

## DESCRIPTIVE EPIDEMIOLOGICAL ASPECTS OF THE SEROPREVALENCE OF FIVE RESPIRATORY DISEASE AGENTS IN SLAUGHTER PIGS FROM FATTENING PIG HERDS

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Fifty fattening pig herds were selected at random in an area of 3314 km<sup>2</sup> with over 2.7 million fattening pigs (f.p.) and sows. At slaughter, blood was collected by systematic sampling from 25 f.p. of each herd. The presence of antibodies against *Mycoplasma hyopneumoniae* (Mh) and Aujeszky's disease virus (ADV) was determined on 25 f.p. of each herd. Antibodies against H<sub>1</sub>N<sub>1</sub> and H<sub>3</sub>N<sub>2</sub> were measured on 10 f.p. per herd; PRRS virus (PRRSV) antibodies were determined on 5 f.p. per herd. The overall seroprevalence of Mh, ADV, H<sub>1</sub>N<sub>1</sub>, H<sub>3</sub>N<sub>2</sub> and PRRSV was 84%, 57%, 93%, 60%, and 96% respectively. The distribution of herds depending on the number of seropositive animals within each herd is given for the five disease agents.

### INTRODUCTION

The seroprevalence of disease agents within pig herds gives an idea concerning the spread of these agents within the herd. The extent of seropositivity, however, may be dependent on the type of pig herd. Therefore, results of various studies can be hardly compared if the type of selected herds is different. The purpose of this study was to estimate the seroprevalence of five respiratory disease agents in fattening pig herds and to describe the distribution of the herds depending on the number of seropositive animals within each herd.

### MATERIALS AND METHODS

Fifty fattening pig herds (without sows) were selected at random in an area of 3314 km<sup>2</sup> with over 2.7 million fattening pigs (f.p.) and sows. At slaughter, blood was collected by systematic sampling from 25 f.p. of each herd. The presence of antibodies against Mh and ADV was determined on 25 f.p. per herd. Antibodies against H<sub>1</sub>N<sub>1</sub> and H<sub>3</sub>N<sub>2</sub> were measured on 10 f.p. per herd; PRRSV antibodies were determined on 5 f.p. per herd.

### RESULTS AND DISCUSSION

The overall seroprevalence of Mh, ADV, H<sub>1</sub>N<sub>1</sub>, H<sub>3</sub>N<sub>2</sub> and PRRSV was 84%, 57%, 93%, 60%, and 96% respectively. The seroprevalences are slightly higher than those found on Belgian farrow-to-finish pig herds (Maes *et al.*, 1996). The distribution of herds depending on the number of seropositive animals within each herd for the five respiratory disease agents is given in Table I.

**Table I**  
The distribution of herds depending on the number of seropositive animals within each herd for Mh, ADV, H<sub>1</sub>N<sub>1</sub>, H<sub>3</sub>N<sub>2</sub> and PRRSV.

% of seropositive animals within each herd	Mh (% of herds)	ADV (% of herds)	H <sub>1</sub> N <sub>1</sub> (% of herds)	H <sub>3</sub> N <sub>2</sub> (% of herds)	PRRSV (% of herds)
0	0	18	2	71	0
1-10	0	14	0	0	0
11-20	0	10	0	12	0
21-30	0	0	0	10	0
31-40	0	0	0	5	0
41-50	0	0	0	0	0
51-60	8	4	3	0	2
61-70	8	0	7	0	0
71-80	20	2	17	2	14
81-90	24	2	17	0	0
91-99	32	10	0	0	0
100	8	40	54	0	84

None of the 50 herds was completely seronegative for Mh and PRRSV. The investigated animals were all negative on 18%, 2% and 71% of the herds for ADV, H<sub>1</sub>N<sub>1</sub>, and H<sub>3</sub>N<sub>2</sub> respectively. All herds had a seroprevalence higher than 50% for Mh. There was a bipolar distribution for ADV. As expected, the seroprevalence of H<sub>1</sub>N<sub>1</sub> was higher than that of H<sub>3</sub>N<sub>2</sub>. Almost all herds had a seroprevalence below 50% for H<sub>3</sub>N<sub>2</sub>.

### REFERENCES

Maes, D., Deluyker, H., Verdonck, M., Castryck, F., Miry, C., de Kruif, A. 1996. Epidemiological investigations on respiratory diseases in pigs in Belgium. In: Proc. Int. Pig Vet. Soc., Bologna, 405.

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