

A photograph of a group of pink piglets in a farm setting. The piglets are of various breeds, some with white and pink patches. They are standing and looking in different directions. The background is slightly blurred, showing more piglets and a dark structure, possibly a pen or barn.

MJ PRRS Vaccine: Field efficacy

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Farm Introduction

- Fall 2008
- 4/5 year old sow farm
- 6400 sows
- 2 previous PRRSV outbreaks
 - Serum therapy
 - Sows and GDU
- PRRS elimination!!

Elimination Versus Control

PRRSV Elimination

- New animal flow
- New personnel flow
- Strict biosecurity
- Poor quality pigs
- Disgruntled owners, workers and higher costs

PRRSV Control

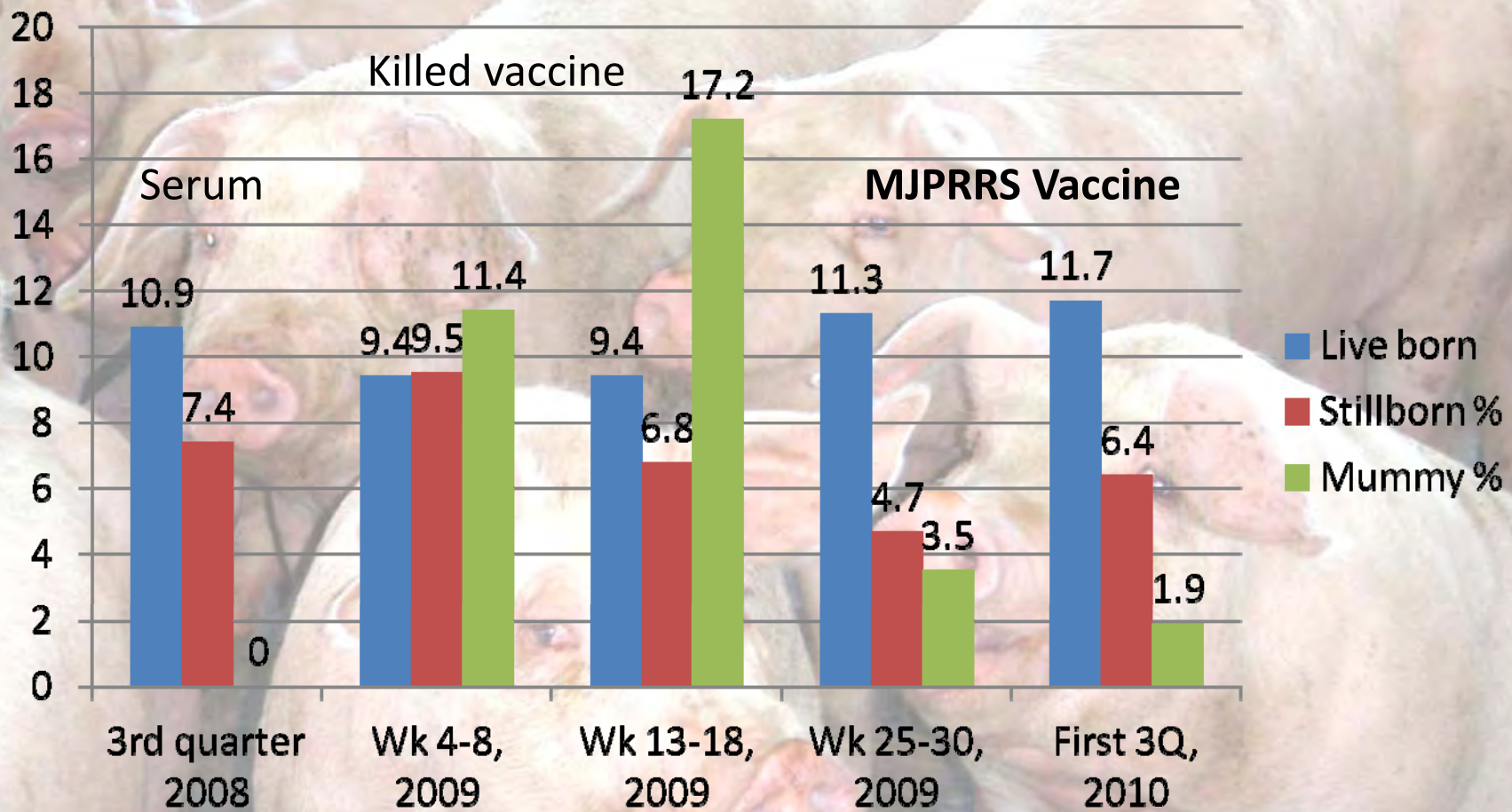
- Keep it simple - one goal
- **Improve the number of quality pigs being weaned**



