

Faundez, G., M. Troncoso, P. Navarrete, and G. Figueroa. 2004. Antimicrobial activity of copper surfaces against suspensions of *Salmonella enterica* and *Campylobacter jejuni*. *BMC.Microbiol* 4:19-25.

Abstract:

BACKGROUND: *Salmonella enterica* and *Campylobacter jejuni* are amongst the more prevalent bacterial pathogens that cause foodborne diseases. These microorganisms are common contaminants of poultry and poultry products. This study was aimed to evaluate the antibacterial activity of metallic copper surfaces on these important enteropathogens, and to determine the potential acquisition of copper by food exposed to this metal.

RESULTS: The antibacterial activity of copper surfaces was evaluated overlying them with suspensions of 10(6) CFU/ml of *S. enterica* and *C. jejuni*. Bacterial counts obtained after 0, 2, 4 and 8 hours at 10 degrees C and 25 degrees C were compared with those obtained in stainless steel and a synthetic polymer as control surfaces. The results showed that when these enteropathogens were kept in contact with copper a significant antibacterial activity was noted, on the contrary when the same load of pathogen suspensions were tested over the control surfaces it was found that the bacterial counts remained unchanged or even increased with time. The potential acquisition of copper by food exposed to this surface was also evaluated. Meat exposed for one hour to a copper surface adsorbed residual copper in a time dependent manner.

CONCLUSIONS: These results shows that metallic copper surfaces have an antibacterial activity against *S. enterica* and *C. jejuni* and suggest its potential application as an inhibitory agent in the various stages of the food processing operations.