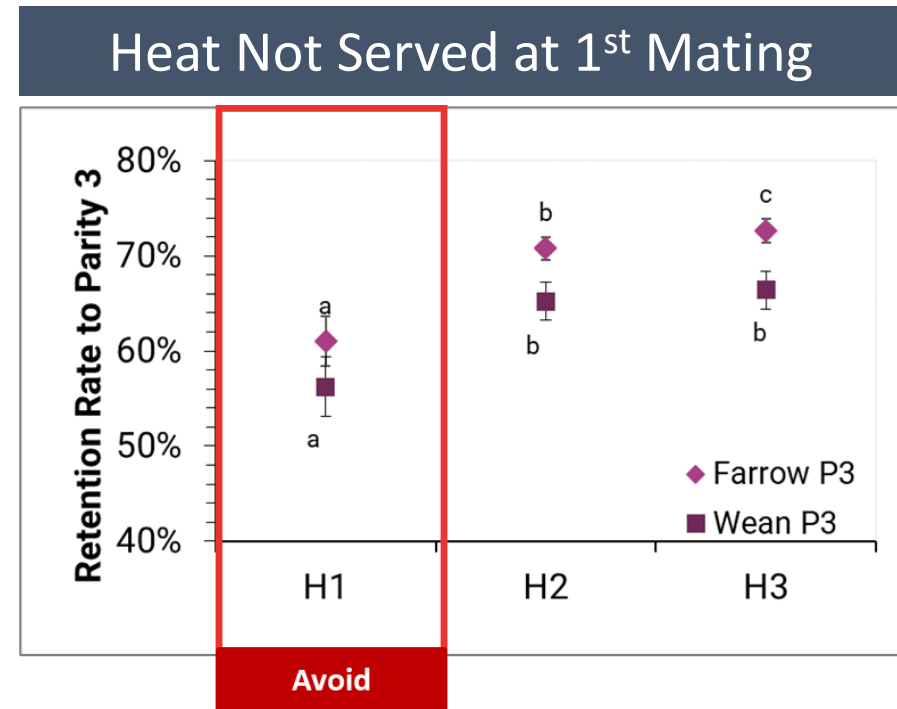
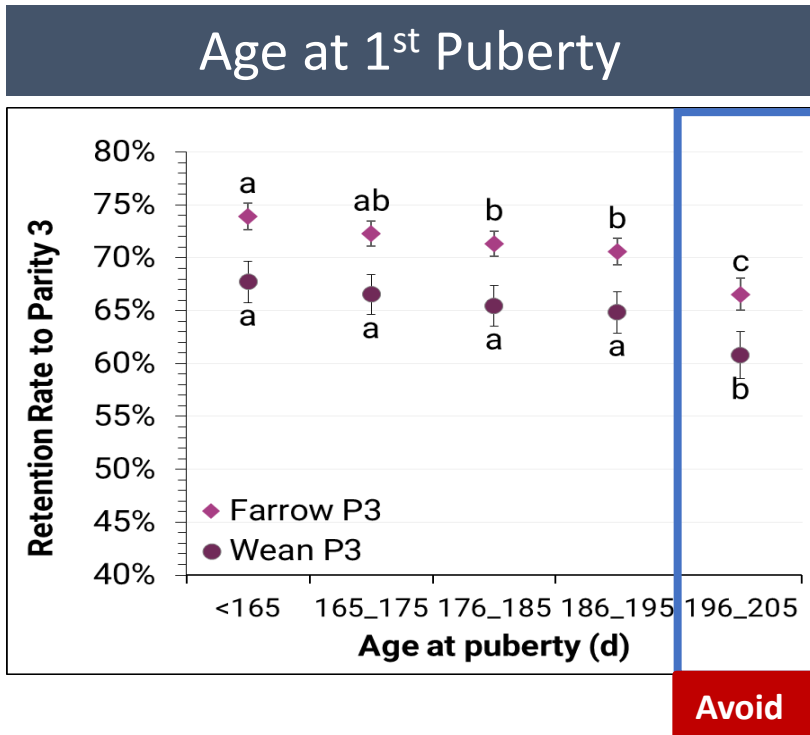
Selection Standards

- Select against **poor feet and leg structure.**
- Select against **poor growth** (<1.32 lb./day ADG)

