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Restricted use of antibiotics in organic pig farming

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Can the restricted use of antibiotics in organic pig farming be documented to provide a safer, high quality meat product with less antibiotic resistant bacteria?

The project SafeOrganic aims to document that the restricted use of antimicrobials in organic pig production leads to lower levels of antibiotic resistant bacteria compared with the level in conventional pigs. However, the project will also address the risk of losing this quality parameter, due to a widespread practice of slaughtering organic pigs together with conventional pigs, implying a risk of cross-contamination.

Spread of antibiotic resistance along the food-chain is a major food safety concern due to the risk of treatment failure of human foodborne infections. Recent reports suggest that the restricted use of antibiotics in organic animal farming promotes lower levels of antibiotic resistant bacteria in organic animal products as compared to conventional. This offers an important quality parameter of organic meat, but this is currently only scarcely documented in the EU. The field-survey

planned in SafeOrganic is expected to provide this documentation.

What is the level of antibiotic resistant bacteria in organic pigs?

Approximate 25 herds of organic as well as conventional origin have been selected in DK, FR, IT and SE for comparison of the antimicrobial resistance levels in organic and conventional pigs. Two animals from each herd will be examined with respect to the level of resistant *Escherichia coli*

bacteria as well as resistance patterns. Only very limited results have been obtained yet, but it may seem that the antibiotic resistance levels in pigs will differ among the participating countries. If a lower level of antibiotic resistance can be documented it is an advantageous quality parameter of organic pigs that holds the opportunity to be exploited in marketing of organic pork.

A cross-contamination problem?

Slaughtering of organic and conventional pigs at the same slaughter lines without special hygiene barriers to avoid cross-contamination is not unusual. This may threaten the quality parameter of organic meat obtained by the restricted drug politic in organic farming. Therefore, the project also aims to investigate to which degree antibiotic resistant bacteria from conventional raised animals are transferred to organic meat during processing. This is done by examination of intestinal content and carcass swabs from organic and conventional pigs along the slaughter line in DK, FR and SE. The results are still preliminary;

however, the numbers of *E. coli* on the carcasses prior to freezing seems to be relatively low, indicating a good level of hygiene of the investigated slaughterhouses in general. Nevertheless, the results of SafeOrganic may provide knowledge allowing suggestions of preventive measures to avoid a potential cross-contamination of organic pork with resistant bacteria.



Swabbing of carcass for determination of the *E. coli* contamination level



Read more

Find more information about the SafeOrganic project at www.coreorganic2.org/safeorganic.

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