

# NUTRITIONAL CONSIDERATIONS IN THE HIGHLY-PROLIFIC SOW

## 高产母猪的营养考虑因素

FOCUSING ON HER NEEDS 关注她的需求



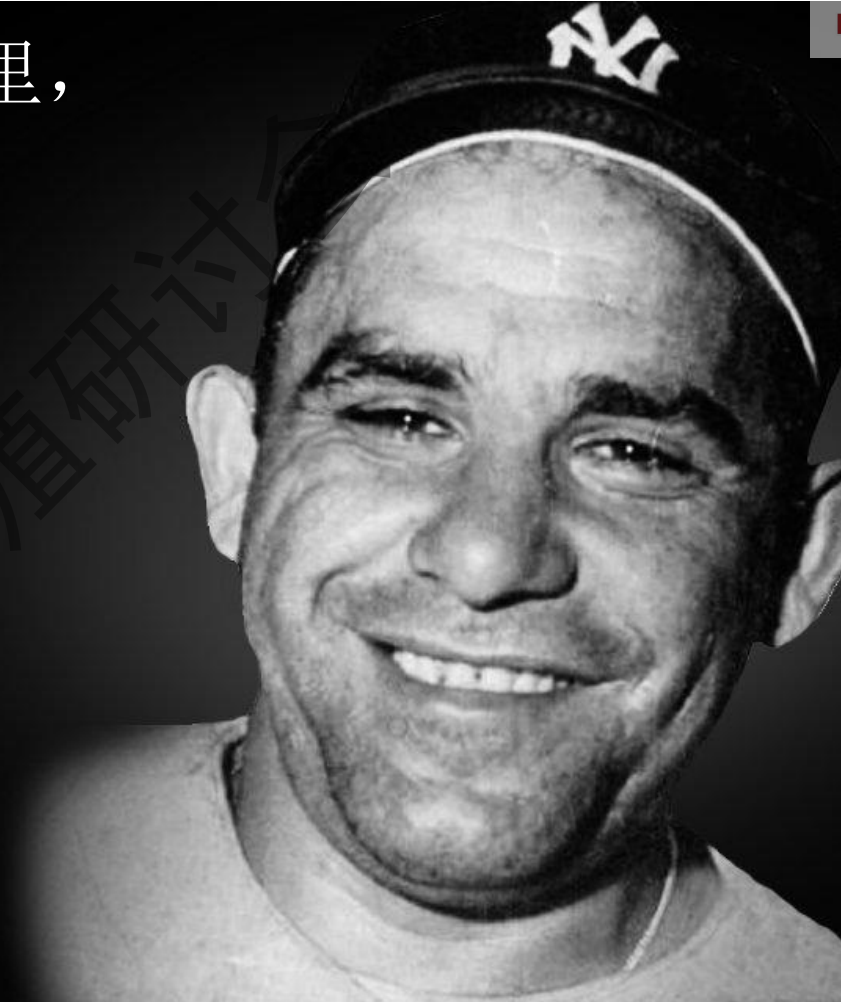
**SOUTH DAKOTA  
STATE UNIVERSITY**  
*College of Agriculture, Food  
and Environmental Sciences*

如果你不知道自己要去哪里，  
你可能会去别的地方。

If you don't know  
where **you are going**,  
you might wind up  
**someplace else.**

– Yogi Berra

AZ QUOTES



# THE HIGHLY PROLIFIC SOW 4.0?

## 高产母猪4.0?



- The standard is still moving 该标准仍在不断变化
  - >14 TBA in 2014
  - > 20 TBA in 2023?
    - (Theil et al, 2022; Pedersen et al. 2020)
- The standard for longevity (retention) is moving
- 寿命（保留期）的标准正在改变
  - Average herd replacement rates exceed 55% 平均母猪更新率超过55%
  - Acceptable mortality moving with average (15-16%)?
  - 可接受的死亡率随平均水平（15-16%）变化？
- Outcomes of high prolificacy 高繁殖力的结果
  - Gain in sow production 母猪产量增长
  - Decreasing conversion efficiency 降低转换效率
  - Relationship to sow mortality is unknown
  - 与母猪死亡率的关系尚不清楚

