

Effects and economics of positive handling of sows



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Introduction

Animal welfare is high on the agenda of pig production

- What do the farmers want?
 - Search for win-wins with easy to implement practices
 - Feasible in today's farming on all sow farms
 - Economically profitable



Objectives

To investigate the influence of:

1. positive handling of sows (scratching, music) in the farrowing rooms on sow performance
2. positive handling of sows in piglet mortality

Sow farm description

- 560 sows
- PIC genetics x Belgian Piétrain boar
- 2-week batch farrowing system
- **Vaccinations and medication (sows)**
 - *E. coli* + Clostridium, Atrophic Rhinitis, Flu (3 subtypes), Ery-parvo
 - PCV2, PRRS, *M. hyopneumoniae* (4x/year)
 - Deworming: fenbendazole in feed at farrowing
 - No preventive antibiotic medication for sows



Interventions and medication piglets

- No surgical castration: vaccination with Improvac®
- All piglets 24h after birth:
 - tail docking
 - teeth grinding
 - iron injection
- **Piglet vaccinations:**
- M. hyo + PCV2 and PRRS (attenuated): 3 d before weaning



Experimental design sow farm

Treatment: music + backscratching for the sows

Control: no treatment

Music:

- commercial radio station
- daily from 6 am till 6 pm
- from entry in farrowing house until weaning

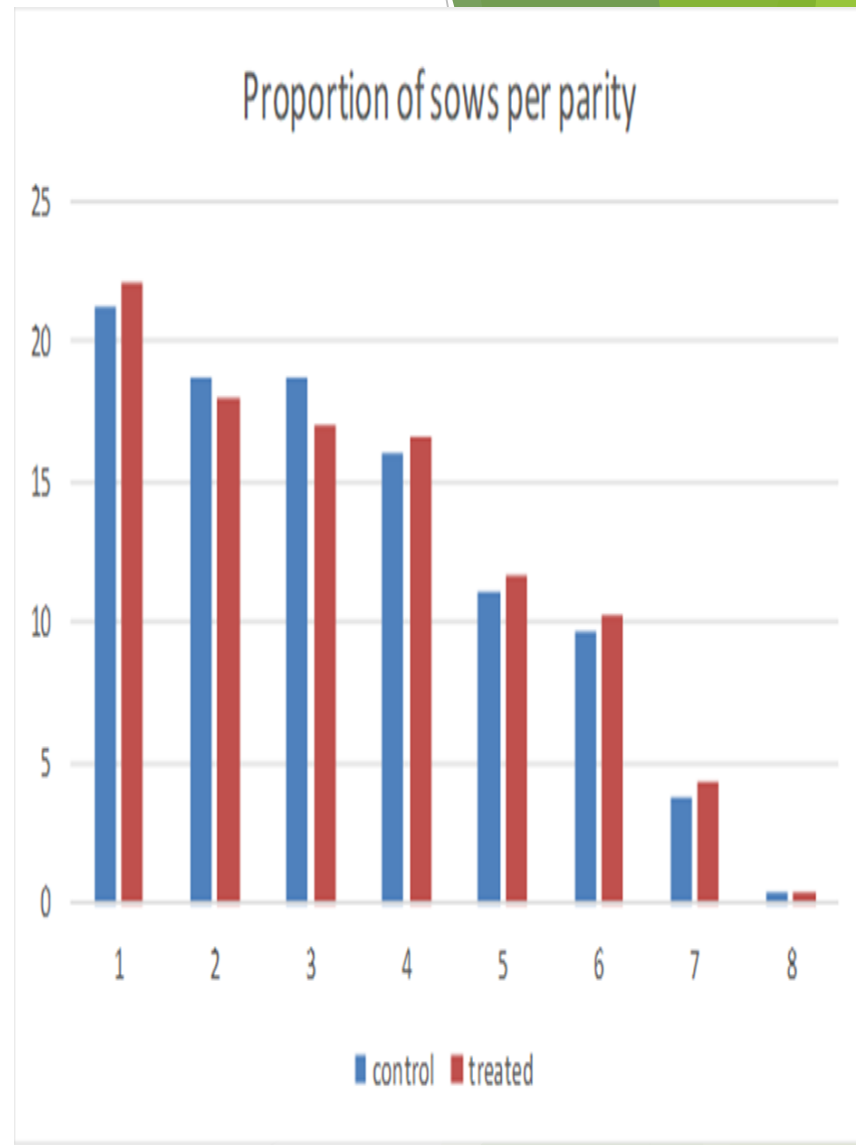
Backscratching:

