



惠通猪医院

# 非洲猪瘟的诊断和精准剔除与复养的总结

## Diagnosis of African swine fever and lessons learnt from precise elimination and restocking

惠通猪医院

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# 内容提要Executive Summary



- 非洲猪瘟的诊断Diagnosis of African swine fever
- 浙江萧山地区非洲猪瘟防控总结Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province
- 精准剔除案例分析Case analysis of precise elimination
- 复养的操作流程及案例分析Operation process and case analysis of restocking
- 后非瘟时代，我们该如何做？In the post-African swine fever era, what should we do?



# 非洲猪瘟的诊断 Diagnosis of African swine fever

## 案例1：育肥猪 Case1: Fattening pig

- 背景：江苏某规模化猪场，育肥猪急性死亡、口鼻出血，死亡率高。打针和加药保健无任何效果。

Introduction: In a large-scale pig farm in Jiangsu, fattening pigs died of acute death, mouth and nose bleeding, and high mortality. Injection and medicated health care have no effect.

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# 研究目的Objectives

- 通过一个母猪场及一个育肥场发生非洲猪瘟后的综合性诊断，突出病理在猪病诊断中作用，充分认识非洲猪瘟。
- Through a comprehensive diagnosis after the occurrence of African swine fever in a sow farm and a fattening farm, highlight the role of pathology in the diagnosis of swine diseases and fully understand African swine fever.

# 材料和方法 Materials and methods

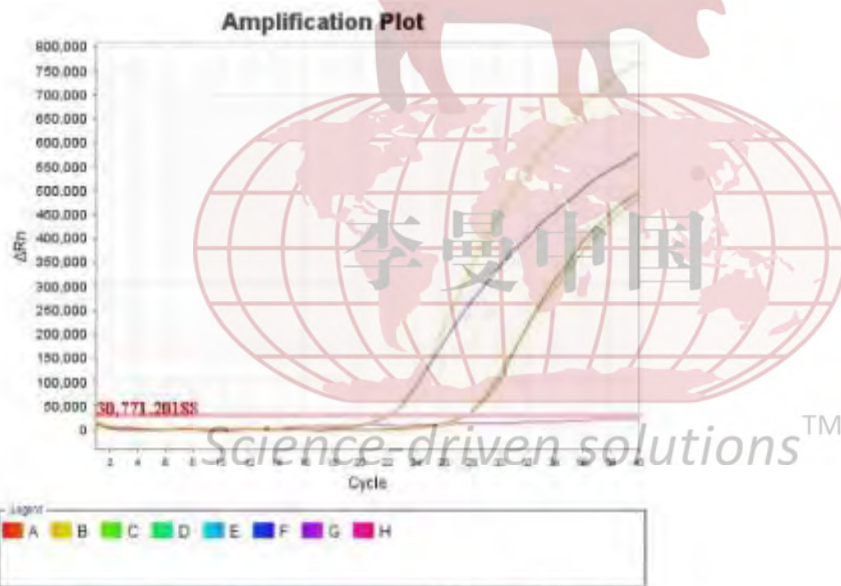
- 现场剖检：脾脏异常肿大梗死，心脏、肺脏、肠道各器官严重出血。

On-site necropsy: The spleen was abnormally enlarged and infarcted, and the organs of the heart, lungs, and intestines were severely bleeding.



# 材料和方法 Materials and methods

- PCR: 非洲猪瘟病毒阳性。  
PCR: ASFV is positive.



序号	位置	原始编号	样品编号	CT 值*	结果判定
1	C1	1	0000003374Z001	27.704	阳性
2	D1	2	0000003374Z002	22.210	阳性
3	E1	3	0000003374Z003	27.663	阳性

# 材料和方法 Materials and methods

- 病理：脾脏出血和淋巴细胞坏死。脑高倍镜下的血管，血管周围的淋巴细胞有很多发生坏死或凋亡。淋巴结的淋巴窦内出血和有坏死细胞。

Pathology: Spleen bleeding and lymphocyte necrosis. There are many necrosis or apoptosis in the blood vessels under the brain high power microscope and the lymphocytes around the blood vessels. Hemorrhage in the lymph nodes of the lymph nodes and necrotic cells.



# 结果与分析 Results and analysis



- 临床上出现的保育和育肥阶段大量急性死亡，打针和加药保健均无效果。加上荧光定量PCR的确诊及病理病变，基本上确定了是非洲猪瘟引起的发病。

A large number of acute deaths occurred in the fattening phase clinically, and neither injections nor medicated health care were effective. Coupled with the confirmation of fluorescent quantitative PCR and pathological changes, it is basically determined that the disease is caused by African swine fever.



# 非洲猪瘟的诊断 Diagnosis of African swine fever

## 案例2：母猪 Case2: Sow



- 背景介绍：安徽某规模化猪场，怀孕母猪出现厌食、呕吐、流产、急性死亡、口鼻出血，发病开始半月左右死亡300头怀孕母猪。打针和加药保健无任何效果。 Introduction: In a large-scale pig farm in Anhui province, pregnant sows suffered from anorexia, vomiting, abortion, and acute death of oral and nasal hemorrhage. About half a month after the onset of the disease, 300 pregnant sows died. Injections and dosing have no effect on health care.



