



FEEDING BEHAVIOUR OF CROSSBRED LARGE WHITE YORKSHIRE PIGS UNDER DIFFERENT FEEDING REGIMES*

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Abstract

A trial was conducted to document the feeding behaviour of crossbred Large White Yorkshire pigs under different feeding regimes. A total of 32 weaned crossbred (75 per cent) Large White Yorkshire piglets were selected at random comprising of eight piglets in each group and they were subjected to four different feeding treatments viz., 100 per cent concentrate (T1), 100 per cent swill (T2), 75 per cent swill plus 25 per cent concentrate (T3), 50 per cent swill plus 50 per cent concentrate feeding (T4). The pigs had free access to water in individual pens. The pigs were reared upto 180 days of age i.e four months after weaning. Feeding behaviour was recorded both manually and also by using video camera at fortnightly intervals in all the four groups. Intervals shorter than 5 min between visits to the feeder were regarded as within meal intervals and these visits were grouped into meals. Withdrawal of the snout from the feeder was taken as the end of feeding visit even when the pig re-entered the feeder immediately. There were highly significant ($P < 0.01$) differences in the feeding behaviour except the number of meals per day between the treatment groups.

Key words: Feeding behaviour, swill feed, concentrate feed, crossbred LWY pigs

In pig enterprises feed cost accounts for nearly 80 per cent of the total cost of production. Proper formulation of cheaper

rations based on locally available materials and efficient use of agricultural byproducts and food waste offers the best possibility of reducing the cost of production. In view of ever increasing cost of concentrates, farmers tend to establish contract with restaurant, hotels and hostels for the supply of garbage/ kitchen waste to feed pigs. Hence study of the behavioural aspects in pigs with respect to different feeding regimes will be supportive to the farmers to assess the preference of feed and ultimately to produce pork at a cheaper cost.

Materials and Methods

Thirty two weaned crossbred (75% Large White Yorkshire and 25 % Desi) piglets maintained under the All India Co-ordinated Research Project on pigs at Livestock Research Station, Kattupakkam were selected for this study. The randomly selected piglets were divided into four groups, each consisting of eight animals and they were subjected to four different feeding systems viz., Group I (T1) was fed with Concentrate feed alone, Group II (T2)-Swill feed alone, Group III (T3)-75% swill feed and 25% concentrate feed and Group IV (T4)- 50% swill feed & 50% concentrate feed. The pigs were housed intensively in four separate pens in the same building with concrete floor. Concentrate feed had a CP content of 18.04% with the following ingredients : Maize-35 parts; Cumbu- 6.5 parts; GNC-7 parts; Wheat bran-10 parts; Deoiled Ricebran-26 parts; Soyabean oil cake-8 parts; Dry fish -5 parts; Mineral mix-2 parts and

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common salt-0.5 parts. The pigs had free access to water in individual pens. The pigs were reared upto 180 days of age. The swill was collected from students hostel situated near the farm. Feeding behaviour was recorded both manually and also by using video camera at fortnightly intervals in all the four groups. The video camera that was used to record the feeding behaviour, had continuous recording facility and a monitor to view the same. Intervals shorter than 5 min between visits to the feeder were regarded as within meal intervals and these visits were grouped into meals. Withdrawal of the snout from the feeder was taken as the end of feeding visit even when the pig re-entered the feeder immediately. The data on the number of meals per day (NMD), number of visits per day (NVD), number of visits per meal (NVM), time per meal (TM), time per visit (TV), time per day (TD) and rate of feed intake (RFI) were recorded and then analysed statistically (Snedecor and Cochran, 1994).

Results and Discussion

The number of meals were higher in T1 group (3.74 ± 0.66) compared to T2 group (3.00 ± 0.62) and T4 group (2.83 ± 0.48) and T3 group (2.20 ± 0.56). But the values were not statistically significant (Table). This is in agreement with Jaishankar *et al.* (2002) who observed that number of meal was higher in groups fed with dry mash than that fed with wet mash.

The number of visits per day was highly significant ($P < 0.01$) in T1 group (18.37 ± 1.12) than T2 (16.5 ± 0.84); T4 group (11.75 ± 0.36) and T3 group (10.25 ± 0.36) of pigs (Table). This might be due to decreased rate of feed intake in T1 groups compared to

garbage feeding. This in agreement with Vargas *et al.* (1987) Jaishankar *et al.* (2002) who also observed pigs fed ad libitum dry feed more frequently at the feeder and had longer feeding bouts, than pigs that consumed wet feed.

