

Scientific Interpretive Summary (SIS)

Project title: ***Campylobacter* spp. enumerated from drips trapped in leak-proof packaged retail poultry**

A survey carried out by ESR in 2002 showed that some poultry packs were contaminated with *Campylobacter* on the outside and this was a consequence of drip from the fresh carcass. This work raised the possibility that poultry packaged in a leak-proof manner may reduce the risk to consumers by preventing leakage and subsequent cross-contamination of hands, surfaces, other foods etc.

Although leak-proof packaging should result in minimal *Campylobacter* on the outside of the package, it will contain *Campylobacter* within the package. Consequently, if a package was opened in the kitchen without due care then cross-contamination would still occur. In order to clarify the extent of possible contamination, a number of leak-proof packaged poultry products were evaluated as to the degree of contamination within the package.

Retail packs of leak-proof packaged poultry products were sampled in Auckland and Christchurch over a four week period in October 2007. The products included thirty whole birds from three brands, twenty five trays of chicken portions packed in leak-proof packaging (ie five trays each of skin-on breasts, skinless breasts, thighs, drums and nibbles) as well as five pottles of chicken livers.

The volume of drip recovered from the leak-proof packaged whole chickens ranged from 1.6 ml to 106.4 ml. Following enrichment, the *Campylobacter* status of drips recovered from each brand of poultry showed that 9/10 drip samples from Brand A were positive compared with 8/10 from Brand B and Brand C. *Campylobacter coli* was identified from one bird of Brand B and all other isolates were identified as *C. jejuni*. *Campylobacter* counts in positive drip samples ranged from <0.30 to 4.26 Log₁₀ CFU/total drip.

The volume of drip extracted from the portion trays when placed on a horizontal position (Drip A) ranged from 0 ml to 6.28 ml. In a second extraction of drip after trays of portions were placed in an inclined position (Drip B), further drip was recovered from eleven samples. *Campylobacter* counts from positive Drip A samples were variable: three ranging from 65 – 89 CFU/total drip, three from 10– 20 and seven of <10. When Drip A was combined with that of Drip B, there was only a slight increase in *Campylobacter* count in five of the positive samples.

The *Campylobacter* counts from the drip samples of liver ranged from 3.0 to >5.38 Log₁₀ CFU/total drip.

This survey shows that fluids associated with packaged poultry meat and offals is contaminated at a significant level and this fluid has the potential to contaminate hands, working surfaces and other foods. With leak-proof packaging, all the contamination is contained throughout the retail chain until opening in the home but at that stage, the same good hygienic practices need to be applied as would be applied to non-leak-proof packaged poultry products.

This study has shown that while leak-proof packaging of poultry should limit the opportunity for cross-contamination to the point of opening of the package, a reduction in foodborne risks is still dependent on good hygienic practice by consumers during handling and preparation of the product.