



# farmer-initiated technology transfer (FITT) programme

## FITT Final Report (09FT224)

### Effect of a docking drench on the productivity of light conditioned twinning ewes on their lambs

<b>Years of trial:</b>	2009-2010
<b>Group that proposed the trial:</b>	The ewe drenching sceptics
<b>Region:</b>	Manawatu
<b>Contact person(s):</b>	Trevor Cook, Ginny Dodunski, Greta Baynes - Totally Vets, Feilding

## (1) Introduction – background to the project

The idea of drenching ewes at docking is not a new one. Before the advent of long acting pre-lamb anthelmintics, treating ewes for worms at docking was common practice. In a non replicated study in the mid eighties, Brunsdon and Vlassoff found that a docking drench given to ewes, followed by integrated control in their lambs after weaning, gave significant growth rate and wool weight advantages in the lambs from treated ewes. However other evidence for any productivity benefits from a docking drench is very scant. A 1975 review of 17 studies of ewe drenching both pre and post lambing concluded that there was no good evidence to support either practice.

Existing information about the direct benefits to ewes from a drench at this time is also unhelpful, most trial data is pre-1980's and reflects the performance of ewes which were very different in terms of size, genetics and productivity to the ewes present on most farms today. In addition the variable most commonly measured was wool weight; in the 1975 review above, only one of eight studies was able to demonstrate an advantage in wool weight from the treated ewes.

The widespread adoption of pre-lamb treatments with long acting anthelmintics has seen many farmers move away from drenching ewes at docking. However use of these long acting products is now at odds with current recommendations around sustainable drench use, at least on a whole flock scale. For this reason there may be a renewed interest in treating ewes at docking. However it is likely that whole flock treatment at docking could impose some selection pressure for resistance. Current recommendations around drenching ewes promote targeting selective treatments to those ewes who are 'most likely' to respond, for example light ewes rearing twins.

However there is no data to support the productivity benefits of such an approach at docking. This study will be an attempt to quantify any such benefits.

## **(2) Key aims – what was the project trying to achieve?**

To quantify the changes in the following productivity measures in either light or well conditioned ewes following an oral triple combination drench administered at docking (and compare to an untreated control group):

- Liveweight
- Body condition score
- Lamb liveweight gains

## **(3) Key findings & recommendations for farmers**

- The only significant effect of a docking drench of ewes was a reduction of dags at weaning. This applied to all ewes regardless of their body condition at docking.
- Light ewes at docking gained more condition by weaning regardless of if drenched at docking or not.
- Drenching ewes at docking does not give a significant production response other than a lesser need for dagging at weaning.

## **(4) Methodology – what was done in the trial?**

Three farms with a total of 554 ewes were enrolled. These were all twinning ewes, mated in the first cycle. From these ewes, 914 lambs were enrolled in the trial. These ewes had not received a long acting pre-lamb anthelmintic.

At docking all ewes were tagged, body condition scored, dag scored and weighed. Through random selection, half the ewes from each body condition score group (2 or less ('thin'), 2.5 or 3 or more ('fat') were treated with a full dose of oral triple combination anthelmintic (Matrix™). Twenty random faecal samples were taken from each group for a Faecal Egg Count (FEC).

Ewes were udder painted red for treatment, blue for control group. The ewes and lambs were allowed to mother up for two hours and the lambs were tagged according to their head colour and weighed.

At weaning, all ewes were weighed, body condition scored, dag scored and a random FEC done on 20 ewes from each group. The lambs were all weighed.

The data was analysed by a statistician to identify any difference between treated and control ewes in ewe liveweight, liveweight change, condition score and dag score, and lamb growth rate between docking and weaning. Any such differences were tested for statistical significance using an analysis of variance.

## **(5) Results**

Ewe condition score change:

- Drenching ewes at docking did not significantly lift the body condition score of ewes at weaning.
- Light condition ewes at docking significantly gained more condition at weaning regardless of if drenched or not (0.25 BSC gain) ( $P < 0.01$ ).

Ewe dag score and faecal egg count change:

- Dag score at weaning was 20% lower in drenched ewes compared to un-drenched ewes ( $P < 0.001$ ).
- There was no significant difference between light and good condition ewes in the dag score at weaning.
- There was no significant difference between drenched and undrenched ewes in their faecal egg counts at weaning.
- Body condition score at docking had no significant effect on the faecal egg count at weaning.

Lamb weaning weight and liveweight gain:

- There was no significant effect of drenching ewes at docking on lamb weaning weight or lamb liveweight gain.

## **(6) Conclusions – what are the ‘take home’ messages?**

Drenching ewes at docking will reduce the level of dags on ewes at weaning. But it will not increase the body condition score of the ewes at weaning or give any liveweight gain benefit to the lambs.

Given this result and the proven effect of a ewe docking drench selecting for drench resistance, there is no justification for drenching ewes at docking.

This result is at odds with farmer perception. Validation of these outcomes using randomised replicates rather than individual farm replicates may give more insight into the benefits of drenching ewes at docking.

## **(7) How will the group apply the project results to their agri-businesses?**

The outcome from this study will be communicated to the Manawatu Monitor Farm community group. Thereafter it will be made available to the technical advisory group of Wormwise to help with the advice being given to farmers from that group. It will also be reported in Country-Wide, in the Totally Vets newsletter and website and discussed at local sheep seminars provided by Totally Vets.

## **(8) Contact points for more information**

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To find out more about other FITT projects, phone Meat & Wool New Zealand on 0800 496 657.

## **(9) Appendices – extra information**

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