

ASSESSING EFFECTS OF PREVENTIVE ADMINISTRATION OF A HOMEOPATHIC PREPARATION ON THE FREQUENCY OF CALF DIARRHOEAS

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Abstract

Effects of preventive administration of a polycomposite homeopathic preparation were monitored for almost 4 years (March 2001 – January 2005) in a total of 548 calves aged 1 to 21 days. The aim was to assess the possibility of reducing the frequency of the diarrhoeal disease. The experiment was conducted in a traditionally managed herd under standard condition of a commercial operation and under a supervision of an authorized veterinary surgeon. The calves were housed together with their mothers in a brick tethered barn. A comparison of the diarrhoea prevalence between the control and the experimental groups of calves showed a positive, although not quite statistically significant, effect of the homeopathic preparation on reducing the frequency of diarrhoeas in the experimental group. Optimum management recommendations therefore emphasize the observance of zoohygienic principles of calf rearing, regular checks, adequate nutrition and care, and suggest that preventive administration of homeopathic preparations should be used as supplementary.

Key words: calves, prevention, diarrhoeal diseases, homeopathy

INTRODUCTION

Animals housed in barns must make many adjustments imposed on them by organisational, technological and technical parameters of the management approach. It is clear that under such conditions they may respond very intensely to any shortcomings in the housing environment, which will ultimately have a negative impact on their health and genetically determined yield rates (Novák *et al.*, 1997a, 1997b; Novák and Kubíček, 1994).

A considerable percentage of calf losses (about two thirds) is due to shortcomings and defects in calf feeding, housing and/or management. Consequences of such defects include diarrhoeas, flatulence, inflammatory and respiratory diseases (Doležal *et al.*, 1996). This was corroborated by Andrews (2004), who extended the list of causes of disease outbreaks to include the effects of microorganisms. In his article, he also underlined the importance of early determination of pathogenic agents, which will facilitate the selection of the optimum therapy, determination of subsequent checks of the measures taken, and assessment of potential zoonotic risks. The diarrhoeic syndrome (DSd) is basically a disease or a disturbance of the gastrointestinal tract manifested by frequent defecation, increased volumes of faeces containing less dry matter and more water. The diarrhoeic syndrome prevalence is high, and it exhibits considerable age and seasonal differences. On large farms, calves under 3 (or, rather, 6) months suffer diarrhoeas 1.5 times on average. During prophylactory periods, DSd incidence may vary, and may reach up to 100% in many herds. DSd prevalence is markedly linked also to the technological aspects of animal husbandry, and for that reason, three

critical periods closely linked with DSd are mentioned: newborns (age 1 – 4 days), transfer to the calfhouse and weaning. Assuming the average length of the DSd on the farm being about 7 days with 3 to 5 days of convalescence, the weight loss of diarrhoea-afflicted calves may be about 3 – 4 kg, 7.5 kg and up to 9 kg in the case of mild, medium and severe diarrhoeas, respectively. As a result, these calves will show poorer performance than healthy animals in the same group (Slanina *et al.*, 1991). According to Hlásný (1996), diarrhoeas in calves occur most frequently within two weeks after birth, with the diarrhoea incidence at its highest around day 8 after birth. Kroupová *et al.* (2002, 2004a) reported the most frequent incidence of diarrhoeal diseases in calves between days 2 and 8 after birth, with the incidence frequency gradually decreasing to day 19 after birth (Kroupová *et al.*, 2004a).

Preferential use of natural and homeopathic preparations in organic farming for farm animals that are sick or suspected sick and based on results of their examination is recommended by “Act of 29 June 2000 on organic farming and on the change of Act 368/1992 Sb., on administrative charges as amended “ in The Czech Republic (Anon., 2000). Homeopathy is primarily a system of medicine that makes a clinical use of the phenomenon of similarity and uses medicinal drugs in small or even infinitesimally small quantities (Jouanny *et al.*, 1993). Her philosophy, or theory, is a set of practical principles that were formulated 180 years ago and have not changed since (Castro, 1990). Homeopathy is usually characterized as “treatment without side effects”, “an opportunity to cure even chronic diseases, i.e. those that classical medicine is

