



# Aspire



## 美国生猪生产商如何在低利润市场生存 How American pig producers survive in low profit markets

约瑟夫·F·康纳  
Joseph F. Connor

The Belt and Road International Pig Industry Conference “一带一路” 国际生猪产业大会

本愿 > 逐本而行 达其所愿

苏州本愿农业技术服务有限公司  
SUZHOU ASPIRE AGRITECH CONSULTING CO., LTD

# Agenda 提纲

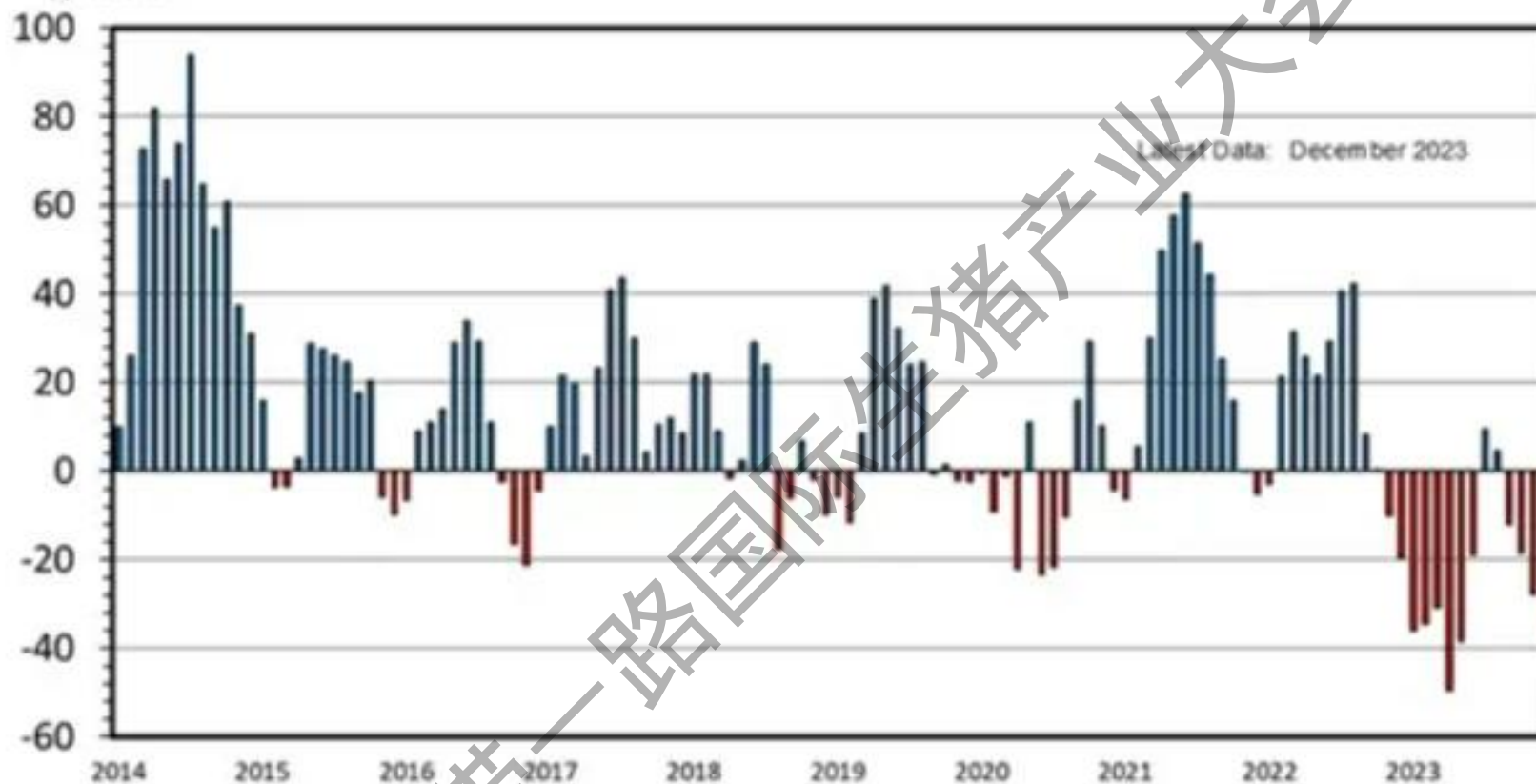


- History 历史
- Key Drivers 主要驱动因素
- Actions 行动
- Summary 总结

## IOWA MARKET HOG PROFIT Farrow/Finish, Monthly

爱荷华上市猪的利润  
分娩到育肥，月度

美元/头 \$/Head



Data Source: Iowa State University  
Livestock Marketing Information Center

Average Loss - \$27  
per head  
平均损失-每头27美元  
19 Months 19个月

本愿 > 逐本而行 达其所愿

# Farrow to Finish Operation Revenue and Costs

## 分娩到育肥的运营收入和成本



Average Cost/cwt carcass  
平均成本/每英担胴体重

Average Profits/Hd  
平均利润/头

|        |         |          |
|--------|---------|----------|
| →      |         |          |
| → 2020 | \$63.68 | -        |
| → 2021 | \$80.65 | \$21.49  |
