

# Effect of Social Group Size on Aggressive Behaviour of Grower-Finisher Pigs in Fully-Slatted Floor Rearing System

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## Summary

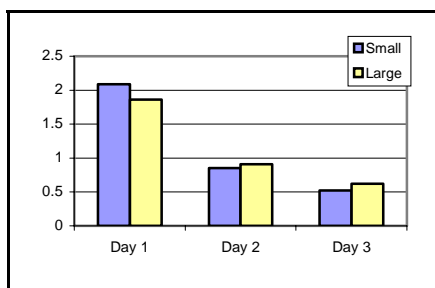
The impact of large group size on social behaviour of pigs is poorly understood. A study was conducted to assess the social aggression of grower-finisher pigs in large groups. Pigs with large social group experience displayed a significant reduction in aggressive behaviour compared to those living in small social groups.

## Introduction

Most studies into social behaviour in pigs have been limited to relatively small group sizes (<40 pigs/group) compared to those that are now used in some commercial practices. The social strategy adopted by pigs in large social groups is not well understood, but it could be expected that the pigs in larger groups will adopt different social strategies than those exhibited by pigs in small social groups. Any changes in the social behaviour of pigs in larger groups could directly affect the overall welfare and productivity of animals. The objective of the present study was to determine the effect of large social groups on aggressive behaviour of grower-finisher pigs.

## Experimental Procedures

Eight blocks, each comprising four

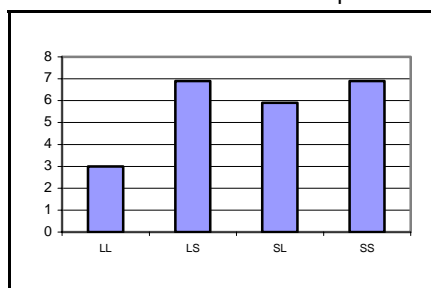


**Figure 1.** Percentage of time fighting observed at 0, 24 hrs and 48 hrs following formation of groups.

pens of 18 pigs (SG) and two pens of 108 pigs (LG) on fully slatted floors ( $0.76 \text{ m}^2/\text{pig}$ ) were used in the experiment. Initial body weights averaged  $31.8 \pm 5.4 \text{ kg}$ , with equal numbers of barrows and gilts in each pen. Pigs were fed from multi-space wet/dry feeders, with a pig to feeder space ratio of 9:1. Three studies were conducted to evaluate the aggressive behaviours of pigs. Study1: Initial level of aggression was recorded for two hours, starting 0, 24hr and 48hr following group formation. Study 2: On weeks 1, 6 and 12 on test, a selected pair of pigs from a pen (SG or LG) was transferred to another pen (SG or LG) to assess the effect of social experience (SG vs. LG) on aggressive behaviour upon mixing to an established social group (SG vs. LG). Aggressive behaviours were recorded for 2 hr and a total of four different combinations were tested (88 pigs/combination). Study 3: After 8 weeks on test, a total of 200 pigs were re-grouped in a separate small pen for 2 hr in groups of four to assess the effect of prior social experience (SG vs. LG) on aggression with pigs from their own pen or unfamiliar pigs from SG and LG.

## Results and Discussion

There was no difference in the per-

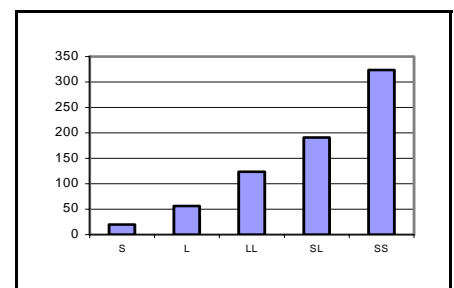


**Figure 2.** Percentage time spent on aggression ( $P < 0.05$ ) upon mixing of pigs.



centage of time spent fighting observed between the two group sizes up to 48hr following grouping (Figure 1). When pigs with large social group experience were mixed into an established large social group (LL), a significant reduction in time spent in aggressive behaviours was observed between the intruder and the resident pigs ( $P < 0.05$ ) than when pigs with LG experience were introduced to SG (LS), or SG experience were introduced to LG (SL) or SG (SS) (Figure 2). Upon re-grouping into pens of 4 pigs at week eight, pigs derived from two SG showed an increased level of aggression towards unfamiliar pigs compared to those that were derived from two LG. When pigs derived from SG and LG were combined an intermediate level of aggression was observed (Figure 3). This indicates reduction in aggressive behaviour by pigs living in large social groups.

## Conclusion



**Figure 3.** Mean duration of fighting observed in five different pig combinations tested ( $P < 0.05$ ).