

The study of risk factors for *Campylobacter* spp. on swine carcasses

Sudthidol Chaichin¹, Prapansak Chaveerach^{2*}

¹Faculty of Agriculture and Technology, Rajamangala University of Technology Isan,
Surin campus, Surin, Thailand 32000

²Department of Veterinary Public Health, Faculty of Veterinary Medicine,
Khon Kaen University, Khon Kaen, Thailand 40002

*E-mail: sudthidol@hotmail.com

Abstract

Campylobacter is normal flora of warm blood animals. Swine is generally found as host. *Campylobacter* could cause human diarrhea. Contaminated pork is source for human infection. The purpose of this study was to establish the prevalence and risk factors for *Campylobacter* spp. on swine carcasses. High level of hygienic procedure is concern to minimize the contamination at pig slaughterhouse. 2 kinds of slaughterhouse operating, low hygienic (lc) and high hygienic (hh) level, were studied and compared. Swab samples of used knives after the operation at cut head, opened carcass, before meat inspection were collected from 2 different slaughterhouses. Swab samples of 5 carcasses each from 5 different points and after meat inspection point were collected at the same slaughterhouse. Identification of a typical *Campylobacter* colony was determined by the use of phase-contrast microscopy. The study demonstrated that the knives used in the lc and hh operation were contaminated by *Campylobacter* spp. at 31.94% (23/72) and 5.56% (4/72), respectively. The *Campylobacter* at carcasses surface from lc and hh at 3 different points (cut head, opened carcass, before meat inspection) was found 3.33%, 45.83%, 41.67% and 8.33%, 4.17%, 4.17%, respectively. The prevalence of *Campylobacter*, after meat inspection process, of the lc slaughter operation was 46.67% (56/120) significantly higher than of the hh slaughter operation 19.17% (23/120) (P < 0.05). The chi square method was used to established odds ratio (risk factor) comparing lc and hh operating. The odds ratio of unclosed rectum, process meat inspection and knives of meat inspector of lc operating showed 19.46(CI 2.11-450.61), 16.43(CI 1.78-381.24) and 7.86(CI 1.29-61.38) respectively. This study indicated the cross contamination of campylobacter occurring from gastro-intestinal tract. The study could also draw conclusion that hh slaughterhouse operation could reduce risk of campylobacter contamination on swine carcasses.

Keywords: Risk factors; *Campylobacter* spp.; Swine carcasses