| → 2022 | \$95.21 | \$4.48   |
| → 2023 | \$97.31 | \$-27.71 |
| → 2024 | \$86.13 | \$20.24  |

# Evaluate Every Input Cost

## 评估每一项投入成本

- Production 生产
- Financial 金融
- Stay current  
与时俱进

You cannot change what  
you cannot measure  
你无法改变你无法衡量的



# Top 10 Costs Breed-to-Wean

## 配种到断奶的十大成本

- |                       |        |
|-----------------------|--------|
| • Gestation feed      | 妊娠料    |
| • Labor               | 人力     |
| • Lactation feed      | 哺乳料    |
| • Depreciation        | 折旧     |
| • Facilities & Equip  | 设施设备   |
| • Gilt Purchases      | 购买后备母猪 |
| • Gilt Developer Feed | 后备母猪料  |
| • Semen Purchases     | 购买精液   |
| • Pharmaceuticals     | 药品     |
| • Repairs/Maintenance | 维修/维护  |
| • Interest            | 利息     |

# Top 10 Costs Breed-to-Wean 配种到断奶的十大成本



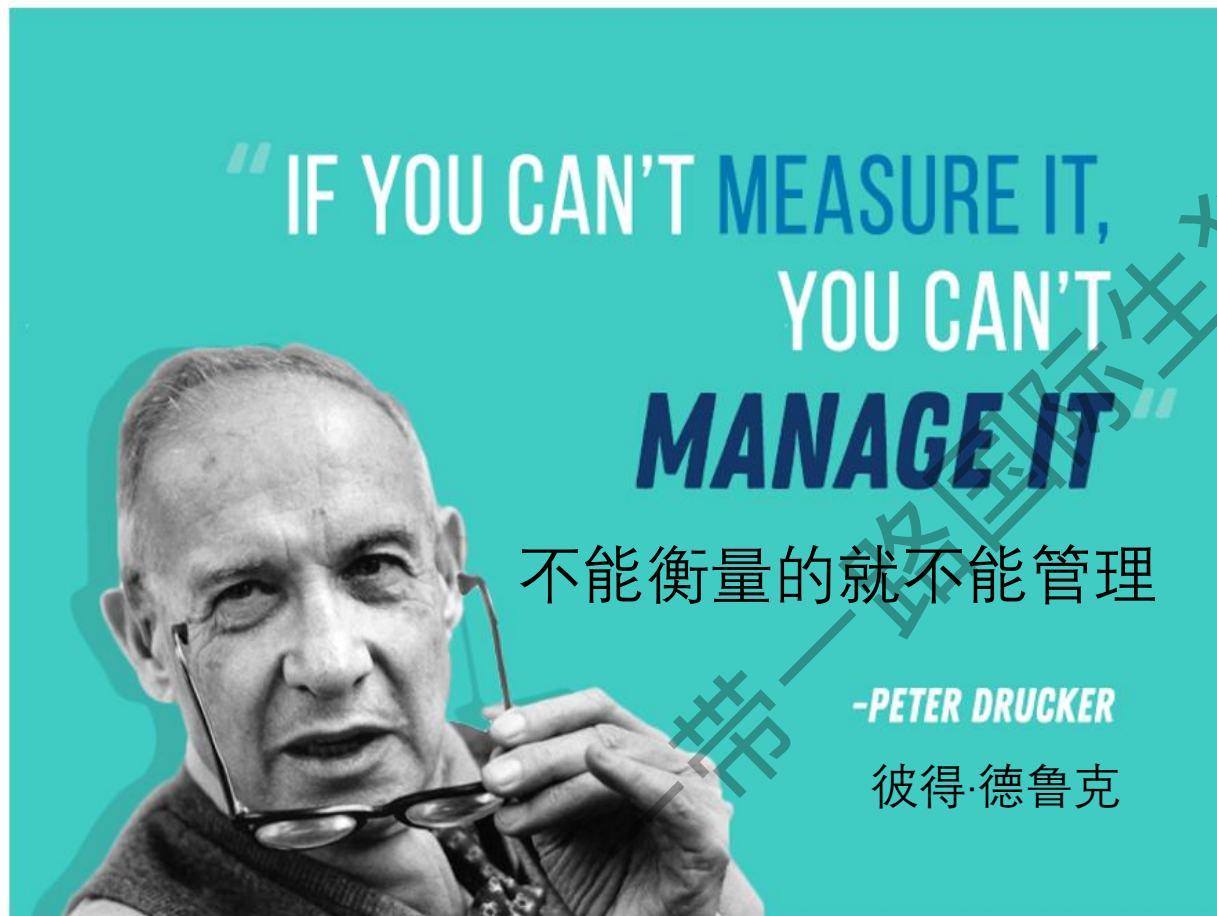
- Feed 饲料
- Wean pig 断奶猪
- Facility 设施
- Labor 人力
- Mortality 死亡率