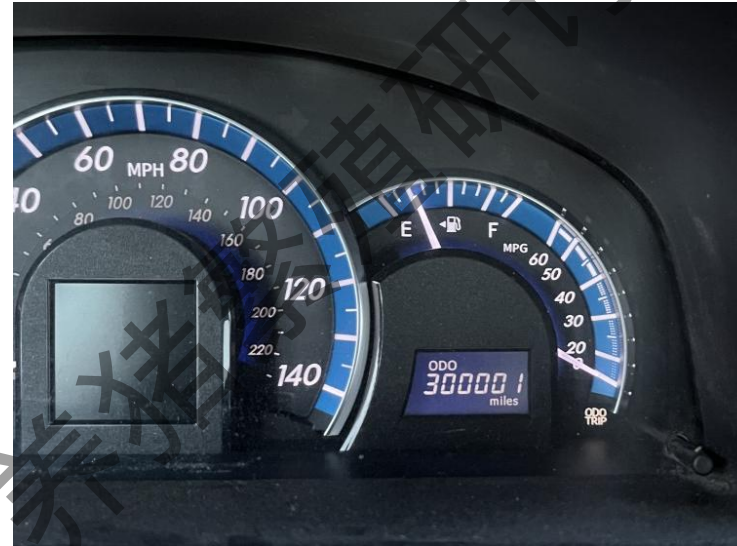


# SOW DURABILITY VS LONGEVITY?

## 母猪耐久性和长寿?



- Performing a function over time without appreciable loss of performance
- 随着时间的推移执行功能，而不会造成明显的性能损失