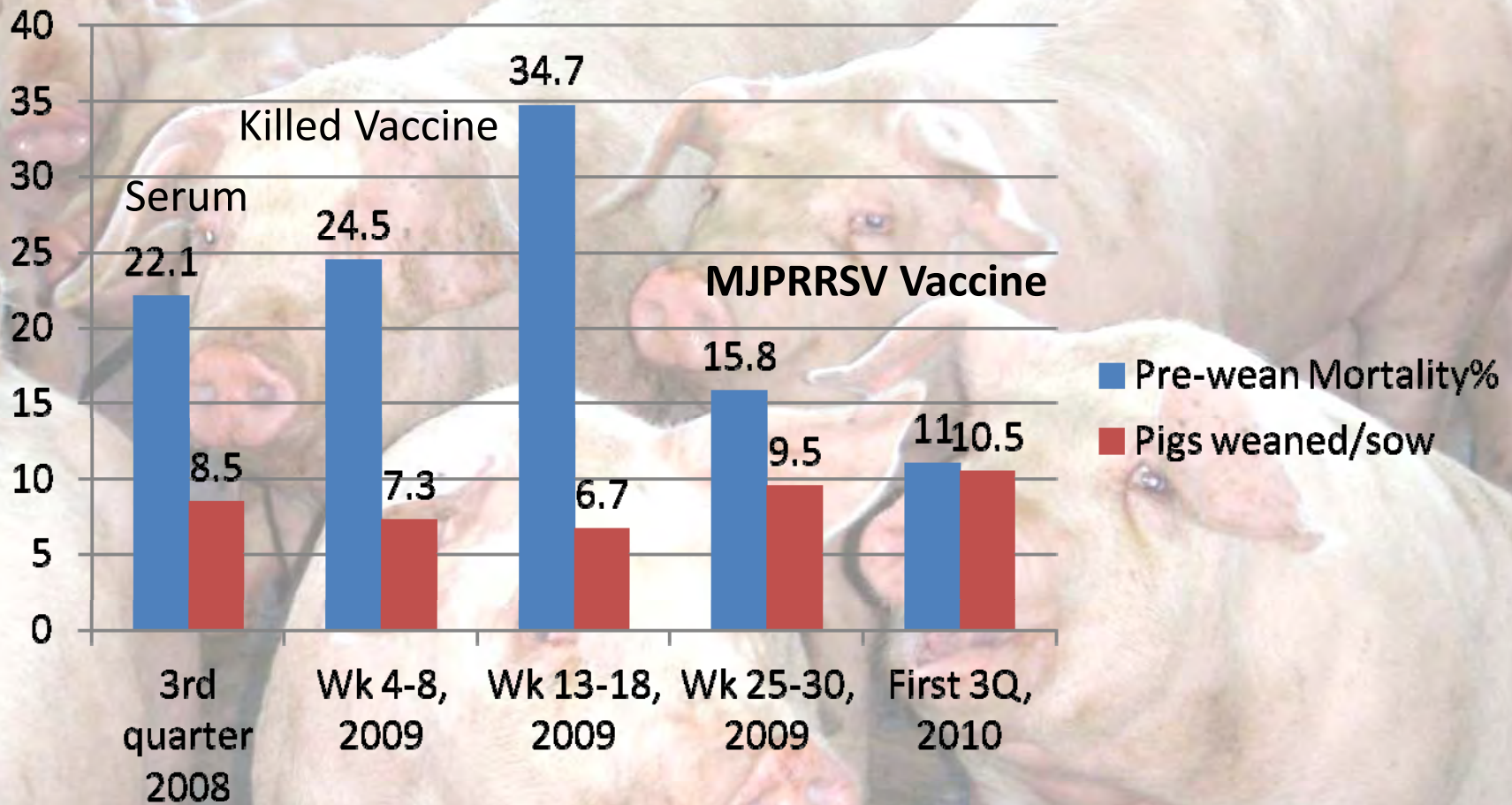
Chain of Events

- Third quarter 2008
 - Production was poor and there were too many low-value pigs
- Week 44 and 48 of 2008
 - Attempt control with killed PRRS vaccine
 - Production got worse by week 4 2009
- Week 18 of 2009
 - Started using MJ PRRS vaccine
 - By week 22 production improved dramatically

