Aspects of *Toxocara* epidemiology in the Netherlands

Epidemiologische aspecten van *Toxocara* in Nederland

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Introduction

aim and scope of this thesis

Toxocara canis and Toxocara cati are intestinal helminths of, respectively, dogs and cats. Both Toxocara species have, because of their zoonotic significance, important public health consequences. Prevention of infection with Toxocara eggs is based on education (general public, veterinary practitioners and physicians), hygiene and deworming of pets.

The first two chapters are an overview of the literature of Toxocara infections in dogs and cats (Chapter 1) and human toxocarosis (Chapter 2).

Little is known about the prevalence of the infection in the different categories of dogs and cats in the Netherlands which is a prerequisite to give adequate information. This thesis describes surveys among privately owned dogs and cats and stray cats (Chapter 3), dog breeding kennels (Chapter 4) and catteries (Chapter 5) to determine patent infections in dogs and cats and environmental contamination with Toxocara eggs in breeding colonies as well as eventual risk factors for infection.

Activation of somatic Toxocara larvae followed by a tracheal migration and the development of a patent infection is suggested for cyclic bitches during metoestrus. To get a clear answer, a group of intact beagles was monitored over a two year period by regular faecal examination and determination of serum Toxocara titers during the period following each oestrus which was compared with similar observations in pregnant bitches (Chapter 6).

Deworming is considered as an important tool in the treatment of patent nematode infections and the prevention of environmental contamination with Toxocara eggs. The anthelmintic efficacy of oxibendazole against intestinal nematodes of dogs and cats is not reported conforming to the dosage and schemes used in Europe so far. A field study among dogs, cats and puppy litters was therefore performed with emphasis on the suppression of egg shedding by young animals (Chapter 7).

The knowledge of Toxocara epidemiology by veterinary practitioners, physicians, pet owners and non-pet owners is investigated to get a better understanding of the current practices of
education and the need for specific information (Chapter 8). The effect of a government education campaign performed in 1993 on awareness of *Toxocara* and toxocarosis on these groups is involved.

Finally the results are discussed in the context of data from the literature (Chapter 9).