SUMMARY OF SHEEP IN HELMINTHOLOGY SLAUGHTERHOUSES OF BLIDA (ALGERIA)

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Abstract. *Our study in the slaughterhouses of Blida, lasted from January to June 2011 witha rate of six (06) samples from digestive tracts per month. The average parasite load in thedigestive strongyles is 91.7% (n = 980), compared with only 8.3% for flatworms. Speciesare diagnosed Moniezia sp. (n = 88), Ostertagia sp (n = 15), Haemonchus contortus (n =180), Trichostrongylus sp (n = 74) and Nematodirus sp (n = 698). The portion is the mostinfested the small intestine (n = 747). Abomasum and large intestine were hostedrespectively 208 and 26 parasites.*

Keywords: digestive strongyles - Parasitic Autopsy - Sheep - Slaughter of Blida

INTRODUCTION

Parasitic diseases are a major cause against animal performance in sheep. In Algeria, 80% of the 20 million sheep that make up the national herd, are divided into steppe zones.The rest of the herd is divided between coastal regions and Tellian. In these areas, there are more ectoparasites, five major groups of internal parasites: Great fluke (liver), the digestive strongyles (Caillette / intestines), cestodes (intestines), and the Dictyocaules protostrongylid (Lungs) and Estrus (sinus). [13, 14].

The good herd health requires a balanced diet and sufficient in protein than in energy [5], building a clean and rational control program [9]. There is evidence that young people are more susceptible to various parasitic infections due to lack of immunity. Immune reactions are caused mainly by larval stages [4]. Coverage is effective when the infestation is moderate and lasts throughout the pasture, for strongyles and large moat, or building for coccidia. Transmission and propagation of many species of parasites involve the transition to pasture. Adults may develop some immunity, cannot be transferred to the lambs. The impact is usually sub-clinical (weight loss, growth retardation). The detection of the parasite by the imaginal forms is possible only when the adults lay, three weeks after infection (prepatent period). The detection of parasite larvae is rarely feasible for the determination of plasma pepsinogen (Ostertagiose). Two other methods are put to use to complete the analysis of pest risk. This is the autopsy of animals "tracers" (technical assessments to assess parasite levels and patterns of infestation) and the observation at the abattoir (prevalence and incidence of parasitic diseases) [14]. The latter method was chosen to carry out this study.

Direct diagnosis of helminthosis on the dead animal is in the detection and identification of parasites in various organs. It is necessary to perform the autopsy soon after death to avoid postmortem alterations of the parasites, some of which are very delicate. The objective of this study is to evaluate the infestation of sheep by gastrointestinal parasites (parasite level), and identification of major helminths involved (parasitic profile).

MATERIAL AND METHOD

The survey was conducted during 06 months (January-June 2011). The samples of visceraof sheep for slaughter has been made in Blida and the analysis of samples collected at the Laboratory of Parasitology of the Veterinary Department of the University S. Dahleb. The analytical study was to identify and quantify parasite populations found in the visceraremoved. Each month, six digestive tracts are removed.

The autopsy helminthological is made on the day of slaughter sheep. The entire gastrointestinal tract was removed and each portion is considered separately: stomach, small intestine, large intestine [9]. After opening the stomach, the contents are examined and the parasites visible on the surface are collected with forceps. Feces once removed, the body is rinsed over a container under running water, by moving the wall. The sediment is made in small quantities in petri dishes and then examined under a binocular microscope. The intestine is freed from its attachments mesenteric along its length and the content is retrieved in a pot, then the parasites visible to the naked eye are collected separately. The operation is completed by rinsing and scraping of the lining under running water. After decanting the rinsing liquid, we look at the binocular microscope to the small and in the sediment; they are distributed in Petri dishes. The large intestine is made and the materials it contains aside in a large tray and left to air. After a few minutes, the adult worms come to the surface becomes studded with white spots, making them easier to harvest. Next, we look closely the mucosa and are carried out by rinsing under runningwater. We also sought nodules hypobiose larvae. After counting, the parasites are stored in labeled bottles, containing a solution of 10% formalin for Cestodes in ethanol and 70 ° for nematodes and trematodes. Nematodes are out of ethanol and mounted between slide and coverslip with a few drops of liquid lightening (polyvinyl lactophenol). The preparation is then observed under a microscope. [7, 9].

