

Implement multiple measures to ensure
the successful entry of gilts into the herd

多措并举确保后备母猪成功入群

张明辉

PIC中国母猪场服务经理

Science-driven solutions®



Outline 主要内容

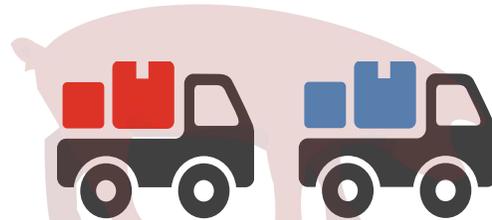
1. Risk control of gilts transportation 种猪运输风险控制
2. Isolation and acclimation 种猪隔离和驯化
3. Feeding and estrus management 饲养管理和情期管理
4. Gilts eligibility for mating 后备母猪配种要求

1、What should be considered before introducing gilts? 引种前要考虑哪些工作?



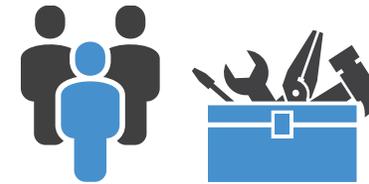
Healthy supply 种源及健康

- 运输前检测评估
- Pre-transportation inspection and evaluation
- 种猪到场后检测评估
- Inspection and evaluation of breeding pigs upon arrival
- 种猪周龄分布 (批次化生产)
- Age distribution of breeding pigs (batch production)
- 考虑是否引诱情公猪
- Consider whether to lure the male boar



Vehicle 运输车辆

- 车辆来源评估
- Vehicle source assessment
- 车辆洗消管控
- Vehicle decontamination control
- 运输途中管理
- Management during transportation
- 装猪密度 (季节和路程)
- Pig loading density (season and journey)



Unloading 卸猪操作

- 卸猪前准备工作
- Preparations before unloading pigs
- 隔离舍和升降台洗消
- Isolation shed and lifting platform disinfection
- 卸猪流程培训演练
- Training and drilling on pig unloading process

Management of vehicle and driver 运输车辆和司机的管理

Sealed positive pressure air filtration vehicle 密闭式正压空气过滤运输车



种猪运输状态更新
车牌号：第一车辽AEC117
司机姓名：安现兵
装猪农场：重庆
装猪数量：116头
卸猪地址：新疆
路况照片：有
温度、监控照片：有
猪只状态描述：正常
目前位置：昌吉
预计下高速时间：10号晚上9
点下高速。

- 每4个小时更换司机，并在微信群里更新消息。
- The driver is changed every 4 hours, and updates are posted in the WeChat group.
- 高德地图群实时显示种猪车位置。
- The Amap group can display the real-time location of the hog transportation vehicles.

每次洗车，空气过滤间也要清洁消毒

Every time the car is washed, the air filtration room should also be cleaned and disinfected

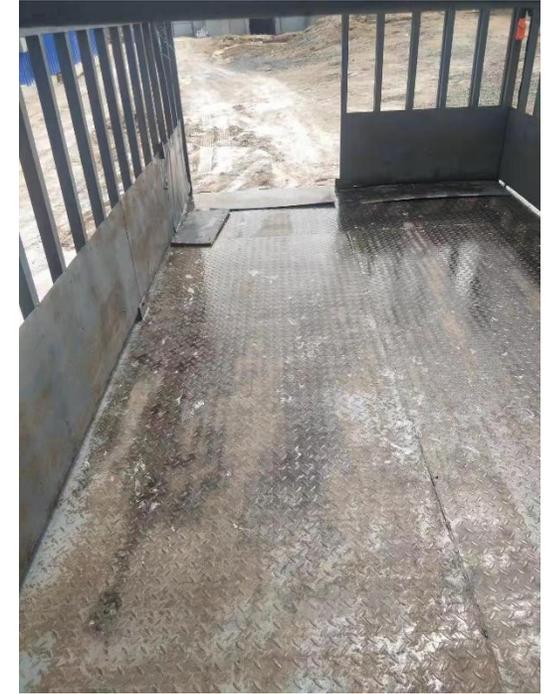
Clean and disinfection of isolation barn and loading shute 隔离舍和升降台的洗消



Clean isolation barn
隔离舍提前做好洗消



Disinfect the road[®]
对接卸猪区域的道路消毒



Disinfect the shute
升降台洗消

Disinfect the tire before unloading 卸猪操作-到场车辆处理

Only disinfect the area below the red line (**don't use high pressure washer**)
对红线以下区域消毒 (**不推荐使用高压清洗机**)