unable to cure”, ”method that can cure both the body and the mind of the patient”, ”very effective prevention”, ”stimulating the organism’s own defences” (Čehovský In: Hubbard - Wright, 1997). Results of monitoring by Martini *et al.* (2001) confirmed the method’s success but showed a reduced efficacy of the treatment in the case of neonatal diarrhoeas. Insufficient efficacy in the treatment of neonatal diarrhoeas has also been reported by De Verdier *et al.* (2003) and Kroupová *et al.* (2004a), although Kroupová *et al.* (2002, 2004a,b) demonstrated positive effects of the preventive administration of a homeopathic preparation for the shortening of the overall period of diarrhoea prevalence in the calves treated. In all the above Italian studies, homeopathy demonstrably cured most of frequent diseases of the animals, influenced production and reproductive parameters, and it was proven that homeopathy can be used in an organic animal management as an effective treatment process, which can frequently also help reduce the treatment costs (Martini *et al.*, 2001).

MATERIAL AND METHODS

In the experiment there were mainly calves of the Holstein cattle, which was the predominant breed on the farm. Immediately after they were born, calves were allocated alternatively to the control and the experimental groups irrespective of gender. When they fell ill, calves in the control group were given a treatment that is standardly applied in the herd. Calves in the experimental group received an additional polycomposite homeopathic preparation. (*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 administration frequency of the dose of 5 ml orally was set gradually for the first three days after birth, days 1, 3 and 5 after birth and days 1, 3 and 5 + weaning day. The day of birth was regarded as day zero. Even calves from this group were treated by a conventional method if they fell ill. Results were immediately entered in prepared tables and subsequently assessed by the χ -squared 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 1 to 21 days (275 calves in experimental group and 273 controls) were compared.

RESULTS AND DISCUSSION

The difference in morbidity between the control and the experimental groups was 5.46% (14 calves) in favour of the latter. This difference, although it may gradually

become economically noticeable, was not identified as statistically significant by the χ -squared test used. The highest frequency of diarrhoeas in both groups was observed in the first two weeks after birth, specifically between days 5 and 8, which corroborates findings by Hlásný (1996) and Kroupová *et al.* (2002, 2004a). The period of diarrhoea incidence in calves from the experimental group was, however, markedly shorter (from day 2 to day 16) compared with the control group. In the control group, diarrhoeas occurred from day 1 to day 19 after birth. Results of the study are given in Tabs 1 and 2 and their graphical representation is given in Fig. 1. They show that the efficiency of preventive administration of a homeopathic preparation as a means of reducing the frequency of a diarrhoeal disease in calves under 21 days of age is limited by zoohygienic conditions. This conclusion is in agreement with the findings of Martini *et al.* (2001), De Veridiera *et al.* (2003) and Kroupová (2004a). No calf showed any side effects of the homeopathic preparation administered, as reported by Čehovský (In: Hubbard - Wright, 1997). The results above are one more confirmation of how important it is to observe zoohygienic conditions in herds, avoid mistakes in calf feeding, and use a suitable herd management system in an effort to prevent not only diarrhoeal but also other diseases. The importance of observing the above principles is also emphasized by a number of other authors including Novák *et al.* (1997a, 1997b), Novák and Kubíček (1994) and Doležal *et al.* (1996).

CONCLUSION

Prevention of calf diarrhoeas by homeopathic preparations can be recommended as a supplementary measure especially on farms sufficient attention is paid to zoohygienic conditions in their calf-rearing operations. Such preventive measures are unable to offset the effects of poor quality conditions on the farm. They are, rather, designed to a timely boosting of the capabilities of the organism to defend itself against digestive tract diseases. Although the reduction in the number of diarrhoeas found among calves in the experimental group was not statistically significant, it may have some economic impact by decreasing the veterinary service costs, maintaining weight gains, and increasing the value of the animal in the future herd.

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Tab. 1: Morbidity rates in the control and experimental groups of calves

<i>Control group</i>	<i>No. of calves</i>	<i>%</i>
<i>Total</i>	273	100
<i>Healthy</i>	135	49,45
<i>Sick</i>	138	50,55
Experimental group		
<i>Experimental group</i>	<i>No. of calves</i>	<i>%</i>
<i>Total</i>	275	100
<i>Healthy</i>	151	54,91
<i>Sick</i>	124	45,09