RESULTS AND DISCUSSION

After examination of the contents of the digestive tract and parasite counts, we recorded the following results:

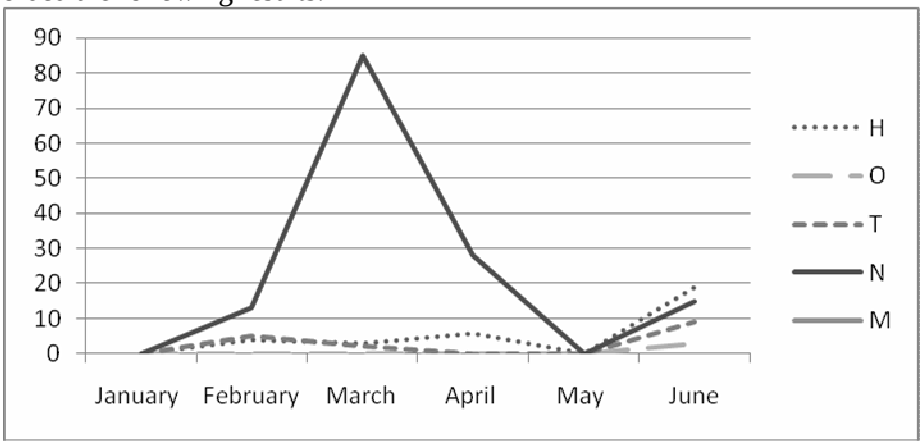

Fig. 1. Kinetics monthly during the first half of parasites per animal (M = Moniezia sp./ N = Nematodirus sp./ T = Trichostrongylus sp./ O= Ostertatgia sp./ H= Haemonchus).