Track and Record

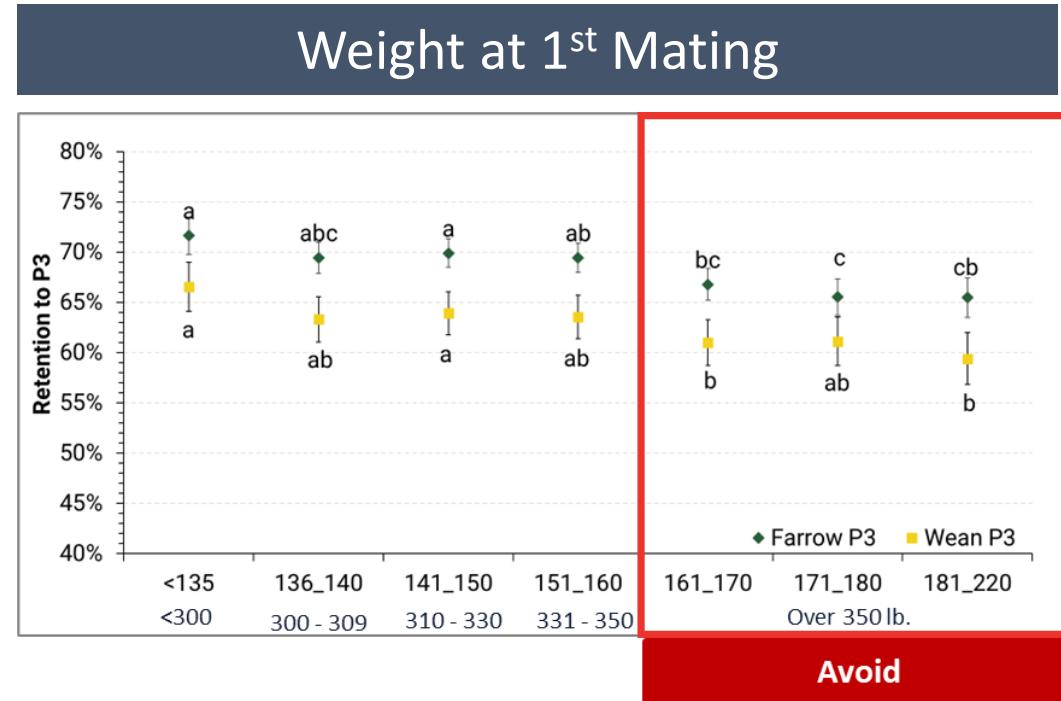
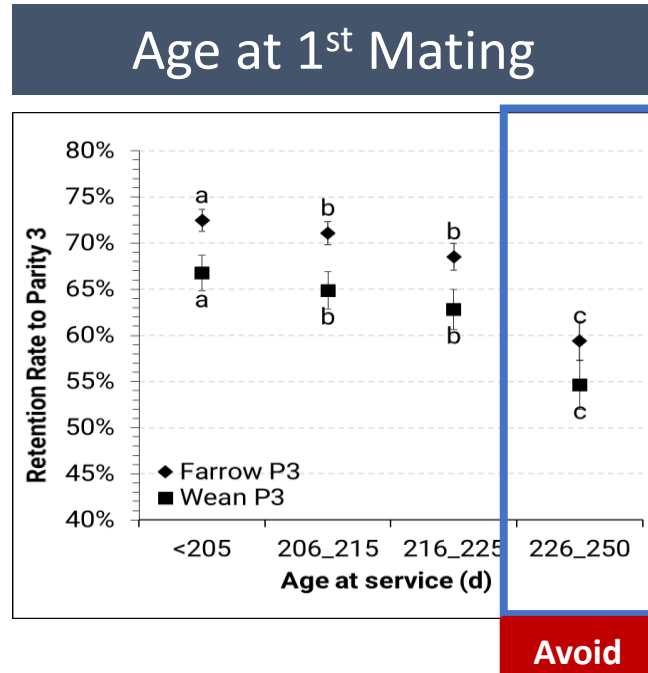
- **Record and track** selection rate and non select reasons
- **Prime vs Second**

3

Gilt Eligibility at 1st Mating

- Early age at puberty is associated with greater retention and pigs born to third parity
- Gilts bred at second estrus detected have a greater retention and pig born to third parity