# Cost Acceleration 成本加速



- Facilities 设施
- Labor 人力
- Interest 利息
- Insurance 保险
- Electricity 电
- Supplies 物资
- Equipment 设备

# Optimizing Costs 成本最优化



- Measure it 测量它
  - ↓
- Manage it 管理它
  - ↓
- Improve it 提高它

# Balanced System 平衡的系统



本愿 > 逐本而行 达其所愿

# Balanced System 平衡的系统



- Correct sow inventory 正确母猪存栏
- Optimum lactation length/wean age 最佳哺乳期长度/断奶日龄
  - Adequate weaning weight(6 kgs) 断奶体重要足够高 (6公斤)
- Wean to finish throughput 断奶到育肥产量
  - 105-107% of capacity 产能的105-107%
- Optimum space per pig 每头最佳占地面积
- Target harvest weight(Kgs) 目标上市体重 (公斤)

# Review your entire system 回顾整个系统

1. Weaning weight 断奶重
2. Health 健康
3. Vaccinations 免疫
4. Feed ingredients 饲料原料
5. Finishing square feet/pig  
每头育肥猪占地多少立方英尺
6. Building design 圈舍设计
7. Ventilation 通风
8. Feeder design 料槽设计
9. Water availability 水的可用性
10. SOP implementation SOP的实施

本愿 > 逐本而行 达其所愿



# Health 健康

- Health drives Average Daily Feed Intake  
健康水平决定平均日采食量
- Average Daily Feed Intake drives gain  
平均日采食量决定增重
  - High Health = High ADG  
健康水平高=日增重高
- Poor Health = Increased mortality 健康水平低=死亡率增高
  - Increased mortality = less pounds out the door  
死亡率上升=上市总重减少
- Less pounds = Reduced ADG and lost Revenue  
上市总重减少=平均日增重下降, 收入减少



