Technical Note

Parasitic Infestation on Sheep Grassland Locations in Guantanamo, Cuba

Nancy Noa Lobaina *, Marisol Lafargue Savón *, Lisette Labadie Pérez *

*Center for Mountain Development, Limonar de Monte Ruz, El Salvador, Guantánamo, Cuba.

Corresponding author: nancy@cdm.gtmo.inf.cu

Received: August 2020; Accepted: November 2020; Published: March 2021.

INTRODUCTION

Parasitic infestation of grasslands is one of the most serious problems affecting the productivity of grazing production systems, since they protect eggs and larvae against sunlight, and dryness (Herrera, Jordán, and Senra, 2010).

In Cuba, sheep breeding is based on grazing, the most cost effective and viable system, though it demands proper pasture-animal management, in order to prevent parasitic infections and re-infections. Grass is a natural reservoir, the environment where most parasitic helminthic species perform most of their exogenous development (García *et al.,* 2016). Accordingly, the aim of this paper was to determine the presence of parasitosis in sheep grasslands on locations of Guantanamo province, Cuba.

DEVELOPMENT

The study was conducted between December 2017 and February 2018, at a temperature of 23 ^{o}C, and 90% relative humidity on farms comprising 55 Pelibuey sheep breeders, in Grabiel Valiente and Renato Guitar Credit and Services Cooperatives (CCS in Spanish), in La Yaya and Vilorio locations, municipality of Niceto Perez. A Small Livestock Company Unit (UEB in Spanish), in Limoncito, municipality of El Salvador, Guantanamo, was also part of the study.

The area included in the study comprised 550 m^2 on every farm. The grass present on the farms are bluestem, (*Bothriochloa pertusa),* mallow (*Malva sylvestris),* and Guinea *(Panicum máximum*). The collection of grass samples was made early in the morning, when the larvae migrate to higher stages.

A total of 60 samples were collected and homogenized to complete 500g, following a W pattern every ten steps, mainly 10 cm from stool deposits in the grass, on every farm. The samples were sent to the lab for parasitological diagnostic at the Center for Mountain Development, where they

Citation (APA)
Noa Lobaina, N., Lafargue Savón, M., & Labadie Pérez, L. (2021). Parasitic Infestation on Sheep Grassland Locations in Guantanamo, Cuba *Journal of Animal Prod., 33*(2). https://revistas.reduc.edu.cu/index.php/rpa/article/view/e3763

were divided into small aliquots; then they were placed in a 120 mL flask, and distilled water was added. Following a 24h-rest period, it was filtered to perform microscopic examination, and determine the parasite species present in the grass, using the qualitative method, according to Fiel, Steffan, and Ferreyra (2011), and Paixão *et al*. (2019).

In La Yaya and Vilorio, *Strongyloides papillosus, Dictyocaulus filaria, Ascaris, Haemonchus contortus,* and *Fasciola hepatica, Trichuris,* were present. Meanwhile, at the Limoncito Small Livestock Company (UEB), the presence of *Strongyloides papiloso, Dictyocaulus filaria,* and *Ascaris* was demonstrated (Table 1). These results are given by the fact that between December and February, air temperature is 23 ºC, with 90% relative humidity, creating a considerable effect on the persistence and development of eggs and larvae of the parasites diagnosed.

Table 1. Parasitosis diagnosed on the farms from three different locations

Farms	Diagnosed parasitosis	Larva and egg counts
Farm No.1 La Yaya	*Dictyocaulus filaria*	12 larvae
	Trichuris	11 larvae
	Haemonchus contortus	11 eggs
	Strongyloides papillosus	10 larvae
Farm No.2 La Yaya	*Haemonchus contortus*	9 larvae
	Fasciola hepatica	12 eggs
	Trichuris	9 larvae
	Ascaris	10 eggs
	Strongyloides papillosus	8 larvae
Farm No.3 Vilorio	*Ascaris,*	11 larvae
	Fasciola hepatica	10 eggs
	Strongyloides papillosus	10 eggs
	Dictyocaulus filaria	6 larvae
	Haemonchus contortus	8 larvae
Farm No.4 Vilorio	*Ascaris*	9 larvae
	Strongyloides papillosus	8 larvae
	Dictyocaulus filaria	9 larvae
UEB Limoncito	*Strongyloides papillosus*	12 larva
	Haemonchus contortus	5 larvae
	Dictyocaulus filaria	9 larvae
	Ascaris	10 eggs

According to Herrera, Jordán, and Senra (2010), high precipitation, temperatures, and humidity are factors that favor the devdelopment of parasite larvae. The results achieved are closely linked to the findings of Campos, Beltrán, Fuentes, and Moren (2018), who noted that *Ascaris* and *trichuris* egg survival varies considerably, depending on the temperature, humidity, and resistance to environmental conditions, keeping the infecting capacity for several years.

CONCLUSIONS

The diagnostic made to Pelibuey sheep grassland on the three locations studied showed the presence of *Strongyloides papillosus*, *Dictyocaulus filaria*, *Ascaris*, *Trichuris*, *Fasciola hepatica,* and*Haemonchus contortus.*

REFERENCES

Campos, M. C., Beltrán, M., Fuentes, N., & Moreno, G. (2018). Huevos de helmintos como indicadores de contaminación de origen fecal en aguas de riego agrícola, biosólidos, suelos y pastos. *Biomédica: Revista del Instituto Nacional de Salud*, *38*(1). https://medes.com/publication/134439

Fiel, C., Steffan, P., & Ferreyra, D. (2011). Diagnóstico de las Parasitosis más Frecuentes de los Rumiantes: Técnicas de Laboratorio e Interpretación de Resultados. *Abad Benjamín: Tandil*. https://www.aavld.org.ar/publicaciones/Manual%20Diagnostico%20final.pdf

García, J. A., Pérez, M. S., Llorens, Y. G., & Ponce, J. D. M. (2016). Contribución al control integrado de los parásitos gastrointestinales de rumiantes en Cuba. La metodología Famacha: una estrategia para el control de estrongilidos gastrointestinales de ovinos. *Anales de la Academia de Ciencias de Cuba*. http://www.revistaccuba.cu/index.php/revacc/article/view/551

Paixão, A., Simões, C., Ulima, A., Pires, M., Lucombo Maria, D., Diogo Esperança, S. F., ... & Sanabria Cruz, J. L. (2019). Estrongílidos gastrointestinales que parasitan cabras y ovejas del municipio Wako-Cungo, Angola. *Revista de Salud Animal*, *41*(3).

Herrera, J., Jordán, H., & Senra, A. F. (2010). Aspectos del manejo y alimentación de la reproductora ovina Pelibuey en Cuba. *Revista Cubana de Ciencia Agrícola*, *44*(3), 211-219. https://www.redalyc.org/pdf/1930/193015664001.pdf

AUTHOR CONTRIBUTION

Conception and design of research: NNL, MLS, LLP; data analysis and interpretation: NNL, MLS, LLP; redaction of the manuscript: NNL, MLS, LLP.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.