

# Study spotlights ESBL bacteria in Danish chicken meat

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Over 50 % of the chicken meat that Denmark imports contains extended

spectrum beta lactamase (ESBL), enzymes produced by some bacteria that make them resistant to certain antibiotics that are important in the treatment of severe infections in humans, a new study from the Technical University of Denmark shows. It is the first time that the level is this high in Danish chicken meat.

Meanwhile, the number of Danish pigs with ESBL has dropped considerably because [farmers](#) no longer use cephalosporins - medicines that kill bacteria or prevent their growth - for pigs. This latest information is presented in the 2011 DANMAP (Danish programme for surveillance of antimicrobial consumption and resistance in bacteria from animals, food and humans) report.

Experts say ESBL bacteria are gaining anti-resistance strength worldwide, namely against the broad-spectrum antimicrobial agents, cephalosporins that are used to treat humans for life-threatening infections. The data show that the ESBL bacteria found in the imported chicken meat is significantly more than found earlier in local chicken meat.

'The high occurrence of resistance to cephalosporins in chicken meat is alarming because there is a risk that bacteria are transferred from chicken meat to humans,' said Yvonne Agero, a senior researcher from the National Food Institute at the Technical University of Denmark.

The researchers said it is important to perform more studies in order to identify the proportion of [human infections](#) with ESBL derived from animals.

Experts believe that ESBL [resistance](#) develops when cephalosporins are consumed. The mystery, however, is that cephalosporins have not been used in the production of local chicken meat since 2002. So why have ESBL bacteria grown in local chicken meat?

According to the researchers, the presence of ESBL bacteria can be triggered by a spread from parent animals brought into the country from some producers that export [chickens](#) to the European market, animals that prior to export had been treated with cephalosporins. They go on to say that broad-spectrum penicillin use in local chicken production has increased in recent years, making it a plausible reason for the number of ESBL bacteria to rise. It should be noted that antimicrobial agents are not used a great deal in the production of chicken.

'As long as ESBL bacteria enter Denmark via imported parent animals,' said Dr Agero, 'it will be difficult to combat them.' She noted that it is important to 'pursue international solutions and initiatives that can limit the spread and the survival of ESBL bacteria in the herds'. By identifying the bacteria in [chicken meat](#), it proves that the bacteria survive the slaughter process, she added.

The Danish agriculture industry introduced a voluntary ban on the use of broad-spectrum cephalosporins for pigs in 2010. The results have been positive, with a figure very close to zero to date.

'The voluntary ban on the use of cephalosporins in pig production seems to have effectively reduced the occurrence of ESBL bacteria in [pigs](#),' Dr Agero said. 'It is therefore important to uphold it.'

**More information:** National Food Institute:  
[www.food.dtu.dk/English.aspx](http://www.food.dtu.dk/English.aspx)

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