

Process Control in Platform Mounted Teat Disinfection Systems

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Post milking teat disinfection has been an important component of a mastitis control programme for over 50 years. Adoption of the technique, based on recommendations contained within the NIRD Five Point Mastitis Control Plan, played a significant part in the reduction of mastitis infections caused by the contagious mastitis pathogens.

The increased prevalence of environmental mastitis infections has seen the widespread adoption of pre-milking teat disinfection.

Post milking application of a teat disinfectant fulfils two roles. Firstly, to apply disinfectant to the teat end and barrel in order to disinfect all teat surfaces and destroy any bacteria present, soon after the cluster is removed from the cow. Secondly, to apply skin conditioning products to ensure the teat remains soft and supple and is able to cope with the rigours of machine milking. Poor teat coverage, with a post milking disinfectant, can lead to a reduction in teat skin condition, an increase in bacterial colonisation of the dry surfaces and adversely affect the ability to clean the teat.

For these objectives to be achieved, a teat disinfectant product must be applied in a timely fashion together with good coverage of the teat end and teat barrel. A study carried out in 2014 on 10 commercial dairy farms set out to assess the effectiveness of manual post milking teat disinfection using a hand operated vacuum spray lance against the objectives of barrel and teat end coverage. On average, 3.77 teat ends out of a possible 4.00 received teat disinfectant (94.0%). On average, 50.3% of the teat barrel surface received teat disinfectant. There was considerable farm to farm variation (19.8- 83.4% coverage) highlighting the variability of operators.

In an attempt to reduce variation and apply some process control to the activity, an evaluation was carried out using a rotary platform mounted teat disinfection system (Ambic Equipment Ltd Locate'n'Spray™). Teat coverage was assessed on two occasions with teat end coverage measured at 96.0% and teat barrel coverage measured at 91%. These results are significantly improved compared with manual teat spraying.

This confirms that an automated system for applying teat disinfection, in a timely fashion after the cluster is removed, is capable of applying teat disinfectant more accurately and more consistently than a human operator with a vacuum operated teat spray lance.

References

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2014 – pp 189-190, Effectiveness Of Teat Coverage With Post Milking Teat Disinfectant
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