# 研究目的Objectives

- 通过一个母猪场及一个育肥场发生非洲猪瘟后的综合性诊断，突出病理在猪病诊断中作用，充分认识非洲猪瘟。
- Through a comprehensive diagnosis after the occurrence of African swine fever in a sow farm and a fattening farm, highlight the role of pathology in the diagnosis of swine diseases and fully understand African swine fever.

# 材料和方法 Materials and methods



- 临床剖检：脾脏异常肿大梗死，心脏、肺脏、肠道各器官严重出血。

Clinical autopsy: Abnormally enlarged spleen and infarct, severe bleeding in the heart, lungs, and intestines.



# 材料和方法 Materials and methods

- PCR: 非洲猪瘟病毒阳性。  
PCR: ASFV is positive.



序号	位置	样品编号	Ct值	浓度 (拷贝/uL)
1	A7	2470-2	25.12073	2.1E+04

# 材料和方法 Materials and methods



➤ 病理：肺水肿、淤血和出血；脾脏淤血和出血；脾脏有一些淋巴细胞坏死。

Pathology: pulmonary edema, congestion and bleeding; spleen congestion and bleeding; some lymphocyte necrosis in the spleen.



# 结果与分析 Results and analysis



- 结果与分析：病理上的结果无明显证病性变化，但是也排除了非洲猪瘟以外疾病的可能。加上荧光定量PCR的确诊、临床剖检、死亡的增加及治疗无效，基本上确定了是非洲猪瘟引起的发病。

Results and analysis: Pathological results have no obvious pathological changes, but also exclude the possibility of diseases other than African swine fever. Coupled with the diagnosis of fluorescent quantitative PCR, clinical necropsy, increased deaths and ineffective treatment, it is basically confirmed that the disease is caused by African swine fever.

# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



➤ 背景：萧山是浙江省养猪比较密集的一个地区，在70平方公里的范围内，有23个规模化猪场，基础母猪存栏50000头，生猪存栏55万。

Introduction: Results and analysis: Xiaoshan is one of the more intensive pig breeding areas in Zhejiang province. Within the area of 70 square kilometers, there are 23 large-scale pig farms, 50,000 basic sows, and 550,000 hogs.

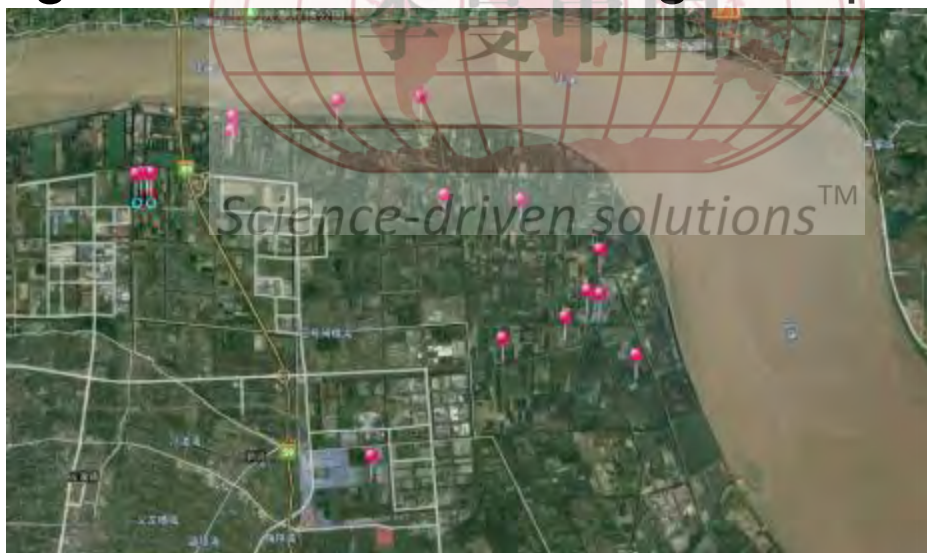
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# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



➤ 研究目的：分析浙江萧山地区爆发非洲猪瘟的三个阶段，总结区域性防控的得与失。

Objectives: Analyze the three stages of African swine fever outbreak in the Xiaoshan area of Zhejiang Province, and summarize the gains and losses of regional prevention and control.





# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



➤ 材料和方法：通过流行病学调查和实验室检测的手段，确定萧山地区猪场的非洲猪瘟感染和发病数量。萧山地区非洲猪瘟的防控大致分为三个阶段。

Materials and methods: Through the means of epidemiological investigation and laboratory tests, the number of African swine fever infections and incidence in the Xiaoshan area was determined. The prevention and control of African swine fever in the Xiaoshan area can be divided into three stages.

# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



➤ **材料和方法：**第一个阶段紧张惶恐期，从2018年8月—2018年10月。在此阶段，全国开始逐步出现非洲猪瘟发病，萧山地区大部分猪场老板对非洲猪瘟认识不足，不知道该怎么办。只是加强自己猪场的消毒，限制人员的进出，进行封场的管理。

**Materials and methods:** The first phase of the nervous phase, from August 2018 to October 2018. At this stage, the whole country began to appear African swine fever disease gradually, most of the pig farm owners in the Xiaoshan area did not know what was African swine fever and how to solve the problem. Only to strengthen the biosafety measures, such as enhanced disinfection, limited access to personnel, field closure management.

# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



- **材料和方法：第二个阶段区域联防联控期，从2018年10月—2019年7月。在此阶段，由于很多萧山猪场老板在江苏有猪场，江苏地区在9月份处于发病高峰，对非洲猪瘟有了直接或者间接的体验。开始进行区域联防联控，在阻断传播途径上下功夫。所有进入萧山的车辆在指定地方，进行定点车辆的消毒。在猪场门口加装消毒设备，人员的进出管理和日常的消毒管理更加严格，肥猪的出售开始逐步进行定点屠宰场对接。Materials and methods: The second phase of coordinated inter-regional prevention and control is from October 2018 to July 2019. At this stage, as many Xiaoshan pig farm owners owning pig farms in Jiangsu, where was at its peak in September, had a direct or indirect experience of African swine fever. Coordinated inter-regional prevention and control were started to block the transmission routes. All vehicles entering Xiaoshan will be sterilized at designated places. Disinfection equipment will be installed at the gate of the pig farm. Personnel access management and daily disinfection management will be more strict.**



# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province

- **材料和方法：**第三个阶段逐步感染到全部沦陷，从2019年8月—2020年2月。台风雨季的到来以及生猪价格的上升，联防联控开始出现松动,也做不到了定点屠宰的对接。随着全国疫情严重，很多大的集团公司来萧山大规模采购三元母猪以及断奶仔猪，生物安全逐步出现漏洞。随着车辆的增多，定点洗消的清洗消毒不彻底。生猪外卖后需要到一固定地方开具检疫证，这一地点未做统一的清洗消毒，成为萧山地区防疫的另外一个漏洞。有非洲猪瘟阳性的猪场出现后，萧山地区公用的无害化处理中心以及无害化处理车，也成为新的传播散毒漏洞。**Materials and methods:** The third stage is gradually infected to the onset of all infections from August 2019 to February 2020. The arrival of the typhoon rainy season and the rise in pig prices, coordinated inter-regional prevention, and control began to loosen and the docking of designated slaughtering could not be done. With the serious epidemic situation in the whole country, many large group companies came to Xiaoshan to purchase sows and weaned piglets on a large scale, the biosafety gradually appeared loopholes. With the increase of vehicles, the cleaning and disinfection of fixed point washing are not complete. After the live pigs take away, they need to go to a fixed place to issue the quarantine certificate. This place has not been cleaned and disinfected uniformly, which has become another loophole for epidemic prevention in the Xiaoshan area. After the occurrence of African swine fever positive pig farms, the public harmless treatment center and harmless treatment vehicle in the Xiaoshan area have become a new spread of the virus vulnerability.



# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province

## ➤ 结果与分析:

第一阶段，23个猪场稳定，未出现非洲猪瘟病毒阳性场。

第二阶段，23个猪场任然稳定，未出现非洲猪瘟病毒阳性场。

第三阶段，23个猪场逐步开始出现非洲猪瘟病毒阳性场，直至全部猪场阳性。

## Results and analysis

In the first phase, 23 pig farms were stable and no African swine fever virus-positive farms were found.

In the second phase, 23 pig farms remained stable, with no African swine fever virus-positive farms.

In the third stage, 23 pig farms gradually began to show positive African swine fever virus farms until all farms were positive.

# 浙江萧山地区非洲猪瘟防控总结 Summary of prevention and control of African swine fever in Xiaoshan area of Zhejiang Province



## ➤ 结果与分析:

- 1、联防联控措施和加强生物安全，是预防非洲猪瘟感染的有效手段。
- 2、在联防联控的洗消点，应该配备非洲猪瘟病毒检测，检测阴性才能确保真正的洗消合格。
- 3、生物安全的措施，需要真正的执行落地，才能确保猪场的安全。
- 4、对一地区以及区域内的猪场，定期应做生物安全风险等级的评估，阶段性的查漏补缺。

Results and analysis: Coordinated inter-regional prevention and control and strengthening biosafety are effective means to prevent the infection of African swine fever. In the cleaning and disinfection of fixed point, it should be equipped with African swine fever virus testing, which was tested negative to ensure that the cleaning and disinfection were qualified. Biosafety measures need to be implemented to ensure the safety of pig farms. To a region and the pig farms within the region, we should make assess the level of biosafety risk periodically, check the gaps.

# 精准剔除案例分析

## Case analysis of precise elimination



- 背景：安徽一猪场，在2019年11月28日非洲猪瘟病毒检测阳性。全场生物安全意识淡薄，人员管理及生产管理粗放。2019年12月2日，惠通猪医院开始派驻现场服务专家，驻场服务指导精准剔除方案落地执行。
- Introduction: The African swine fever virus of a pig farm in Anhui province was positive for on November 28, 2019. This pig farm, the awareness of biosafety is weak, and personnel management and production management are in an extended state. Hui Tong Swine Clinic sent field service experts to guide the implementation of an accurate elimination program since December 2, 2019.



# 精准剔除案例分析

## Case analysis of **precise elimination**



➤ 研究目的：通过精准剔除案例的实施与总结，找出精准剔除的关键点。为更多的猪场在发生非洲猪瘟时，能够做好精准剔除，同时降低损失。

**Objectives:** Through the implementation and summary of the precision rejection case, find the key points of the precision **elimination**. For more pig farms, when African swine fever occurs they can be accurately eliminated while reducing losses.