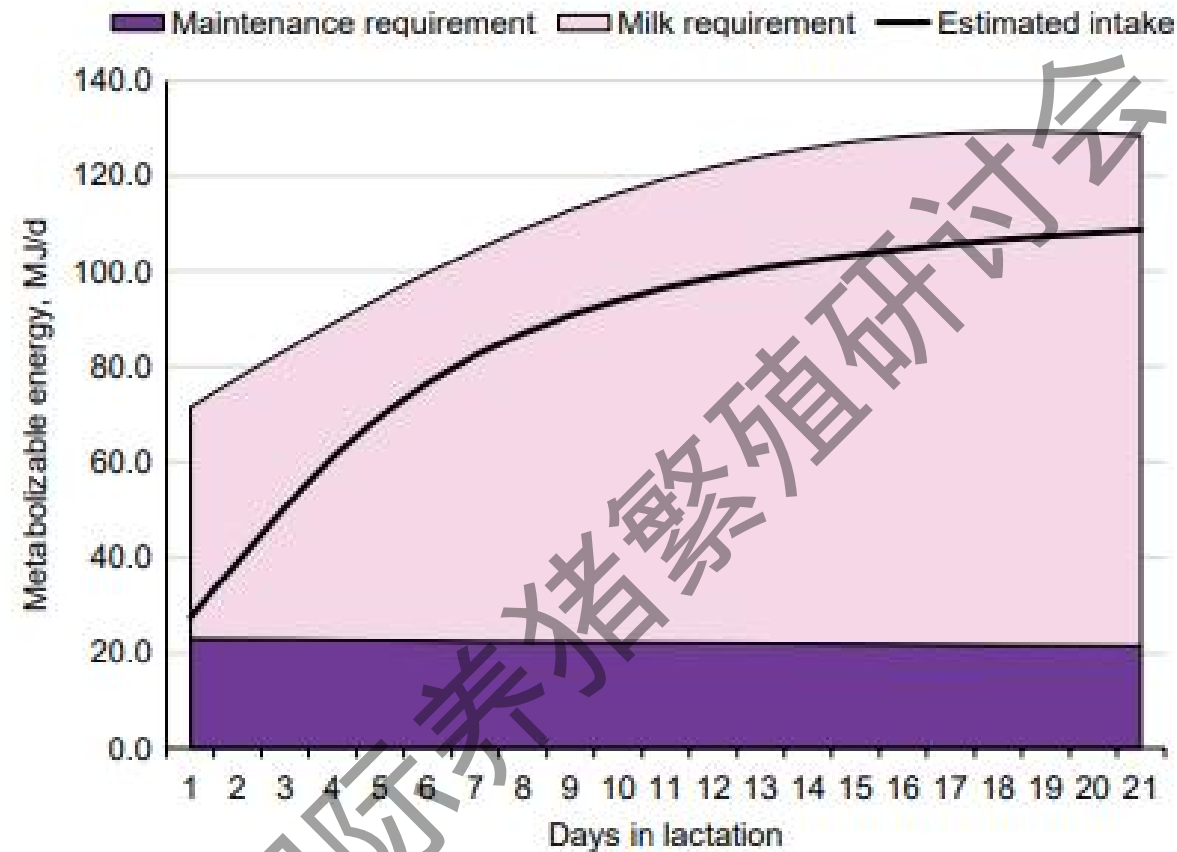


- 2013 Camry
- Farrowing X times with standards for numbers of pigs born alive and weaned
- 根据活产和断奶猪的数量标准，分娩X次



