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Veterinari Medicina

Causes and factors related to pig carcass condemnation

Garcia-Diez J, Coelho AC:

Veterinari Medicina, 59 (2014): 194-201

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Ante mortem and *post mortem* carcass condemnation records could be of use as a potential database for the study of swine diseases, epidemiology or animal welfare. Thus, the aim of this study was to investigate the causes of *ante mortem* rejections and *post mortem* carcass condemnation of pigs intended for human consumption during a 78-month period. The records considered for study were, date of slaughter, total pigs slaughtered and total number of *ante mortem* rejections (deaths during transportation and deaths in the pens) and *post mortem* carcass condemnations (osteomyelitis, caseous lymphadenitis, erysipelas, cachexia, pale, soft and exudative meat

purulent nephritis, purulent metritis, jaundice, meats from febrile pigs and peritonitis). The influence of several factors such as year, season, mandatory fulfilment of a food chain information form (FCIf) and compulsory certification of swine drivers/transporters on *ante mortem* rejections and *post mortem* carcass condemnation was also studied. A total of 161 001 pigs slaughtered resulted in 238 (0.15%) *ante mortem* deaths, 160 763 pigs processed for meat consumption (99.7%) and 392 (0.24%) carcass condemnations. The *ante mortem* rejections revealed that 146 pigs (61.3%) died during transportation whereas 92 (38.7%) were rejected due to death in pens. The main causes of carcass condemnations were osteomyelitis (38.5%), granulomatous lymphadenitis (22.7%) and pleurisy/pneumonia (21.2%). A relationship was found between the month and *ante mortem* condemnations ($P < 0.01$), death losses during transport ($P < 0.01$) and between compulsory certification of animal transporters and deaths by transportation ($P < 0.05$). During the cold season, the probability of

ante mortem rejections (OR = 1.84; CI 95%: 1.32–2.59) and death in pens (OR = 1.62; CI 95%: 1.02–2.57) was higher. The compulsory fulfilment of a food chain information form was not revealed to be significantly linked with the total number of carcass condemnations although the odds of *ante mortem* rejections were higher (OR = 2.10; CI 95%: 1.44–3.08) when it was not mandatory. Higher *post mortem* condemnations compared to *ante mortem* condemnations can be explained by the fact that several *post mortem* findings are asymptomatic in live animals. A progressive decrease in losses during transport was associated with on-farm improvements in animal welfare measures in addition with compulsory training of animal transporters. However, the consistent values of deaths in pens throughout the study period, with an increase during the winter, indicate a need for an improvement in the thermal conditions of the holding area in slaughterhouse. Regarding the *post mortem* condemnations, the improvement in animal welfare conditions may explain the decrease in osteomyelitis condemnations while the environmental origin of granulomatous lymphadenitis

may be associated with region, climate or with the presence of hosts that may explain the influence of the time of year on its variations. The FCI_f was implemented as a measure to improve the transparency of food safety and animal health in the food chain from farm to fork. Although osteomyelitis and granulomatous lymphadenitis condemnations were influenced by the FCI_f, this relationship cannot be fully explained due to the scarce information related to disease prevalence and/or diagnostics at the farm level. Consequently, the improvement in food safety elicited by this measure is not entirely clear. Data on carcass condemnation could be used to verify the emergence, evolution and control of swine diseases as well as to improve animal health, food safety and veterinary public health programs and/or strategies according to the epidemiological context, with the ultimate aim of guaranteeing public health.

Keywords:

carcass; *ante mortem*; *post mortem*;
condemnation; transportation

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