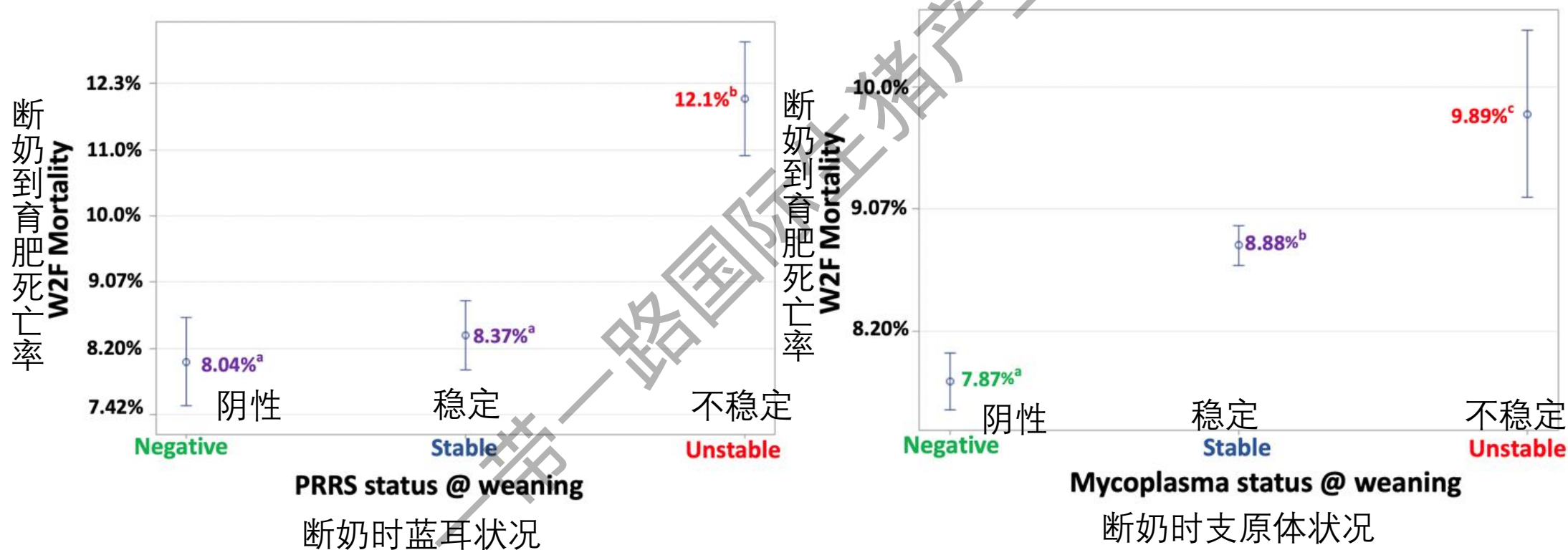
# 一些猪病的经济影响

## Economic impact of (some) swine diseases

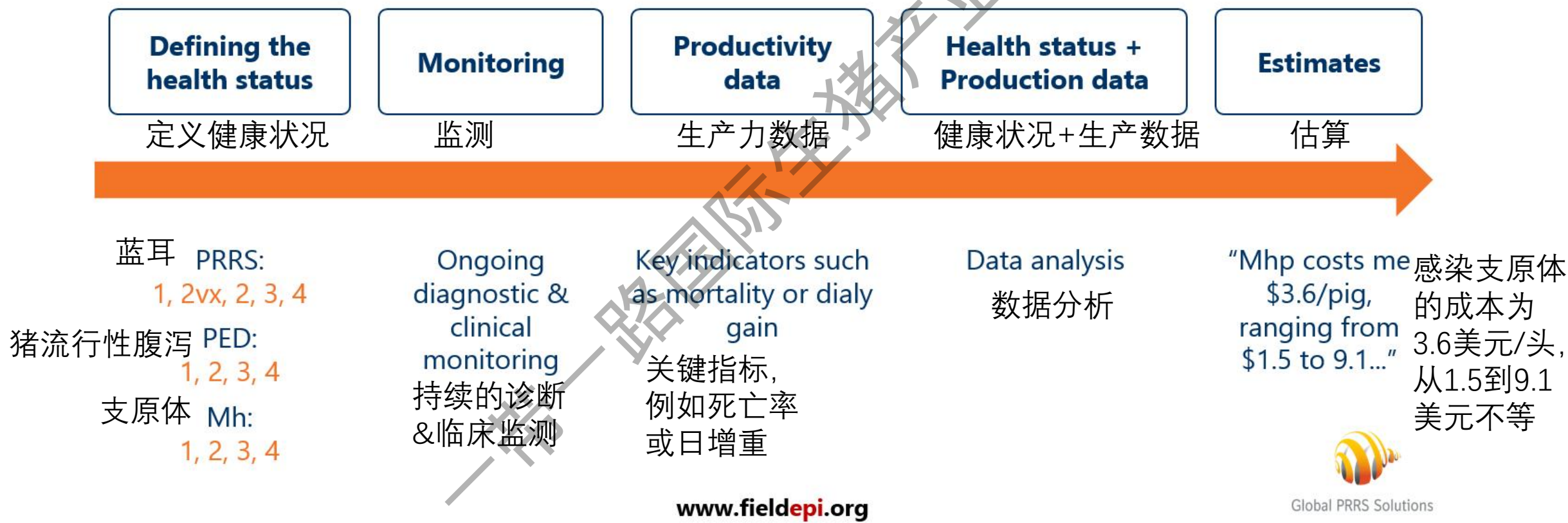
| Pathogen 病原             | Cost 成本                    | Reference 参考                        |
|-------------------------|----------------------------|-------------------------------------|
| PRRS virus              | US \$ 4.67 / pig           | Holtkamp <i>et al.</i> JSHAP 2013   |
| 蓝耳病毒                    | US \$ 13.68 / pig          | Neumman <i>et al.</i> JAVMA 2005    |
|                         | US \$ 74.16 / sow (litter) | Neumman <i>et al.</i> JAVMA 2005    |
|                         | US \$ 5.57 / pig           | Haden <i>et al.</i> AASV 2012       |
| Influenza A virus       | US \$ 10.31 / pig          | Donovan. AASV 2008                  |
| 猪流感病毒A型                 | US \$ 3.23 / pig           | Haden <i>et al.</i> AASV 2012       |
| <i>M. hyopneumoniae</i> | US \$ 0.63 / pig           | Haden <i>et al.</i> AASV 2012       |
| 猪肺炎支原体                  | US \$ 2.85 / pig           | Schwartz. Leman 2013                |
| 蓝耳+支原体                  | US \$ 4.08 / pig           | Thacker <i>et al.</i> 2006          |
| PRRSV + Mh              | US \$ 9.69 / pig           | Haden <i>et al.</i> AASV 2012       |