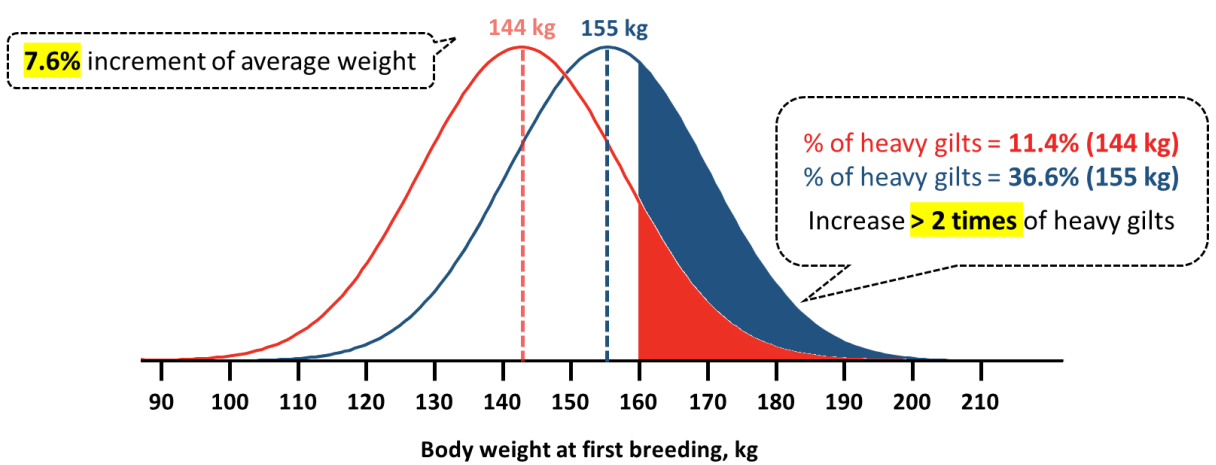
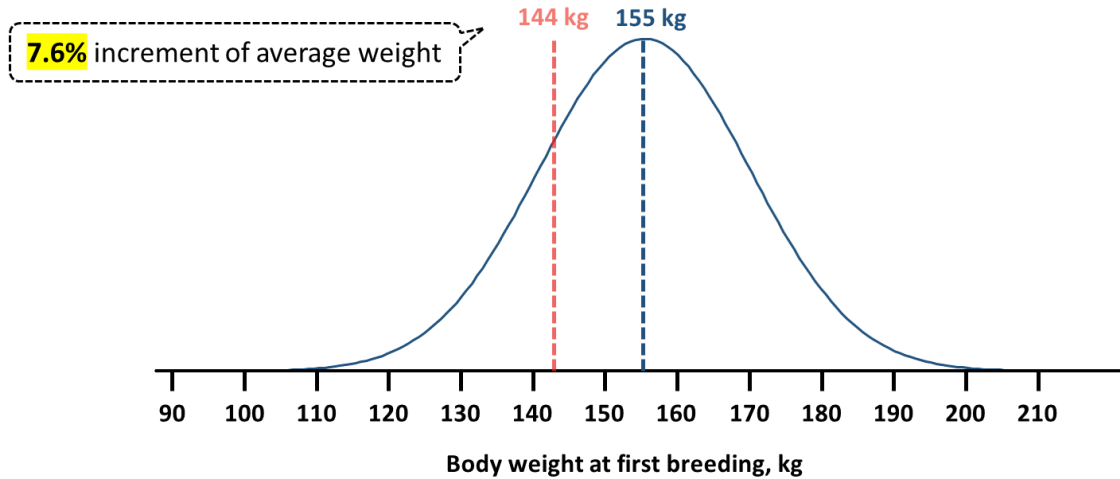
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Gilt Eligibility at 1st Mating

- Gilts bred at <225 days have a greater retention and pig born to third parity
- Gilts bred at >350 lb. (160 kg.) have a lower retention specifically between P1 and P2.

