

Throughput and the Importance of Health at Weaning



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Throughput and Health

“Across the pork industry, disease is the single greatest destroyer of profitability”

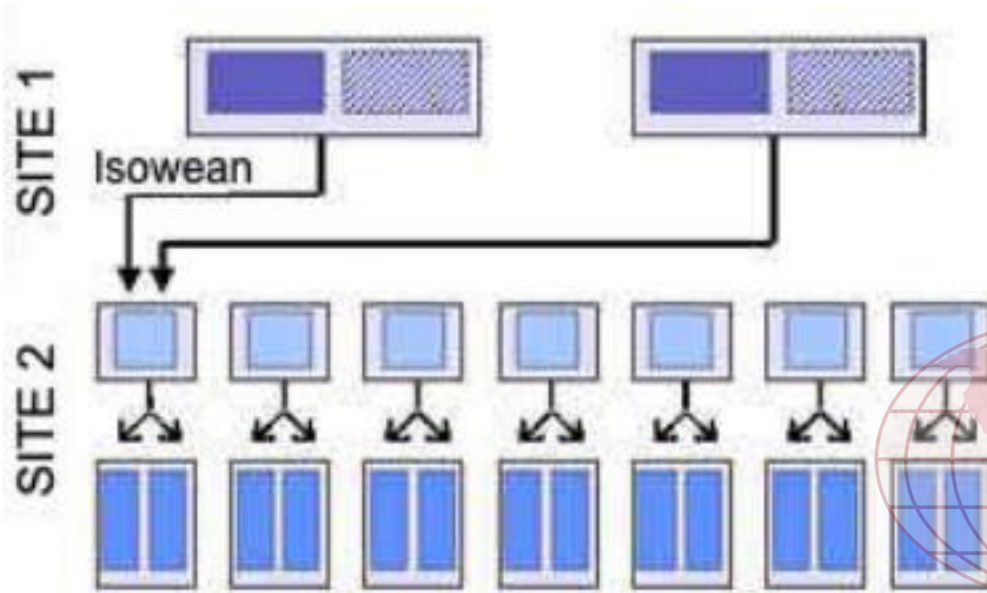
-Dennis DiPietre, 2017

- Throughput in a swine facility hinges upon the number of pigs that can be produced and marketed in order to meet customer expectations and the dilution of fixed costs.
- Throughput is highly influenced by maintaining consistency in number of pigs marketed and limiting the amount of variation in those pigs.

- This is largely due to its impact on throughput by creating inconsistency and variation in pigflow



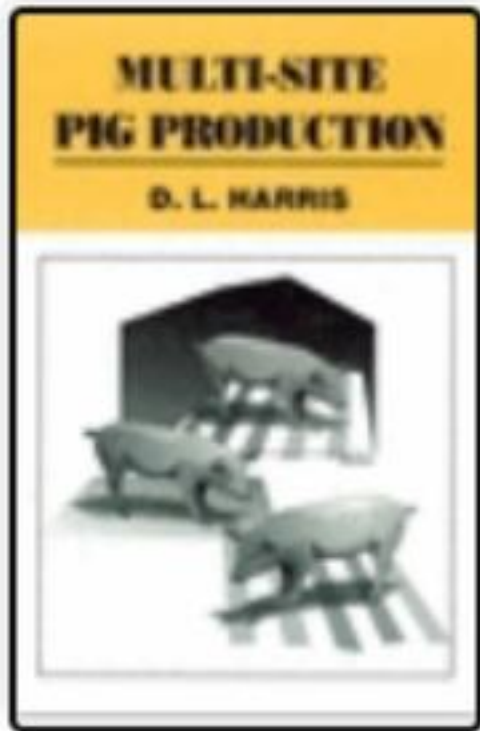
Isoweans and Multi-site Production Systems



- A shortened term for “isolated weaning”.
- Goal is to raise pigs free of major pathogens and wean them cleanly to an off-site location
- Maternal antibody from the sows creates a “shell” around the pig...guards it from disease
- Move pigs to empty and clean facilities to keep them healthy
- Pigs stay healthier and performance improves

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Isoweans and Multi-site Production Systems



Multi-Site Pig Production

Author(s): D. L. ("Hank") Harris

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Pitfalls and Stumbling Blocks



- Changing the rules
 - Ever-increasing wean age
 - Holding back pigs to get more size (also adds more age)
 - Extended fills
 - Farrowing rooms
 - Nursery rooms/sites
- Disease Outbreaks
 - Increased virulence, increased persistence
 - Complicated by Co-Infections
- Diseases transmitted *in utero*
- Colostral/Milk immunoglobulin deficit
 - Record high total-born
 - Aged, heavy pigs at weaning
 - Weaning 182 – 195lbs of piglet bodyweight in 21 days
- Economics
 - High feed costs (least cost rations)
 - Stress on the health budget
 - Partial dosing
 - Vaccinate only the basics
- Challenges of gilt acclimation
 - Receiving mature gilts
 - Finding effective acclimation procedures

Biosecurity – Stay Healthy

- Location
- Area spread
 - Keep it out of the area
 - Particulates in the air
 - Manure handling
 - Traffic
- Critical Control Points
 - Focus where it matters
 - Practical application
 - Accountability



