

Rinse & Chill

FOOD SAFETY TECHNOLOGY SUMMARY	
Status	Currently Available
Location	Immediately after sticking
Intervention type	Vascular rinse of circulatory system
Treatment time	10-15 seconds
Regulations	Approved in US and Australia
Effectiveness	Small microbial reduction and increased meat tenderness
Likely Cost	Patented process, licensing agreement required and is negotiated with the supplier
Value for money	Fair
Plant or Process Changes	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
Environmental Impact	The equipment will require power and significant amounts of water for the rinse solution It may be possible to recirculate the rinse fluid
OH&S	No increase in notable noise levels
Advantages	Microbial reductions and extended shelf life Assists in hide separation Improved tenderness
Disadvantages or Limitations	Obtaining local approval and setting up agreement with supplier may be complex

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 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™ has been 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 1 log reductions 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 means less aerosolizing of contaminants, and it also appears to put a coating 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 is also in use in plants in the US.

Proponent/Supplier Information

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Meat Industry Services

Supported by:



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.