

The effect of grooming on the fattening performance of Brown Swiss bulls

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Maximum beef and milk yields of cattle are mainly based on superior genetic capacity of the animal, suitable feeding and management as well as hygienic housing conditions. The health of animals could be adversely influenced by the inappropriate housing conditions. External parasites and dirt can be harmful for the health of cattle. So, cleaning of both animal and barn should not be underestimated for successful cattle raising.

In Turkey, cattle are generally fattened in closed barns during winter. Bedding material such as straw or sawdust is used in fewer amounts since their high prices. Therefore, animal's coat easily becomes dirty and especially its back and abdomen areas are covered by manure, dirt or dusts. Since these may cause irritation and annoyance in the animal, some cattle breeders strongly believe that grooming is useful as much as feeding in fattening procedure. They also suggest that in cattle grooming improve fattening performance as it makes animals feel more comfortable. There are several benefits of the grooming procedure. Vigorous brushing stimulates the blood circulation in the hide and keeps it in a loose pliable condition. Additionally, grooming brings out the natural oil in the hair and removes dirt, dandruff and dead hair, and animal feels comfortable (Ensminger 1983, Akman 1998).

The present study was undertaken to determine whether the grooming procedure improves fattening performance of Brown Swiss bulls in terms of daily weight gain and feed efficiency ratio characteristics.

Brown Swiss bulls (20) around 11 months of age were assigned two treatment groups. They were housed in closed barn during winter. The bulls in first group (the grooming group) were vigorously brushed and cleaned up once a day. Second group animals were kept as control group, and they were not groomed by workers during the fattening period. At the beginning of the fattening, all bulls were weighed for 3 consequent days before the fattening. The feeding period

lasted for 4 months. Brown Swiss cattle were fed a conventional ration containing 70 % concentrate and 30 % roughage (dry hay, wet sugar beet pulp and straw) as used by most of the cattle breeders in Eastern Turkey. Group feeding was applied and automatic waterers supplied water during the trial. Amount of feed consumed by each group was determined daily. Bulls were weighed individually with 1 month intervals.

The data were analysed statistically by using completely randomised experimental design and initial weights of the bulls were included to the statistical model as a covariant. The ANOVA was carried out by using statistics package programme.

Initial fattening weights of cattle were not statistically different. Final weight and weight gain values were also not influenced by the grooming (Table 1). The bulls in the

Table 1. Fattening performance of Brown Swiss bulls

	Grooming n=10 X±S _x	Control n=10 X±S _x	Significance
Initial weight (kg)	192.9±8.097	191.3±8.097	NS
Final weight (kg)	302.4±3.197	295.4±3.197	NS
Total weight gain (kg)	110.3±3.829	105.1±3.829	NS
Daily weight gain (kg)	0.919±0.032	0.876±0.032	NS
Feed efficiency ratio ¹	9.71	10.76	-

X±S_x : Least squares means ± standard error of mean, NS: nonsignificant,

¹Feed efficiency ratio = consumed dry matter of feed (kg)/ weight gain (kg). The chemical composition of dry hay was 92.0% dry matter, 6.5% crude protein, 3.1% ether extract, 8.3% crude ash, 30.0% crude cellulose and 44.1% nitrogen free extract. The wet sugar pulp contained 12.6 % dry matter, 0.14 % crude protein, 1.6% ether extract, 0.53% crude ash, 5.4% crude cellulose, and 4.93% nitrogen free extract. The straw had 92.8% dry matter, 3.4 % crude protein, 2.4 % ether extract, 10.5 % crude ash, 38.3 % crude cellulose, and 38.2% nitrogen free extract. The chemical composition of concentrate was 89.1% dry matter, 13.7% crude protein, 2.9% ether extract, 4.7% crude ash, 8.6% crude cellulose, 59.2% nitrogen free extract.

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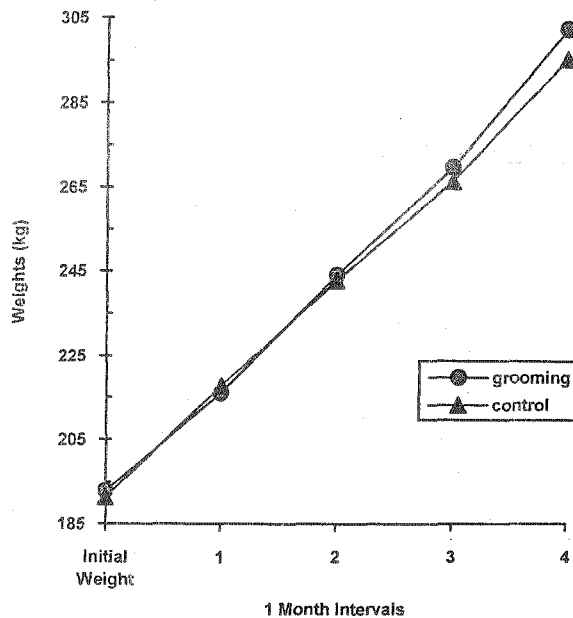


Fig. 1. Weights of Brown Swiss bulls along with 1 month intervals.

grooming group had higher (5.2 kg) total weight gain than those in control groups during the fattening but, the difference was not statistically significant. The daily weight gains obtained in the present study were similar with results of Yavuz (1991), but lower than findings of Raciú *et al.* (1978), Videv (1980), and Yanar *et al.* (1990).

The weights of the bulls obtained at 1 month intervals were plotted in Fig. 1. The average values belonging to the grooming group at 2, 3 and 4 month intervals were higher than control groups, however, the differences between groups were statistically insignificant.

The average overall feed consumption (as dry matter) per kg weight gain for the bulls in grooming group were 1.05 kg better than that of cattle in control group. The feed efficiency ratios in this study were in accordance with findings of Yavuz (1991), and Yanar *et al.* (2000).

The results of the study revealed that grooming procedure for finishing cattle had slightly positive influence on the

weight gain and feed efficiency ratio characteristics of Brown Swiss bulls housed in the closed barn.

SUMMARY

The effects of the grooming procedure on the fattening performance of Brown Swiss bulls were investigated in this study. Overall results suggest that grooming procedure for fattening cattle had slightly improving effect on the weight gain and feed efficiency ratio characteristics of Brown Swiss bulls housed in the tie-stall barn.

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