- Optional: collect the sample of external surface of truck.
- 可选择：在消毒前对车辆外表面进行采样。
- Wiping disinfection for vehicle body and roof or just ignore it.
- 车身和车顶可以不用处理，或者擦拭消毒。

Disinfect the liftgate before unloading

卸猪操作-到场车辆处理

Use a cloth or mop soaked in disinfectant to clean the liftgate
使用浸泡过消毒液的抹布或拖把对尾板、立柱进行擦拭



The driver don't get off the truck until drive away 卸猪操作-种猪车司机的管控



- The driver can not get off truck.
- 卸猪过程，司机不下车。
- Only the remote controller and necessary documents could be out of truck.
- 只有尾板控制器和手续清单经车窗传递出来。
- Prepare some big resealable bags.
- 提前备好稍大的自封袋，用于物品传递。
- Emergency? 特殊情况?

Unloading 卸猪操作

1. Experienced staff assist truck docking. 卸猪台地面最好配备一位有经验的人员协助指挥车辆进行倒车对接。
2. This staff open the liftgate by remote controlling. 倒车位置合适后，地面人员协助操控尾板升降，与平台保持水平，完成对接。
3. People from isolation barn and step on the liftgate. 卸猪人员（猪舍生产人员）经赶猪通道上尾板，打开围挡和栏片。
4. Do not open the roof and do not touch any external surface of the truck. 卸猪过程中不要打开顶板，不要触碰立柱及任何车辆外侧表面。



