



## CALF DIARRHOEA – A CONSIDERATION OF THE PREVENTIVE EFFECT OF A HOMEOPATHIC MEDICAMENT

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### ABSTRACT

The effect of preventive application of a polycomposite homeopathic remedy was evaluated in a group of 548 calves to the age of 21 days. An experiment was conducted in a herd with conventional management under standard operating conditions. It can be concluded on the basis of morbidity comparison between the control and experimental groups that there was a marked trend of a reduction in the frequency of diarrhoea occurrence among the calves of the experimental group. There was a decrease in the morbidity rate in the experimental group by 5.46 %. But the statistical significance of the effect of the applied homeopathic remedy was not proved.

**Keywords:** calf, diseases, homeopathic remedy

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### INTRODUCTION

Newborn calves are characterised by marked cardio-respiratory, metabolic and endocrine changes which continue in subsequent weeks and months. The speed of adaptation of the various traits differs widely (Blum et al., 2000; Uhrinčať et al., 2002). In the field of dairy and beef product management, it is very important to prevent pathogenic and non-pathogenic diarrhoea in the nursing and rearing of calves. If calves become diseased during these periods, their growth may slow down, they are threatened by death or their productivity may decrease at their adult age. It is also known that diarrhoea causes diseases of respiratory organs, such as pneumonia, etc. On the rearing farm, the occurrence of non-pathogenic diarrhoea is more common than pathogenic diarrhoea. Non-pathogenic diarrhoea is caused by an imbalance of the intestinal microflora in the most cases. Various types of stresses, for example, consumption of high-density feed, drastic changes in weather, particularly in temperature, changes in feed components and changes in conditions after transportation are the main factors

causing diarrhoea (Uhrinčať et al., 1998; Vršková et al., 2004; Kišac et al., 2005). Once the balance of intestinal microflora is disturbed, pathogenic bacteria, viruses, and coccidia can easily infect the calves (Ishihara et al., 2001). Diarrhoea causes the discomfort of calves (Naylor, 1999) and economic losses (Barrington et al., 2002; Kišac et al., 2004). Bendali et al. (1999) regarded calving conditions, herd management conditions such as hygiene (cleaning, vitamin and salt supplements and cow vaccination) as risk factors having the influence on the occurrence of diarrhoea in calves in the month of birth. Andrews (2004) extended the list of the causes of disease outbreaks to include the effects of micro organisms. Towards the quantification of risk connection among health status, animals, management and environmental conditions, Perez et al. (1990) recommended the application of epidemiological methods. According to Kroupová et al. (2005), diarrhoea in calves occurs most frequently within two weeks after birth and the most frequent occurrence of diarrhoeal diseases in calves is between day 2 and day 8 after birth, with the occurrence frequency gradually decreasing to day 19 after birth.

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Hektoen (2005) specified three distinctive characteristics of homeopathy: remedies are prescribed on the totality of a person's symptoms; the remedy likely to cure a person is a dilution of such substance that would cause the same symptoms in a healthy person; and remedies are prepared using microdoses of substances which are diluted and then vigorously shaken. The results of observations of Martini et al. (2001) documented the success of homeopathic treatment of diseases such as mastitis, which was also confirmed by Šilhavá et al. (2005), who reported good results after application of a combination of conventional allopathic treatment and homeopathic remedy, and by Šoch et al. (2003), in whose experiment a homeopathic remedy had high anti-helminthic effects comparable to an allopathic remedy. On the contrary, insufficient effects of the treatment of neonatal diarrhoeas in calves were proved by De Verdier et al. (2003), Martini et al. (2001). According to Martini et al. (2001), homeopathy may be used in organic animal production systems as an efficient medical treatment and may often reduce the cost of the treatment.

The aim of this study was assess the effect of using polycomposited homeopathic remedy in the relation to the diarrhea in calves. We tested a hypotheses that the occurrence of scours frequency will be decreased after treatment with the homeopathic drug during the first week of life.

