

Effect of Bedding on Hygiene Condition and Performance in Growing-Finishing Pigs

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Abstract

A study was conducted to investigate the influence of bedding on productive performance, smell and number of fly worm in pig farming. Twenty four (24) pigs, average about 30 kg body weight, were divided into 6 groups, 2 castrated males and 2 females in each group. A randomised complete block design (RCBD) was applied on the study, using sex of the animals as blocks. Each group of pigs was randomly selected to be raised on different kinds of bedding: solid concrete, rice straw, husk, husk ash, sawdust and dry grass. Average daily gains (ADG) during the 90 to 100 days of experimental period were 0.629, 0.625, 0.597, 0.665, 0.629 and 0.666 g/pig/day and feed conversion ratio (FCR) were 2.75, 2.68, 2.94, 2.69, 2.78 and 2.67 for pigs raised on solid concrete, rice straw, husk, husk ash, sawdust and dry grass, respectively. The productive performance of pigs raised on husk ash and dry grass were slightly better than of the other groups but not statistically different ($P>0.05$). The effect on the hygiene condition was evaluated by giving the score 1-4, a smaller score indicate a better condition. The scores were significantly different ($P<0.05$). Husk ash had the best score followed by solid concrete, husk, rice straw, sawdust and dry grass (1.188, 1.225, 1.877, 2.393, 2.705 and 2.890, respectively).

Keywords: Growing-finishing pigs, productive performance, bedding, hygiene condition

Introduction

Pig production has played a very important role in the economy of Thailand. But beside the negative aspects of pig raising on the environment is undeniably. Air became polluted by noxious odors and it recognized that pig farm was source of flies and mosquitoes spread. It had evidences on using of sawdust as bedding material in pigpen could reduce this problem. But some area could not provide this material. Thus, this study was conducted to investigate the influence of different kind of bedding material on productive performance and hygiene condition in smell and number of fly worm in pig farming.

Materials and Methods:

Twenty-four Largewhite-Landrace-Duroc crossbred pigs (12 castrated males and 12 females), average about 30 kg initial body weight were blocked by animals sex and randomly assigned to be raised on different kinds of bedding: solid concrete, rice straw, husk, husk ash, saw dust and dry grass. Pigs were housed individually in pen (2x2 m) equipped with nipple drinker and had *ad libitum* access to the water and feed. Pig's performance and hygiene condition were monitored weekly. The effect on hygiene condition was evaluated by giving the score 1-4, a smaller score indicate a better condition. Collected data were analyzed by ANOVA procedures (SAS, 1986).

Results

Data on productive performance of the pigs in growing-finishing period is show in table 1. The results indicated that there were no statistically differences among the treatment. However, productive performance of pig raised on husk ash and dry grass were slightly better than of the other groups. But the effect on hygiene condition were significantly different ($P<0.05$). Husk ash had the best score followed by solid concrete, husk, rice straw, saw dust and dry grass.

Table 1. Productive performance and hygiene condition of growing - finishing pigs raised on different kind of litters

Performance and hygiene condition	Type of litter					
	Solid concrete	rice straw	husk	husk ash	sawdust	dry grass
Number of pigs	4	4	4	4	4	4
Initial weight (kg)	30.25	31.10	29.75	30.37	30.17	30.12
Final weight (kg)	90.50	91.65	90.15	90.12	90.75	90.35
Average daily gain(g/pig/day)	0.629	0.625	0.597	0.665	0.629	0.666
Feed convection ratio	2.75	2.68	2.94	2.69	2.78	2.67
Feed intake (kg/pig/day)	1.72	1.67	1.75	1.78	1.74	1.77
Days of experiment	95.75	95.25	100.00	90.75	96.25	90.50
Hygiene condition score	1.225 ^a	2.393 ^{bc}	1.877 ^{ab}	1.188 ^{ab}	2.705 ^c	2.890 ^c

^{a,b,c} Values with the same superscript in the same row are significantly different ($P<0.05$)

Conclusions

1. Productive performance of pigs raised on six types of bedding material showed no statistically different.
2. Husk ash indicated most good hygiene conditions by reduce smell and fly worm in pigpen.

Reference

SAS, (1986). SAS for linear models. A guide to the ANOVA and GLM procedure. SAS Institute Inc, North Carolina. 231 p.