

## Rinse & Chill™

FOOD SAFETY TECHNOLOGY SUMMARY	
<b>Status</b>	Currently available
<b>Location</b>	Immediately after sticking
<b>Intervention type</b>	Vascular rinse of circulatory system
<b>Treatment time</b>	10-15 seconds
<b>Regulations</b>	Approved in US and Australia
<b>Effectiveness</b>	Small microbial reduction and increased meat tenderness
<b>Likely cost</b>	Patented process, licensing agreement required and is negotiated with the supplier
<b>Value for money</b>	Fair
<b>Plant or process changes</b>	Space will need to be allocated for installation of the solution rinsing plant and also potentially for treatment space on the slaughter floor if the existing sticking arrangements are not suitable
<b>Environmental impact</b>	The equipment will require power and significant amounts of water for the rinse solution It may be possible to recirculate the rinse fluid
<b>OH&amp;S</b>	No increase in notable noise levels
<b>Advantages</b>	Microbial reductions and extended shelf life Assists in hide separation Improved tenderness
<b>Disadvantages or limitations</b>	Obtaining local approval and setting up agreement with supplier may be complex

### Disclaimer

Care is taken to ensure the accuracy of the information contained in this publication. However MLA cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests.

## Rinse & Chill™

Rinse & Chill™ is marketed by MPSC Inc. and is a pre-rigor, enhanced bleeding technique that rinses a chilled isotonic solution, containing dilute concentrations of approved common substrates (sugars and salts), through the carcass, improving meat quality, palatability and appearance. It also appears to improve hygiene. While the initial application of this technology was to remove the blood and reduce the internal temperature of the carcass, it also reduces meat pH more rapidly and seems to reduce the microbial count on carcasses, and this effect also appears to extend to the subsequently vacuum packaged product and in ground beef.

When Rinse & Chill™ was used in commercial cattle slaughterhouses, reductions in total count of around 0.2 log were seen, 0.2 to 2 log reductions in coliform count and a 1-log reduction in *E. coli* count (Feirtag and Pullen, 2003).

Researchers at Kansas State University and at the University of Minnesota claim that the solution (present in the capillaries below the hide) assists in easier hide separation, which reduces contaminating aerosols, and also appears to put a coating on the surface of the carcass – making it slippery to the touch, instead of sticky. The coating of solution over the carcass surface is thought to provide mechanical interference with bacterial attachment. Blood removal, temperature reduction and pH control are also important in controlling bacterial growth on carcass surfaces (Feirtag and Pullen, 2003).

AQIS has approved the use of Rinse and Chill™ on an individual application basis, at export plants in Australia and it is in use at some plants in Victoria. The patented process has also been in use in plants in the US since 2003, where it has recently (2013) received the USDA “No Objection” status for use in pork.

### Proponent/Supplier Information

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### References

Feirtag, J. M., Pullen, M. M. (2003) A novel intervention for the reduction of bacteria on beef carcasses. Food Protection Trends **23**: 558-562.