## MATERIAL AND METHODS

The experiment was conducted mainly on calves of the Holstein cattle, which were a predominant breed on the farm. As soon as they were born, the calves were allocated alternatively to a control and an experimental group irrespective of their sex.

When they fell ill, calves in the control group were given a treatment that is usually applied to the herd (DUON inj. ad us. vet., NORODINE 24 inj. ad us. vet., STREPTONAMID plv. ad us. vet., VETOFLOK 5% orale sol. Ad us. vet., ENGEMYCIN in. ad us. vet., AKTIMUGON inj. ad us. vet., TOMANOL inj. ad us. vet., B - komplex inj. ad us. vet., LINCO - SPECTIN inj. ad us. vet., VETRIMOXIN LA inj. ad us. vet., PNC). Electrolyte solutions should be used to restore body fluids and minerals (Rehyvet).

Calves in the experimental group received an additional polycomposited homeopathic preparation PVB Diarhées (*Arsenicum album* 5 CH, *Calcarea carbonica* 7 CH, *Colchicum autumnale* 5 CH, *Chelidonium majus* 3 CH, *China* 3 CH, *Ipeca* 3 CH, *Mercurius corrosivus* 5 CH, *Natrum sulfuricum* 5 CH, *Phosphoricum acidum* 5 CH, *Podophyllum peltatum* 5 CH, *Ricinus communis* 5 CH, *Veratrum album* 5 CH, aa q. s. ad 100 ml).

The application was done of the oral dose of 5 ml

at the 1st, 3rd and 5th day of life. Calves from this group were also treated by a conventional method if they fell ill. State of feces and health condition was evaluated two times daily. Results were immediately entered in prepared tables and subsequently assessed by the  $\chi^2$  test at the 95 % reliability level, and differences between the groups were also expressed in percentages. In this way, a total of 548 calves aged between 1 to 21 days (275 calves in the experimental group and 273 controls) were compared.

## RESULTS AND DISCUSSION

A difference in morbidity between the calves of control and experimental group was 14 tested animals in favour of the experimental group, i.e. 5.46 %. This difference was not evaluated by  $\chi^2$ -test as statistically significant (one-tailed p-value of 0.1163), even though it may reduce the total management cost expended on the treatment of diseased animals. The highest frequency of diarrhoea occurrence on the particular days after birth was observed in both groups in the first two weeks after birth from day 5 to day 8. Increased frequency during this period had no obvious coherence with treatments, but it was a consequence of adaptation stress and changes of intestinal microflora. This confirms the results of Bendalli et al., 1999; Blum et al., 2000; Rademacher et al., 2002; Naylor, 1999; Bazeley, 2003; Barrington et al., 2002; Kroupová et al., 2005). The occurrence of diarrhoea in the calves of the experimental group was also markedly shortened compared to the control group, from day 2 to day 16, while diarrhoeas in the control groups were recorded from day 1 to day 19 after birth. The results are shown in Table 1 and 2 in the appendix and illustrated in Fig. 1.

