

Practical Trial

Intra-Bath concept

Reference : 404100/GCC/GCC/0211-18INTRA
Date : 17-03-2002
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1. Introduction

The cattle feed company, Hendrix UTD, has carried out a study into the effect of the use of the claw care products, Intra Hoof-fit Gel, and the Intra-Bath with related claw care product, Intra Hoof-fit Bath, on Mortellaro's disease in dairy cattle. This study was carried out at five Dutch dairy farms. The results and conclusions of the study are given in this report.

2. Trial setup and claw scores

At the commencement of the trial, the hind claws of all the cows participating in the trial were trimmed and checked for the presence of Mortellaro's disease, and Hoof-fit Gel was applied. If a claw showed none of the symptoms of Mortellaro's disease, it was given the score, 0. If Mortellaro's disease was ascertainable, the claw in question was given the score A, B, C or D, depending on the severity of the infection. An explanation of how the claws were scored is given below. The claws of the cows were examined and assessed at various times after the commencement of the trial. Animals that still showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel. In addition, all the animals were treated from the second week with Hoof-fit Bath using the Intra-Bath treatment on a weekly basis.

- **Score O:** no Mortellaro's disease
- **Score A:** slight Mortellaro's disease
Early stage. Small sore, no swelling or redness. Animal barely feels the sore. The sore is dry.
- **Score B:** moderate Mortellaro's disease
Larger sore, deeper than score A. Sensitive to the touch. There is a red swelling around the sore. There is a ridge around the sore. The sore is dry.
- **Score C:** bad Mortellaro's disease
Large, deep, bulging sore with a thick ridge around it. Painful to the touch. The sore is often inflamed and very red. The hoof smells. The sore is usually dry.
- **Score D:** severe Mortellaro's disease
Large, deep, bulging, inflamed, oozing sore. Very painful. The sore often bleeds slightly when cleaned. There is a swelling around the sore. The sore has a granular surface.

3. Treatment and results: dairy farm 1

Details of dairy farm

- 70 dairy cows. (± 35 in the trial)
- milking robot
- no grazing (pasturing)
- The Intra-Bath was situated behind the milking robot with a small waiting area for ± 7 cows in front of it.

Claw treatment

- Day 0, assessment I
The hind claws of all the cows were trimmed and treated with Hoof-fit Gel.
On days 5 and 6 the animals were able to get used to the Intra-Bath without it being in operation.
- Day 7, assessment II
During the assessment on day 7 any cows that still showed symptoms of Mortellaro's disease were treated for the 2nd time with Hoof-fit Gel.
On day 9 the whole herd was treated with Hoof-fit Bath using the Intra-Bath. Subsequently, this treatment was repeated every week.
- Day 21, assessment III
During the assessment, the few cows that still showed symptoms of Mortellaro's disease were treated for the third time with Hoof-fit Gel.
- Day 51, assessment IV (End situation of trial)
A total of six treatments with Hoof-fit Bath had now been given using the Intra-Bath.

Results of claw scores

Percentage distribution of claw scores on days 0, 7, 21 and 51					
	score 0	score A	score B	score C	score D
day 0	9.4	9.4	40.6	37.5	3.1
day 7	18.8	34.4	43.8	3.1	0
day 21	38.9	11.1	33.3	16.7	0
day 51	61.1	22.2	11.1	5.6	0

Conclusions

- Day 7: the Mortellaro's disease was decreasing rapidly, the sores were less painful and becoming necrotic.
- Day 21: the sores were becoming steadily smaller and the necrotic edges had sloughed off. The typical smell of Mortellaro's disease could hardly be ascertained any more.
- Day 51: a lot of the sores had disappeared. The cows were walking better and standing up more easily.

4. Treatment and results: dairy farm 2

Details of dairy farm

- ± 50 dairy cows
- 2 x 4 herringbone milking stalls
- grazing
- The Intra-Bath was situated behind the return corridor running from the milking stall with a small waiting area for ±8 cows immediately in front of it.

