



# Influence of extracted pectin on incidence of diarrhea in calf rearing

Field test | trial period: 7 months

## Advantages of extracted pectin

### 1. Increase in viscosity

- Slows down transit time if diarrhea occurs
- The calf gets more time for efficient digestion

### 2. Double way mucosa protection

- Pectin forms a protective layer in gastrointestinal tract
- Reduces irritations
- Decreased adhesion of facultative pathogen bacteria in the large intestine

### 3. Prebiotic effect

- Fermentation in the large intestine (*substrate for beneficial bacteria*)
- Reabsorption of water in the large intestine
- Short chain fatty acids as products of the fermentation support cell proliferation
- Moderate pH decrease

## Trial performance

Dosage:	12 g / kg pectin in milk replacer ( <i>dry</i> )
Concentration:	200 g milk replacer plus 1 liter water
Milk supply:	9 liters per day
Feeding:	3 x daily
Period:	4. – 14. day of life
Breed:	Deutsche Holstein (n = 66)
Parameters:	body weight, milk feed consumption und faeces quality

## Evaluation of faeces quality with following score:



1

Foramed, pasty



2

Pasty thin



3

Creamy thin



4

Watery thin

**Normal faeces**

**Diarrhea**

## Results of the field test

Milk feed consumption and body weight of the calves

Parameter	Age [d]	Control	Pectin
Milk feed consumption [l]	01-14	111	108
Body weight [kg]	01	41,1	41.2
	14	51,4	51.0

ANOVA, post-hoc duncantest; n = 41

### Faeces quality 4. – 14. day of life

% of the days with corresponding scores during observation

Faces quality [score]	1	2	3	4	3 + 4
Control	1.5	56.1	36.4	6.1	42.5 <sup>a</sup>
Pectin	3.2	61.7	33.6	1.6	35.2 <sup>b</sup>

chi-square-test, P = 0,05; n = 41

a,b: significant differences between the groups

### Faeces quality on 9. day of life

Number of calves with corresponding scores on this day

Faces quality [score]	1	2	3	4
Control	0	3	14	1
Pectin	0	14	9	0

Chi-Quadrat-Test, p=0,05; n=41

### Occurance of diarrhea between 4. – 14. day of life

	Control	Pectin
Start [day of life]	8.1	8.8
Duration [days]	4.9	4.0
Intensity [score]	2.5 <sup>a</sup>	2.3 <sup>b</sup>

ANOVA, post-hoc duncan; n = 41

a,b: significant differences between the groups

### Trial conditions

- Test farm in the Nort-East of Germany  
(approx. 11.000 kg milk)
- Premium milk replacer was used
- Analysis only for calves without medical treatment

## Conclusion

### With pectin application:

Diarrhea incidence was significant reduced

### With pectin application, if diarrhea occurred:

- Diarrhea started with time delay (+ 1 day)
- The period of diarrhea was decreased (- 1 day)
- Intensity of diarrhea was milder

We would be happy to advise you on individual product solutions!

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