

# The Effect Of Different Dry Cow Therapy Treatments On Milk Quality In A Dairy Herd Undergoing Organic Conversion

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## INTRODUCTION

- Organic dairy farming requires a reduction in use of antibiotics, particularly those used as prophylactics.
- A trial using different dry cow therapies was undertaken on a pedigree Holstein herd during organic conversion.

## MATERIALS AND METHODS

- Cows (n=51) were allocated to groups treated at drying off:
  - 1) Antibiotics **[A/B]**: Cefravin, Glaxovet
  - 2) Organic therapy **[Org]**: Cinnatube, Nutragen
  - 3) Teat Sealant **[Seal]**: Dryflex, DeLaval Ltd

Figure 1. Sealant. Applied for 1 wk at the beginning and end of dry period.

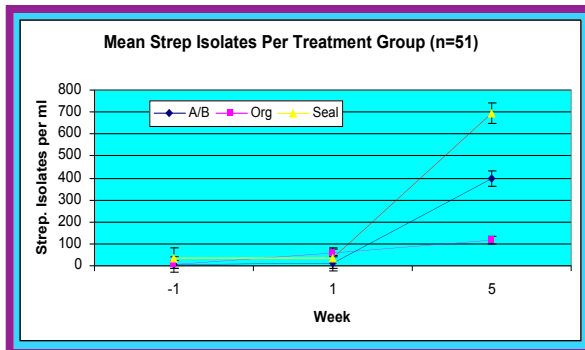


- Incidence of mastitis was monitored.
- Quarter milk samples were taken at 1 wk before drying off (-1), 1 and 5 wks after calving and analysed for:
  - Somatic cell counts, (SCC) and Total Viable Count (TVC).
  - Presence of *Streptococcus* spp., *Staphylococcus aureus* and coliforms.

## RESULTS

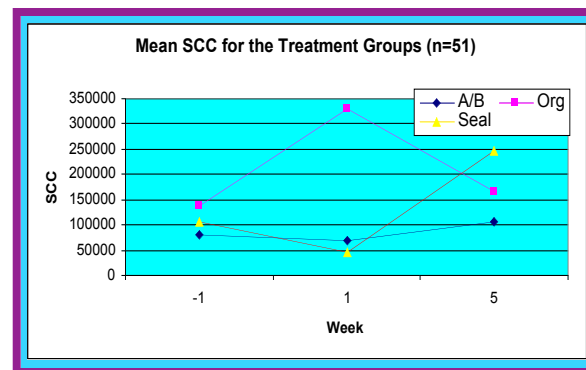
- There was no clinical mastitis, (0/51 cows) in the trial group.
- Mastitic organisms were recovered, with 7 incidences of *S. aureus* and 1 incidence of coliforms.
- All *S. aureus* isolates were recovered in week 1 after calving ( $P < 0.01$ ).
- Week 5 had a significant effect on *Strep. spp.* ( $P < 0.001$ ) with significant differences between treatments. The organic treatment had reduced *Strep.* isolates ( $P < 0.001$ ) compared with the other treatments. (Fig 2)

Figure 2. Mean *Strep.* Isolates for the Treatment Groups



- Mean group SCCs were highest at week 1 for the Org group ( $P < 0.001$ ). SCCs were reduced by week 5, with no significant differences between treatments. (Fig 3)
- Main herd incidence of mastitis was 32% (38/120 cows) during the trial.

Figure 3. Mean SCC for the Treatment Groups



## DISCUSSION

- The teat sealant had increased *Strep.* isolates (700/ml) and elevated SCCs at week 5 compared to other treatments. It was not an effective alternative to antibiotics.
- Cinnatube was effective by week 5 at lowering SCCs and significantly maintained reduced *Strep.* numbers. It was a valid alternative to antibiotics.
- Compared to other treatments the antibiotics kept the SCC values consistently low.

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