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The effectiveness of classical swine fever surveillance programmes in The Netherlands

Abstract -
 Consequences of classical swine fever (CSF) epidemics depend on the control measures, but also on the number of infected herds at the end of the high-risk period (HRP). Surveillance programmes aim to keep this number as low as possible, so the effectiveness of surveillance programmes can be measured by the number of infected herds at the end of the HRP. In this paper, an evaluation of the effectiveness of the following five Dutch CSF surveillance programmes is presented: (1) routine gross pathology of severely diseased pigs; (2) routine virological tests of tonsils of all pigs, submitted under 1; (3) daily clinical observation by the farmer; (4) periodic clinical inspection by a veterinarian; (5) leucocyte counts in blood samples from diseased animals on a herd where antimicrobial ?group therapy? is started. The evaluation was done by a modelling study, in which virus transmission, disease development, and actions and diagnostic tests in surveillance programmes were simulated. Also, the yearly costs of the programmes were calculated, and direct costs of CSF epidemics were related to the number of infected herds at the end of the HRP. It appeared that the current Dutch surveillance programmes, without the leucocyte counts, keep the number of infected herds at the end of the HRP below 20 with 95% probability. Leaving out the most-expensive programme of periodic inspection (12.5 M? per year) does not change this result ? indicating that (for CSF surveillance) the programme could well be stopped. If the leucocyte programme, which is currently not effective due to the low sample submission rate, optimally were applied, the 95th percentile could be reduced to 10 infected herds. However, whether application is beneficial is unclear, because of uncertainty of the economic benefits due to the many expected false-positive herds each year.

Corresponding author
: D. Klinkenberg Tel.: +31 30 2531233; fax: +31 20 2521887

Yes