

## Pain response following administration of Ecomectin<sup>®</sup> Injection and Ivomec<sup>®\*</sup> Injection.

From the outset **Ecomectin<sup>®</sup>** Injection was formulated, utilising the latest technology and excipients available, to minimise pain on injection.

Studies were initially conducted in pigs, sheep and cattle to evaluate pain and extent of local reaction at the injection site following subcutaneous administration of **Ecomectin<sup>®</sup>** Injection.

In pigs treated at up to 3 times the recommended therapeutic dose (900µg/kg body weight), none of the animals showed any sign of discomfort or pain during and following injection.

In sheep, also treated at up to 3 times the recommended therapeutic dose (600µg/kg body weight), animals showed signs of discomfort for about 1 minute after treatment, but were completely normal 15 minutes after treatment.

In cattle again treated at up to 3 times the recommended therapeutic dose (600µg/kg body weight), animals showed reactions varying from mild discomfort to indications of pain for 1 minute immediately following injection, but were completely normal 15 minutes after treatment.

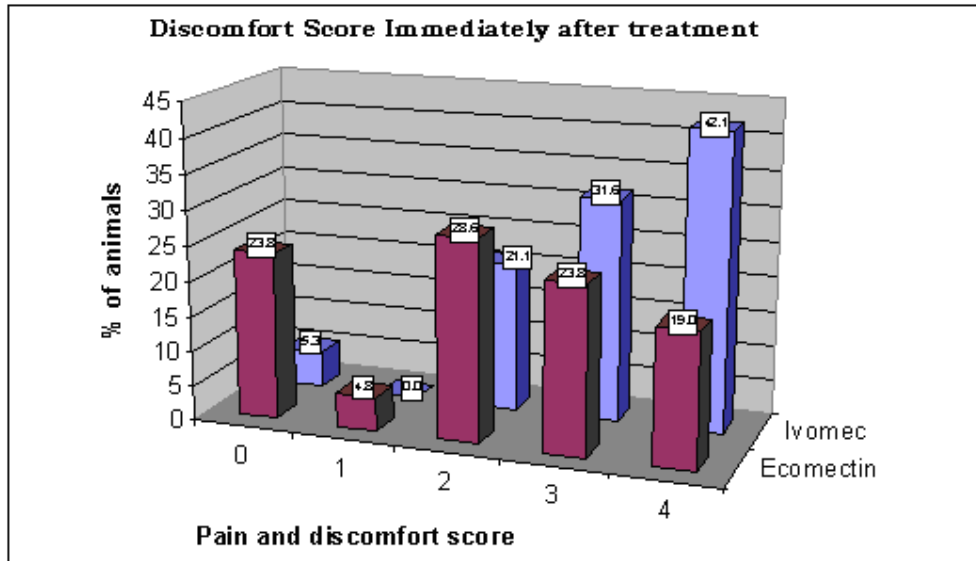
As a follow-up to the promising results obtained from these 3 studies, a more extensive study was conducted in cattle to compare the pain response and extent of local reaction at the injection site following treatment with **Ecomectin<sup>®</sup>** Injection or Ivomec<sup>®</sup> Injection. This study is described in detail below:

A comparison of the pain response and extent of local reaction at the injection site after treatment with **Ecomectin<sup>®</sup>** Injection compared with Ivomec<sup>®</sup> Injection

This study was conducted by Bosvet Konsultante CC, South Africa, August 1999. Study Director PC van Schalkwyk, BVSc, MMed Vet (Parasit)

Two groups of cattle were treated with **Ecomectin<sup>®</sup>** Injection (n=21) or Ivomec<sup>®</sup> Injection (n=19) at normal dose rates (200µg/kg body weight). Animals were observed for pain reaction immediately after treatment. Local reaction at the injection site was categorised, according to a pre-defined reaction type, at 7, 14 and 28 days after treatment.

A pain reaction score of 2 (less than 3 headshakes) to 4 (more than 3 headshakes, brisk walking or running lasting longer than 30 seconds) was observed in 71.4% of the Ecomectin<sup>®</sup> and 94.8% of the Ivomec<sup>®</sup> treated animals. The percentage of animals reacting with a score of 4 was 19.0% for Ecomectin<sup>®</sup> and 42.1% for Ivomec<sup>®</sup>



Local injection site reactions were observed in 89.5% and 91.5% of **Ecomectin**<sup>®</sup> and Ivomec<sup>®</sup> treated animals respectively. Lesions typically progressed from a small lump over which the skin fold was measurable (Type 2) to a large subcutaneous lump over which the skin fold could not be lifted (Type 3).

On Day 7, 47.6% and 42.9% of **Ecomectin**<sup>®</sup> treated animals had reaction Types 2 and 3 respectively; 31.6% and 57.9% of Ivomec<sup>®</sup> treated animals had reactions in the same respective categories.

On Day 14, reactions were categorised as Type 1 (no lump present) in 57.1% of **Ecomectin**<sup>®</sup> and 47.4% of Ivomec<sup>®</sup> treated animals respectively.

On Day 28, the percentages of animals displaying Type 1 reactions were similar for both **Ecomectin**<sup>®</sup> and Ivomec<sup>®</sup> treated animals (approximately 72%), however, Type 3 reactions were observed in only 14.3% of the **Ecomectin**<sup>®</sup> treated animals, compared to 26.3 for the Ivomec<sup>®</sup> treated animals.

## Conclusions

Comparing **Ecomectin**<sup>®</sup> Injection with Ivomec<sup>®</sup> Injection, pain reaction scores were significantly lower for the **Ecomectin**<sup>®</sup> treated animals compared to the Ivomec<sup>®</sup> treated animals.

Additionally, injection site reactions were consistently milder at all time points after treatment (7, 14 and 28 days) for **Ecomectin**<sup>®</sup> Injection than they were with Ivomec<sup>®</sup> Injection.

Overall, **Ecomectin**<sup>®</sup> Injection is less irritant following injection to cattle than Ivomec<sup>®</sup> Injection.

## Summary

In experimental trials and after extensive use in the field, **Ecomectin**<sup>®</sup> Injection has been shown to be extremely well tolerated by pigs, sheep and cattle.

Furthermore, a direct comparison between **Ecomectin**<sup>®</sup> Injection and Ivomec<sup>®</sup> Injection in cattle has demonstrated that, with regard to pain and irritation at the injection site, **Ecomectin**<sup>®</sup> Injection causes less pain and is less of an irritant than Ivomec<sup>®</sup> Injection.

*\* Ivomec<sup>®</sup> is a registered brand name of Merial*