

ALPACA PATHOLOGY IN IRELAND: 13 YEARS OF SURVEILLANCE

S.A. Mignacca, S. Salgado, M. Wilson, M. Sheahan*, M. McElroy†, S. Fagan§, M. Casey, J. Moriarty, A. Johnson‡, S. McGettrick±, C. Sanchez M†

Department of Agriculture, Food and the Marine, Dublin RVL, Pathology Division, Backweston Campus, Celbridge (IE); *DAFM Kilkenny RVL; ‡DAFM Bacteriology Division; §DAFM Athlone RVL; †DAFM Limerick RVL; ±DAFM Sligo RVL; ††DAFM Cork RVL



INTRODUCTION

Keeping of new world camelids is becoming more popular in Europe. This work reports the main causes of alpaca (*Lama pacos*) mortality in Ireland, based on the passive surveillance within the Department of Agriculture, Food and the Marine (DAFM) Veterinary State Laboratories (Ireland).

MATERIALS AND METHODS

Archival data was retrieved on alpaca necropsies from January 2010 to December 2022 within the DAFM laboratories (Table 1). Data available included anamnesis and clinical signs, gross findings, and ancillary laboratory results on samples selected for further investigation. Where multiple pathological processes were recorded, only the main one was included in the analysis.

RESULTS

131 animals from 61 farms were submitted (34 males, 47 females, 50 not recorded; ages ranging from stillborn to a 19 years) (Table 2). The main pathological process was recorded in the following body systems: systemic (37%); digestive (35%) (of which 48% were hepatic); respiratory (4%); musculoskeletal, circulatory, and genitourinary/abortion (2% each); neuro-sensory and integument (1% each); 12% of cases were inconclusive and 4% unsuitable (Chart 1). For the suitable cases, the aetiologies identified were bacterial, parasitic, nutritional, traumatic/mechanical, toxic, metabolic, and congenital in 44%, 20%, 4%, 2%, 1%, 2% and 1%, respectively (Chart 2). Two per cent had multiple aetiologies, whilst in 20% an aetiology was not identified. The main causes of death were *Mycobacterium bovis* and *Fasciola hepatica* infections (24% and 12%, respectively) (Chart 3).

Tot submissions	111
Tot animals submitted	131 (126 carcasses + 5 offal)
Males	34
Females	47
Not recorded	50
N farms	61
Age range	Aborted till 19 y-o

Table 2: General informations.