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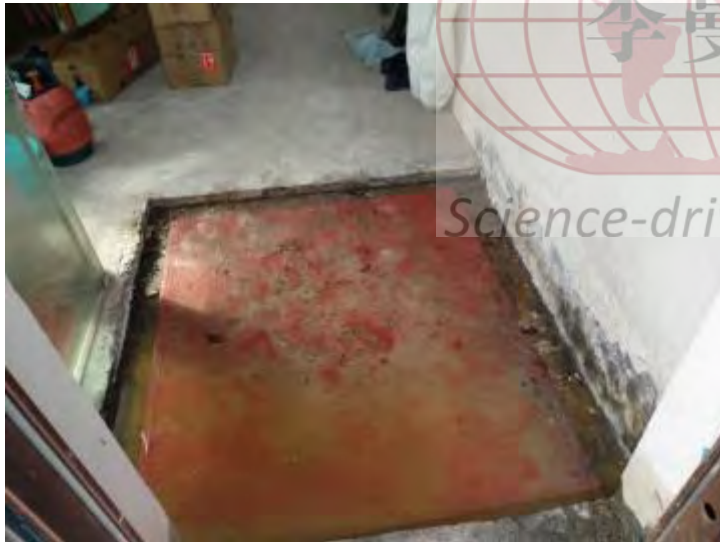
# 精准剔除案例分析

## Case analysis of **precise elimination**



- 材料方法：调查分析复盘，此次发病是人员的管理出了问题导致的发病。完善生物安全措施，同时停止猪群的转群及配种工作，加大全场的消毒。

**Materials and Methods:** Through the investigation and analysis, the onset of the disease is caused by personnel management problems. We improved biosecurity measures, stopped the transfer and breeding of pigs, and increased disinfection.



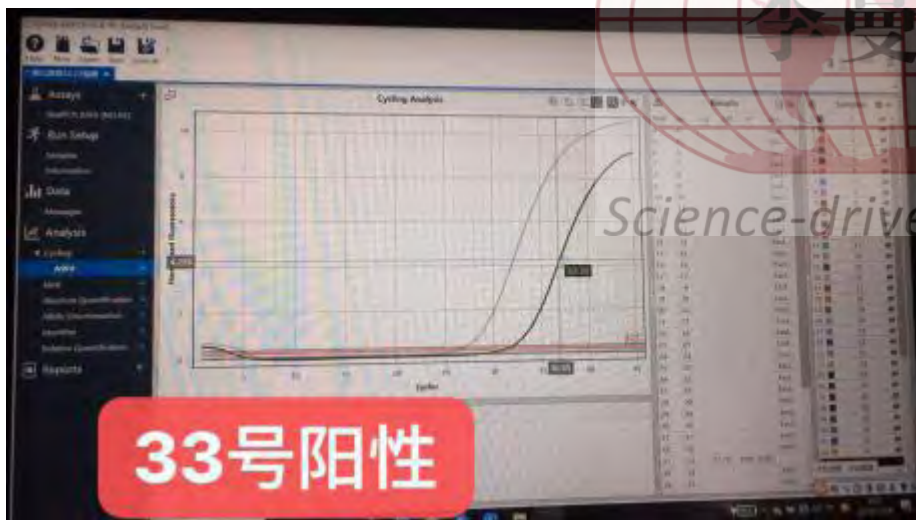
# 精准剔除案例分析

## Case analysis of precise elimination



- 材料方法：全群唾液采样检测非洲猪瘟病毒，同时加大检测的频率，每隔4天进行一次检测，直到连续两次检测阴性。

Materials and Methods: All saliva samples were taken to detect ASFV. At the same time, the frequency of the test was increased, every four days for a test. The test was stopped until two consecutive negative tests. Pigs that were tested positive were electrocuted and then treated innocently.



# 精准剔除案例分析

## Case analysis of **precise elimination**



- 材料方法：检测阳性的猪电击处死后进行无害化处理。拉死猪的走道要提前用彩条布或者薄膜纸铺好，死猪在转运期间遵循不落地的原则，防止阳性猪污染环境。

Materials and Methods: Pigs that were tested positive were electrocuted and then treated innocently. The aisle of dead pigs should be paved with colored strips of cloth or thin-film paper in advance. Dead pigs should follow the principle of non-landing during transport to prevent positive pigs from polluting the environment.



# 精准剔除案例分析

## Case analysis of **precise elimination**



- 材料方法：清空的栏位或栋舍，使用生石灰+烧碱水铺洒，严禁冲栏，防止环境中病毒的扩散。同时单元门口贴封条或者拉彩条布，严禁人员进入。

**Materials and Methods:** Empty buildings, using quick lime + caustic soda water spread, were strictly prohibited column, to prevent the spread of the virus in the environment. At the same time, the door of the unit should be affixed with seals or colorful strips of cloth, and personnel should not be allowed to enter.



# 精准剔除案例分析

## Case analysis of **precise elimination**



### ➤ 结果与分析：

从2020年1月份开始到目前为止，无异常非洲猪瘟病毒阳性猪出现，生产稳定。

### Results and analysis

Since January 2020, pigs free of the African swine fever virus have emerged and production has been stable.