The number of visits per meal was found to be higher ($P < 0.01$) in T1 group (5.75 ± 0.52), followed by T2 group (5.5 ± 0.50); T4 (4.12 ± 0.35) and T3 group (3.62 ± 0.49) (Table). This again might be due to decreased rate of feed intake and increased number of visits per day. This is in accordance with Jaishankar *et al.* (2002) who reported that number of visits per meal was higher in dry mash group than wet mash group.

The time per meal (TM) was highly significant ($P < 0.01$) between groups, higher in T1 group (12.37 ± 0.46 min) and followed by T2 group (12.12 ± 0.29 min); T4 (9.75 ± 0.36 min) and T3 groups (9.12 ± 0.29 min) (Table). The decreased rate of feed intake in 100 per cent concentrate fed group might be the reason, which would have increased the time per meal. This is in concurrence with Jaishankar *et al.* (2002) who observed that the time per meal was higher in dry mash group than wet mash group.

The time per visit was significantly higher ($P < 0.01$) in T1 group. The time was estimated to be 3.55 ± 0.37 min, 2.25 ± 0.25 min, 2.30 ± 0.27 min and 1.96 ± 0.35 min respectively in T1, T2, T4 and T3 groups. This might be due to increased duration of feeding per day and decreased rate of feed intake. This concurred with the report of Jaishankar *et al.* (2002) who reported a time per visit was significantly higher in dry mash group than wet mash group.

Table. Mean \pm S.E and analysis of variance of feeding behaviour in crossbred pigs fed under different feeding regimes

Sl.No.	Feeding behaviour	T ₁	T ₂	T ₃	T ₄	'F' Value	C.D
1.	No of meals per day (NMD)	3.74 ± 0.66	3.00 ± 0.62	2.20 ± 0.56	2.83 ± 0.48	1.16 ^{NS}	
2.	No. of visits per day (NVD)	18.37 ± 1.12^b	16.50 ± 0.84^b	10.25 ± 0.36^a	11.75 ± 0.36^a	26.50**	2.91
3.	No. of visits per meal (NVM)	5.75 ± 0.52^b	5.50 ± 0.50^b	3.62 ± 0.49^a	4.12 ± 0.35^{ab}	4.79**	1.84
4.	Time per meal (TM) (min)	12.37 ± 0.46^b	12.12 ± 0.29^b	9.12 ± 0.29^a	9.75 ± 0.36^a	20.85**	1.40
5.	Time per visit (TV) (min)	3.55 ± 0.37^b	2.25 ± 0.25^a	1.96 ± 0.35^a	2.30 ± 0.27^a	5.03**	1.22
6.	Time per day (TD)	45.87 ± 1.79^d	36.62 ± 0.59^c	20.06 ± 0.48^a	27.03 ± 0.69^b	118.92**	4.03
7.	Rate of feed intake (RFI) (gms/min)	20.37 ± 0.49^a	40.62 ± 0.82^c	51.12 ± 0.69^d	33.00 ± 0.53^b	398.00**	2.53

** Significance at one percent level ($P < 0.01$) NS - Not significance

The eating time per day was highly significant ($P < 0.01$) between groups, higher in T1 (45.87 ± 1.79 min) compared to T2 (26.62 ± 0.59 min); T4 (27.03 ± 0.69 min) and T3 group (20.06 ± 0.48 min) of pigs. This may be due to decreased rate of feed intake in T1 group compared to T2 group. This is in concurrence with Jaishankar *et al.* (2002) who reported that eating time per day was also higher in dry mash group than wet mash group.

A significantly higher ($P < 0.01$) rate of feed intake was recorded between treatment group with higher feed intake in T3 group (51.12 ± 0.69 g/min) compared to T2 (40.62 ± 0.2 g/min) and T1 groups (20.37 ± 0.49 g/min) of pigs. This is in accordance with Gonyou and Lou (2000) who reported that, meal diets reduced the speed of eating in pigs and when water was premixed with feed, the speed increased from 42.2 ± 7.3 to 123.7 ± 30.5 g/min. This observation corroborated with that of Jaishankar *et al.* (2002) who reported that higher rate of feed intake in wet mash group than dry mash group.

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