

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

E.K.S. Green, J.F. Robertson and E.J. Allan.

University of Aberdeen, School of Biological Sciences, Dept. of Agriculture & Forestry, Hilton Place, Aberdeen, AB24 4FA.

E-mail - j.robertson@abdn.ac.uk

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.

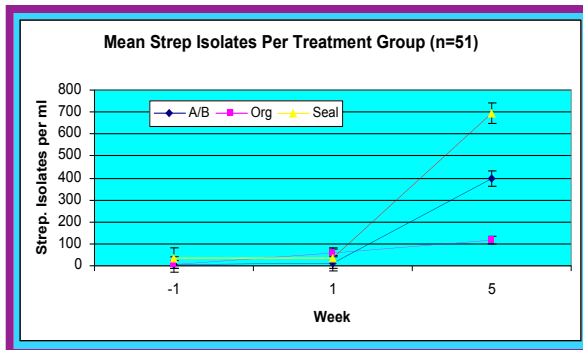


- Incidence of mastitis was monitored.
- Quarter milk samples were taken at 1 wk before drying off (-1), 1 and 5 wks after calving and analysed for:
 - Somatic cell counts, (SCC) and Total Viable Count (TVC).
 - Presence of *Streptococcus spp.*, *Staphylococcus aureus* and coliforms.

RESULTS

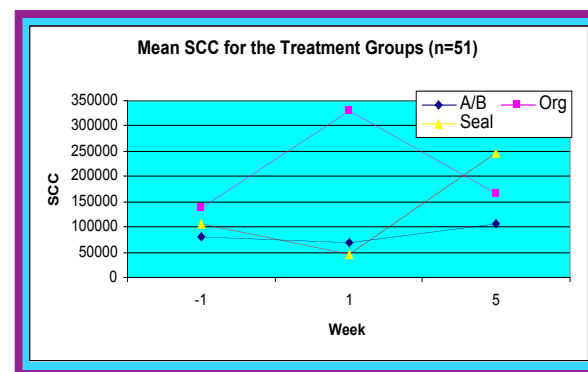
- There was no clinical mastitis, (0/51 cows) in the trial group.
- Mastitic organisms were recovered, with 7 incidences of *S. aureus* and 1 incidence of coliforms.
- All *S. aureus* isolates were recovered in week 1 after calving (P< 0.01).
- Week 5 had a significant effect on *Strep. spp.* (P < 0.001)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

ACKNOWLEDGEMENTS

The Kintail Land Research Foundation for financial support.

Mr. S. Jamieson, Kirkland, Dumfries for access to his pedigree herd.