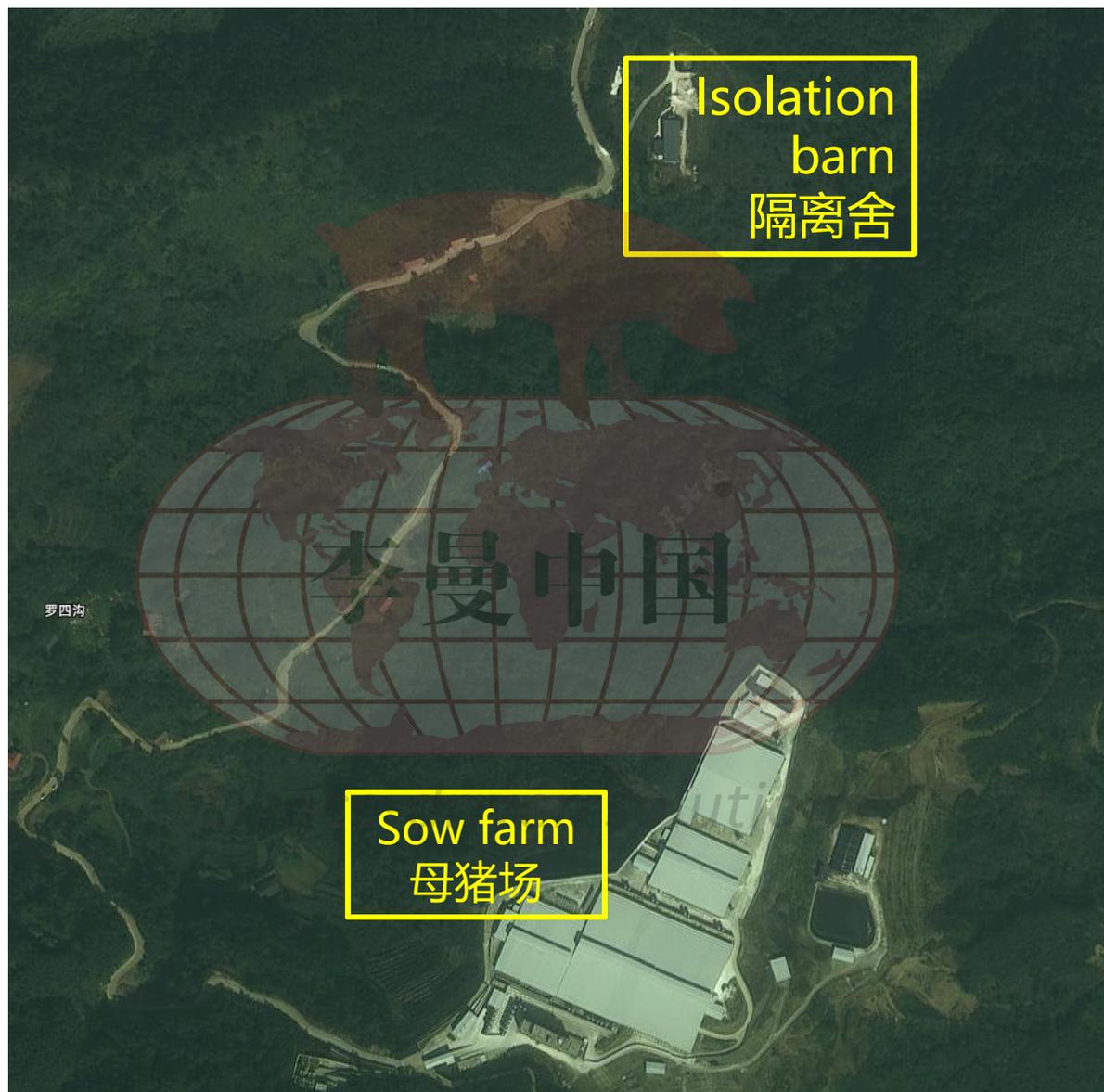
Unloading 卸猪操作



- Tools are from the isolation barn. 挡猪板、赶猪工具来自栋舍。
- Be careful and prevent pigs from dropping on ground. 尾板对接一定要检查空隙，避免猪只掉落，万一发生猪只掉落，实施安乐死。
- Collect the sample of carriage after unloading. 卸猪完成后，对车厢内进行采样，采样覆盖每层地板、栏杆、水嘴及尾板。

Carriage, passageway and barn are the same level of biosecurity layer
车厢内、赶猪通道、栋舍是同一生物安全级别

2、Isolation and acclimation 种猪隔离和驯化



Isolation and acclimation 种猪隔离和驯化

What's an eligible isolation barn? 隔离舍需要哪些条件?

- Individual and good facilities for quarantine and feeding. 独立完整的生物安全设备设施和动物饲养设施
- Have a certain distance with sow farm. 和母猪场有一定的距离 (最好是 $\geq 300\text{m}$)
- Good living condition for staff. 具备人员居住条件, 专门负责后备猪饲养管理
- Individual boots/clothes/tools/medicine for quarantine. 专用的靴子/衣服/工具/药品等
- It's better to have air outlet filtration. 有空气过滤最好 (出风过滤)
- AIAO. 全进全出

种猪隔离的目标:

- Prevent the introduction of new pathogens. 防止新病原体的引入
- Acclimation for new pathogens. 重新适应新的病原体
- Make sure the main herd have a stable health condition. 维持猪场的稳定

Isolation and acclimation 种猪隔离和驯化

- Quarantine 隔离监测

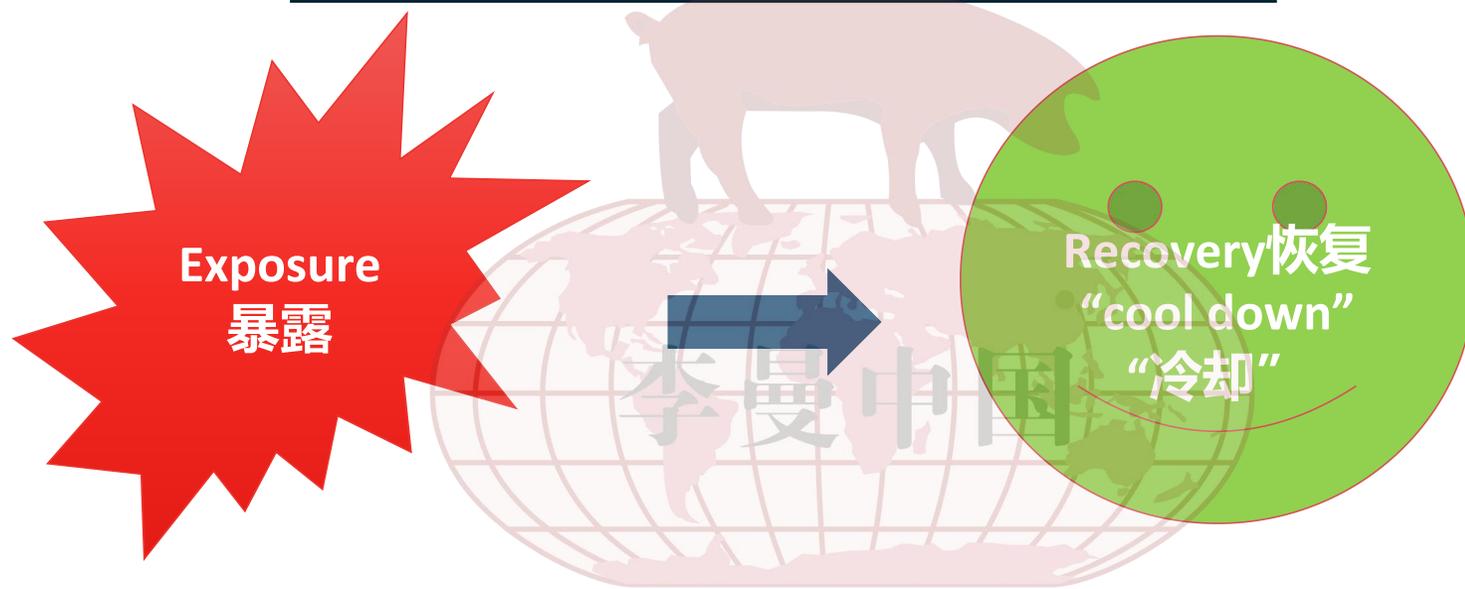
- Collect samples: environment/facilities/oral/throat/serum. 采样检测，一般采样包括环境、设施、口腔液、咽拭子、血样。
- Observe gilts condition everyday and collect samples of abnormal pigs. 每天观察猪群状态，异常猪重点采样。
- Consider releasing quarantine if the test is normal for 21 days after unloading. 一般在到场后21天采样评估没有异常，可以考虑解除隔离。