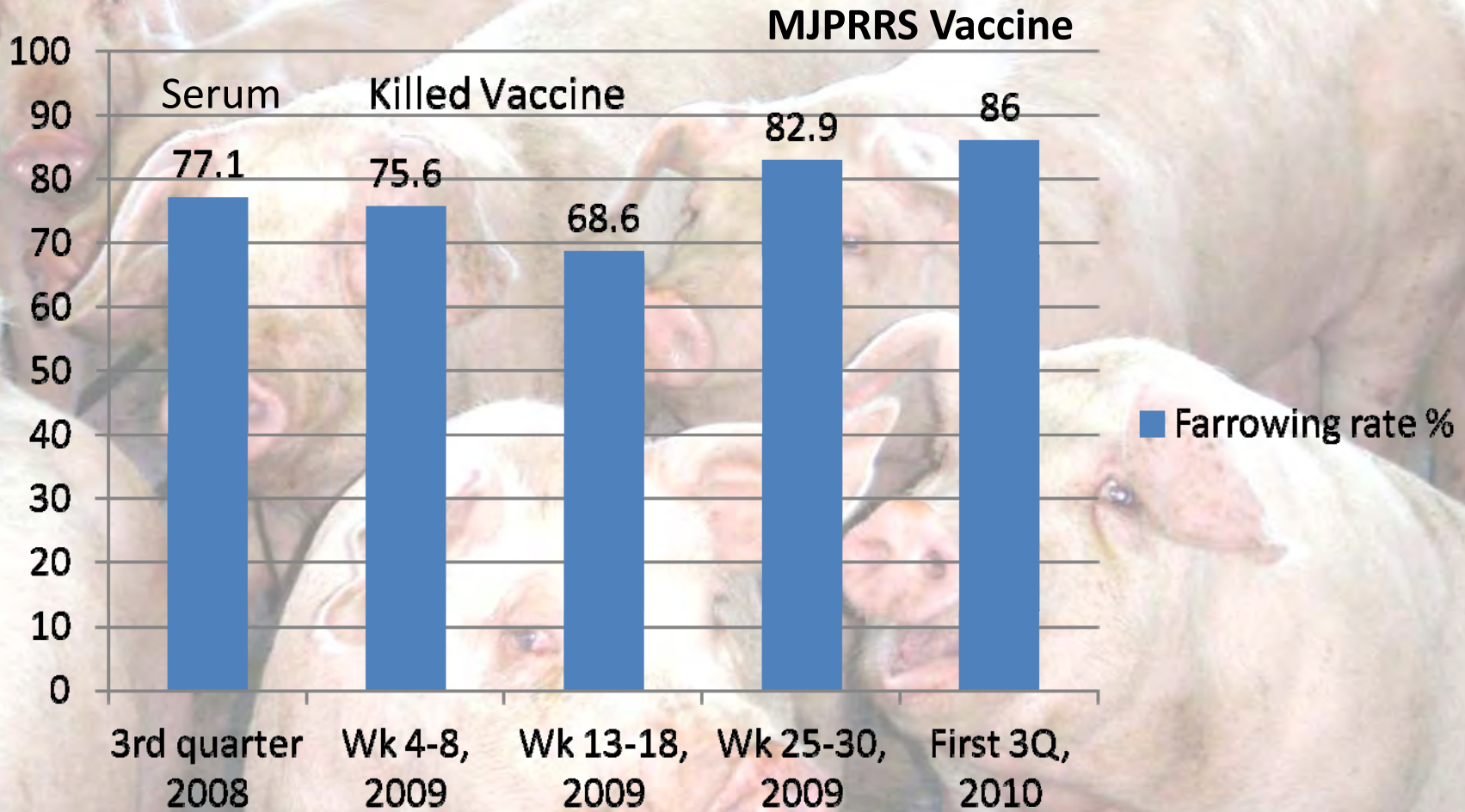
Live Born - Stillborn - Mummies



Pre-wean Mortality % - Pigs weaned per sow



Farrowing Rate %



What is MJPRRS Vaccine?

