

## **EU-China Risk Assessment Database for E.coli in Beef**

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### **INTRODUCTION**

*Escherichia coli* is a major concern for food safety as its pathogenic strains are an etiological agent of serious illness. The primary reservoirs are food producing animals and a lot of infections have been linked to beef and beef products. A lot of research efforts are dedicated to the detection and quantification of the hazard along the path from farm to fork. Nevertheless, this information is not translated into easily accessible data in a well-organised manner which are of high relevance for risk assessment. The recent advancements in global trade have transformed the agri-food chain into a complex system. China is one of the largest markets for European Union food export/import although their existing different approaches to food safety are highlighted. Ensuring and enhancing food safety seems to be a high priority, through information exchange.

The objective of the present study was the collection of data required for assessing the risk of *E.coli* in beef and various beef products in the EU and China food chain and the construction of a database providing quantitative data along with information such as food type, food chain stage, packing status, etc.

### **METHODOLOGY**

A systematic review was conducted on the Scopus electronic database. The review considered articles published between 1991-2021. Papers were deemed eligible for inclusion based on the microorganism (*E.coli*), the geographical location (countries of the European Economic Area) and the type of animal (cattle/cows) or product (beef) sampled. Prisma statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was employed for reporting the screening process. After sorting out the duplicates, all collected titles and subsequently abstracts were screened according to the inclusion criteria. Finally, articles with unavailable full text were excluded from the review. The same procedure will be followed for the territory of China.

## RESULTS

For Europe, 919 papers were retrieved from Scopus and after the entirety of the screening process, 222 were selected for data extraction. A database was developed and formatted according to the sampling site/stage, the type of product, the method of analysis, and the prevalence and concentration. In addition, various supplementary information for each study was also recorded so as to improve the flexibility of the database. Meta-analysis will be performed and pooled data will be included.

## DISCUSSION

The compilation of the data and the construction of the database upon completion will constitute a valuable tool for the development of risk assessment models providing comparative data for the EU and China. The database offers ease of access to well-organised and harmonised as well as pooled data and enables the study of various scenarios along the farm to fork path. Beyond the scientific interest, it is expected to support food safety in the EU-China trade.

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