



CAMPYLOBACTER

The Roslin Institute is working with industry to breed chickens that are resistant to *Campylobacter*, the most common cause of food poisoning in the UK. If successful, this could save the UK economy up to £600 million per year.

THE CHALLENGE

According to the Food Standards Agency, *Campylobacter* is the most common cause of food poisoning in the UK. Infection occurs when the bacteria enter the food chain and this is usually caused by eating poultry that has not been properly cooked. Infection is associated most strongly with poultry because chickens can tolerate relatively large amounts of the bacteria in their gut without any effect. As a result, *Campylobacter* is present in almost two thirds of the retail chickens sold in the UK²⁴.

THE IMPACT

Each year around 500,000 people in the UK are infected with *Campylobacter* and it is estimated that this costs the UK economy almost £600 million. In 2009 more than 17,500 people in England and Wales were hospitalised due to *Campylobacter* infection and 88 people died. If The Roslin Institute and its partners succeed in breeding *Campylobacter* resistant chickens, then these economic and human health costs could be very significantly reduced.

THE SOLUTION

Although good hygiene and thorough cooking does kill *Campylobacter*, rates of infection could be dramatically reduced if the bacteria could be prevented from entering the food chain in the first place. Some chickens are naturally resistant to *Campylobacter*'s attempts to colonise their guts and if all chickens shared this trait, then the risk of the bacteria entering the human food chain would be significantly reduced. In early 2012 scientists at The Roslin Institute embarked on a £1.3 million research project to map the genes and gene mutations responsible for increased resistance.

The aim of the project is to breed chickens that are resistant to *Campylobacter* colonisation, which would significantly reduce the risk of the bacteria entering the human food chain. The project is being undertaken jointly with Aviagen, one of the world's main chicken breeding companies, which will provide a direct route to market for any innovation generated.



PROJECT DETAILS

Contact:

The Roslin Institute
University of Edinburgh,
Easter Bush,
Midlothian,
EH25 9RG, Scotland, UK

T: +44(0)131 651 9100
F: +44(0)131 651 9105

info@roslin.ed.ac.uk
www.roslin.ed.ac.uk

²⁴ Food Standards Agency survey between May 2007 and September 2008 to determine *Campylobacter* and *Salmonella* prevalence on fresh chicken at retail.



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