# ENERGY NEEDS OF PROLIFIC SOWS

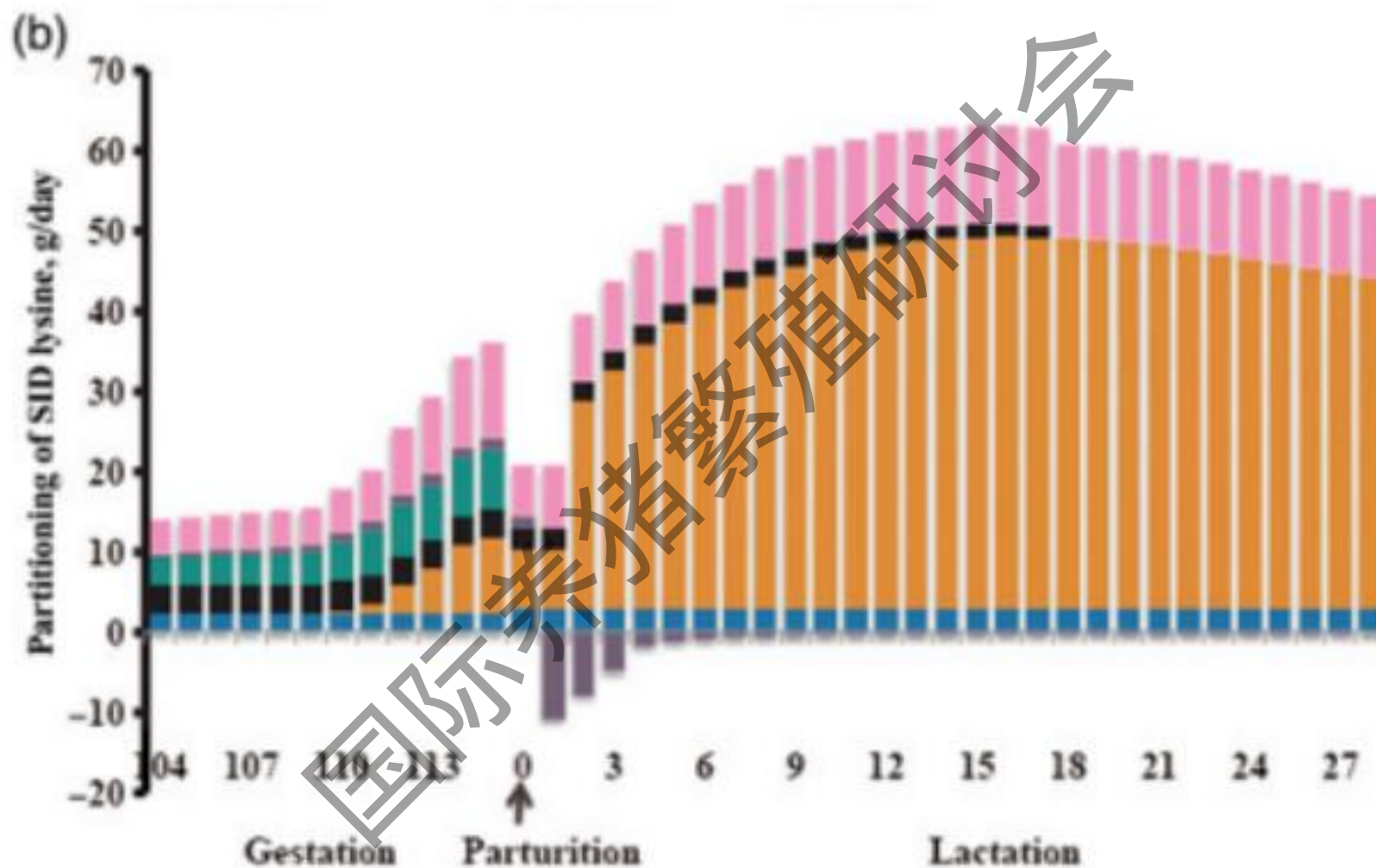
## 高产母猪的能量需求



**Figure 4** Energy requirement estimates for maintenance and milk production and estimated energy intake of lactating sows. Estimates were derived from the NRC (2012) assuming 14 piglets per litter and 6.4 kg piglet weaning weight in a 21-day lactation for multiparous sows.



# LYSINE NEEDS OF SOWS 母猪赖氨酸需求



# AMINO ACID RECOMMENDATIONS FOR LEAN, PROLIFIC SOWS 瘦肉型高产母猪的氨基酸推荐

Stage 阶段	Lysine 赖氨酸	Methionine 蛋氨酸	Threonine 苏氨酸
Breeding 繁殖	12 g/d	4.3 g/d	7.5 g/d
Early-Mid Gestation 早中孕期	12 g/d	4.3 g/d	7.5 g/d
Late Gestation 妊娠晚期	20 g/d	7.2 g/d	12.5 g/d
Lactation 哺乳期	65 g/d	23.4 g/d	40 g/d