- Immunization program 制定免疫程序

- Refer to the immunization program of supply farm. 参考种源场免疫记录。
- Considering the antibody test results. 根据到场后的采样抗体评估。
- Immunization program of your farm. 结合本场免疫程序。

Isolation and acclimation 种猪隔离和驯化

Two key points of acclimation
驯化的两个关键点



- The key point is how much time we need for this process
关键是这个过程我们需要多少时间
- Considering the week age of gilts in advance, avoid shedding at breeding
提前考虑种猪周龄分布，避免后备母猪在配种时仍在排毒

How acclimate the gilts for the current pathogens in commercial farms 在带有病原体的商品场中如何实现后备母猪的驯化

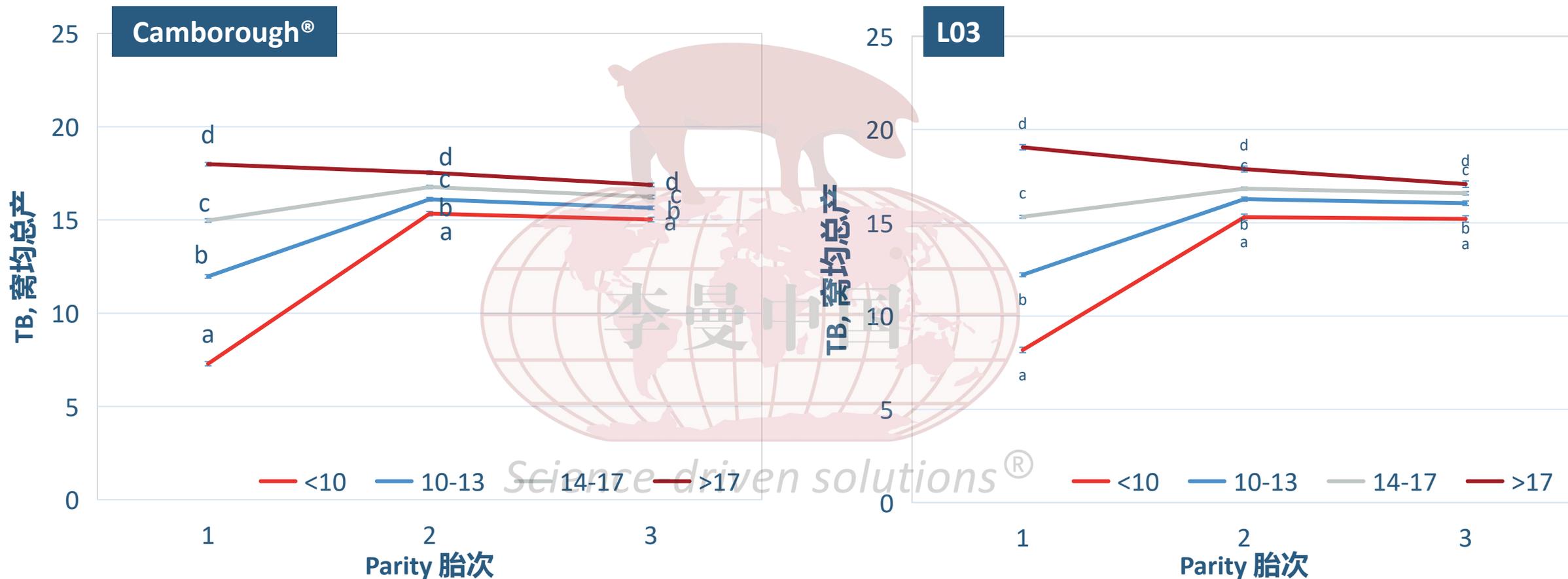
Exposure method 暴露方法	Examples 举例
Feedback 返饲	Parvovirus, PED, TGE, Rotavirus, other diarrheal agents 细小, PED, TGE, 轮状病毒, 其它腹泻病原
Direct inoculation/injection 直接接种或注射	PRRSv 蓝耳病毒
Seeder/Infected pigs 散播/感染猪只	Mycoplasma hyopneumoniae, other Mycoplasmas, Pasteurella 支原体肺炎, 其他支原体, 巴氏杆菌
Vaccination 疫苗	PRRSv, PCV2, IAV, Erysipelas, Parvovirus, App 蓝耳病毒, 猪圆环病毒2型, 猪流感病毒, 猪丹毒, 细小, 传胸

