Short Communication

EFFECT OF DIFFERENT FEEDING SYSTEMS ON BACK FAT THICKNESS AND BODY MEASUREMENTS IN FATTENER PIGS

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ABSTRACT

Pig rearing on concentrate feed may not be economical because of higher market price of raw materials. The alternative source could be the use of swill feeding. Consequently, the impact of the swill feed on the back fat thickness and body measurements calls for investigation against concentrate feeding. Hence in the present study, an attempt was made to compare the body measurements and back fat thickness in fattener piglets which were fed with swill feed vs. concentrate feed. Body measurements were made using measuring tape and back fat thickness was recorded with Lean Meater. By statistical analysis it was found that there was no significant difference in body length, girth and back fat thickness of pigs between the treatments. This indicated that the type of feed has no effect on the body measurements and back fat thickness in fattener pigs.

Key words: Fattener pigs, Body measurements, Back fat thickness, Swill feed

Intensive pig production systems have gained increasing interest in developing countries like India. Pig rearing on concentrate feed may not be economical because of higher market price of raw materials. Hence, an alternate feeding system has to be explored for least cost pig rearing. The alternative source could be the use of swill feeding. Feed cost accounts to about 70 per cent of the expense in intensive production. Off late swill feed or left over feed from hotels are becoming increasingly used to economise the intensive pig production. The efficiency of pig production systems relies on the weight gain, body scoring etc. However, the back fat thickness and body measurements are considered as the major parameters to appraise the method of production. In pigs, major elements of back fat or subcutaneous fat consist of water, collagen, and lipid. The major composition of lipid in subcutaneous fat is triacylglycerol. The amount of fat and feed intake affects the

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concentration of fatty acid in subcutaneous fat (Wood *et al.* 1989). Consequently, the impact of the swill feed on the back fat thickness and body measurements calls for investigation against concentrate feeding. Hence in the present study, an attempt has been made to compare the body measurements and back fat thickness in fattener piglets which were fed with concentrate feed vs. swill feed.

The measurements were made from fattener pigs maintained at University Research Farm, Madhavaram, Chennai. Pig sty having conventional open run and pen system, housing 10 - 13 piglets, providing a floor space of 0.9 m^2/pig were selected. Monthly deworming and spraying for ectoparasite control were practised. A total number of seventy weaned Large White Yorkshire piglets of both sexes at an age of 3 months were selected and divided into two treatment groups. The piglets in T1 were offered swill feed and in T2 were given concentrate feed. The fatteners were provided with swill (CP 15.28 per cent) supplied from a college hostel at the rate of 4 kg/pig/day. The concentrate feed (CP 14.1 per cent) was provided at the rate of 1 kg/pig/day. Body length was measured as the distance between the anterior edge of the shoulder joint and the point of buttock, the chest girth circumference was measured immediately behind the forelimbs. All the measurements were made using measuring tape. The back fat thickness was found using the Renco ultrasound Lean Meater, as per Cho *et al*. (2006). Before application of the Lean Meater, water was applied on the back of the pigs as a coupling fluid. The back fat thickness value was found using a probe which was moved by the operator's fingers along the hogs flank until the last rib was felt and the probe was placed here from either side of the back bone. The back fat thickness (layer I and II) is read by the instrument in millimetres. The data collected were subjected to statistical analysis as per the method of Snedecor and Cochran (1994).

The mean ± S.E of the body length, chest girth and back fat thickness in layer I and II is given in Table 1. The results of statistical analysis are given in Table 2. By statistical analysis it was found that there was no significant difference in body length, girth and back fat thickness of pigs between T1 and T2. This indicated that both swill feed and concentrate feed have same effect on the parameters studied. This is in agreement with the findings of Gustafson and Stern (2003) and Murugan *et al*. (2009). This indicates that swill feed was equally effective in promoting growth of the pigs. Whereas Anil (2005) reported a significantly higher body weight in pigs maintained in the field fed with swill feed compared to concentrate feed fed group in organised farm. The similarity in body measurement and back fat thickness in pigs, fed with swill and concentrate feed may be due to the higher moisture content and palatability of the swill feed which might have favoured higher feed intake (Adesehinwa and Ogunmodede, 2004; Murugan *et al.,* 2009). Hence this could be concluded that swill feeding could be used as an alternative feed resource to fattener pig that not only substantially reduces the feed cost but also enhances the growth of pigs.

Table 1. Mean ± S.E of body measurements and back fat thickness (cm)

Parameters		Measurements
Body length	T1	56.428±0.491
	T2	55.943±0.532
Chest girth	T1	50.269±0.497
	T2	48.422±0.649
Back fat thickness Layer 1	T1	0.8±0.511
	T2	0.88±0.405
Back fat thickness Layer 2	T1	1.547±0.886
	T2	1.374±0.512

Table 2. Results of statistical analysis

Parameters	t-value	d.f.	p value	Significance
Body length	0.263	65	0.793	NS
Chest girth	0.901	65	0.371	NS
Layer1	-1.208	65	0.232	NS
Layer2	1.62	65	0.11	NS

NS - Not significant

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