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# 精准剔除案例分析

## Case analysis of precise elimination



### ➤ 结果与分析:

早发现早确诊，防止扩散。各环节生产人员，尤其是饲养员、兽医要对异常猪只敏感，发现异常立即上报。靠谱的检测及合理的监测是必须的。方案需要根据实际情况可落地执行。强有力的执行力。全员的生物安全教育与培训：提高前场员工对非洲猪瘟的认识与生物安全的认知。配套的奖惩机制。

### Results and analysis

Early detection, early diagnosis, prevent spread. Production personnel at all links especially breeders and veterinarians, should be sensitive to abnormal pigs and report any abnormalities immediately. Reliable detection and reasonable monitoring are necessary. The plan needs to be implemented according to the actual situation. Strong execution. Biosafety education and training for all staff: Improve front-court employees' awareness of African swine fever and biosafety. Supporting reward and punishment mechanism.

# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 复盘之前发生非洲猪瘟的真实原因 Find the real cause of African swine fever in the pig farm
  - 生物安全审计 Biosecurity audit
  - 猪场的生物安全升级与改造 Biosafety upgrade and reconstruction of pig farm
  - 清洗消毒 Cleaning and disinfecting
  - 环境评估 Environmental Assessment
  - 后备猪引入及繁殖管理和健康管理 Introduction of reserve pigs, breeding management and health management
  - 出现异常状况时的精准剔除方案 Accurate rejection plan when abnormal conditions occur

# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
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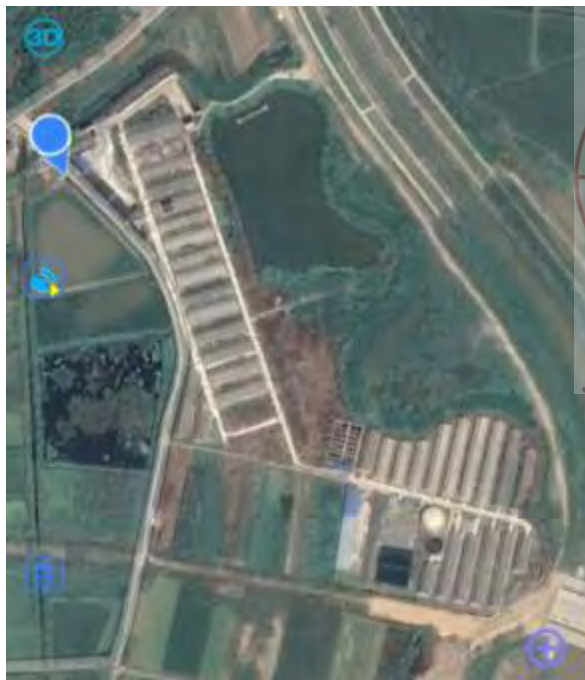




# 复养的操作流程及案例分析 Operation process and case analysis of restocking



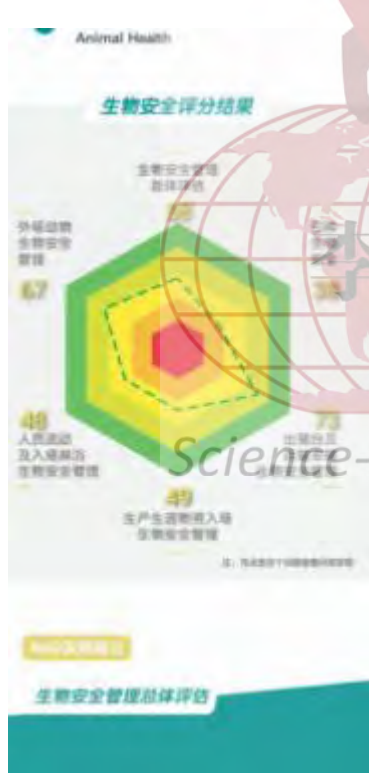
- 复养的操作流程： Operation process of restocking
  - 复盘出之前出现非洲猪瘟的真实原因 Find the real cause of African swine fever in the pig farm



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



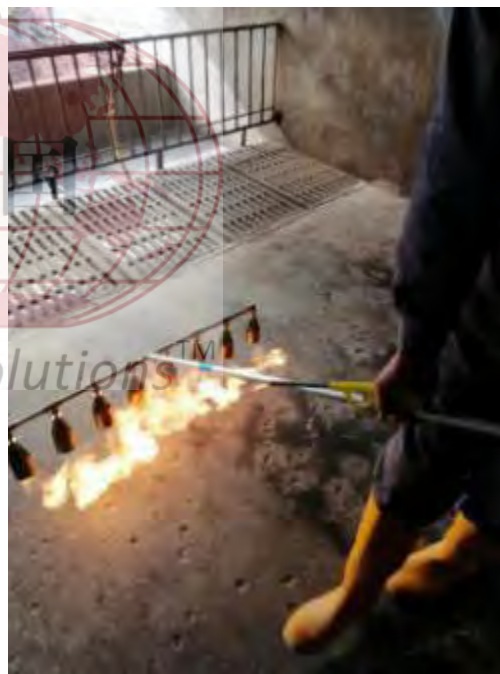
- 复养的操作流程： Operation process of restocking
  - 生物安全审计 Biosecurity audit