- Autogenous Inactivated MJPRRS[®] Viral Antigen Concentrate Vaccine
 - Field strain virus
 - Grown under laboratory conditions
 - High yields of free-form structural proteins
 - Viral antigen components
 - Optimize level of ORF5 antigen extracts
 - KILLED
 - Mixed with adjuvant
 - Single or Multiple strains in each bottle

Autogenous Biologics in Non-Adjacent Herds at Risk

- 9 CFR 113.113...
 - The administrator may authorize preparation of an autogenous biologic for use in herds which are not adjacent to the herd of origin, but which s/he considers to be at risk of infection with the same microorganism(s)
- Epidemiological Links (Attending Veterinarian)
 - **Virus Group**; Vet services; Source herd; Genetics; Stud; Pig flow; Feed; Manure; Trucking; Rendering; Packer

Virus Group Technology

- Virus grouping is very important
 - Send virus sequence report (paper/electronic) to MJ Biologics
 - Review sequence and determine the GROUP
 - Major Group: D and S
 - Minor Group: 1 to 8
 - D1 to D8 and S1 to S8
 - Group plus epidemiological profile may determine which vaccine is right for your herd
 - Herd derived autogenous
 - Non-adjacent, herd at risk derived autogenous

Exposure to Live Virus

- Pigs must be exposed to live virus
 - Natural exposure
 - Serum
 - Ingelvac[®] PRRS ATP
 - Ingelvac[®] PRRS MLV
- Replacement gilt strategy
- Sow herd strategy
- Wean pig strategy

**Ingelvac is a registered trademark of Boehringer-Ingelheim Vetmedica

Literature Support

- The effect of killed and/or MLV vaccination on exposure to late term pregnant gilts D. L. Reicks et al. (*Allen D. Lemman Swine Conference, 2010*)
- Only full value pigs were considered at weaning
 - % total born weaned
 - Positive control: 66%
 - ATP-MJPRRS: 94% (p= 0.047) [More full-value pigs]
 - ATP-Only: 78% (p=0.852)
 - It is important to prime with live virus

Literature Support (Cont.)

- Micro-dissecting the pathogenesis and immune response of PRRSV infection paves the way for more effective PRRS vaccines

H.J. Nauwynck, et al. (*ISU Swine Disease Conference, 2010*)

- Author noted that the next breakthrough in PRRSV control would be with inactivated (killed) vaccine technology.
- Vaccines will be inactivated during growth phase to conserve viral binding ligands

Farm Update

- PCR positive with New Strain 11-28-10
 - RFLP from 1-?-4 to 1-12-4
 - 16 Late stage abortions
 - Sows off feed
 - Group change from D4 to D6
 - D4 vaccine used through 10/28/10 (D2,3,4,5-S1)
 - D6 vaccine used at 8 and 3 weeks pre-farrow after whole herd vaccination with D2 on 11-24-11
- The 2 strains different by 12 amino acids and 98.3% homologous

4th Quarter 2010 and 1st Quarter 2011

Time Frame	Live Born	Stillborn %	Mummies %	PWM (%)	Pigs Weaned/ sow	Farrow Rate %
3 rd Q '08	10.9	7.4	n/a	22.1	8.5	77.1
Wk 4-8 '09	9.4	9.5	11.4	24.5	7.3	75.6
Wk 13-18 '09	9.4	6.8	17.2	34.7	6.7	68.6
Wk 25-30 '09	11.3	4.7	3.5	15.8	9.5	82.9
1-3 rd Q'10	11.7	6.4	1.9	11.0	10.5	86.0
4th Q '10	11.3	5	2.8	12.8	9.8	82.6
1st Q '11	11.8	5.3	2.5	13	9.9	86.5

Conclusion

- MJPRRS vaccine
 - Increase pigs produced
 - 70% good pigs to **96% good pigs**
 - 20% marginal pigs to **3% marginal pigs**
 - 10% no-value pigs to **1% "off" pigs**
 - Performance of pigs in nursery and finish
 - **Exceptional**
 - **New Strain has increased losses in some cases**
 - **Pigs to be weaned are tested every 4 weeks by PCR**
 - **Stayed 100% positive on PCR through Jan. 2011**
 - **Most recent testing: PRRSV Negative**

REMEMBER WHEN YOU ARE IN DEEP SHIT, LOOK STRAIGHT AHEAD,
KEEP YOUR MOUTH SHUT & SAY NOTHING..



A photograph of several piglets in a farm setting. The piglets are light-colored, possibly pink or white, and are looking in various directions. The word "Questions" is overlaid in the center of the image.

Questions