# FEED AND MANAGE BODY CONDITION THROUGHOUT THE LIFE OF THE SOW - LACTATION

## 母猪一生的喂养和体况管理-哺乳



- Essential fatty acids  
必需脂肪酸

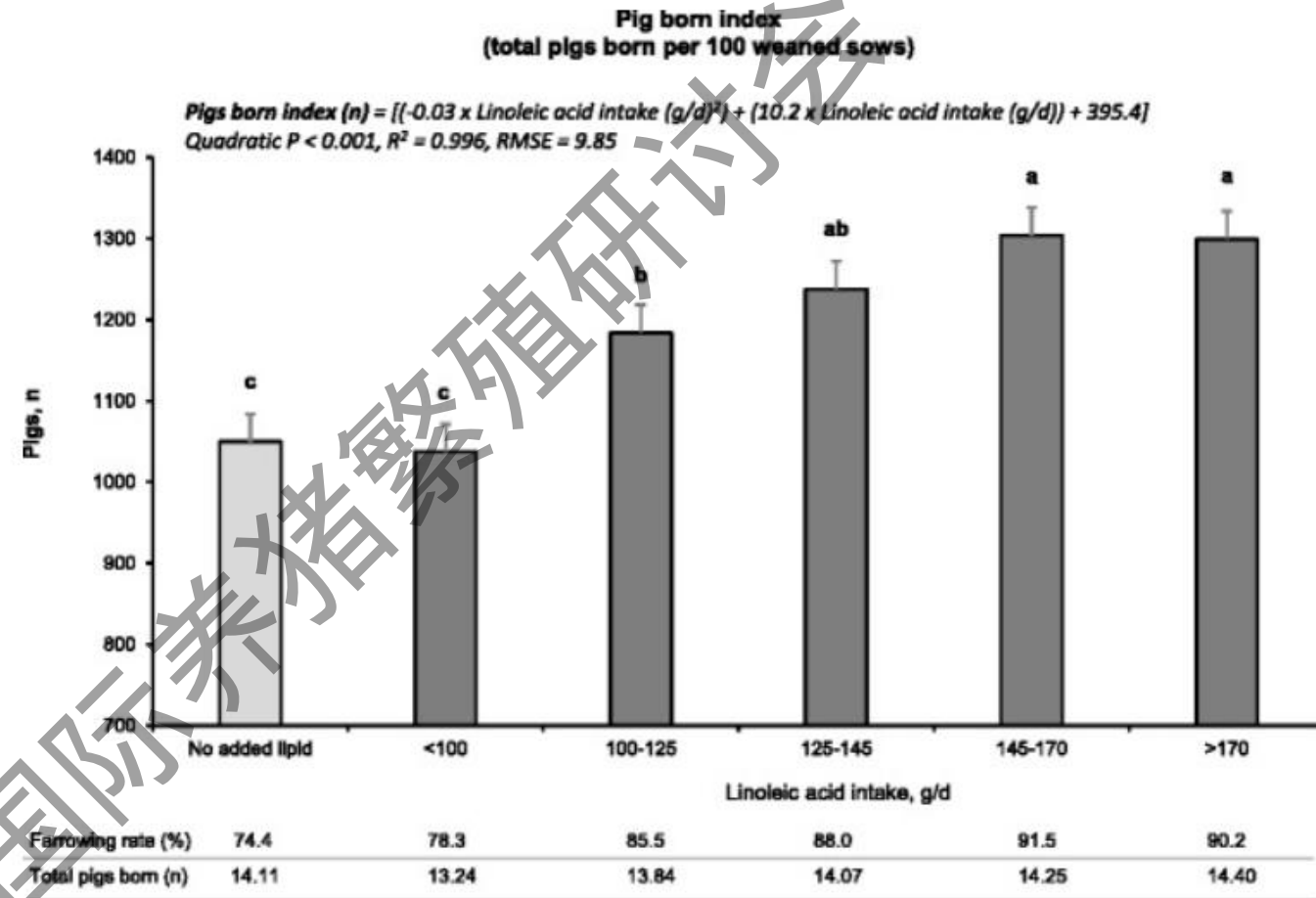
- Necessary for reproduction
  - 繁殖所必需的

- Negative balance

- 负平衡

- Supplementation is needed for best reproductive performance

- 需要补充才能获得最佳繁殖性能



(Rosero et al., 2018)