- 15 sec per day per sow
- from entry in farrowing house until farrowing



Experimental design sow farm

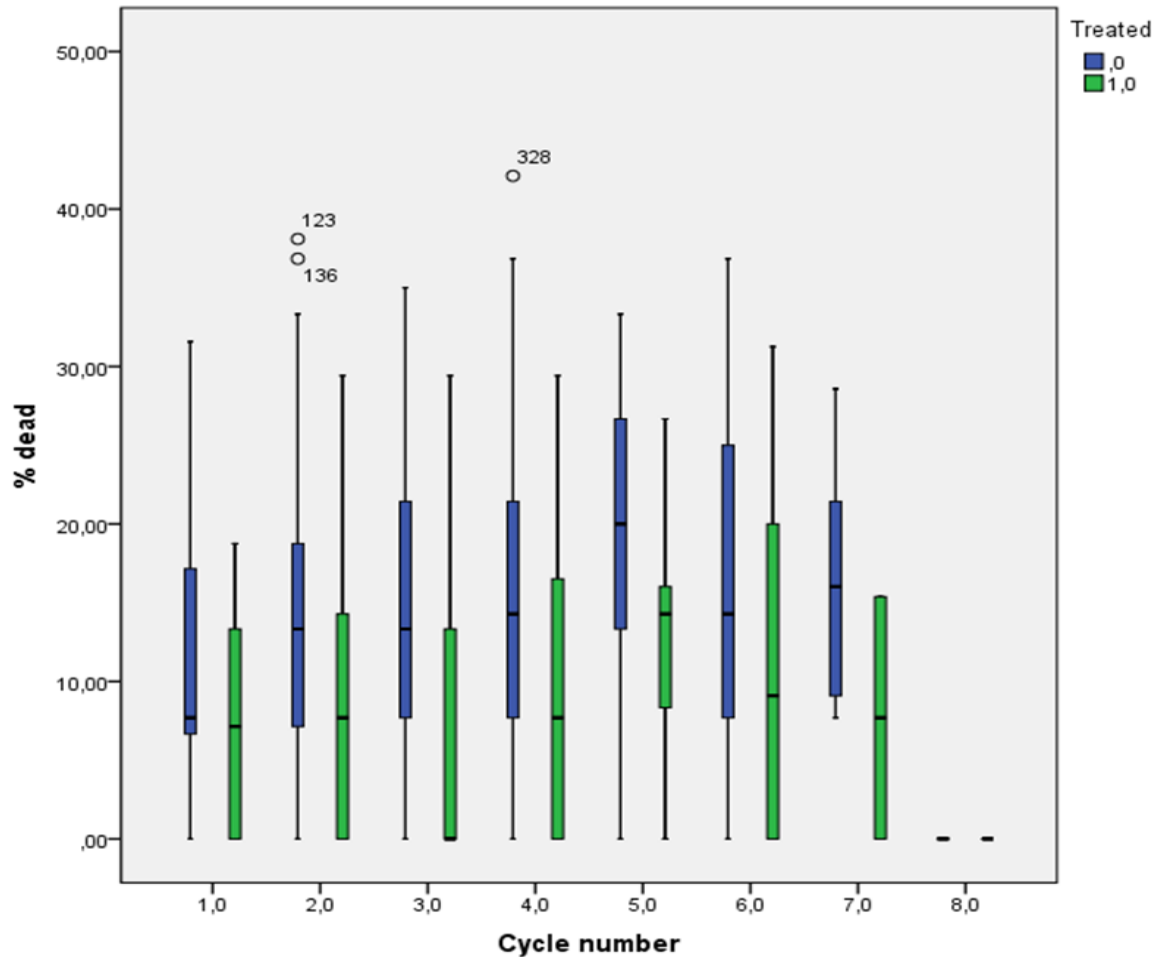
- ▶ 10 farrowing batches of sows were included:
 - 3 were treated (n = 140)
 - 7 served as controls (n=314)
- ▶ Similar parity in treated and control groups: 3.13 in treated vs. 3.27 in control groups



