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Neosporosis in South America

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Abstract

This work gathers reports about *Neospora*-infections in South America. *Neospora*-infections have been reported from Argentina, Brazil, Chile, Paraguay, Perú and Uruguay. Evidence of exposure to *N. caninum* was mentioned in cattle, goats, sheep, dogs, cats, water buffaloes, alpacas, llamas, South American opossums, wolves and other wild canids. No antibodies were found in horses. Interesting epidemiological and pathological data were described. Two isolations were performed from dogs, one from cattle, and recently five from water buffaloes. Since the cattle industry is important in South America and reproductive losses caused by *Neospora*-infection have been identified, more investigations are needed in order to understand its epidemiology and control the disease.

Keywords: Neospora caninum; South America

1. Introduction

Neosporosis has emerged as a protozoan disease of cattle and dogs worldwide. Although *Neospora caninum* was first recognized in the 1980s, most reports in South America were obtained in the last decade. Studies on neosporosis have been performed in Argentina, Brazil, Chile, Paraguay, Perú and Uruguay. Evidence of exposure to *N. caninum* was mentioned in cattle, goats, sheep, dogs, cats, water buffaloes (*Bubalus bubalis*), alpacas (*Vicugna pacos*), llamas (*Lama glama*) South American opossums (*Didelphis marsupialis*), captive maned wolves (*Chrysocyon brachyurus*) and other wild canids (*Cerdocyon thous* and *Lycalopex gymnocercus*) including two Chiloe's foxes (*Pseudolapex fulvipes*). Although interesting epidemiological and pathological findings were described, few isolations were reported from dogs and cattle.

Current knowledge on neosporosis has been recently reviewed (Dubey, 2003a,b). This paper, however, provides detailed information about *Neospora*-infections in South America, grouped according to animal species.

2. Cattle

Although cattle farming is one of the most important industries in South America and nearly of

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Table 1
Prevalence of antibodies against *N. caninum* in cattle from South America grouped by country, region, type of production, antecedents of abortion in the herd and diagnostic technique

Country	Region	Type of production	Number of farms	Antecedents of abortions	Number of studied animals	Percent of sero + animals	Technique	Author and year
Argentina	Humid Pampas	Dairy	3	Yes	33	51.5	IFAT	Venturini et al. (1995)
		Beef	18	Yes	46	21.7		
		Dairy	1	Yes	9	88.8	IFAT	Campero et al. (1998)
		Dairy	19	Yes	189	64.5[a]	IFAT, NAT, ELISA	Venturini et al. (1999)
		Dairy	49	Yes	750	43.1	IFAT	Moore et al. (2002)
			52	No	1048	16.6		
		Beef	39	Yes	216	18.9		
			17	No	400	4.7		
		Beef	1	Yes	290	20.3	IFAT	Moore et al. (2003a)
	Corrientes Province	Beef[b]	19	–	305	4.9	IFAT	Moore et al. (2003b)
Brazil	NA	Dairy	1	Yes	10	60	IFAT	Gondim et al. (1999a)
	Bahia	Dairy	14	No	447	14.1	IFAT	Gondim et al. (1999b)
	Paraná	Dairy	1	Yes	172	34.8	ELISA and IFAT	Locatelli-Dittrich et al. (2001)
	Paraná	Dairy	23	NA[c]	623	14.3	IFAT	Guimarães et al. (2004)
	Rio Grande do Sul	Dairy	5	Yes	223	11.2	IFAT	Corbellini et al. (2002)
	Minas Gerais	Dairy	18	No	576	18.4	ELISA	Melo et al. (2004)
Chile	IX	Dairy	3	Yes	55	36.4	IFAT	Patitucci et al. (1999)
		Dairy	2	Yes	371	22.4	IFAT	Patitucci et al. (2000)
Paraguay	Central, Concepción and Cordillera Paraguarí	Dairy	33[d]	No[e]	297	36	ELISA	Osawa et al. (2002)
	Alto Paraguay, Boquerón, Presidente Hayes and Paraguarí	Beef	5	No	582	26.6		
Perú	Lima Valley	Dairy	9	Yes	29	62.1	IFAT	Rivera et al. (2000)
Uruguay	NA	Dairy	1	Yes	217	56.7	IFAT	Kashiwazaki et al. (2004)

[a] Percentage of seropositive animals by IFAT only.
[b] Study performed on beef bulls.
[c] Not available.
[d] Twenty-eight of 33 farms were small herds.
[e] Only one herd had antecedents of endemic abortion.