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



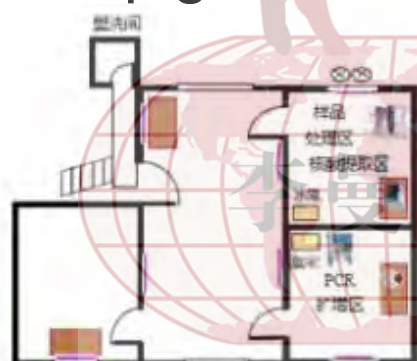
- 复养的操作流程： Operation process of restocking
  - 猪场的生物安全升级与改造 Biosafety upgrade and reconstruction of pig farm



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 猪场的生物安全升级与改造 Biosafety upgrade and reconstruction of pig farm



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 清洗消毒 Cleaning and disinfecting



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



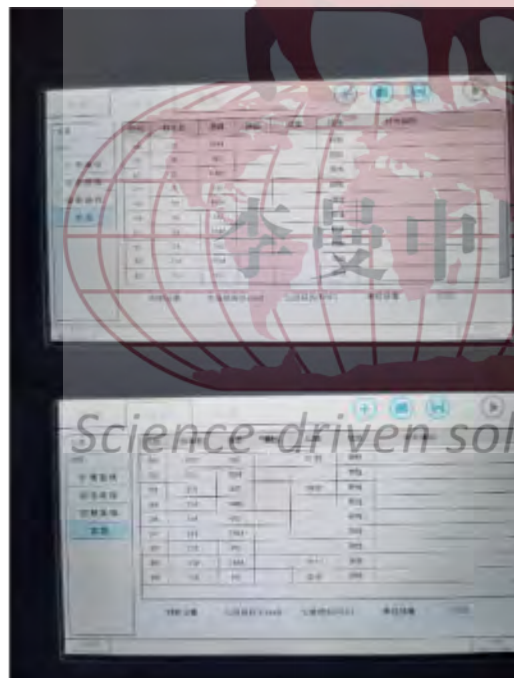
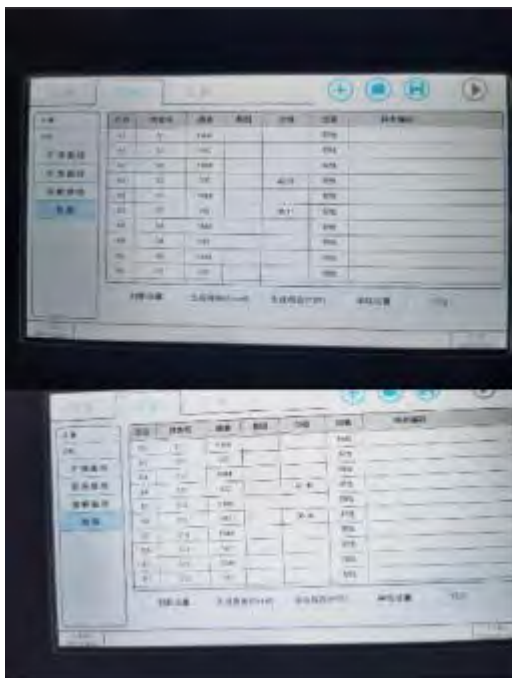
- 复养的操作流程： Operation process of restocking
  - 环境评估 Environmental Assessment



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程: Operation process of restocking
  - 环境评估 Environmental Assessment

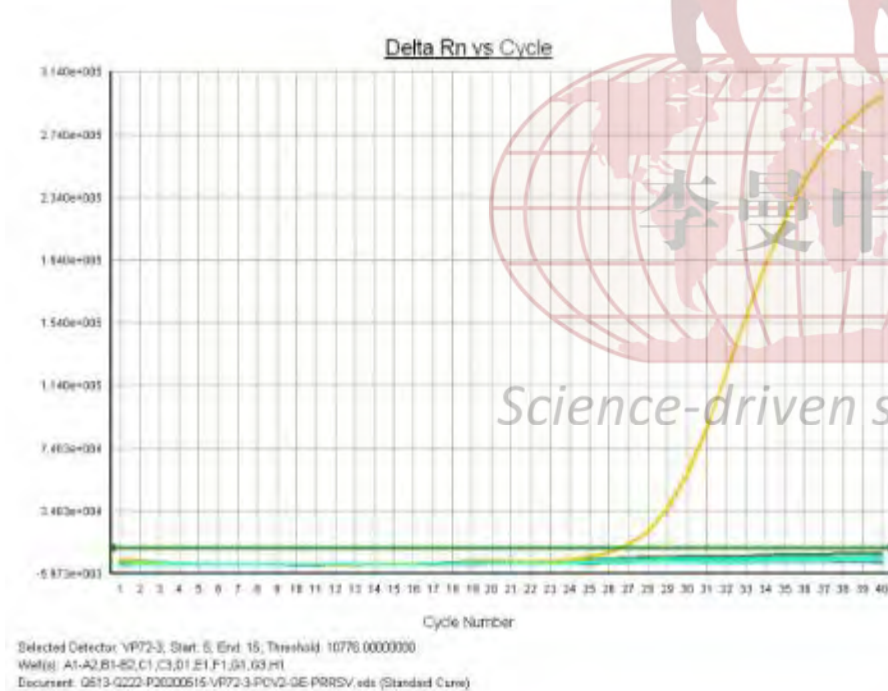


采样	检测编号	FAM (Ct 值)	VIC (Ct 值)
门口办公室	1		
门口消毒间	2		42.58
生活区	3		36.11
洗澡房	4		
办公室	5		
产房 2	6		
产房 5	7		
配种 6	8		
母猪 1	9		
母猪 1 边水沟	10		
保育 3M	11		
保育 2			
育肥 10	12		41.35
育肥 9			
育肥 5	13		36.28
育肥 6			
育肥 4			
育肥 2	14		
阴性对照	15		
阳性对照	16	28.11	25.47

# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 引种的猪确保非洲猪瘟病原+抗体双阴性 The introduced swine African swine fever pathogen + antibody ensures double negative



原始编号	ASFV OD值	S/P值	20191203 判定
	0.095	-0.001	-
	0.096	0.001	-
	0.973	1.042	+
	0.902	0.958	+
血样-1	0.102	0.008	-
血样-2	0.053	-0.050	-
血样-3	0.075	-0.024	-
血样-4	0.065	-0.036	-
血样-5	0.062	-0.040	-
血样-6	0.051	-0.053	-
血样-7	0.07	-0.030	-
血样-8	0.062	-0.040	-
血样-9	0.066	-0.035	-
血样-10	0.049	-0.055	-
血样-11	0.266	0.202	-
血样-12	0.077	-0.022	-
血样-13	0.087	-0.010	-
血样-14	0.059	-0.043	-
血样-15	0.061	-0.041	-
血样-16	0.07	-0.030	-



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



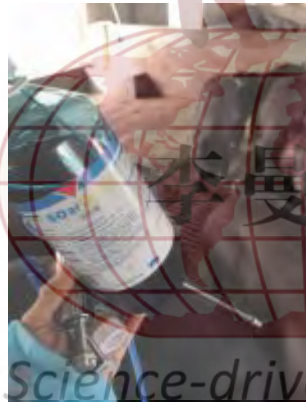
- 复养的操作流程： Operation process of restocking
  - 后备猪引入及繁殖管理和健康管理 Introduction of reserve pigs breeding management and health management

批次	头数	烯丙孕素饲喂计划		PG600肌注时间 饲喂结束后 12-24小时	发情高峰		配种高峰		查返情大致 时间 平均配种高 峰+21天	4周B超测孕 平均配种高 峰+28天
		开始	结束		开始	结束	开始	结束		
第一批次	53	6月18日	7月5日	7月6日	7月10日	7月12日	7月11日	7月13日	8月2日	8月9日
第二批次	61	7月9日	7月26日	7月27日	7月31日	8月2日	8月1日	8月3日	8月23日	8月30日
第三批次		7月30日	8月16日	8月17日	8月21日	8月23日	8月22日	8月24日	9月13日	9月20日
第四批次		8月20日	9月6日	9月7日	9月11日	9月13日	9月12日	9月14日	10月4日	10月11日
第五批次		9月10日	9月27日	9月28日	10月2日	10月4日	10月3日	10月5日	10月25日	11月1日
第六批次		10月1日	10月18日	10月19日	10月23日	10月25日	10月24日	10月26日	11月15日	11月22日
第七批次		10月22日	11月8日	11月9日	11月13日	11月15日	11月14日	11月16日	12月6日	12月13日

# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 后备猪引入及繁殖管理和健康管理 Introduction of reserve pigs breeding management and health management



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 出现异常状况时的精准剔除方案 Precise elimination plan when abnormal conditions occur
    - 应急预案演习前的培训与动员 Training and mobilization before the emergency plan exercise

