

Effects of three functional plant products on growth performance and diarrhea incidence in weaning piglets

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The aim of this investigation was to examine the effect of three functional plant products in the prophylaxis of post-weaning diarrhea. The feeding trial included 184 piglets. On day 3 before weaning the piglets were divided into three experimental groups and one control group by compensating randomization. The experimental diets were blended with different amounts of either lignocellulose („Agrocell“), oligogalacturonides („Enteronid“) or herbs („Herbenterosan“, consisting of *Tormentillae rhizoma*, *Matricariae flos*, *Taraxaci*, *Rhapontici carthamoides herba*, *Carvi fructus*, *Allii sativi bulbus*). Lignocellulose and oligogalacturonides are known to affect diarrhoea in weaning piglets favourably [1, 2]. Once a week the piglets and feed residues were weighed. During five days from day 4 following weaning faeces were appraised with a faecal score. Blood samples were collected for the analysis of haptoglobin, sodium, potassium and chloride. The Herbenterosan-group had the lowest group sum in the faecal score from day 4 to 8 (fig. 1). Even though the Agrocell-group had the worst faeces the piglets showed the highest weight gain from day 4 to 11. Compared to the control-group the piglets of all experimental groups gained significantly more weight from day 4 to 11 ($p < 0,05$). During the whole experimental period the piglets of the Herbenterosan-group showed the highest weight (table 1). The control-group showed the lowest weight gain. There was no significant difference in haptoglobin between the groups ($p > 0,05$). The trend of the electrolytes coincided with the trend of the faecal score: groups with a better faecal score had better values of electrolytes and conversely. By using functional plant products post-weaning diarrhea was not prevented. Nevertheless weight gain was affected favorably.

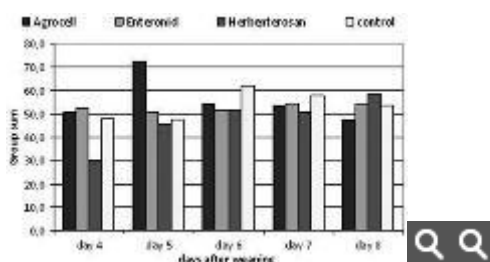


Fig. 1: Faecal score between day 4 and 8 liveweight and gain

<i>Table 1</i>					
M=mean, SD=standard deviation, N=numbers of piglets					
		<i>C (Control group)</i>	<i>A (Agrocell)</i>	<i>E (Enteronid)</i>	<i>H (Herbenterosan)</i>
starting liveweight (kg, day 0)	M	11,89	11,91	12,02	11,92
	SD	2,25	2,27	2,41	2,35
	N	46	46	46	46
final liveweight (kg, day 25)	M	20,99	21,22	21,43	21,55
	SD	4,55	3,62	4,13	3,92
	N	42	44	43	44
average daily gain (g/piglet/day from day 0-25)	M	357	374	373	390
	SD	135	89	108	94
	N	42	44	43	44

Keywords: pig - diarrhoea - average daily gain - feed conversion - haptoglobin - herbs - lignocellulose - oligogalacturonides

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