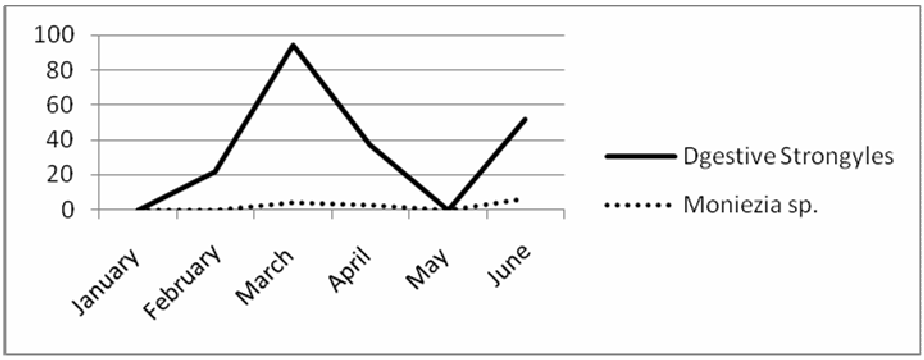

Fig. 2. Kinetics monthly during the semester groups of parasites

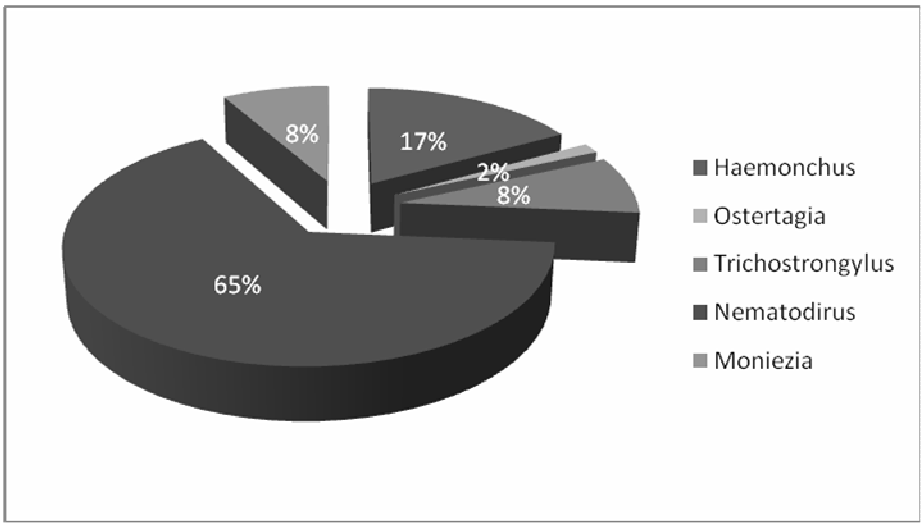

Fig. 3. Infection rates in the different species

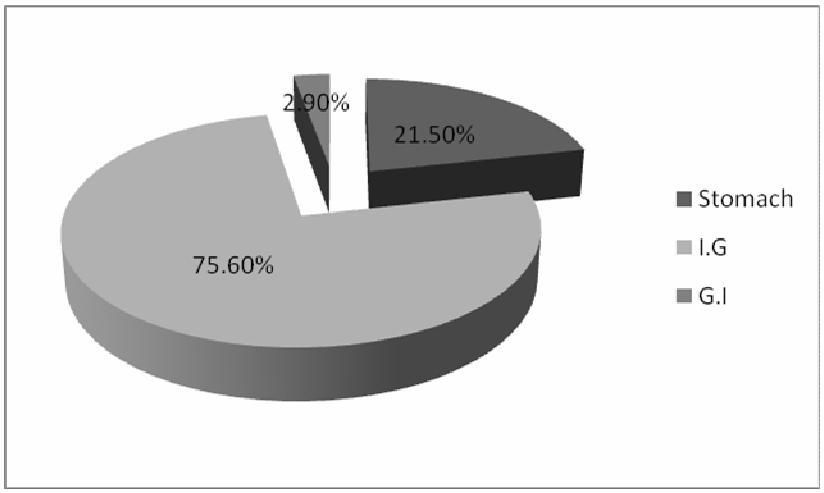

Fig. 4. Infestation rates by location strongyles

At the end of our study, we confirm the presence of gastrointestinal strongyles and Moniezia sp. of sheep slaughtered in slaughters in Blida, but whose origin will remain enigmatic. The origin of the animals is unknown; it is very difficult to characterize the required accuracy of the epidemiology of endoparasites induced. However, the prevalence of infections with Nematodirus especially among young people, due to their high resistance to adverse weather conditions (very hot or very cold) [7,8]. Indeed, Nematodirus is the only digestive strongyles which two successive moults in the external environment (L1-L2 and L2 to L3) are held directly in the bud. The infective larvae (L3) in the egg contents are well protected from weather conditions. We recorded the presence of the genus Haemonchus in the dry season in contrast to what is described by ASCAD et al (1995) who found a heavy infestation in the rainy season. Similarly the presence of such Trichostrongylus in our study is different from that obtained by Gretillat (1998) which states that the infection takes place after the rainy season. The genus Ostertagia strongyles were collected in very low numbers. Similar results were observed [9]. The digestive strongyles infestation is relatively high, peaking in March (spring). This peak is due to the conduct of grazing animals where conditions of temperature (20-30 ° C), humidity (70-80%) and oxygen are combined. Indeed, the free phase of strongyles cannot be conducted on herbaceous areas and the contaminated sheep by L3 present on the grass [5]. Using a technique balances parasitic performed on samples collected at slaughterhouses digestive tube of Blida, we confirmed the presence of gastro-intestinal genera Haemonchus, Nematodirus, Ostertagia and Trichostrongylus and cestode Moniezia sp. This qualitative accuracy (Profile parasite) is complemented by the quantitative determination of parasite load (parasite levels). In Algeria, internal parasites in sheep are essentially shared by nematodes (22 genera), cestodes (9 genera) and trematodes (3 types) [11]. It is rare that diagnostic laboratories of Parasitological are the recipients of stool samples, let alone scrapings digestive, skin and / or samples of wool, hence the scarcity of field data. [14] Although coproscopy remains a reliable tool to clarify the nature of groups in the presence of endoparasites, the large variations in egg parasites and density of the solution used, must lead us to a more measured, especially at the use of the technique balances parasite, which remains much more reliable [14]. The presence of oncospheres of Moniezia sp is almost permanent in young sheep, in the majority of farms [5]. Overall, infestation levels are relatively low compared to the results of the survey conducted in 2007 under similar conditions in Morocco [12]. In 2006, a study in the region of Tiaret [1] reported an infection rate of digestive strongyles 70.4% of sheep race Ouled Djellal naturally infected in this semi-arid zone of Algeria. The animals, which depend mainly steppe, are exposed to multiple infestations with a population of worm is especially important in fall and spring [14]. This is confirmed both in semi-arid region of Tiaret [1] and Morocco [12]. These two seasons represent the lambing period. Thus, the triangular relationship between, heavily infested sheep ("post-parturient rise"), the lambs of the first grazing season (weak immune status) and a poor quality forage to meet the needs of animals, would explain the high risk parasitic infestation that threatens constantly young animals. In addition, it is well established that the risk of infection is ubiquitous throughout the year, due to the ongoing operation of grazing and climatic conditions.

CONCLUSIONS

Our study revealed that a significant number of sheep slaughtered in the abattoir of Blida are infected with helminths. The prevalence for Nemathelminthes is 91.7% (980 parasites), compared with only 8.3% for flatworms (88 parasites). In total one species of flatworm has been identified. This is the cestode Moniezia sp (88 parasites). Six species were identified.

Nemathelminthes namely Ostertagia sp (15 parasites), Haemonchuscontortus (180 parasites), Trichostrongylus sp (74 parasites) and Nematodirus sp (698parasites). The portion is the most infested the small intestine (747 parasites). Other portions, contain far fewer parasites (208 parasites with abomasum and large intestine with 26 parasites. Some species are dangerous by their various actions pathogens (Haemonchus contortus), causing heavy loss (loss of weight, decreased reproduction and mortality significant.

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