Claw treatment

- Day 0, assessment I
The hind claws of all the cows were trimmed and treated with Hoof-fit Gel.
- Day 5, assessment II
During the assessment on day 5 any cows that still showed symptoms of Mortellaro's disease were treated for the 2nd time with Hoof-fit Gel.
On day 7 the whole herd was treated with Hoof-fit Bath using the Intra-Bath. Subsequently, this treatment was repeated every week.
- Day 8, assessment III
During the assessment on day 8 any cows that still showed symptoms of Mortellaro's disease were treated for the 3rd time with Hoof-fit Gel.
- Day 42, assessment IV (End situation of trial)
A total of five treatments with Hoof-fit Bath had now been given using the Intra-Bath.

Results of claw scores

Percentage distribution of claw scores on days 0, 5, 8 and 42					
	score 0	score A	Score B	score C	score D
day 0	0	11.5	26.9	53.9	7.7
day 5	19.2	38.5	26.9	15.4	0
day 8	23.1	50	19.2	7.7	0
day 42	67.9	17.9	10.7	3.6	0

Conclusions

- Day 5: The sores were shrinking and the necrotic edges were sloughing off. The sores were dry and less sensitive.
- Day 8: The sores were becoming smaller and shallower. The claws were no longer sensitive and the cows were walking better.
- Day 42: The infection had practically disappeared. The sores which could still be ascertained were no longer sensitive. The smell of foot rot was less evident.

5. Treatment and results: dairy farm 3

Details of dairy farm

- ±120 dairy cows
- 2 x 7 herringbone milking stalls
- grazing
- The Intra-Bath was situated such that the cows have to walk through the bath to reach the feeding rack. This was realised by the arrangement of fencing sections

Claw treatment

- Day 0, assessment I
The hind claws of all the cows were trimmed and treated with Hoof-fit Gel.
- Day 4, assessment II
During the assessment on day 4 any cows that showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel.
On days 6 and 7 the animals were able to get used to the Intra-Bath without it being in operation.
- Day 8, assessment III
During the assessment on day 8 any cows that still showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel. On day 10 the whole herd was treated with Hoof-fit Bath using the Intra-Bath. Subsequently, this treatment was repeated every week.
- Day 12, assessment IV
During the assessment on day 12 any cows that still showed symptoms of Mortellaro's disease were treated for the 4th time with Hoof-fit Gel.
- Day 29, assessment V (End situation of trial)
A total of three treatments with Hoof-fit Bath had now been given using the Intra-Bath.

Results of claw scores

Percentage distribution of claw scores on days 0, 4, 8, 12 and 29					
	score 0	score A	score B	score C	score D
day 0	14	28	6	8	44
day 4	38	10	34	16	2
day 8	38.9	11.1	38.9	11.1	0
day 12	42.9	35.7	21.4	0	0
day 29	73.2	19.6	7.1	0	0

Conclusions

- Day 4: the Mortellaro's disease was decreasing. The edges of sores were becoming necrotic and turning black. The claws were less painful.
- Day 8: Necrotic edges were falling off. The affected claws in most of the cows were no longer painful. Only a very few cows still had spots which were sensitive.
- Day 12: Most of the infection had disappeared and the cows no longer reacted much if the spots in question were touched.
- Day 29: The cows stood up more easily and walked more briskly and easily round the stall. They also entered the milking stall with fewer problems. They "clip-clopped" less and stood still. The infection had practically disappeared.

6. Treatment and results: dairy farm 4

Details of dairy farm

- ± 70 dairy cows
- triangular milking stall
- The Intra-Bath was situated immediately behind the milking stall, with a small waiting area in front of it.

Claw treatment

- Day 0, assessment I
The hind claws of all the cows were trimmed and treated with Hoof-fit Gel.
- Day 5, assessment II
During the assessment on day 5 any cows that still showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel.
On days 7 and 8 the animals were able to get used to the Intra-Bath without it being in operation.
On day 9 the whole herd was treated with Hoof-fit Bath using the Intra-Bath. Subsequently, this treatment was repeated every week.
- Day 11, assessment III
During the assessment on day 11 any cows that still showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel.
- Day 21, assessment IV
During the assessment on day 21 any cows that still showed symptoms of Mortellaro's disease were again treated with Hoof-fit Gel.
- Day 53, assessment V (End situation of trial)
A total of six treatments with Hoof-fit Bath had now been given using the Intra-Bath.