| PRRSV + Influenza       | US \$ 10.41 / pig          | Haden <i>et al.</i> AASV 2012       |
| 蓝耳+猪流感                  | US \$ 10.12 / pig          | Haden <i>et al.</i> AASV 2012       |
| Influenza + Mh          |                            |                                     |
| 猪流感+支原体                 | £ 2-7 / pig                | McOrist <i>et al.</i> Vet Rec. 1997 |
| Lawsonia                | € 0.5-1 / pig              | McOrist. Vet J. 2005                |
| 劳森菌                     | € > 100 / sow              | Mauch <i>et al.</i> Vet J. 2004     |
| 猪痢疾                     | US \$ 8.3 / pig            | McKean <i>et al.</i> 2012           |
| Swine Dysentery         |                            |                                     |

# Health Status at Weaning Matters

## 断奶时的健康状况很重要



# Assessing the Production and Economic Impact of Disease 评估疾病对生产和经济的影响



# Optimizing Health 健康最优化



- It starts with a healthy pig coming into the barn  
开始时，一头健康猪进入舍内
  - PRRS negative sow herd 蓝耳阴性的母猪场
  - SIV/Myco stable/negative sow herd 母猪场的猪流感/支原体稳定/阴性
  - Optimize PCV2 vaccine timing 优化PCV2疫苗接种时间
    - Vaccination should be done before 5 weeks of age 应在5周龄之前免疫
  - Ideal weaning weight 理想的断奶重
    - 6 kgs pounds average 平均断奶重6公斤
  - Ideal weaning age 理想的断奶日龄
    - 23-25 days 23-25日龄