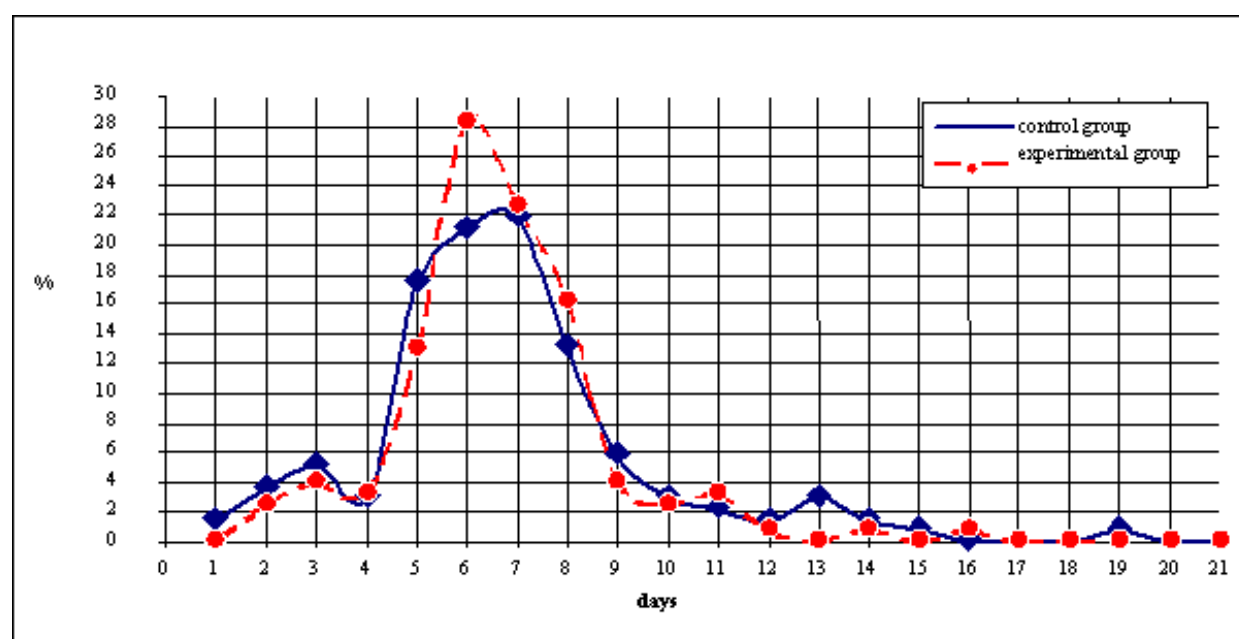
**Table 1: A comparison of morbidity between the calves of experimental and control group**

Index	No. of calves	%
Control group		
Total	273	100
Healthy	135	49.45
Diseased	138	50.55
Experimental group		
Total	275	100
Healthy	151	54.91
Diseased	124	45.09

A numerical difference between the control and experimental group is 14 calves, i.e. 5.46 %.

**Table 2: A comparison of diarrhoea frequency on the particular days after birth between the calves of control and experimental group**

Day	Control group		Experimental group	
	Diseased calves (no.)	%	Diseased calves (no.)	%
1	2	1.45	0	0.00
2	5	3.62	3	2.42
3	7	5.07	5	4.03
4	4	2.90	4	3.23
5	24	17.39	16	12.90
6	29	21.01	35	28.23
7	30	21.74	28	22.58
8	18	13.04	20	16.13
9	8	5.80	5	4.03
10	4	2.90	3	2.42
11	3	2.17	4	3.23
12	2	1.45	1	0.81
13	4	2.90	0	0.00
14	2	1.45	1	0.81
15	1	0.72	0	0.00
16	0	0.00	1	0.81
17	0	0.00	0	0.00
18	0	0.00	0	0.00
19	1	0.72	0	0.00
20	0	0.00	0	0.00
21	0	0.00	0	0.00

**Fig. 1: The comparison of running sickness in calves during observed period**

Based on the processed data it can be concluded that the efficiency of preventive application of a homeopathic remedy as a means of decreasing the frequency of diarrhoea occurrence in calves until 21 days of age is limited by herd management, which corresponds to the results of Martini et al. (2001), De Verdier et al. (2003) and Kroupová et al. (2005). At the present work, any negative effect was not found in changes of live body weight.

## CONCLUSION

The prevention of diarrhoea in calves carried out by the application of a polycomposite homeopathic remedy resulted in reduction in the frequency of diarrhoea occurrence in calves of the experimental group by 5.46 %. But this difference was not proved to be statistically significant. However, a marked trend of a reduction in the diarrhoea occurrence was recorded in preventively treated calves.

We can conclude that the results of present experiment confirmed the validity of arguments that it is necessary to search for new alternative methods of the treatment of diseases. Using homeopathic drugs is more advantageous from the view of stress the organism is exposed to and residues in the environment.

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