SEROPREVALENCE OF *LAWSONIA INTRACELLULARIS* IN HERDS FROM BRAZIL

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Introduction

The Porcine Proliferative Enteropathy, also known by ileitis, is caused by the intracellular bacteria *Lawsonia intracellularis* (1). Ileitis affects animals from 6 weeks of age causing important damages. Studies in the world show a high prevalence of the disease, above 90% in the herds from the world (2) and up to 96% in the herds from Brazil (4). In relation to the infection dynamic in the herd, a study carried through in Europe (2) demonstrated a linear increase in the antibodies prevalence in animals from nursery to termination categories. In Brazil, few studies had been produced, but also a linear increase in the prevalence of antibodies against the *L. intracellularis* in animals from nursery to termination categories was found (5). The objective of this work was to investigate the dynamic infection of ileitis in Brazil.

Materials and Methods

The study was conducted with sampling in two levels or stages, a- herds sampling and b- animals sampling. The herd sampling was not controlled, but gotten in accordance with the possibility of materials. The animal sampling was calculated to get 90% of confidence, that at least one infected animal would be detected if had the presence of the agent, using itself 90% of sensitivity and prevalence of 15%. Thirty three farms had been studied, being 18 in the state of Minas Gerais (MG), three in the state of São Paulo (SP), two in the state of Mato Grosso (MT), and 10 in Santa Catarina (SC), Brazil. The number of 2.556 sera from animals of diverse ages during the months of February of 2006 until March of 2007 had been collected. The blood samples had been harvested in animals from the categories: Farrowing (3 and 4 weeks of age), Nursery (5 to 9 weeks), Fattening (10 to 14 weeks), Termination 1 (15 to 18 weeks), Termination 2 (19 to 25 weeks) and Sows & Gilts (up to 26 weeks). For the antibodies detection against *L.intracellularis*, had been used the indirect immunofluorescence with 90% of sensitivity and 95% of specificity.

Results

The average prevalence of antibodies detection in animals and herds are listed in table 1, where can be observed the majority of the herds have occurrence (96,9%) and all the states have occurrence (100%). The average prevalence results of animals and herds per category and per state are listed in table 2.

Discussion

In a study carried through previously in MG in the year of 2000 (4), the authors had found a prevalence of 22,1% of positive animals. The results of the present study suggest that in the year of 2007, ileitis committed a bigger number of animals inside the state herds against the year of 2000. The values of the table 2 show a linear increase in the antibodies detection with the increase on the animal age and show antibodies detection in all the Sows&Gilts, suggesting that Termination animals and Sows&Gilts are the animals more affected by the agent. The low prevalence in the antibodies detection in piglets in farrowing house suggests a low passive immunity. In a study carried through in Brazil (5), the authors had found an increase in the antibodies detection from animals of 10 weeks until animals of 24 weeks of age, being in accordance with the results found in this study, and also in accordance with a study carried in Europe (2), where an increase in the antibodies detection from the eighth week of the pigs age up to 25 weeks of the pigs age was observed.

References

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Table 1. Average prevalence of antibodies detection in animals and herds.

	MG	SP	MT	SC	Average
Animals	26,5%	53,4%	66,8%	60%	36,1%
Herds	94,4%	100%	100%	100%	96,9%

Table 2. Average (X) prevalence of positive animals and herds per category and per state. A.– Animals; H.- Herds

		Farrowing	Nursery	Fattening	Term 1	Term 2	Sows Gilts
MG	A	2,1%	0,9%	8,9%	37%	66,7%	-
	H	14,2%	5,9%	44,4%	88,8%	94,4%	-
SP	A	-	11,1%	23,5%	91,1%	95%	100%
	H	-	33,3%	66,6%	100%	100%	100%
MT	A	-	0%	39,1%	100%	100%	100%
	H	-	0%	100%	100%	100%	100%
SC	A	-	36,6%	73,3%	66,6%	61,6%	-
	H	-	100%	100%	100%	100%	-
X	A	2,1%	4,9%	19,5%	51,3%	69,8%	100%
	H	14,2%	16,6%	56%	88,4%	96,1%	100%