Complex Dynamics 复杂的动态过程

Process 过程		Isolation 隔离	Acclimatization 驯化	
Phase 阶段		Surveillance 监测	Exposure 暴露	Recovery 恢复
Goal 目标		<i>Avoid disease introduction</i> 避免疾病引入	<i>Maximize immunity</i> 最大化免疫力	<i>Minimize shedding</i> 最小化排毒
Factor impact 影响因素	Quarantine 隔离期 (facility/process) (设施/过程)	+++	-	-
	Site location 猪场位置	+++	-	-
	Source health status 来源猪场健康状态	+++	++	+
	On-site vs. off-site GDU 后备舍在猪场 vs. 不在猪场	++	+++	++
	GDU flow (AIAO vs CF) GDU流动 (AIAO vs CF)	++	+++	++
	Frequency of introduction 引种频率	-	+++ [⊕]	+++
	Recipient health status 接收场健康状态	-	++	+++
	Age of introduction 引种年龄	-	++	+++

GDU: gilt development unit 后备舍 AIAO: all in – all out 全进全出
CF: continuous flow 持续的流动

3、 First parity performance predicts future performance 一胎的产仔表现预测未来生产性能



Good gilts tend to be consistently good sows, a big part of SLP is played in P1

好的后备母猪未来也会成为好的经产母猪，1胎的产仔性能决定了母猪终生的生产性能

Recommendation of gilt management

PIC后备母猪饲养管理推荐

管理要点	70日龄-公猪诱情	公猪诱情-配种
室温	21°C	19°C
通风量	最低: 5-14 cfm/ 头 最大: 120 cfm/ 头	最低: 14-15 cfm/ 头 最大: 150 cfm/ 头
湿度	< 65%	
饲养密度	> 0.7m ² /头	> 1.2m ² /头
水源	1个水源/10头, 每栏不少于2个水源; 高度合适或可调节	
水流速	≥1L/分钟	
采食空间	干料槽: 5cm/头; 干湿料槽: 3cm/头	
下料口调节	50-60% 覆盖率	
治疗护理	给跛腿或外伤的猪只提供及时的治疗护理	



Too little 太少



Too much 太多



Good 合适

Diet for gilts before mating PIC后备母猪配种前的日粮选择

- Greater Ca and P levels. 钙磷水平应高于商品猪
- Increased vitamin and trace mineral levels. 维生素和微量矿物质更高
- Addition of vitamins specifically required for reproduction (pyridoxine, folic acid, biotin). 繁殖所需的维生素 (吡哆醇、叶酸、生物素)
- Special diet for gilts no later than 60kg body weight. 最迟在60kg体重开始使用专门的后备母猪日粮
- **Ad libitum feeding. 从出生到初配自由采食**

