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The food safety value of de-boning finishing pig carcasses with lesions indicative of prior septicaemia

A.K. Bækbo^{a,*}, J.V. Petersen^a, M.H. Larsen^b, L. Alban^{a,b}^a Danish Agriculture & Food Council, Axeltorv 3, 1609 Copenhagen V, Denmark^b Department of Veterinary Disease Biology, University of Copenhagen, Stigbøjlen 4, 1870 Frederiksberg C, Denmark

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ABSTRACT

The primary purpose of meat inspection is to protect the public health by ensuring that no meat unfit for human consumption enters the market. EU Regulation 854/2004 specifies that lesions indicative of a generalised condition should result in the condemnation of the carcass. However, the correct procedure concerning carcasses with lesions indicative of a prior septicaemia is not specified. In Denmark, such carcasses are de-boned to avoid the presence of abscesses in the muscles. The aim of this study was to evaluate the food safety value of this specific use of de-boning. Retrospective data from 1 year, in the form of meat inspection lesion codes for all finishing pigs slaughtered, at the seven largest Danish abattoirs were obtained from the Danish Slaughterhouse Database. These data revealed some differences between abattoirs in the proportion of carcasses sent for de-boning (min: 0.14%; max: 0.29%; $P < 0.001$) and showed large differences in how often abscesses were found at de-boning (min 0.34%; max 24.14%; $P < 0.001$). Less than 1% of the carcasses were totally condemned after de-boning. Samples from 102 finishing pig carcasses sent for de-boning (due to lesions indicative of prior septicaemia) underwent bacteriological examination. Samples were taken from each carcass, including from abscesses and muscle. The presence of bacteria in the muscle samples was compared to that of similar samples collected from carcasses unconditionally approved in another study ($N = 60$). A total of 6% of the abscesses and 83% of the muscle samples from the carcasses sent for de-boning were sterile (or below detection level). The only potential foodborne pathogen identified was *Staphylococcus aureus*, which was found in 15 abscesses and one muscle sample from the 102 carcasses sent for de-boning and in one of the 60 control muscle samples ($P = 0.86$). Based on the bacteriological findings, the human health risk related to meat from de-boned carcasses and meat from unconditionally approved carcasses was assessed to be equally low. Therefore, de-boning was not considered to be a necessary part of the meat inspection procedure to ensure food safety. Instead, thorough inspection (requiring deep cuts into the predilection sites for the abscesses) in the rework area could replace de-boning. In addition, if overlooked in the rework area, such abscesses would probably be found during cutting, and dealt with at the abattoir. A strict and thorough handling of the carcasses in the rework area, along with extra focus during processing, should therefore be sufficient.

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