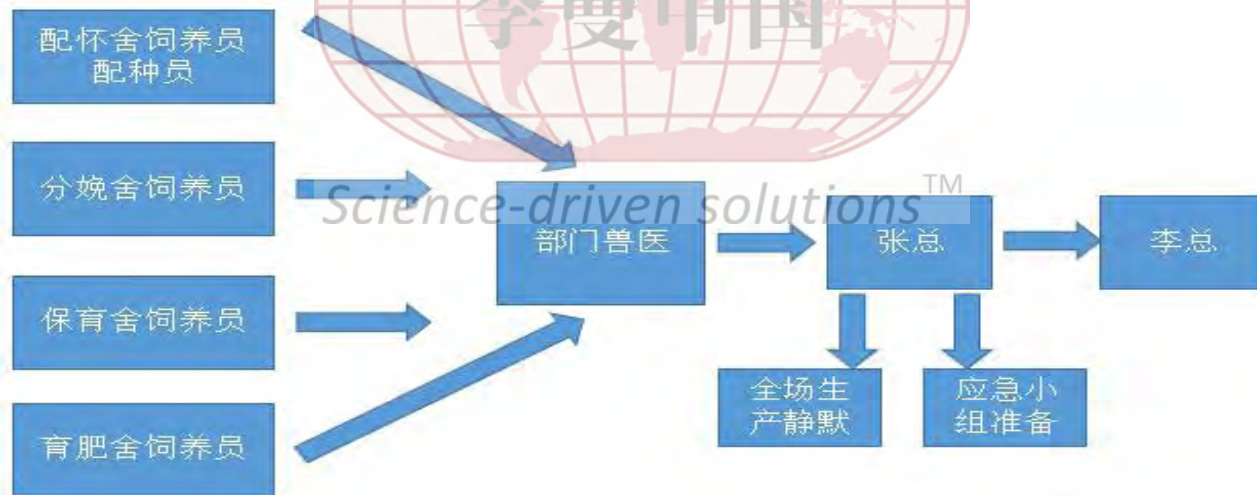


序号	品名	数量	备注
1	电击扑杀器	1-2 台	自制或网购
2	转运无害化车	3 台	自制
3	生石灰	10 吨	采购
4	火碱	3 吨	采购
5	隔离服	100 套	采购
6	一次性橡胶手套	200 副	采购
7	一次性口罩	200 个	采购
8	一次性浴帽		采购
7	水鞋	20 双 (41-43 号)	采购, 颜色与日常用的区分
8	装尸袋	300 条大, 300 条中	采购, 高强度黑色塑料袋
9	微型电动绞盘	2 个	采购, 用于电动拉母猪尸体
10	塑料薄膜	1 卷 (加厚)	采购桶径 3 米, 展开 8 米
11	铁锹	5 把	采购, 尖
12	火焰消毒器	2 套	采购, 备用
13	钢钉、木条	1 批	采购, 备用
14	挖机、铲车	租用	联系好, 随时备用

# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
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# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 出现异常状况时的精准剔除方案 Precise elimination plan when abnormal conditions occur
    - 依据牧场各环节区域分布以及路线状况确定异常猪只转运路线： According to the distribution of the various areas of the pasture and the status of the route, determine the abnormal pig transfer route



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 出现异常状况时的精准剔除方案 Precise elimination plan when abnormal conditions occur
    - 依据不同发病情况，制定合理的采样标准： Make reasonable sampling standards according to different morbidity



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 复养的操作流程： Operation process of restocking
  - 出现异常状况时的精准剔除方案 Precise elimination plan when abnormal conditions occur
    - 应急预案现场演练： On-site drill of emergency plan



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



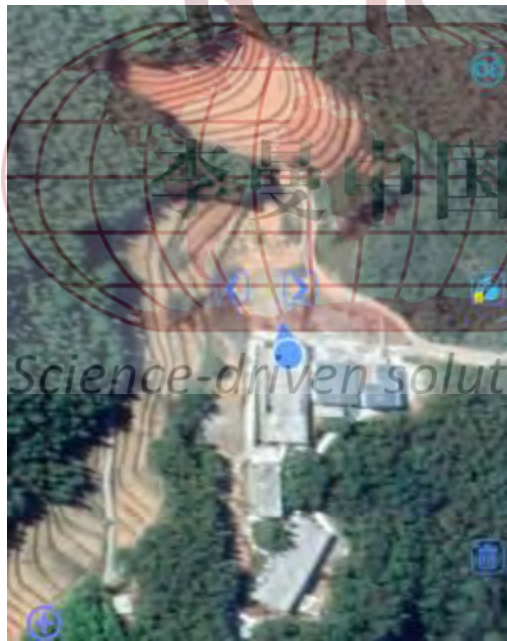
- 现阶段在进行复养的三个猪场的阶段性成功关键点 Key points of the staged success of the three pig farms undergoing restocking at this stage
  - 猪场1：一点式700头母猪场，2020年1月份引种，2020年3月份配种，2020年7月份分娩。 Pig farm 1: One-point 700 sow farm, introduced in January 2020, bred in March 2020, and delivered in July 2020.
  - 猪场2：一点式800头母猪场，2020年1月份引种，2020年2月份配种，2020年6月份分娩。 Pig farm 2: One-point 800 sow farm, introduced in January 2020, bred in February 2020, and delivered in June 2020.
  - 猪场3：一点式800头母猪场，2020年6月份引种，计划2020年9月份配种。 Pig farm 3: One-point 800 sow farm, introduced in June 2020, and planned to be bred in September 2020.



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 现阶段在进行复养的三个猪场的阶段性成功关键点 Key points of the staged success of the three pig farms undergoing restocking at this stage



# 复养的操作流程及案例分析 Operation process and case analysis of restocking



- 现阶段在进行复养的三个猪场的阶段性成功关键点 Key points of the staged success of the three pig farms undergoing restocking at this stage
  - 复盘 Replay
  - 猪场的生物安全升级与改造 Biosafety upgrade and reconstruction of pig farm
  - 优化的清洗消毒流程 Optimized cleaning and disinfection process
  - 引种前的环境评估 Environmental assessment before introduction
  - 引种的种猪确保非洲猪瘟病原+抗体双阴性 Ensure that the introduced swine African swine fever pathogen + antibody is double negative
  - 靠谱的检测 Reliable detection

# 后非瘟时代，我们该如何做？ In the post-African swine fever era, what should we do?



- 生物安全是唯一的出路 **Biosecurity is the only way out**
- 基于共同利益下的区域性联防联控 **Regional joint prevention and joint control based on common interests**
- 靠谱的检测 **Reliable detection**
- 落地的应急演练预案 **The emergency response plan for landing**
- 强有力的执行力及配套的奖惩机制 **Strong execution and matching reward and punishment mechanism**
- 全员的生物安全教育与培训 **Biosafety education and training for all staff**
- 批次化的生产管理与智能化养猪 **Batch production management and intelligent pig breeding**



# THANK YOU

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# THANK YOU



我的家人  
My family