Performance data of the sows

	Treated	Untreated	Difference (treated - untreated)
Sows farrowed	140	314	
Total born per sow	13,87	14,37	-0,5
Born alive per sow	13,30	13,74	-0,44
Born dead per sow	0,60	0,64	-0,04
% of stillborn pigs	4,27	4,67	-0,4
Mummies per sow	0,23	0,39	-0,16
% of mummies	1,87	2,53	-0,66
% 1st parities	20,93	17,97	2,96
Piglets weaned per sow	12,00	12,17	-0,17
Piglet mortality % *	9,83	11,91	-2,08
Piglet mortality per sow *	1,33	1,64	-0,31
* = p<0,05			

Number and % of piglet mortality in farrowing according to parity



Statistical analysis for observed differences per parity (P-values)

<i>Parity</i>	Number of sows	Number of dead piglets (p-value)	Percentage mortality (p-value)
1	91	0.022	0.026
2	87	0.056	0.059
3	109	0.010	0.026
4	109	0.030	0.026
5	46	0.050	0.117
6	35	0.273	0.344
7	11	0.284	0.247
8	2	/	/

Confirmation trial

- ▶ Trial was repeated on the same farm with identical setup:
- ▶ Overall result in piglet mortality for both trials: (n = 1014)
 - ▶ Parities 1 & 2 : - **2.31 %** (p<0.01)
 - ▶ 9.62 % (T) vs. 11.93 % (C)
 - ▶ Parities 3 – 8: - **4.09 %** (p< 0.01)

- ▶ 10.19 % (T) vs 14.28 % (C)

Estimates of Fixed Effects^a

Parameter	Estimate	Std. Error	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Sows not treated	3,67	1,72	0,05	0,04	7,29
Sows treated	0 ^b	0,00			
[Parities 1-2]	-1,82	0,71	0,01	-3,21	-0,43
[Parities 3-8]	0 ^b	0,00			

a. Dependent Variable: % mortality.

b. This parameter is set to zero because it is redundant.

Financial analysis

▶ **Benefit:**

- ▶ Overall – 3,41 % piglet mortality (n = 1014 farrowings)
- ▶ For a sow farm with 500 sows = 563 extra piglets weaned per year
- ▶ $563 \times 25 \text{ €} = \mathbf{14075 \text{ €}}$

▶ **Costs:**

- ▶ 15 seconds scratching / sow = 25 min. / 100 sows per day
- ▶ = 2,92 h total (1 week) x 25 € / hour = 73 € / 100 sows
- ▶ Equipment: 157 € per year (Hifi + cabling)
- ▶ = **1051,25 € / 500 sows**

▶ **Extra profit:**

- ▶ **13023,75 € / year (26 € / sow)**

Conclusions

- ▶ Implementing easy-to-use animal welfare measures has benefits not only for the animals but also for the farmer.
 - ▶ We saw a significantly lower piglet mortality in the farrowing rooms
 - ▶ The animals were easier to handle (as experienced by the farmers)

This lead to a positive R.O.I. and a win-win situation for the farmer and the animals.

Questions?

