

Note on Effect of Feeding Seaweed to Growing Surti Male Buffalo Calves

J. P. Patel and P. C. Shukla

Animal Nutrition Department, Gujarat Agri. Univ.,
Anand Campus, Anand — 388 110

LOOKING to the present shortage of cattle feeds, animal nutritionist have worked out the possibility of utilizing the unconventional feeds in cattle ration. Seaweed is one of such unconventional ingredients which is available in large quantities. Therefore, an attempt is being made to explore the possibility of using seaweed in growing buffalo male calves.

The study was conducted for a period of 8 weeks using 6 growing Surti buffalo male calves. The two treatments consisted of control group (T_1) having 0% level of seaweed in concentrate mixture and treated group (T_2) having 20% level of seaweed (*Sargassum* spp.) in concentrate mixture. The proportion of ingredients used in T_1 and T_2 were, maize gluten 23.7 and 24.5, deoiled-rice-bran 20.0 and 0.0, seaweed 0.0 and 20.0, cotton-seed-cake 12.0 and 17.0, groundnut cake 40.0 and 35.0, salt 2.0 and 2.0, calcium carbonate 2.3 and 0.0, sodium phosphate 0.0, 1.5 per cent respectively. In both the concentrate mixture vitamin A was supplemented @ 1.5 gram (vitamin

A acetate powder) per 100 kg concentrate mixture. Wheat straw was used as the roughage.

All the calves were fed individually as per Sen's Feeding Standard (1971). Body weights were recorded at weekly interval and in the last week of experiment a metabolism trial was conducted by conventional method. The chemical analysis of feeds and fodder used during the experiment was carried out as per AOAC (1970) methods and are given in Table 1. The data were statistically analysed by using 't' test (Snedecor and Cochran, 1967).

TABLE 1

Chemical composition of feeds (% on dry matter basis).

Sr. No.	Constituents	Concentrate mixtures		Wheat Straw
		I	II	
1.	Crude Protein	27.57	28.13	5.49
2.	Ether Extract	4.01	3.82	1.97
3.	Crude Fibre	11.05	9.81	32.82
4.	N.F.E.	45.06	39.82	49.28
5.	Ash	12.31	18.42	10.44
6.	Silica	3.14	6.15	4.61
7.	Phosphorus	0.79	0.85	0.14
8.	Calcium	1.05	1.65	0.35

The results on total gain in weights are given in Table 2 along with percentage dry matter consumption.

The results revealed that with 20% replacement of concentrate mixture by seaweed, there was about 5 kg less gain in weight as compared to control group.

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TABLE 2

Effect of feeding seaweed on gain in body weight (kg) and dry matter consumption (kg/day/100 kg body weight).

Ani. No.	Gain in weights		Dry matter consumption	
	T ₁	T ₂	T ₁	T ₂
1.	12.71	7.71	3.13	2.91
2.	16.32	7.47	3.00	3.00
3.	18.60	17.69	3.16	3.23
4.	15.88	10.96	3.10	3.05

't'		
Value	1.299 NS	0.468 NS

NS = Non-significant

However, the statistical analysis of data did not show significant difference. These results were in line with those reported by Shukla, Talpada and Patel (1974). Similarly data on per cent dry matter consumption did not differ significantly between two groups, which is in line with the findings of Desai and Shukla (1974). Thus, these results suggested that calves could consume sufficient quantity of ration containing seaweed.

TABLE 3

Effect of feeding seaweed on digestibility coefficient of proximate nutrients and balances of N, P. and Ca.

Sr. No.	Constituents	T ₁	T ₂	't' Value
Digestibility Coefficient				
1.	Crude Protein	73.74	70.37	3.15 NS
2.	Ether Extract	66.79	68.30	-0.61 NS
3.	Crude Fibre	47.45	52.49	-2.69 NS
4.	N.F.E.	48.34	41.05	2.59 NS
5.	Organic Matter	54.15	50.74	1.77 NS
Balances (g/day/animal)				
1.	Nitrogen	+26.75	+20.84	0.85 NS
2.	Phosphorus	+0.92	+0.67	0.66 NS
3.	Calcium	+2.62	+1.75	1.63 NS

NS = non-significant.

The data on average digestibility coefficient and balances (whole ration) are presented in Table 3.

The digestibility coefficient of crude protein, ether extract, crude fibre, nitrogen free extract and organic matter were found to be statistically non-significant between two treatments. Similarly the balances of nitrogen phosphorus and calcium did not differ significantly between the two groups. These results were in agreement with these reported by Wholbier and Windheuzer, (1939); Desai and Shukla, (1974) and Shukla *et al* (1974).

Thus from these results it is concluded that the seaweed can be fed during scarcity period as there was no adverse effect on the growth of the growing male buffalo calves.

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