



November 13 2006

CHILLY BAGS ARE THE COOL WAY TO SHOP

A study on the temperature of chilled food left in the back seat of a car has highlighted the importance of carrying chilly bags and icepacks to help keep your food cool if you're likely to be delayed driving home. Without them your meat could develop a life of its own if you leave it there for too long.

As part of an experiment commissioned by the New Zealand Food Safety Authority (NZFSA) and released to coincide with this year's National Foodsafe Week (November 13-19), scientists at the Christchurch-based Institute of Environmental Science and Research (ESR) watched as the temperatures of chilled raw meat packs soared after being left in a car in sunny weather.

Data loggers recorded the effects of time and temperature abuse on packs of meat – beef mince, rump steak, sausages and chicken drum sticks – bought from a supermarket.

ESR scientists were particularly interested in the difference between those meats stored in a chilly bag with an icepack and similar meat packs left in the supermarket plastic bags.

The grisly scenario was repeated over three days in January and again in June this year using a car with non-tinted windows shut tight, no sunroof and a separate boot compartment, parked in the same sunny spot. On clear summer days the air temperature inside the car hovered around 40°C. The air temperature in the boot of the car was roughly 10°C cooler.

In each case, the experiment ran for several daylight hours, beginning late morning and ending around 5pm.

After just 90 minutes, the surface temperature on a piece of un-insulated steak left on the back seat rose to 35°C – close to optimal growth temperature for many bacteria. In the boot, where the mean air temperature was cooler, the un-insulated steak rose to 21°C in the same timeframe.

However, the dramatic effect of chilly bags and icepacks became obvious when the temperature of the meat stored in them rose only marginally over the same time – in the back seat and boot.

“We deliberately created some worst-case time/temperature scenarios so that we could simulate the changes that meat might go through while being chauffeured from the supermarket chiller to the domestic fridge,” ESR scientist Sue Gilbert explains.

“The information will help improve our understanding of domestic food safety. The temperature heating rates calculated from these experiments will be used to account for microbial growth during transport home.

“The types of chilled raw meat used in these experiments would be cooked before being eaten – thus destroying most, if not all, the bacteria present although spores and heat-stable toxins would survive. However, ready-to-eat food, such as ham and deli meats, would not undergo further cooking to destroy bacteria, but would be subject to the same temperature increases – and this is a concern.

“During food preparation there could also be a risk of cross-contamination from the raw meat to another, ready-to-eat food.”

Chilled products that enter the temperature danger zone (between 4°C and 60°C) need to be refrigerated as soon as possible (within two hours), or cooked.

Reassuringly, in a random survey 97% of Kiwis interviewed by ESR said their journey home from the supermarket typically took less than 90 minutes. In terms of delays – such as visiting friends, returning to work or doing more shopping – just under half said they were occasionally delayed while one in five said they experienced delays about once a year.

The greatest risk from bacterial growth during transport home exists mainly in cases where long transport times are involved. In such situations a chilly bag and frozen icepack would help keep your food purchases safe. As some delays cannot be predicted it would be prudent to always keep at least a chilly bag in the car.

Says Ms Gilbert: “Be aware and think ahead on those hot sunny days. Shop for meat and poultry just before you head home. If you have no option and have to leave chilled foods in your car for a prolonged period, take an icepack and chilly bag with you. If you don’t have either of those to hand, store your shopping in the boot of your car.”

National Foodsafe Week is run by the New Zealand Foodsafe Partnership, made up of representatives from NZFSA, the food industry, consumer groups, public health units and the Ministry of Health, who work together to promote consistent and appropriate food safety messages to consumers and press home the 4Cs rule: Clean, Cook, Cover, Chill. For more information on the partnership, visit: www.foodsafe.org.nz.

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