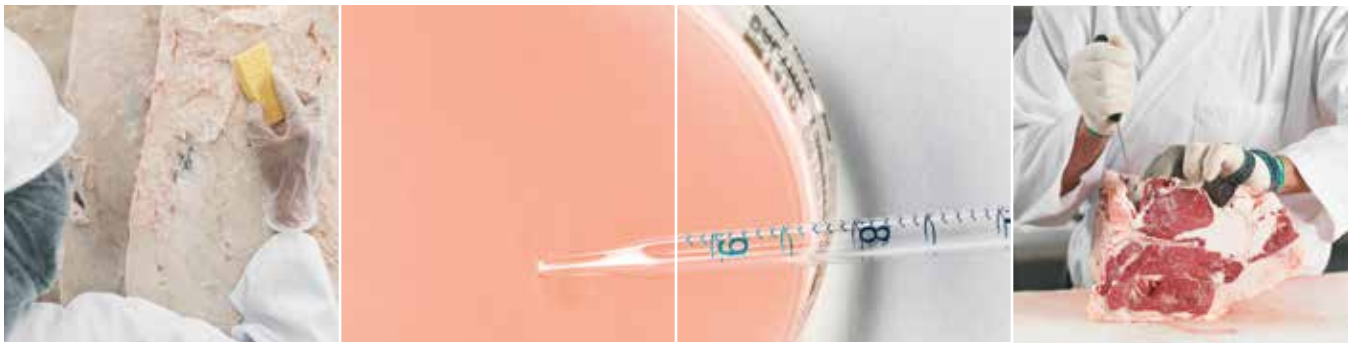
E. coli O157
Research and Education Strategy Fact Sheet



Hide-on Beef Carcass Wash System

Potential Transfer of Bacteria from the Hide to Beef Carcasses

Hides of cattle can carry large numbers of bacteria, originating from sources such as manure and soil. Those bacteria may include pathogens such as *E. coli* O157:H7 and *Salmonella*. A portion of those bacteria may be transferred from the hide to the carcass during carcass skinning operations. As such, treatment of hide-on carcasses to reduce the numbers of bacteria on hides before skinning of beef carcasses has been seen as a possible means of enhancing food safety.

Hide-on Beef Carcass Wash Process

A hide-on carcass wash system is used in some beef plants in North America. Hides are scrubbed with rotating brushes and flails while being washed with a solution of 1.5% sodium hydroxide at 55°C, and then rinsed with chlorinated water. When necessary, larger amounts of dirt or manure remaining on the belly and brisket are manually trimmed from the cleaned hide.

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ALMA Alberta Livestock and Meat Agency Ltd.

CANADIAN BEEF CATTLE CHECK-OFF

BCRC BEEF CATTLE RESEARCH COUNCIL

CCA CANADIAN CATTLEMEN'S ASSOCIATION
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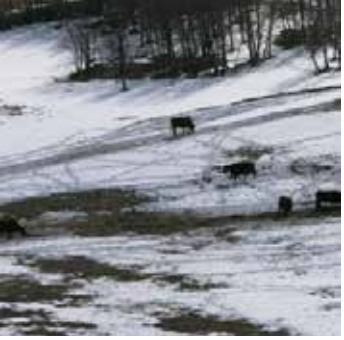

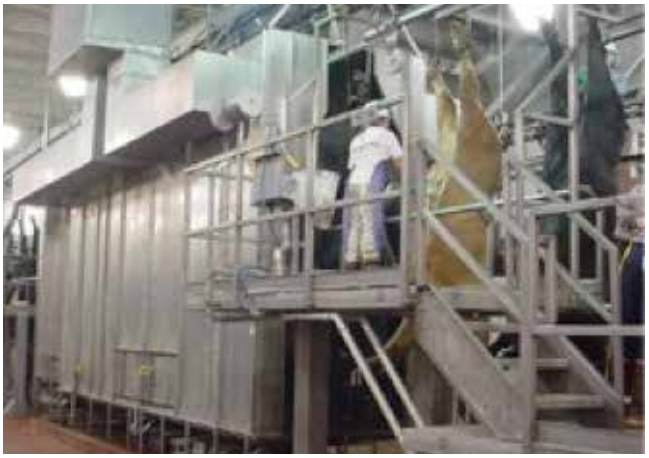

Research on the Microbiological Effects of the Hide-on Carcass Wash

Hides of cattle raised in Canada are often drier in the fall, wetter in the spring/summer and in the winter are more likely to have larger amounts of mud or manure which is difficult to remove. The microbiological effects of the hide-on carcass wash in a commercial setting was tested throughout the year. This research was conducted by comparing measures relating to the total number of bacteria (aerobic plate count) and all types of *E. coli*, on carcasses before and after the hide-on wash. Selected *E. coli* isolates were also genotyped.

In fall, the aerobic plant counts from carcasses after the hide-on carcass wash were 10-fold lower than before the wash. In spring/summer, the numbers were similar. *E. coli* were found on all carcasses sampled before hide-on wash in all three seasons and a small number of carcasses after the wash in spring/summer and winter. No *E. coli* were found on carcasses after the wash in fall. The reduction by the hide-on carcass wash of the total number of *E. coli* throughout the year was in the range of 3 to 7 log units. The majority of genotypes of *E. coli* on carcasses were found once only.

Conclusions

The hide-on carcass wash minimized the transfer of *E. coli* from hides to the meat surfaces during the removal of the hide. As such, it can be used as a tool to enhance food safety.

The CCA is a non-profit federation comprised of eight provincial member cattle associations that provide representation to a national, producer-led board of directors. The CCA's vision is to have a dynamic, profitable Canadian beef industry with high-quality beef products recognized as the most outstanding by customers at home and around the world.

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