Estrus management for gilts 后备母猪诱情管理



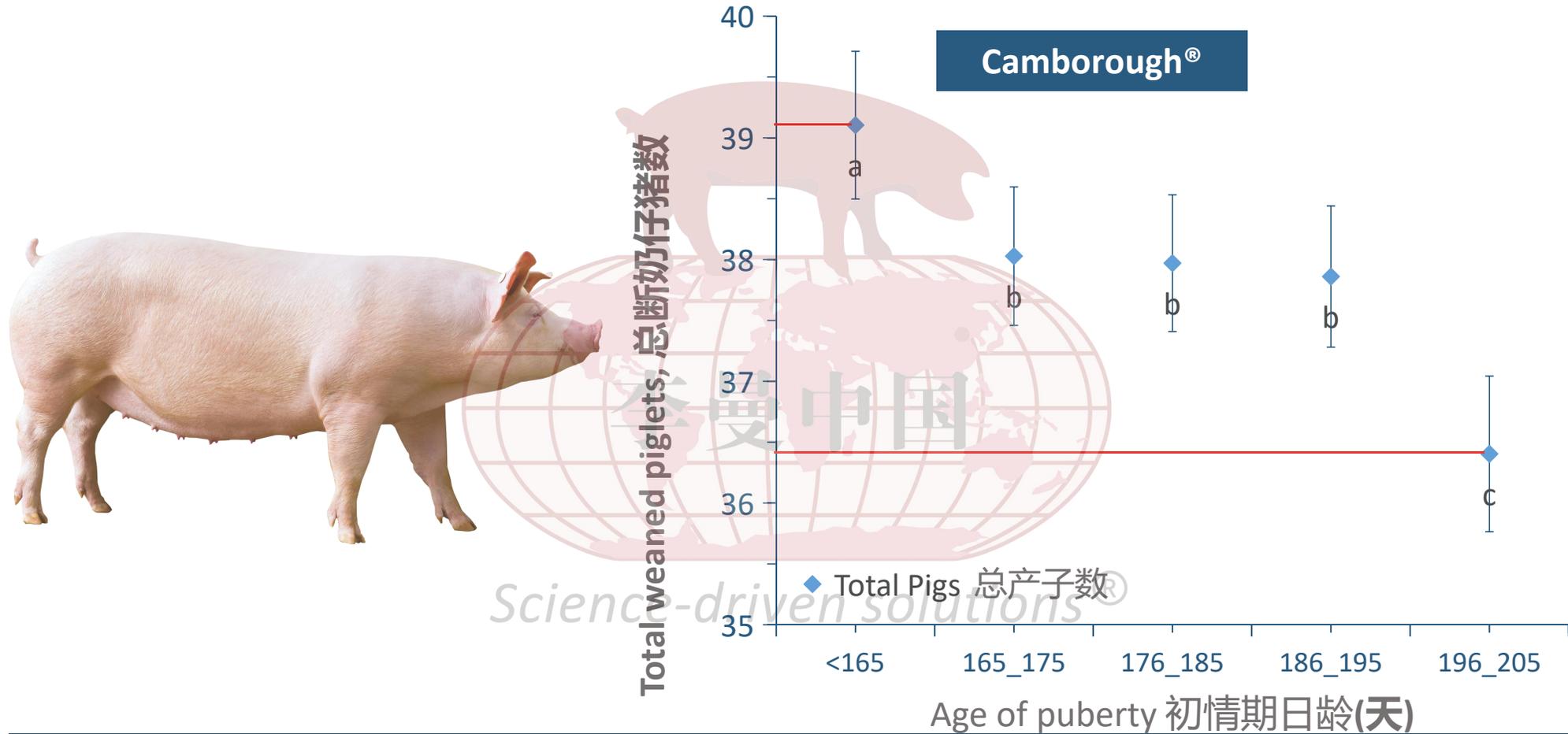
**Who is responsible for the management of gilts?
谁来负责后备母猪的管理?
职位? 能力? 责任心?**



- Teaser boar: 使用诱情公猪 (年更新率商品场推荐30%-40%)
- Boar exposure: 后备母猪诱情不晚于24周龄
- Photoperiod: 16h充足的光照 (200-250 lux)
- HNS: 做好发情未配记录

