

Time to overcrowding in Italian intensive swine farming areas in the event of an OIE list A disease

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Abstract

Any outbreak of an OIE list A disease such as hog cholera or foot and mouth disease severely affects livestock production. As soon as such an outbreak is detected, strict emergency measures are brought into action; one of these is animal movements restriction, both on infected premises and in farms falling inside the protection zone or anyway connected with the outbreak.

Historically in Italy, areas characterised by the presence of intensive pork production systems were more severely affected than regions where more traditional farming systems were in place.

The purpose of this study was to estimate how long it would take to reach critical overcrowding in intensive pork production farms subjected to movement restriction following a list A disease outbreak.

Two production systems were taken into consideration, farrow-to-finish and growing-finishing farms; a different set of parameters was used to describe each population. Farm management data (average stocking density, body weight, age distribution, age at slaughter, etc.) were obtained from a sample of farms located in the high density swine regions of Italy; data describing control activities were obtained from actual control and eradication of past epidemics of list A diseases (FMD, swine vesicular disease).

Results show that time to critical overcrowding appears to be shorter than the time required in the past to stop the spread of the epidemics and therefore lift the block of animal movements.

These results have considerable implications for the management of contingency plans, especially where slaughter planning and implementation, and carcass disposal are concerned.