

## Poster Abstracts

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A large-scale field study finds a novel boar pheromone stimulates reproductive performance in sows

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### Introduction

Farrowing rate and litter size comprise the major components of reproductive performance in modern commercial swine units. Improvements in reproductive performance can improve farm profitability, efficiency of pigs marketed per sow, and farm sustainability. The objective of this research project was to document the effects of a novel boar pheromone containing three active molecules (androsteneone, androsteneol and quinoline) on commercial USA swine farms.

### Materials and Methods

Farms applied the product (BoarBetter; BB) or used nothing or typical practices as a control. The BB was sprayed on days 4 and 5 before mating and later days if a given sow was not in estrus by day 5. Most farms alternated weeks between control and BB weeks. Farm records were collected by farm staff and the results entered meta analyses that examined each measure. The dataset contained over 3,000 litters from 11 farm sites located in six USA states. Each farm was analyzed individually using a statistical model of treatment, parity and treatment by parity interaction. If previous lactation length and gestation length were known, they were included in the analyses.

### Results

Sows were included when their previous lactation was 17 to 28 days. The meta analyses considered each of the 11 farm sites as a single observation with Least Squares means data points for control and treatment generated from the ANOVA conducted within each farm. Overall, BB increased ( $P < 0.05$ ) total born and born alive per litter. BB treatment increased ( $P < 0.05$ ) pigs born alive by 0.56 piglets/litter (SE = 0.17) with control and BB farms averaging 12.6 and 13.2 (SE = 0.42), respectively. The treatment by parity interaction was significant ( $P < 0.01$ ). BB increased ( $P < 0.01$ ) pigs born alive per litter in parities 1 to 3, but not parities 4 to 6. Farrowing success rate (farrowed relative to number eligible to be bred) was higher by 3.6% ( $P = 0.05$ ) for BB compared with control sows. BB may save labor and reduce the dependence on live boars.

### Conclusion

We conclude that this novel boar pheromone stimulates sow reproductive performance and may improve farm sustainability.

**Keywords:** swine, reproduction, pheromone, litter size