4、 Age of puberty on total pigs born to P3

初情期日龄对前三胎总断奶仔猪数的影响



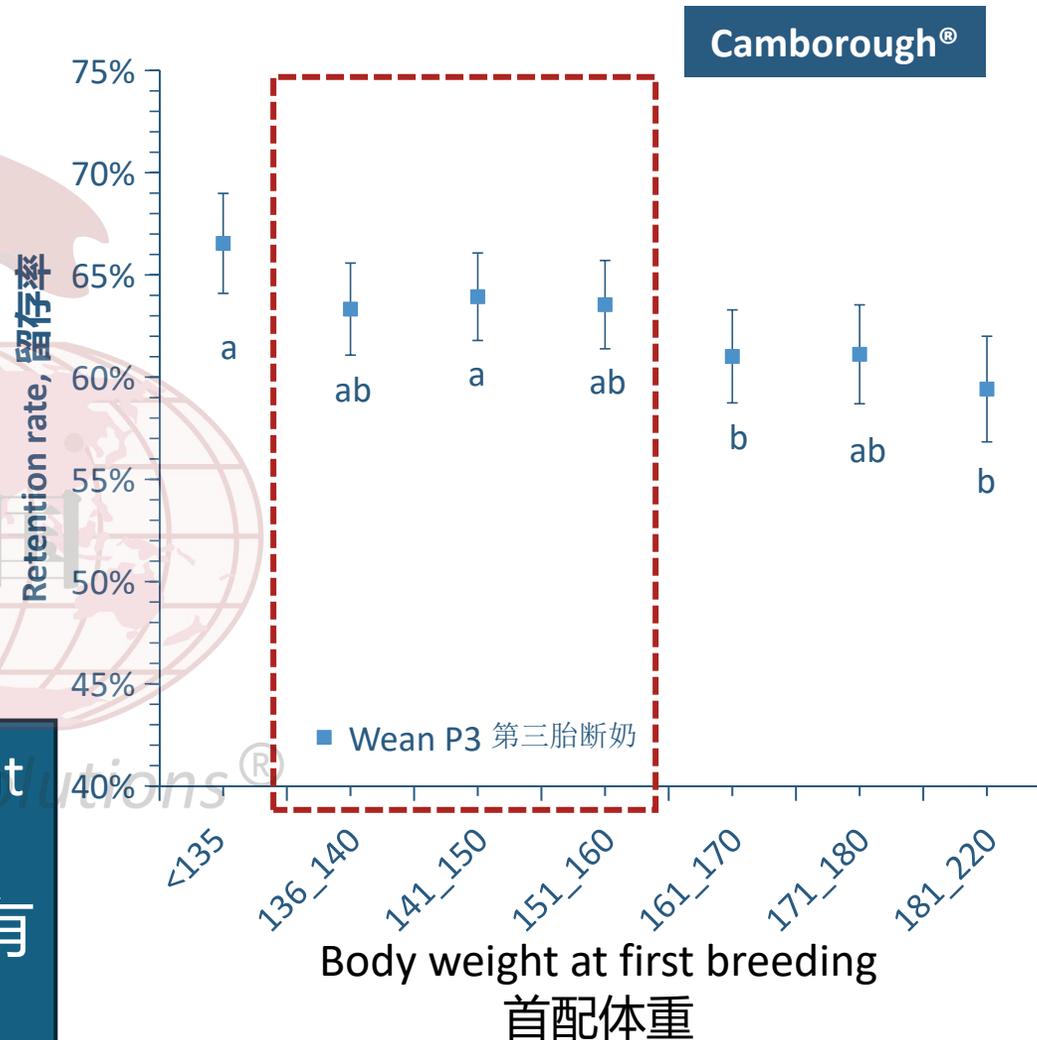
Gilts >195 days of age at first detected estrus have fewer total pigs born

