

Pattarawut Mainoi 2010: Influences of Social Grouping and Environmental Enrichment on Productive Performance of Growing-Finishing Female Pigs. Master of Science (Agriculture), Major Field: Animal Science, Department of Animal Science. Thesis Advisor: Assistant Professor Jamroen Thiengtham, Ph.D. 75 pages.

Two studies were conducted to investigate the effect of enrichment within pens during grouping of piglets after weaning on production performance and behavior expression. In Experiment I, 225 crossbred female piglets after weaning (45 days of age), with average body weight of 27.75 ± 2.00 kg, were divided into 3 groups. Each group comprises of 3 replicates with 25 pigs in each replicate. Animals in Control group were given nothing in the pen during mixing, while those in group 2 were given dry coconut fruits (5/pen) and those in group 3 were given banana leaves (20-30 stems/pen). The behaviour of all animals were observed during sampling periods (0-3 h, 4-7 h, 25-28 h and 30-33 h; 0 h= time start mixing). Numbers of fighting bout in each sampling period and total numbers of fighting bouts were significantly different among groups ($P < 0.05$). Skin lesion scores were also highly significantly different among groups ($P < 0.01$). Weight gain and average daily gain of the piglets during fattening period were significant different ($P < 0.05$). The overall average and at Day 5 after grouping of faecal cortisol concentrations of the piglets were significantly different among groups ($P < 0.05$). All indicators were in favor of the groups with novel objects given to the animals. It seems that simple enrichment techniques used in this study are effective to reduce both fighting and aggressiveness towards pen mates during grouping. The animals in enriched groups also showed improved productive performance.

Experiment II involved 4 groups of 300 crossbred female piglets after weaning (at 45 days of age), with average body weight of 26.25 ± 2.00 kg. Each group comprises of 3 replicates with 25 pigs in each replicate. Animals in Control group were selected from different litters with no objects during mixing. While those in group 2 were selected from different litters and given dry banana leaves. Group 3 were mixed during nursing with no objects. Group 4 were mixed during nursing and given dry banana leaves. The behaviour of pigs in all treatments were observed during sampling periods (0-3 h, 4-7 h, 25-28 h and 30-33 h; 0 h = time start mixing). Numbers of fighting bout in each sampling period and total numbers of fighting bouts were significantly different among groups ($P < 0.05$). Skin lesion scores were highly significantly different among groups ($P < 0.01$). Gain and average daily gain of the piglets during fattening period were significant different ($P < 0.05$) The overall average and at Day 5 after grouping of faecal cortisol concentrations of the piglets were significantly different among groups ($P < 0.05$). It seems that simple experience before mixing and enrichment techniques used in this study are effective to reduce fighting and aggressiveness towards pen mates during grouping. In addition, the animals in experienced group prior to mixing and those in enriched groups show improved performance as compare to those in Control group.

Student's signature

Thesis Advisor's signature