

EXPERIENCES OF MORTALITY LEVELS IN FINNISH POULTRY POPULATION

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Introduction

An increase in mortality is an important and sometimes the only indication of presence of infectious disease in poultry flocks. A certain level of mortality is considered normal by the bird owners and the owners react to an increase in the mortality at a specific level and thus facilitate detection of infection. The level of normal mortality and the reaction level for an increase in mortality is not known. The aim of this work was to obtain knowledge and data on mortality levels found in different types of Finnish poultry.

Materials and methods

The data was collected by a questionnaire, which was mailed to commercial poultry flock farmers (N 3100) and hobby flock owners (N 616). The questionnaire was also available in internet.

Data collection was performed from January to February 2007. The return rate of the questionnaire was 37% (N 1209), of which 6,5% through the internet.

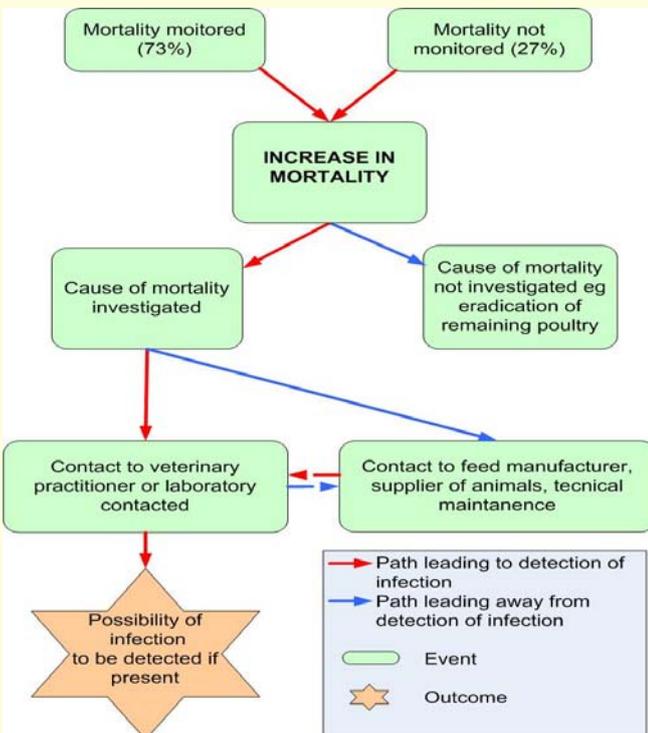


Figure 1. Event three for the detection infection disease. Chart shows the events following an increase in mortality and the proportion of bird owners monitoring mortality on a regular basis (N=829)

Results

The difference in the reaction level between different poultry types was larger than the differences between the normal mortality levels. Broiler- and turkey producers approved a smaller increase in the mortality before reacting compared to other types of poultry flocks (table 1 and table 2).

According to our results 73% of the bird owners monitored the mortality in the flock on a weekly basis or more often. The mortality level was not monitored in 27% of the owners (figure 1).

Table 1. Normal mortality levels (%) in one year in different types of poultry

Poultry production type	Normal mortality (Q1)		Normal mortality (Md)		Normal mortality (Q3)		N
	lower limit	upper limit	lower limit	upper limit	lower limit	upper limit	
Commercial chicken flocks	0	3	1	5	2	6	197
Broiler and turkey flocks	0	3	2	4	2	5	140
Backyard flocks	0	2	0	5	1	9	122
Extensive farming flocks ^a	0	5	0	8	2	10	28
Domestic animal parks	0	2	0	3	1	5	20

^agame-, goose-, duck- and ostrich flocks, dove houses

Table 2. Reaction mortality level (%) in one year in different types of poultry

Poultry production type	Reaction mortality (Q1)	Reaction mortality (Md)	Reaction mortality (Q3)	N
	Commercial chicken flocks	6	10	
Broiler and turkey flocks	4	5	6	122
Backyard flocks	6	10	20	82
Extensive farming flocks ^a	10	10	19	23
Domestic animal parks	5	7	10	13

^agame-, goose-, duck- and ostrich flocks, dove houses

Discussion

A rise in the mortality due to an outbreak in a broiler- or turkey flock is probably detected earlier than in any other poultry production type.

The monitoring of an increase in the mortality could be a valuable tool in ensuring early detection of disease in a flock. The EU Commission decision 2006/734/EC concerning bird flu type H5N1 requires bird owners to report an 3% weekly increase in mortality to authorities. A regular monitoring of the mortality in a large part of the flocks is required for this requirement to be effective. One fourth of the flock owners in our study did not monitor the mortality levels in their flocks, resulting in a poorer detection probability of an outbreak.

The results of this study can be used for contingency planning and for risk assessments.

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