Results of claw scores

Percentage distribution of claw scores on days 0, 5, 11, 21 and 53					
	Score 0	score A	Score B	score C	score D
day 0	8.3	25.0	25.0	25.0	16.7
day 5	50	8.3	25.0	16.7	0.0
day 11	37.5	37.5	12.5	12.5	0
day 21	50	16.7	33.3	0	0
day 53	90	10	0	0	0

Conclusions

- Day 5: the sores were healing very rapidly. The edges were becoming necrotic and the sores were dry and less sensitive.
- Day 11: the necrotic edges of the sores were sloughing off. The sores were no longer sensitive to the touch.
- Day 21: the infection had almost disappeared, except for a few persistent cases.
- Day 53: the infection had almost disappeared. There were only 3 claws with a very slight infection in the whole herd.

7. Treatment and results: dairy farm 5

Details of the dairy farm

- ±100 milk cows
- open tandem milking stall
- grazing
- the Intra-Bath was situated behind the return corridor running from the milking stall.

Claw treatment

- Day 0, assessment I
The hind claws of all the cows were trimmed and treated with Hoof-fit Gel.
The animals were now given the chance to get used to the Intra-Bath without it being in operation.
- Day 10, assessment II
During the assessment on day 10 any cows that still showed symptoms of Mortellaro's disease were treated for the 2nd time with Hoof-fit Gel.
On day 7 the cows were treated for the first time with Hoof-fit Bath using the Intra-Bath .
- Day 14, assessment III
During the assessment on day 14 any cows that still showed symptoms of Mortellaro's disease were treated for the 3rd time with Hoof-fit Gel.
- Day 28, assessment IV
During the assessment on day 28 any cows that still showed symptoms of Mortellaro's disease were treated for the 4th and last time with Hoof-fit Gel.
- Day 45, assessment V
By this stage the claws had been treated six times, fully automatically, with Hoof-fit Bath using the Intra-Bath.
- Day 61, assessment VI (End situation of trial)
By this stage the claws had been treated nine times with Hoof-fit Bath using the Intra-Bath.

Results of claw scores

Percentage distribution of claw scores on days 0, 10, 14, 28, 45 and 61					
	score 0	score A	score B	score C	score D
day 0	3.9	11.5	28.9	48.1	7.7
day 10	11.5	32.7	46.2	9.6	0.0
day 14	20	56.7	23.3	0	0
day 28	22.2	55.6	22.2	0	0
day 45	41.5	37.2	20.2	1.1	0
day 61	55.4	22.7	16.7	4.8	0.6

Conclusions

- Day 10: the sores were decreasing slowly. The sores were less red and the swelling around the sores was shrinking. The sores were less painful to the touch. Sores which were taped up improved more quickly than those which were not taped up. The sores were dry, smelled less and were becoming necrotic.
- Day 14: the number of sores was still decreasing. The edges were becoming necrotic and the pain was almost completely gone. The cows were walking more easily.
- Day 28: necrotic edges were sloughing off. The sores were shrinking.
- Day 45: the infection was not yet completely over but the sores were considerably better. The smell of footrot was also much less evident. The cows stood up more easily and walked better.
- Day 61: Steadily fewer sores could be seen. The smell of footrot was almost completely gone. Symptoms of Mortellaro's disease (sores) had, however, appeared on the fore claws of a few cows.

8. Summary-conclusions

- After trimming and a treatment with Hoof-fit Gel the incidence of Mortellaro's disease decreased very rapidly at all the farms participating in the trial. This decrease was usually already visible within a couple of days.
- It is advisable to treat cows with severe symptoms of Mortellaro's disease twice with Hoof-fit Gel.
- In the case of severely-affected claws, it is helpful to tape the claw up with Intra Hoof-fit tape, which is specifically for this purpose, after applying Hoof-fit Gel.
- Cows must get used to the Intra-Bath in the beginning. After a period of familiarisation they go into the bath without hesitation and stay calm while the treatment is given.
- The results of a weekly treatment with Hoof-fit Bath using the Intra-Bath were good to very good at all the farms participating in the trial.
- It is necessary to lower the infection pressure at the farm first (by applying Hoof-fit Gel) prior to commencing use of the Hoof-fit Bath.