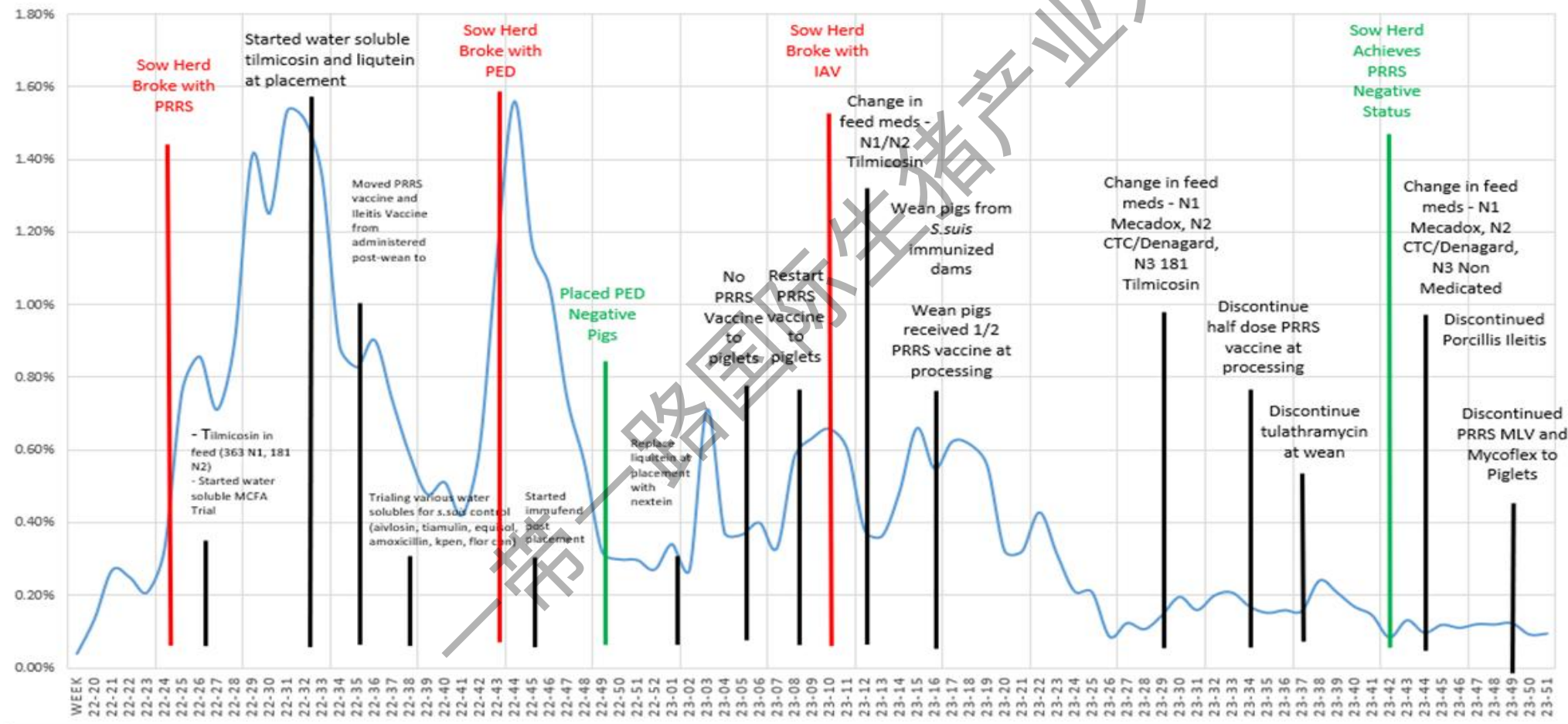
# Health Programs 健康计划

- There are no standard health programs 无标准的健康计划
- Herd health programs are a continual series of calculated efforts individually designed for each farm to maximize production and optimize costs 健康计划是为每个场量身定制的可以计算的一系列努力，从而让生产最大化，成本最优化。



# Herd 2 Weekly In Process 22-20 to 23-51

## 从2022年第20周到2023年第51周，2场的每周成绩



本愿 > 逐本而行 达其所愿

# Health 健康



- Stabilize the health of the source sow farms

稳定源头母猪场的健康状况

- Pigs can be kept healthy after weaning if production systems and pig flows are designed and implemented correctly  
如果生产系统和猪流设计合理，实施正确，仔猪断奶后就会保持健康
- Biosecurity is critical to keeping breeding and growing pig herds healthy 要保持种猪群和生长猪群健康，生物安全是关键
  - Everything pales in comparison to pig-to-pig transmission and spread of diseases via live-haul  
与猪与猪之间通过活体运输传播疾病相比，一切都相形见绌
- The best health programs have no value unless they are carried out  
最好的生物安全计划如果不执行，就没有价值
  - Build in implementation steps that ensure health products are administered and administered correctly  
列出实施步骤，确保使用并正确使用动物保健品