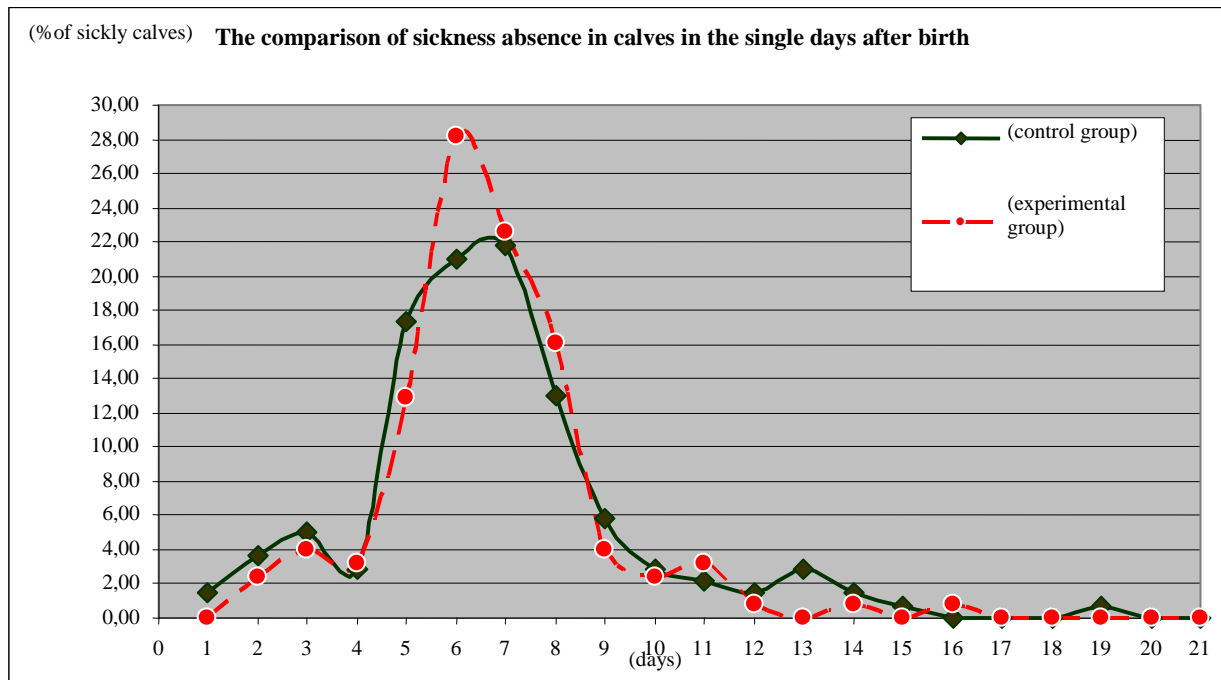
The numerical difference in morbidity rates between the control and the experimental groups was 14 calves, i.e. 5.46 %.

Tab. 2: Incidence of diarrhoeas on individual days after birth among calves in the control and the experimental groups

Kontrol group	Day	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	Number ill (shreds)	2	5	7	4	24	28+1	30	16+2	8	4
	%	<i>1,45</i>	<i>3,62</i>	<i>5,07</i>	<i>2,90</i>	<i>17,39</i>	<i>21,01</i>	<i>21,74</i>	<i>13,04</i>	<i>5,80</i>	<i>2,90</i>
Experimental group	Day	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
	Number ill (shreds)	0	3	5	4	16	34+1	28	20	5	3
	%	<i>0,00</i>	<i>2,42</i>	<i>4,03</i>	<i>3,23</i>	<i>12,90</i>	<i>28,23</i>	<i>22,58</i>	<i>16,13</i>	<i>4,03</i>	<i>2,42</i>

Kontrol group	Day	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	
	Number ill (shreds)	3	1+1	3+1	1+1	1	0	0	0	0	1	0	0
	%	<i>2,17</i>	<i>1,45</i>	<i>2,90</i>	<i>1,45</i>	<i>0,72</i>	<i>0,00</i>	<i>0,00</i>	<i>0,00</i>	<i>0,00</i>	<i>0,72</i>	<i>0,00</i>	<i>0,00</i>
Experimental group	Day	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	
	Number ill (shreds)	4	1	0	1	0	0+1	0	0	0	0	0	
	%	<i>3,23</i>	<i>0,81</i>	<i>0,00</i>	<i>0,81</i>	<i>0,00</i>	<i>0,81</i>	<i>0,00</i>	<i>0,00</i>	<i>0,00</i>	<i>0,00</i>	<i>0,00</i>	

Fig 1: Graphical representation of data from Tab. 2 – Incidence of diarrhoeas on individual days after birth



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