3 Gilt Eligibility at 1st Mating

Estimated Weight Distribution at 1st Mating



- In a higher gilt growth rate scenario avoid to breed gilts in the heavy side.
 - Consider moderating dietary energy and amino acids but do not create abnormal behaviors
- Puberty induction plan and HNS program are key

* Orlando et al. 2022
 * Data from L02 and L03 gilts
 * Assuming 3 years of genetic gap from genetic farms to field

3

Gilt Eligibility at 1st Mating Recommendations

Puberty Onset

- Focus on **puberty induction**
- Plan to start no later than 24 weeks of age

HNS Program

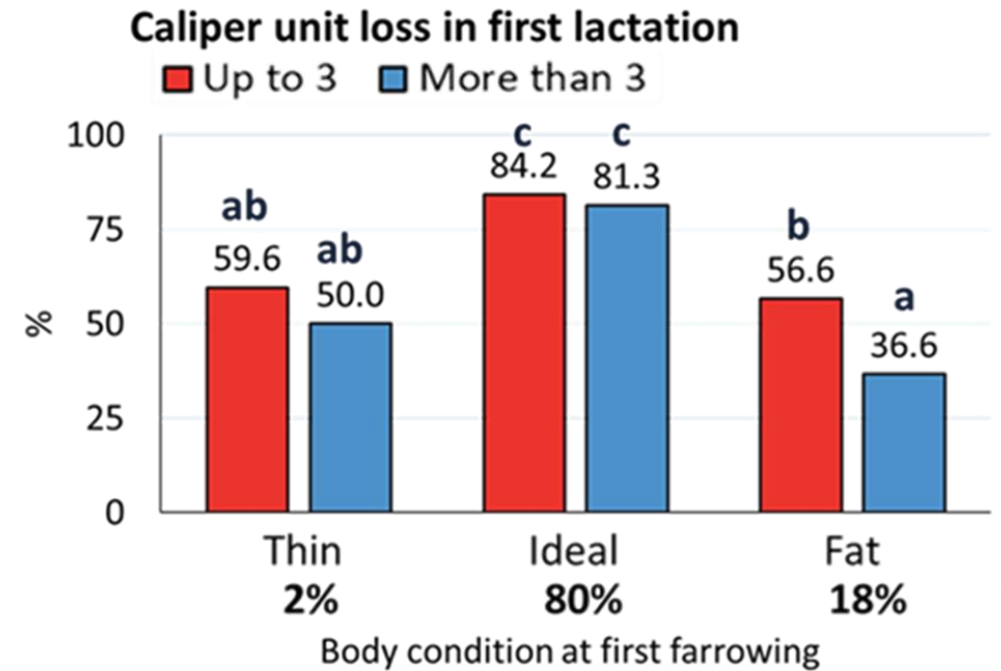
- Nose to nose contact
- Boar power
- Manpower
- Time

Quality of gilt bred

- Register first heat before 190 days
- HNS program should flow GDU
- **Track and record gilts data.**

4 Gilt Preparation for 1st Farrowing

- Do not categorize gilts (P0) by body condition
- Never feed gilts (P0) below the PIC recommended base level of 5.9 Mcal ME or 4.4Mcal NE/day regardless of body weight at breeding.
- Caliper at farrowing on P1 will provide relevant information to support sow retention.
 - % Ideal females at farrowing
 - Starting point to measure body condition lost (Caliper points) in Lactation.

