

EFFECT OF A MIXTURE OF HERBS (ESTRAL) ON REPRODUCTIVE PERFORMANCE OF SOWS

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INTRODUCTION

- Suboptimal reproductive performance in many sow farms → huge economic losses for the farmer (Maes 2009)
- Good estrus post-weaning, pregnancy rate, and litter size → most important
- Possible measures:
 - improvement of management, housing and nutrition → not always possible / sufficient
 - Hormonal treatment → not systematically, risks (e.g. COF)



AIM

To investigate the effect of a mixture of herbs provided once to gilts and sows before weaning on estrus and reproductive performance



STUDY FARM

- One farm
- Free of PRRS virus, *A. pleuropneumoniae* and *M. hyopneumoniae*
- High level of management and biosecurity
- High reproductive performance
- Size: 200 sows (Hypor)
- 5-week system
- Weaning at 24 days
- Two teaser boars
- One week after insemination → evaluation of body condition, group housing (feeding station)
- One week before expected farrowing → farrowing house

EXPERIMENTAL DESIGN

- 50 sows per weaning group
- 6 successive sow batches (300 in total)
- At weaning: stratified randomization (gilts, parity 1, 2, 3 and >3) into treatment and control group
- Treatment:
 - Sows: 1x 50 g/sow in the morning the day before weaning
 - Gilts: 1x 50 g/ gilt in the morning the day after the last altrenogest treatment
- Control: normal feeding
- All other aspects (management, housing, feeding): treatment and control group similar

ESTRAL®

Ingredients of the herb mixture (Estral ®)

- Vitex Agnus Castus: contains flavonoids vitexin and casticin)
- Salvia Officinalis
- Thymus Vulgaris

Once via top dressing



PARAMETERS OF COMPARISON

Estrus

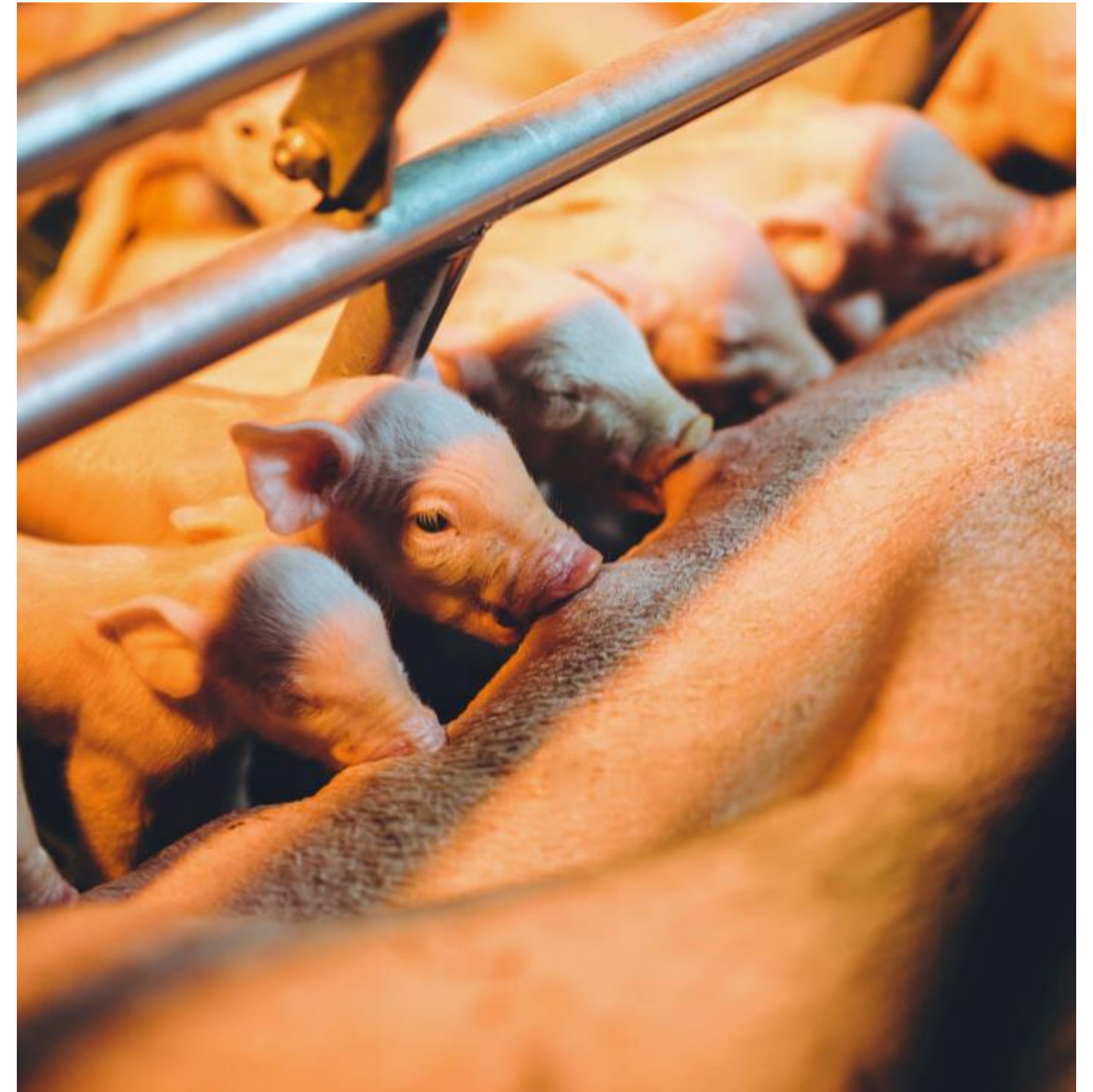
- % of sows showing estrus
- WEI
- Number of inseminations per estrus

Pregnancy

- Pregnancy rate
- Pregnancy duration

Litter data

- Total born, liveborn, stillborn, mummified
- % of sows with stillborn and mummified pigs
- Piglet weight 24h after birth



DATA ANALYSIS

Parameter	Model
Estrus, pregnancy, and litter performance	Generalized linear model, with: - treatment as the independent variable - batch and parity as covariates
Gestation length	Kruskal-Wallis ANOVA

RESULTS: ESTRUS AND PREGNANCY

Parameter	C	T	p-value
% of sows in estrus post-weaning	98.1	98.0	0.899
Weaning-to-estrus interval (hours)	113.1	112.9	0.723
Number of inseminations per estrus	2.4	2.3	0.387
Pregnancy rate (%)	93.2	97.4	0.072
Gestation length (days)	115.7	115.4	0.036

RESULTS: LITTER DATA

Parameter	C	T	p-value
% of stillborn pigs	7.3	7.1	0.958
% of sows with stillborn pigs	42.9	41.2	0.756
% of mummified pigs	2.7	2.8	0.961
% of sows with mummified pigs	66.2	64.1	0.699
Total born pigs per litter	16.5	16.7	0.651
Liveborn pigs per litter	15.1	15.3	0.605
Litter weight 24h post-partum (kg)	21.1	21.3	0.663

DISCUSSION

- Most parameters numerically better in treatment group
- Gestation length significantly shorter -0.3 days (7.2 h) ($P < 0.05$)
- Pregnancy rate +4.2% (93,2% vs 97,4%) ($P = 0.072$)

DISCUSSION

- Treatment: 1x, easily applicable, easy to implement in daily management
- Smell / taste of the product
- Only one farm with good reproductive performance → not much room for improvement
- Further research: more farms, farms with lower reproductive performance, effects of other doses of the product