# Production Systems 生产系统



- All-in–All-out 全进全出
  - Works well with single-sources pigs by site, barn, and room in that order of effectiveness  
按照场、栋、单元做到单一来源猪只的有效的全进全出
- “Old-style” continuous flow perform well if they are placed healthy and stay healthy  
老式的连续式猪流管理如果能设置好，保持健康，那就可以运行良好
  - Pigs of multiple weekly age groups are reared in the same space  
多种日龄的猪只群体在同一空间内饲养

# Production Systems 生产系统



- Straight-line distribution 直线分布
  - Replacement gilts from daughter nucleus and gilt multiplier farms  
后备母猪来源于核心母猪场和后备扩繁场
  - Market pigs from sow farms through nurseries and finishers  
上市猪来源于母猪场，经过保育和育肥阶段
  - Reduces the occurrence of health problems  
减少健康问题的发生
  - Must compensate for the reduced facility utilization  
设施利用减少，必须补偿

# Optimize Feed Costs 优化饲料成本



- Common occurrences in large swine operations are 大猪场常见的情况是
  - Not following feed budgets 不遵守饲料预算
  - Delivering the wrong feed to the wrong bin 把错误的料打进错误的料塔
  - Over-feeding sows during gestation 妊娠期过度饲喂
    - Unanticipated increases in feed ingredient costs, especially grains and protein sources 意料之外的饲料原料成本增加，尤其是谷物和蛋白原料
    - Poor production by the breeding herd inflates feed cost per weaned pig 种猪群生产成绩差，每头断奶仔猪的饲料成本就会增高

# Optimize Feed Costs

## 优化饲料成本



- Particle size 颗粒大小
  - Target 500-550microns 目标是500-550微米
- Feed conversion ratio will decrease by 1.2% for every 100 microns over 600  
直径600微米以上，每增加100微米，饲料效率将会降低1.2%
- FOLLOW FEED BUDGETS! 按照饲料预算行事!
  - Avoid overfeeding diets, especially the earlier phases  
避免过度饲喂，尤其是早期阶段
  - Can cost up to \$0.65 per pig 成本可高达0.65美元/头
  - If mortality is over target/disease outbreak, recalculate budgets and adjust amount delivered for subsequent phases 如果死亡率超过目标/疾病暴发，重新做预算，调整后续阶段的饲喂量

# Optimize Feed Usage

## 优化饲料使用



- Continue to evaluate ingredient costs 持续评估原料成本
  - Fat price 脂肪价格
    - For each 1% added fat, improve FCR by up to 1.5%  
每1%添加的脂肪改善能让饲料效率改善高达1.5%
    - Fat to Corn breakeven is about 4:1. 脂肪：玉米的收支平衡点约为4:1
      - If corn is \$0.07/pound, you can afford to pay up to \$0.28/pound for fat  
如果玉米价格为0.07美元/磅，你可以给脂肪最高花费为0.28美元/磅
  - High Soybean meal price 豆粕价格高
    - Add more synthetic lysine to diets, potential cost savings of up to \$6/ton 日粮中添加更多合成赖氨酸，潜在饲料成本可节约多达6美元/吨

# Cost Mitigation 降低成本



- Health products 保健品
  - Water medications of nursery and finishing pigs are typically overused and not well monitored for efficacy 经常为保育和育肥猪过度使用饮水加药，并且不能很好地监督效果
  - “Big gun” drugs and extra-label drugs are often used 经常使用强效的药物和标签外药品
- Repair and maintenance 维修和维护
  - Preventative maintenance is not done and farms are allowed to become run-down 没有进行预防性维护，农场被允许关闭
  - Farm workers are not trained to do routine maintenance 没有培训猪场员工做常规维护工作
    - Outside contractors are required to be brought in 需要引进外来签约的维修工
  - Initial construction is shoddily done or equipment is poorly manufactured requiring augmented maintenance 建筑原始质量差，设备出厂质量差，需要后续加强维修
  - Maintenance crews become bureaucratic and spend their time riding around in trucks rather than servicing herds 维修工人官僚主义，开着车瞎晃悠，而并非服务于猪场

# Costs Management 成本管理



- Live haul 活猪运输
  - Trucks not efficiently routed or filled to capacity  
卡车没有有效规划路线，或按照容量运输
  - Trucks sit idle at wash bays waiting in line for their turn to be cleaned  
卡车在洗车车间闲置，排队等候被清洗
  - Weight of pigs shipped is under budget  
运输的猪只体重低于预算
- Supplies 物料
  - Farm inventories are not centrally tracked with upper and lower inventory limits being set  
没有使用设置的上下限集中追踪猪场库存

