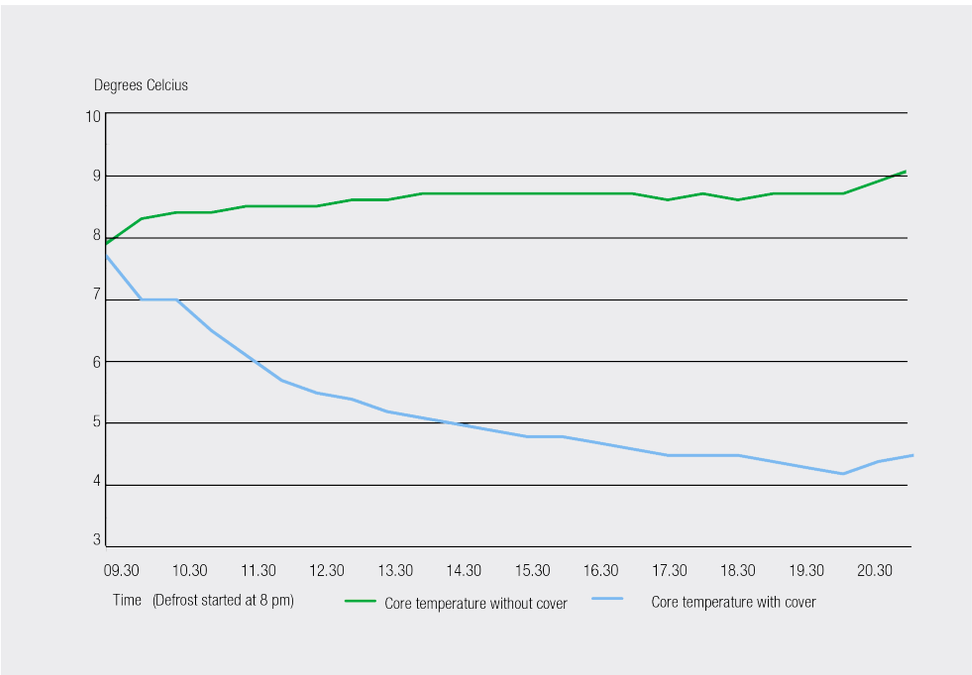
BACTERIA TEST

ORIGINAL IDEAS, INTELLIGENT DESIGN

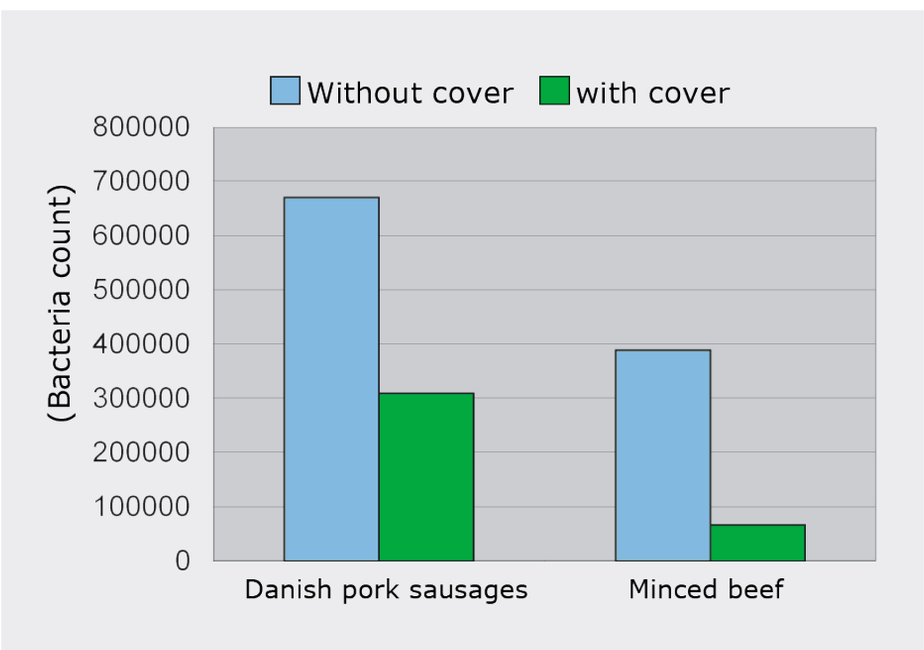
Under the guidance of chief laboratory technician Flemming Boisen at the Danish Veterinary and Food Administration (Funen region), we initiated a test of bacteria growth in fresh meat stored in an open island in comparison to storage in an island with a heat reflective cover.

The purpose of the test was to show the harmful effect of the light's heat rays on the core temperature of refrigerated food - and thus on bacteria growth - when there is no protection from unintentional heating from the lighting.

The test included 20 pairs of minced beef test samples and 20 pairs of saussage test samples, half of which was placed under a heat reflecting glass cover, while the other half was placed in an open refrigerated island.



We aimed at keeping the same return-air-temperature in both islands and were successful. The average retur-air-temperature in the open island was +3.81°C and +3.91°C in the island covered with heat reflective glass. The core temperature of the refrigerated food was checked every half hour from 9:30 am until 9:00 pm. Defrosting of the refrigerated island began at 8:00 pm.



The graph and bar chart show the core temperature measurements and the amount of bacteria after 24 hours storage in the island. The figures show average number of bacteria found in the 80 food samples from each of which two part samples were analysed. The average figures from all samples of minced beef and sausages are shown in the bar chart.

The figures show that after storage in 24 hours there are more than five times as many bacteria in minced beef stored in an open island as minced beef beef stored under a heat reflecting glass cover.

We have not tested the effect of the light's heat rays on the core temperature of the top layer of food in a freezer island, but estimate that the top layer heats uo +10°C or more.