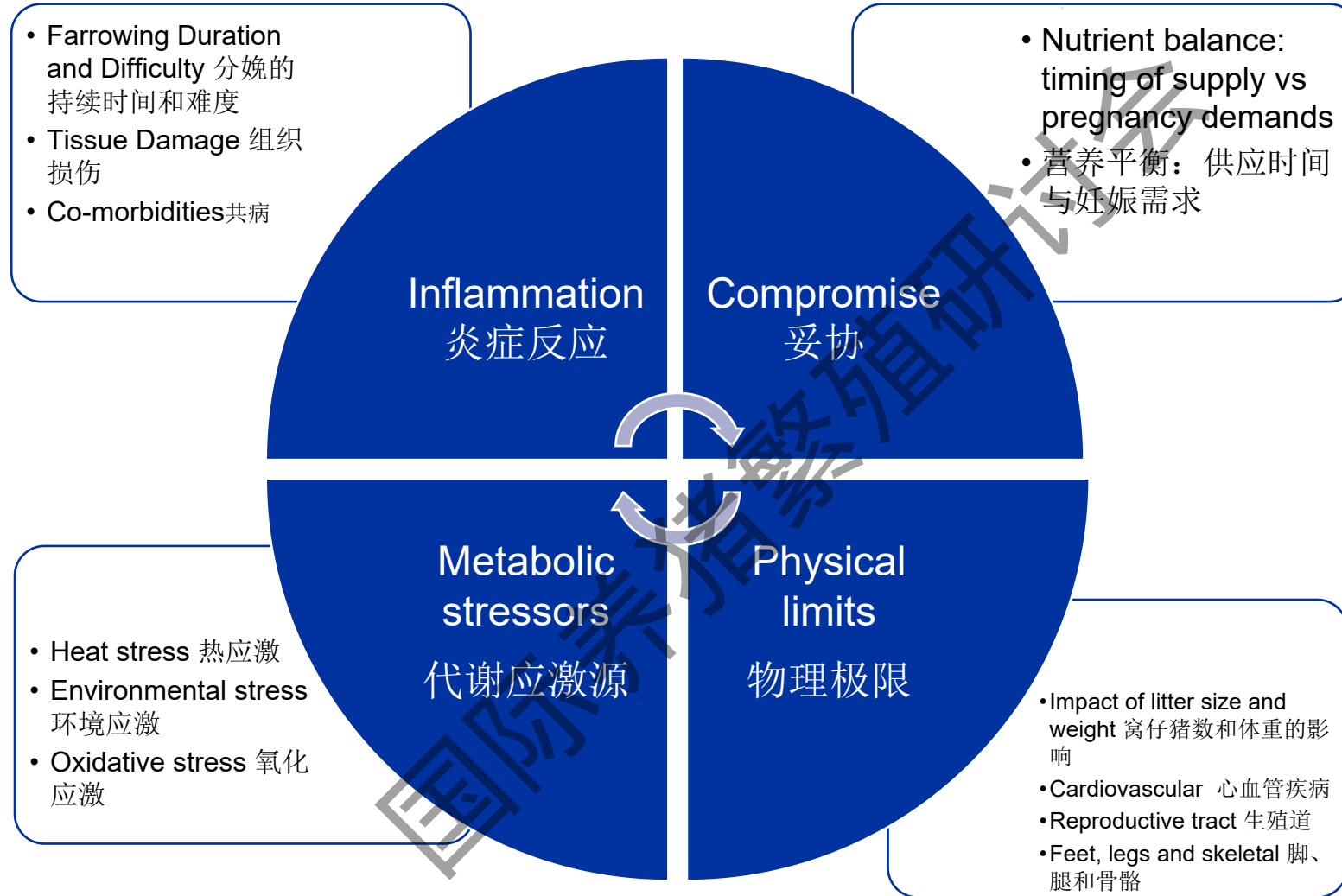
# IS GESTATION GAIN AND LITTER SIZE INCREASING THE RISK FOR SOW MORTALITY?

妊娠体重增加和产仔数是否会增加母猪死亡的风险？

- Gestation weight gain accelerates close to farrowing 妊娠期体重增加加速接近分娩
  - 900-1,000 g BW per day in last 45 days of pregnancy (Unpublished) 妊娠最后45天内每天900-1000克体重（未发表）
  - 2.0 to 2.3 kg of feed per day 每天2.0至2.3公斤饲料
  - G:F >0.5 (F:G of 2.2-2.3:1)
- Assessments of system functions 系统功能评估
  - Cardiovascular, gastrointestinal, reproductive, and others 心血管、胃肠道、生殖和其他
- Skeletal and locomotion 骨骼和运动
  - Muscle strength, coordination 肌肉力量，协调
  - Joint strength 关节强度
  - Hoof integrity 肢蹄完整性
- Implications for nutritional status, farrowing duration, difficulty, and heat stress 对营养状况、分娩持续时间、困难和热应激的影响

# MORTALITY RISK PROFILES 死亡率风险简介

## AREAS OF FOCUS 重点领域



# FEED AND MANAGE BODY CONDITION THROUGHOUT THE LIFE OF THE SOW - LACTATION

## 母猪一生的喂养和体况管理-哺乳



- Eliminate times of negative essential nutrient balances – particularly amino acids 消除必需营养素（尤其是氨基酸）负平衡的时间
- Manage to minimize body weight loss and catabolism
- 尽量减少体重减轻和分解代谢
- The nutrient needs of the sow must be met to have a healthy and durable sow
- 必须满足母猪的营养需求，才能拥有一头健康耐用的母猪

### Conclusion 总结

- Planning and precision feeding is needed to keep up with the newer version of the sow – the nutrient demands are elevated
- 需要计划和精确的喂养来跟上新版本的母猪——营养需求增加

(Rosero et al., 2018)





AgriX Technology  
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**“ANSWERS” MAY NEED  
SOME MORE HARD  
WORK**

“答案”可能需要更多的努力

**EVERY STEP IS  
PROGRESS**

每一步都是进步



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