



Study Title:

Eradication of Pig Mange: Ecomectin Injection (Ecomectin Vet.)

Trial Number:

EFF/ECOINJ/001

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1. Summary

Ecomectin Injection was administered by subcutaneous injection to a herd of sows, which were severely infested with mange mites (*Sarcoptes scabiei*). Previous treatments including pour-on formulations had been unsuccessful in eradicating the problem.

Following two treatments, 14 days apart, skin samples/ear scrapings were taken to determine the presence of *Sarcoptes scabiei*. In samples taken 33 days after the last application 2/30 sows showed the presence of *Sarcoptes scabiei*, whilst samples taken at 61 days (30 sows) and 195 days (60 sows) after the last application did not reveal *Sarcoptes scabiei*.

Ecomectin Injection has therefore been shown to eradicate mange mites from a herd of pigs following 2 treatments, 14 days apart. Total cost per pig for this medication program including housing disinfection was DKK 42.33.

2. Objective

The objective of the trial was to determine whether pig mange could be eradicated from a herd of pigs by simple veterinary treatment with Ecomectin Vet. (ivermectin).

3. Key Study Dates:

| | |
|---|-----------------|
| 1 st Treatment | 06 June 2001 |
| 2 nd Treatment | 20 June 2001 |
| Dates ear scrapes/skin samples collected: | |
| 1 st sample post treatment: | 23 July 2001 |
| 2 nd sample post treatment: | 20 August 2001 |
| 3 rd sample post treatment: | 01 January 2002 |
| Date of final report issued: | 26 April 2004 |

4. Materials and Methods:

4.1. Study Design

Infestation with mange mites had been present in the herd for several years. Several attempts to combat the disease had been tried, including the use of pour-on products. During the Spring of 2001 the infestation increased severely. It was therefore decided that a full treatment of the herd was required.

4.2. Animal Selection and Identification

As the selected treatment had a withdrawal period of 45 days, extensive culling of the worst affected sows and slaughter pigs was carried out prior to treatment.

4.3. Animal Management and Housing

The herd consisted of approximately 400 sows plus pigs for sale at 30 kg and a small number of pigs for slaughter.

The pigs were kept in 2 separate locations at the farm: the farrowing pens and climate-controlled pens were in one portion of the farm whilst the young pigs and pigs for slaughter were kept at a different location.

4.4. Animal Disposal

After treatment and appropriate withdrawal times animals were returned to the food chain where appropriate.

4.5. Treatments

Test material:

| | |
|--------------------------|--|
| Identity: | Ecomectin Vet. 10 mg ivermectin/mL injectable solution |
| Legal Status: | Approved product |
| Certificate of Analysis: | As per label declaration |

All animals received 2 injections at an interval of 14 days.

The dose was 0.3 mg ivermectin per kg bodyweight, corresponding to 1 mL/33 kg bodyweight. The product was administered by subcutaneous injection. Suckling pigs over the age of 3 days were treated with 0.1 mL Ecomectin Injection. All 3-day old pigs were treated over a 14 day period.

4.6. Study Procedures

The Ecomectin Injection was administered via automatic syringes with tube sets and suction cannula. The cannula used were 1.6 x 30 and 1.0 x 10 (suckling pigs). In addition disposable syringes were also used.

In view of the possibility of survival of the mange mites (*Sarcoptes scabiei*) in biological material, floor and wall surfaces, fixtures and fittings were cleaned thoroughly and then sprinkled with Sebacil® dilution (disinfectant). The Sebacil 50%® was diluted to provide a 0.1% solution (20 ml concentrate in 10 litres water). Approximately 0.2 litres of solution were used per square metre (m²) of wall or floor surface.

During the injection period injection sites were assessed for swelling, redness and possible inflammation.

Following the two treatments with Ecomectin Injection, samples of ear scrapes/skin samples were collected from pigs on three occasions. 30-60 sows were sampled at each timepoint and samples examined for the presence of *Sarcoptes scabiei*.

4.7. Statistical Methods

No statistical analysis was performed.

5. Adverse Events

There were no adverse events reported during the trial.

6. Results

During and following administration of the product no pain reactions were reported in the animals. In addition there were no visual abnormalities: no swelling, redness or inflammation was noted either by the farm personnel or at the abattoir.

The farm personnel had no difficulties in handling the medication and the equipment provided operated as intended.

The three post treatment samplings of ear scrapes/skin samples are presented in the table below:

| Date | No. Animals sampled | Days after last application | Result (<i>Sarcoptes scabiei</i> detected) | Reference |
|----------|---------------------|-----------------------------|---|-------------------------|
| 23.07.01 | 30 sows | 33 | 2/30 | 481439 DS Kjellerup |
| 20.08.01 | 30 sows | 61 | 0/30 | 73-35593 SVS Copenhagen |
| 01.01.02 | 60 sows | 195 | 0/60 | 74-35006 DVI Copenhagen |

7. Conclusions

In 6 months following treatment there were no visual or clinical symptoms of mange mite infestation in the herd. Therefore the herd is considered as having been cleared of pig mange.

This trial shows the possibility of eradicating pig mange in a sow herd utilising a simple but effective treatment, namely Ecomectin Injection.

In addition the treatment costs, including medication and disinfection were DKK 42.33 per sow.