后备初情期>195天，前三胎总断奶仔猪数有降低趋势

Scale gilt weight 评估后备母猪的配种体重

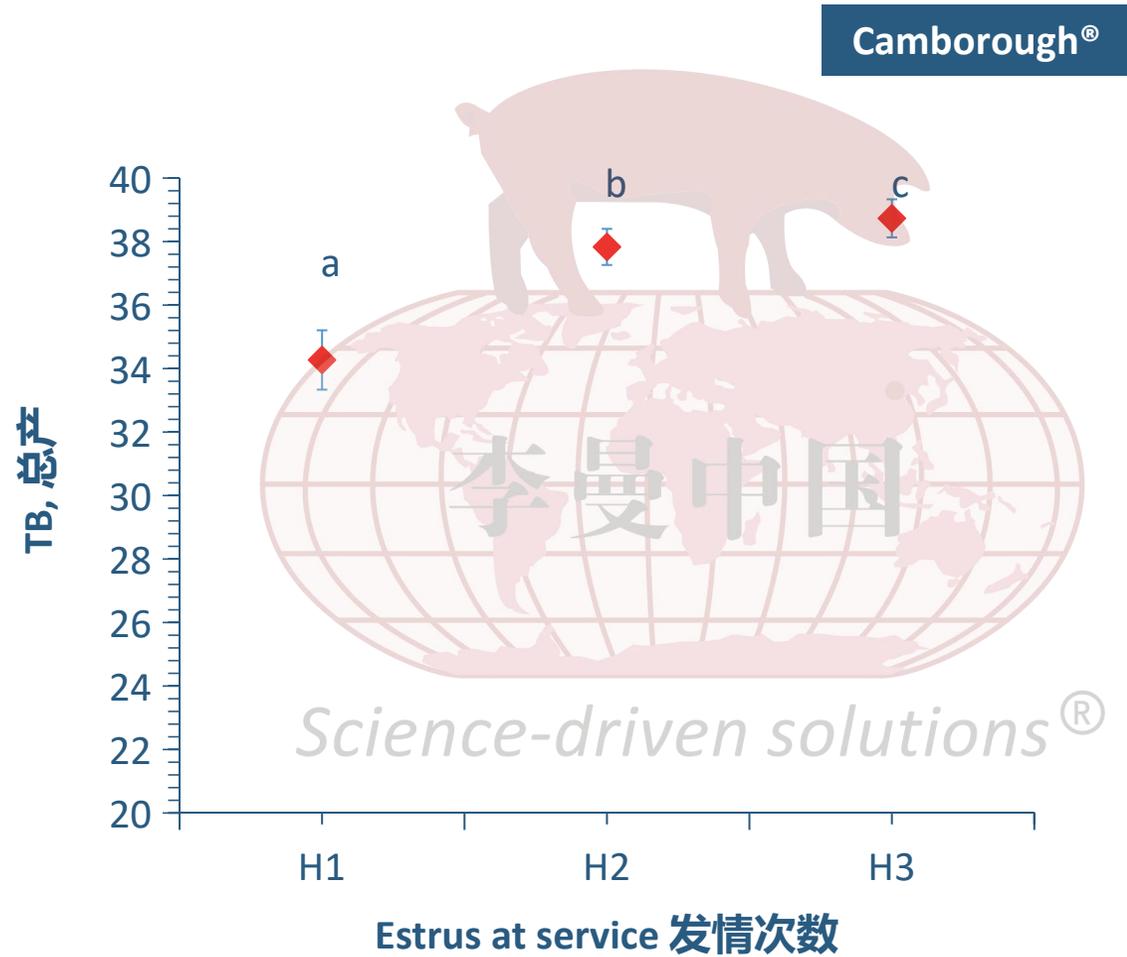
Body weight at first breeding 后备母猪初配体重目标, kg	
Avoid breeding 体重过轻 – 不要配种!	<135 kg
Ideal 理想范围	135-160 kg
Overweight 体重过重	>160 kg

Be careful, the body weight and age requirement maybe not same of different genetics
注意：不同的种猪，初配体重和日龄要求会有所不同



Estrus at 1st Service and Total Pigs Born to P3

首配发情次数对三胎总产仔数的影响



Gilt eligibility requirements

PIC后备母猪配种要求

Trait 管理内容	Recommended Target 目标要求
Age at puberty 初情期日龄*	Before 195 days 至少有1次发情记录, 小于195日龄
Age at first breeding 首次配种日龄*	200-225 days, >225 days gradually show lower retention rate and added cost 200-225 日龄; >225 日龄逐渐显现留存率低和成本增加
Body weight at first breeding 首次配种体重*	>90% of gilts bred within the 135-160 kg range, Do not breed any gilt lighter than 135 kg >90% 在135kg-160kg 范围内; 不要配种任何小于135kg 的后备母猪
Number of estrus at first breeding 首次配种发情次数*	2nd estrus, third only if light 第二次, 体重不够可在第三次; 第二次及以上>90%, < 5% 在第一次

Summary 回顾总结

Transportation 种猪运输

- 种源及健康
- Seed source and health
- 运输车辆
- Transportation vehicle
- 卸猪操作
- Unloading pigs operation

ISO/AC 隔离驯化

- 隔离舍的准备
- Preparation of isolation sheds
- 采样监控
- Sampling monitoring
- 免疫程序
- Immunization program
- 特殊疾病驯化
- Special disease acclimation

Management 饲养管理

- 饲养管理
- Breeding management
- 营养饲喂
- Nutritional feeding
- 情期管理
- Estrus management

Eligibility 配种要求

- 初情期日龄
- Age at first estrus
- 日龄
- Age in days
- 体重
- Weight (or Body Weight)
- 发情次数
- Number of estrus cycles

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Thank You!

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