



# Effect of Butirex-C4 in milk replacer on growing and diarrhoea incidence in calves

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## SUMMARY

Early development of rumen papillae is needed to stimulate feed intake and to increase subsequent growth performance. Also, the incidence of diarrhoea is the most common symptom of various diseases in calves.



Butyrate has widespread effects on feed efficiency through proliferation, differentiation, and function of rumen papillae. Eliminating the cause of diarrhoea is often impossible, but it is possible to reduce the incidence of this symptom with butyric acid. Butirex C4 added in milk replacer at 2-4 Kg/Mt is soluble at 50-70° C.

The goal of this research is to evaluate the effect of a source of protected sodium butyrate (Butirex-C4) on growth performance and the number of cases of diarrhoea of young milk-fed calves.

## METHOD AND MATERIAL

Research were conducted on the subsidiary farm of the company Reftinskaya Poultry Farm OJSC, Sverdlovsk Region.

Study was performed on 2 groups of Holstein calves, 10 animals each, from 5 days to 2 months of age:

- **Control diet:** Animals of the control group were received the basal diet.
- **Experimental group:** It were feed with the basal diet + 5 g/head/day Butirex C4 in the in the milk.

Butirex C4 is a water-soluble form of sodium butyrate protected with buffer salts.

Animals were feed with 7 kg/d of milk, supplied in 2 times (50:50)

## RESULTS AND DISCUSSION

Body weight gain (BWG) was improved with Butirex-C4 supplementation in calves (Table 1). Animals feed diet with Butirex C4 shown higher BWG (from 0 to 60 d; 794.2 vs. 752.5 g/d), and this difference was higher in younger animal.

**Table 1.** Effect of Butirex-C4 on body weight gain of calves.

Period	Parameter	Group		Difference %
		Control	Butirex C4	
BW, kg	Birth	35.8	35.4	- 1.11
	30 d	58.05	59.2	+1.98
	60 d	80.95	83.05	+2.59***
BWG, g/d	0 to 30 d	741.7	793.3	+6.97**
	30 to 60 d	763.3	795.0	+4.15**
	Cumulatively	752.5	794.2	+5.54**

**\*P <0,001; \*\*P <0,01; \*\*\*P <0,05**

Frequency of diarrhoea incidence is an indicative of intestinal health. Eliminate the cause of diarrhoea is often difficult, but the inclusion of Butirex C4 in the diet improve intestinal digestibility and microbial balance, reducing diarrhoea incidence in calves (Table 2).

**Table 2.** Effect of Butirex-C4 on the number of cases of diarrhoea of calves.

	Group		Difference %
	Control	Butirex C4	
Number of cases of diarrhoea	11	3	-72.7

## CONCLUSION

The present research results indicate a positive effect of Butirex-C4 on growth performance and incidence of diarrhoea of young milk-fed calves.