Preface

The title of this thesis embraces several topics which are somehow interlinked.

In small ruminants, often the reality of husbandry is far different compared to other livestock rearing, especially in Mediterranean regions, where sheep husbandry is mainly based on extensive systems where pasture represent the environment where gastro-intestinal parasites complete their biological cycle and grass helps survive the larvae which then re-infest grazing animals. Gastro-Intestinal parasites today are one of the most important hurdles of health management in sheep breeding and are capable of causing remarkable productivity losses around the world.

Farmers rely on pharmacological treatment as prophylactic strategies, infact chemical treatments are broadly applied. However, they are known to posses several disadvantages which have been identified. Mainly, chemical drugs have caused high impact on rural environment and have become a worrying issue regarding food safety.

In this view, homeopathy can be a very useful alternative tool in annihilating this downside. Homeopathic medication has been recently discovered and applied to farm animals. It has offered great advantages to those farms that obtain their produce via organic or even biodynamic methods. The main advantage consists in offering a valid alternative to chemical drugs allowing the farmer to maintain a natural and chemical-free environment.

Nowadays the mechanism with which homeopathic remedies effectively cure or defeat certain pathological states remains unclear. Indeed, studies are still trying to fully comprehend these biological mechanisms but in order to do attain it one must select a method that will assess the evolution of an illness. In particular, certain symptoms which are considered relevant to the illness, must be selected and focused upon in order to complete the assessment of the homeopathic remedy. Several studies have used conventional parameters such as blood counts and biochemistry analysis. In this study, other parameters such as immunological ones are included since homeopathy seems to have a strong correspondence with the immune response.

Pathogens elicit different immune responses. Therefore, immunological assays may be an aid to clear those mechanisms with which homeopathic remedies bring about their efficacy.

Farm animals health is of primary importance in the food chain and it is essential to guarantee products of maximum quality. Health status is in dependence of animal welfare and for this reason this topic is becoming of prime interest in the European Union, as confirmed by the continuous creation and implementation of new regulations throughout the continent.

The aim of this study is to evaluate certain welfare parameters in sheep treated with homeopathy as a method of gastro-intestinal parasite control.