A systematic review of pre-harvest interventions to reduce *Salmonella* in swine

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Abstract

Systematic reviews are decision support tools, which systematically identify, critically evaluate and synthesize the existing evidence associated with specific topics. This process allows the identification of research gaps and enables decision makers and researchers to prioritize research needs. The main goal of this study was to evaluate the evidence associated with the effectiveness of five selected on-farm interventions against *Salmonella* in swine, and to identify research gaps in this area. These interventions included: vaccination; housing type; sanitation.

To evaluate this review question a review panel was established. All review members had experience in evaluating scientific literature; three members had an issue expertise, and two members had experience in conducting systematic reviews in agri-food public health. Five focused review questions were identified based on targeted study population (swine), outcome (reduced ante-mortem or post-mortem *Salmonella* presence in swine) and type of on-farm intervention. A multiple search algorithms were developed. The search strategy included a comprehensive search of over 10 bibliographical databases, targeted conference proceedings and other grey literature. More than 7,000 potentially relevant abstracts were identified. Two reviewers assessed each abstract for relevance. The relevant articles (~ 200) will be assessed for quality based upon appropriate study design, elimination of sources of bias and suitable statistical analysis. The data from relevant papers of acceptable quality will be summarized and analysed. The review was managed using web-based, systematic review software (ESR), which allows all steps of the review to be documented electronically. The results of the review will be presented at the conference.