# Cost Management 成本管理



- The key to management of these costs areas is budgeting  
管理这些成本的关键是做好预算
  - Set up an information system that allows you to track costs  
设置一个能追踪成本的信息系统
  - Establish a budget 做好预算
  - Use the budget for driving costs out of the system 使用预算，消除成本
  - Establish procedures for capturing costs accurately and in a timely fashion 设立及时准确计算成本的步骤
  - Set up farrowing and nursery farms as cost centers with pigs being transferred at cost of production to the finishing phase, which becomes the profit center  
把母猪场和保育场作为成本中心看待，仔猪作为生产成本被转移到下游阶段，下游阶段就成为利润中心

# Cost Management 成本管理



- Using the budget to drive out costs  
使用预算消除成本
  - Teach people how to chase down expenditures when an expense account is above budget  
教人们如何在支出账户超出预算时减少支出
    - When breeding stock feed cost is too high, what is wrong?  
种猪场饲料成本过高时，哪里有问题？
      - Are ingredient costs too high, weaned pig volume too low, or breeding animal inventory above budget?  
饲料原料价格过高，断奶仔猪量过少，或种猪存栏超出预算？
  - Identify who is responsible for controlling the cost risk factors associated with each overage and hold them accountable  
找出和每种超出预算相关的控制成本风险因素的负责人，让他们担起责任

# Production Phases Mismatch

## 生产阶段不匹配



- Inconsistent sizes of groups of pigs flowing from one phase of production to another  
从一个生产阶段到另一个阶段，猪群的体型不一致
  - Variable groups sizes weaned 断奶猪体型不一
  - A subset of pigs is pulled forward early to fill a subsequent phase of production  
一批猪提前转移到下一阶段，弥补下一阶段的生产需求
  - High rates of removal of pigs from a group  
一个群体淘汰比例高
    - Mortality 死亡

# Production Phases Mismatch

## 生产阶段不匹配



- Variable growth rates of pigs, resulting in pig flow backing up in the system  
猪只生长速度不一致，导致系统中猪流有备份
- Improperly sized facilities 设施大小不对
  - Number of pig spaces does not match pig availability  
猪只数量和空间不匹配
- Improper number of barns 栋舍数量不对
  - Duration of stay in facilities does not match availability of barns  
入住设施的时间与猪舍的可用性不匹配

# Summary 总结

## Keys to Optimizing Performance

### 生产成绩最优化的关键



1. Budget 预算
2. health 健康
  - < 3% mortality 死亡率
  - < 2% culls 淘汰率
3. Develop caregivers 培养饲养员
4. Management flow and space 管理猪流和空间
5. Ensure adequate feeder space 确保料槽空间足够
6. Routine diagnostic testing and health program adjustment 常规诊断测试和健康计划调整

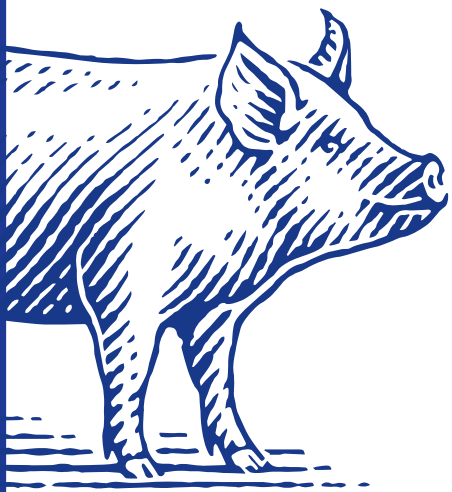
# Summary 总结

## Keys to Optimizing Performance

### 成产成绩最优化的关键



7. Manage particle size (Target 600 to 700) 管理饲料颗粒大小 (目标直径: 600-700微米)
8. Ensure adequate water quality and intake 确保充足的合格饮水和摄入量
9. Routine diagnostic testing and health program adjustment 常规诊断测试和健康计划调整
10. Measure, Measure, Measure 测量, 测量, 测量



## 本愿养猪咨询

逐本而行 达其所愿

感谢您的关注！  
Thanks for your attention!