Feeding Programs for the Breeding Herd

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KSUSwine.org
Outline

• To look at hitting breeding weight targets in gilts
• Should you increase feed intake before farrowing?
• Feeding immediately pre-farrow
• Ad libitum sow lactation feeding
Typical Problems when Feeding the Breeding Herd

1) Gilt development
   • Wrong weight
   • Too fat, too old

2) Gestation
   ▪ Feeding correct amount
   ▪ Over-formulated diets

3) Lactation
   ▪ Feed intake
   ▪ Feed intake
   ▪ Feed intake
   ▪ Inadequate nutrients
Gilt Development Goals

• Breed at second or later estrous at 130 kg (approximately 210 days of age)
  • Moderate Growth Rate
    • Approximately 16 mm back fat at breeding
    • 180 kg and < 21 mm backfat at farrowing
      • target 15 to 19 mm

• Feed 0.1% higher Ca & P than finishing pigs
• Feed sow vitamins for at least 30 days before breeding.
Breed on Second or Later Estrus

This farm uses a colored ear tag each week to indicate if how many times a gilt has come into estrus.
**Pre-farrowing body weight (d 110)**

- **Light** (d 90 weight category): 175\(^{a}\) kg
- **Intermediate** (d 90 weight category): 189\(^{b}\) kg
- **Heavy** (d 90 weight category): 207\(^{c}\) kg

**SEM = 1.7**

**P < 0.05**

K-State
Research and Extension
Knowledge for Life
Estimated body weight at breeding by category

- **Light**
  - 114 kg

- **Intermediate**
  - 132 kg

- **Heavy**
  - 155 kg

**Cut-off:**
- 121 kg
- 142 kg

Data Represents approximately 750 gilts: Adapted from Goncalves et al. 2015
Piglets born alive

SEM = 0.20
P < 0.05

Piglets born alive, n

<table>
<thead>
<tr>
<th>Weight Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>12.4a</td>
</tr>
<tr>
<td>Intermediate</td>
<td>13.3b</td>
</tr>
<tr>
<td>Heavy</td>
<td>14.1c</td>
</tr>
</tbody>
</table>

d 90 weight category
**Materials and Methods**

1,105 females
(742 gilts and 363 sows; PIC 1050)

Group housed (ESF)

Dietary treatments

- d 40
- d 90
- d 111

**Treatment structure:**

2 (parity) × 2 (lysine) × 2 (energy) factorial

**Parity** (after farrowing): P1 (Gilts) or P2+ (Sows)

**Lysine**: 10.7 or 20 g SID Lysine intake per day

**Energy**: 4,503 or 6,754 kcal of NE intake per day
Energy x piglet birth weight
Independent of SID Lys or parity

(Gonçalves et al., 2015)

1.33

1.36

1.20

1.25

1.30

1.35

1.40

1.45

1.50

1.85

2.75

Born alive piglet birth weight, kg

Energy intake, Mcal NE/d

4.50

6.75

P = 0.01
SEM = 0.008

+ 30 g (2.3%)

(K-State Research and Extension)

(Alves et al., 2015)
Energy x Stillbirth
Independent of SID Lys

(Gonçalves et al., 2015)
Bump feeding summary

- Increasing feeding level from d 90 to farrowing by 1 kg will:
  - Increase sow and gilt weight gain
  - Increase birth weight by 30 g/pig
  - May increase stillborn rate in sows
  - Increase feed cost by $3.00 to $5.00 per sow

Current recommendation –
  - If you bump, 1 kg and no sooner than d 90 of gestation
Full Feed before and around Farrowing?
Influence of peripartum feeding of the sow on pig weaning weight

BF x feed $P < 0.035$

Cool et al. 2014
Recent sow research: Peripartum feeding conclusions

- For sows with less than 22 mm backfat at farrowing:
  - Ad libitum feed intake from placement in the farrowing room
    - Increase total feed consumption prior to weaning
    - Reduce loss of body weight and backfat
    - Improve litter growth and weaning weight
  - Demonstrates need to not have sows over 22 mm backfat at farrowing
Feeding during most of gestation: Influence of backfat level at farrowing

Kim et al., 2015
Feeding during most of gestation: Influence of backfat level at farrowing

Kim et al., 2015
Feeding during most of gestation: Influence of backfat level at farrowing

Kim et al., 2015
Feeding during most of gestation: Influence of backfat level at farrowing

Litter weight gain, kg

D 109 of gestation backfat, mm

Parity
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- > 7

Kim et al., 2015
Feeding during most of gestation: Influence of backfat level at farrowing

Kim et al., 2015
Recent sow research: Feeding during most of gestation

- Sows can be fed to a range of backfat and body condition as long as extremes are avoided with relatively little impact on sow or offspring performance.
- Goal hasn’t changed:
  - Feed to achieve desired body condition and backfat at farrowing
Ad Libitum
Lactation Feeding
Sows in lactation fed 3x per day, but quickly out of feed by 10:30
BIG Problem!! – sows in lactation loosing way too much weight.

Likely loosing more than 15% body mass.
Influence of Backfat at Farrowing on Subsequent Total Born – This is likely happening on the farm

Need to encourage feed intake!!!!!!!!!!

Young et al., 2006
**Daily Feed Intake in Farrowing**

![Graph showing daily feed intake in farrowing. The graph includes lines for Ad lib 3, Standard, and Ad lib 7. The average intake for Ad lib 3 is 6.8 kg, for Standard is 4.8 kg, and for Ad lib 7 is 5.2 kg. The x-axis represents days post farrow, ranging from 0 to 20, and the y-axis represents kg, ranging from 0 to 9.](image)

Courtesy Dr. Joe Connor
“Typical” feeding programs: U.S.

• Gestation
  – Ex. 0.56% SID lysine with relatively high NE (corn, DDGS, soybean meal)
  – 2 to 2.2 kg/d intake
  – Bump feeding (increase by 1 kg) for 2 to 3 weeks on some, but not all farms

• Lactation
  – 1.0 to 1.2% SID lysine with high NE (corn, AA, DDGS, soybean meal)
    Automatic feeding systems for ad libitum on most farms
The End !!!!!
Thank You!!!!!

Sláinte Mhaith
Ad lib vs restricted feeding from d -5 to d 7 of lactation

Cool et al. 2014