**COMMON SENSE
IS NOT SO
COMMON.**

-Voltaire

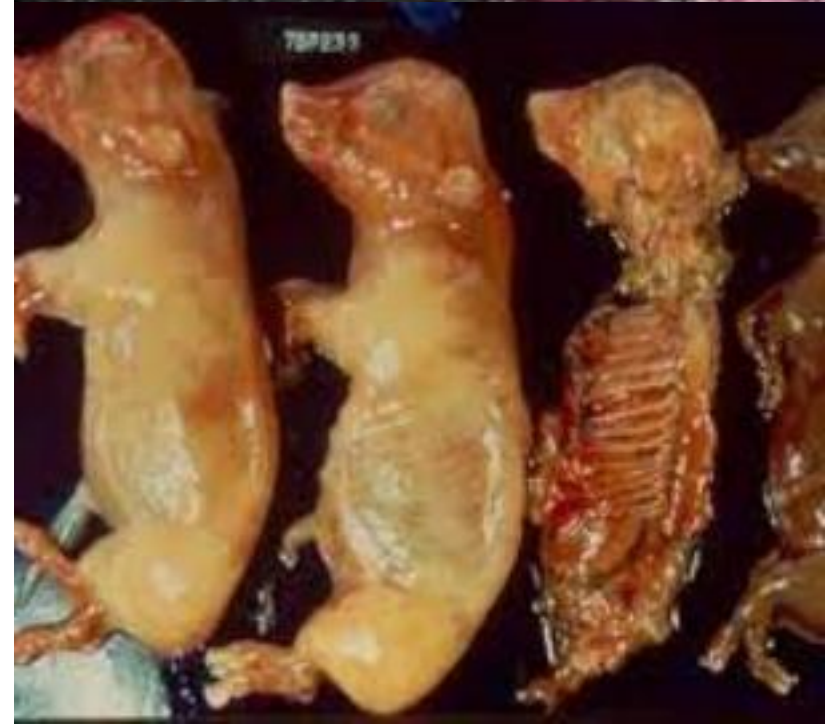
Health Strategies



- Eradicate when you can:
 - PRRS
 - Mycoplasma
 - Influenza A
 - APP
 - Dysentery
 - Other Bacterials (APP, Strep, etc.)
- Strategies
 - Load, close, expose
 - Depopulation^{ns}
 - Medicate/Vaccinate
 - Flow adjustments
- Stabilize when you can't eradicate
 - Logistics may not allow for eradication
 - Odds of re-exposure may be too high
 - It may not be an eradicable pathogen with current practices and/or technology
- Strategies
 - Acclimation
 - Planned exposure
 - Batch farrowing
 - Medication
 - Vaccination

Vaccination Strategies

- Reproductive (SMEDI)
 - Gilts pre-breeding
 - Sows after farrowing, but before breeding
 - PPV-1, PCV2, PCV3
 - Strain specific for PCV2
 - Goal is to boost immunity prior to breeding to prevent *in utero* infections
 - Others to consider: PRRS, pestivirus, mummified fetus feedback



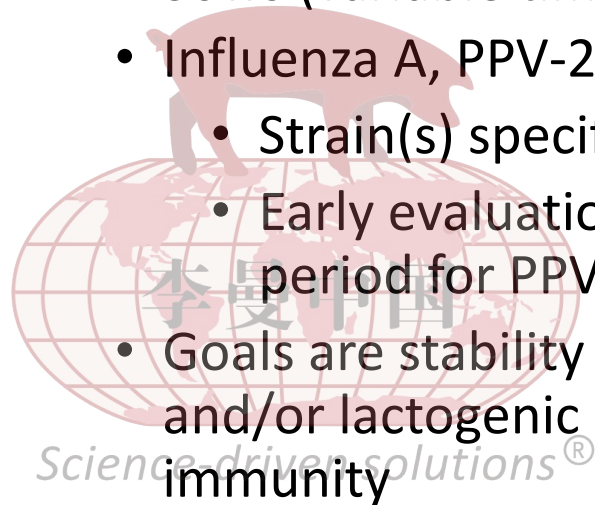
Vaccination Strategies

- Enteric control
 - Gilts +/- pre-breeding
 - Pregnant gilts and sows during last trimester
 - Rotavirus, Sapovirus
 - Strain specific
 - E. coli, C. perfringens
 - Commercial and/or Autogenous
 - Goal is to boost lactogenic immunity
 - Others to consider: coronaviruses (if endemic) and erysipelas (right timing)
 - Fecal feedback



Vaccination Strategies

- Respiratory Control
 - Gilts growing/pre-breeding
 - Sows (variable timing)
 - Influenza A, PPV-2
 - Strain(s) specific
 - Early evaluation period for PPV-2
 - Goals are stability and/or lactogenic immunity
 - Others to consider:
 - Astro-4, PHEV, PPIV



Vaccination Strategies

- Other Bacterial/Mycoplasmas
 - Pneumonia – M.hyopneumoniae, A.suis
 - Polyserositis – S. suis, G. parasuis, M.hyorhinis
 - Upper respiratory – B.bronchiseptica, P.multocida
 - Other to consider: Lawsonia, M.hyosynoviae, S.hyicus, Salmonella

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Take Homes

Modern production systems are designed around the weaning of a healthy pig into a clean offsite production facility

Healthy pigs are not just non-clinical, but limited to no shedding

There are modern limitations to achieving the goals for the wean pig.

Eradicate when you can, stabilize when you can't

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Many mechanisms of biosecurity, management and a the health plan can be utilized to achieve the goal of weaning a clean pig.

Robust vaccination programs are needed at the level of the sow herd in order to wean “clean” pigs and reduce vaccination and medication of downstream pigflows.