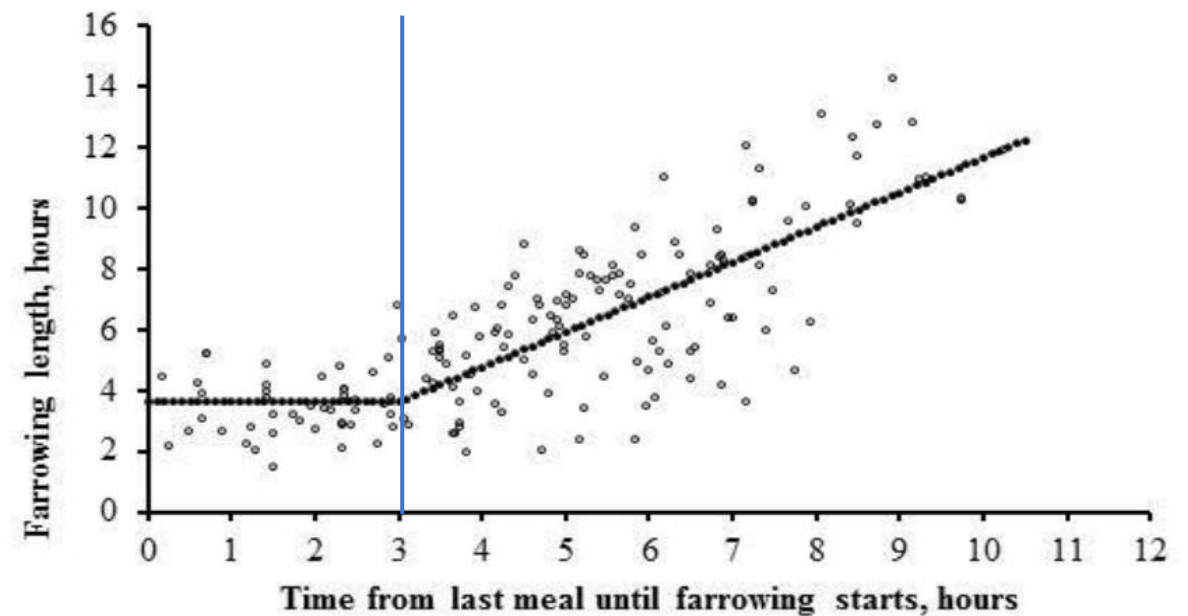


Huerta et al., 2021

4 Pre-farrowing Feeding

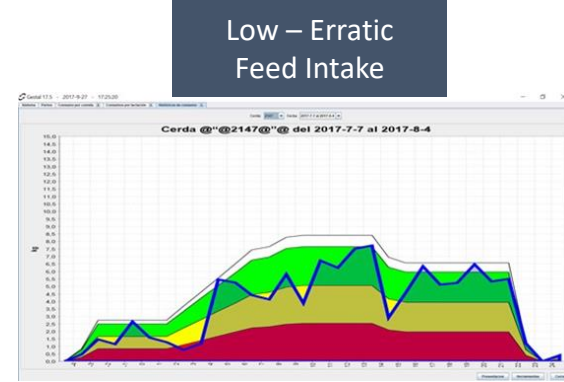
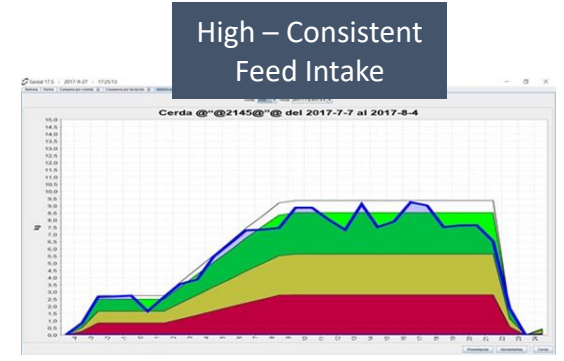
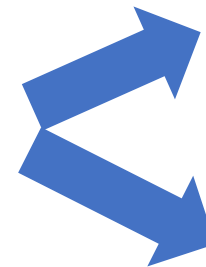
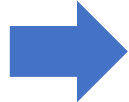
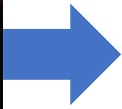
Reduce Farrowing Duration and Postpartum Recovery

- Do not full feed pre-farrow
- Feed the same amount as sows were previously fed in gestation
- Last feeding 2-3 hours before farrowing reduce farrowing length
- Increase the frequency at least 2 feedings once loaded in farrowing rooms



Peter Kappel, Aarhus University - Pictures courtesy Dr. Luis Sanjoaquin (Thinking Pig)

4 First Lactation – Peripartum Care Management



Source: Pictures courtesy Dr. Antonio Vela (Thinking Pig)

- Room preparation
- Focus on P1.

- Check daily water intake
- Check problematic sows

- Daily sow Care
- Check Fever
- Stimulate voluntary water and feed intake

4 Gilt Preparation for 1st Farrowing

Body Condition Management

- Track Body weight at 1st Mating
- **Never feed gilts (P0) below the PIC recommended base level**
- Group gilts together in gestation area

Pre-Farrow Management

- Place gilt together in when loading each farrowing room.
- **Make sure to train them where/how to drink and use feeding system**
- **Do not full feed prior farrowing**

Individual Sow Care Program

- **Early identification** of problematic sows
- Check daily water/feed intake
- **Early intervention** plan

Key Messages

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Google: PIC Reproduction Resource Center

Thank You!