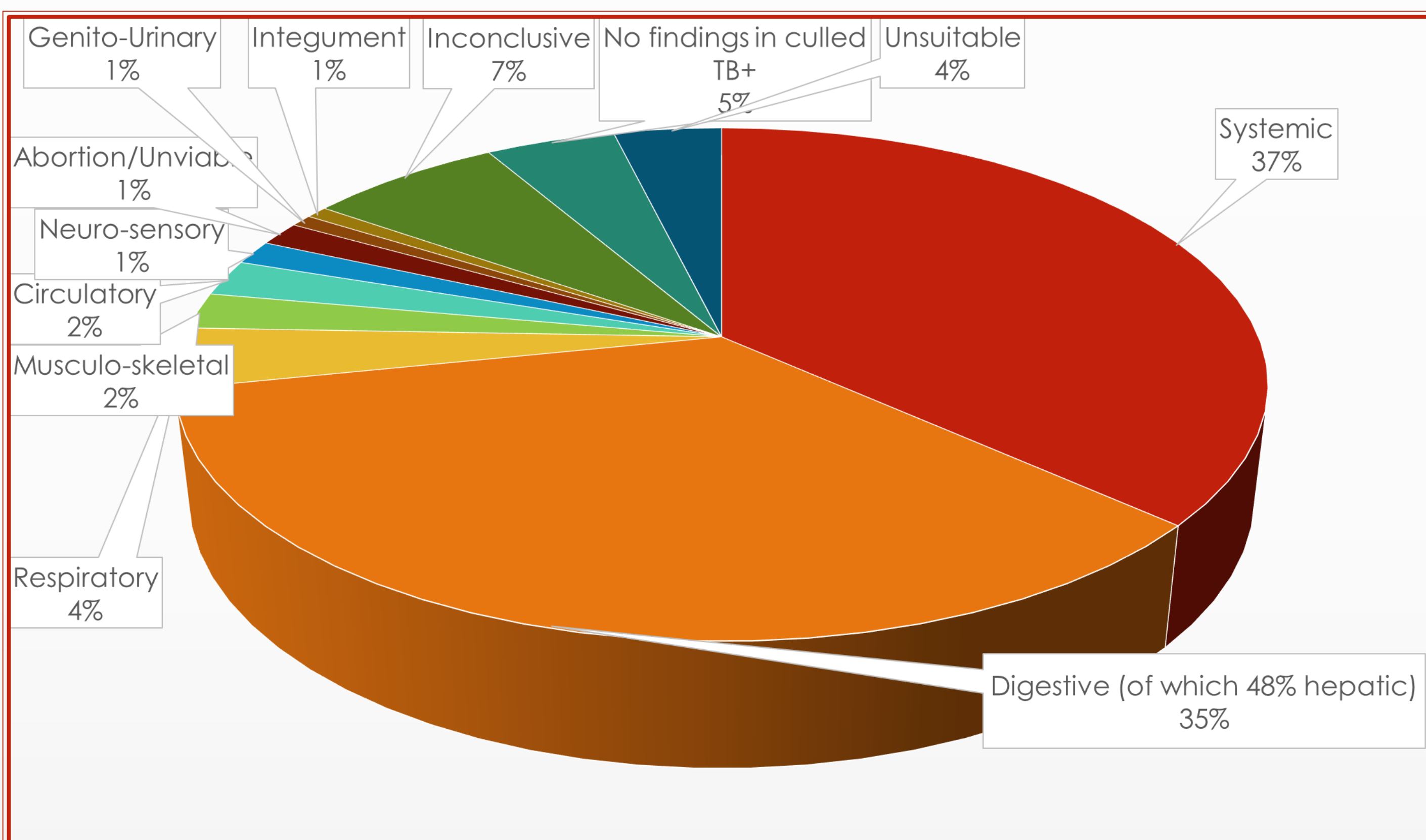


Chart 1: Body systems affected

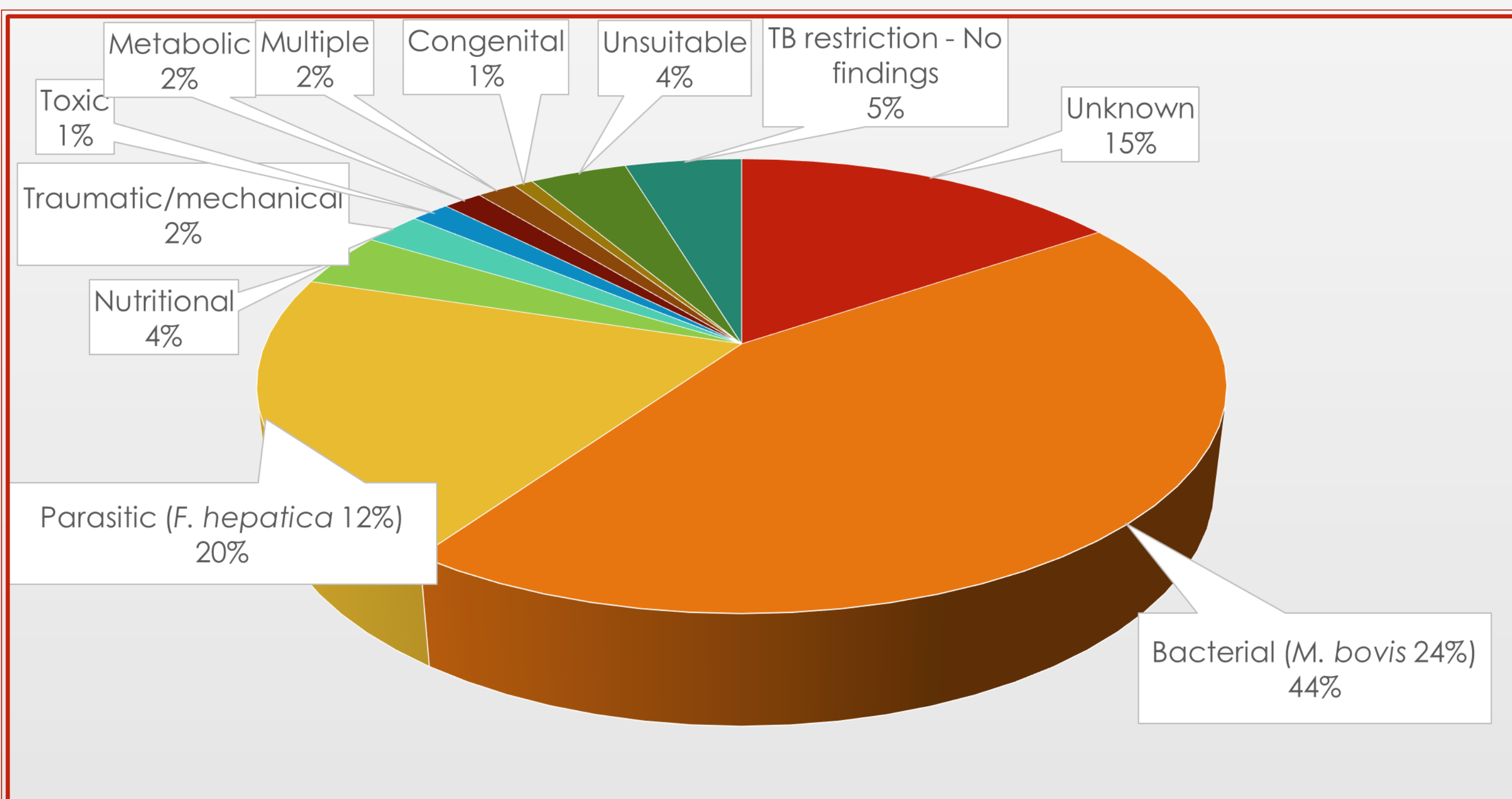


Chart 2: Aetiologies

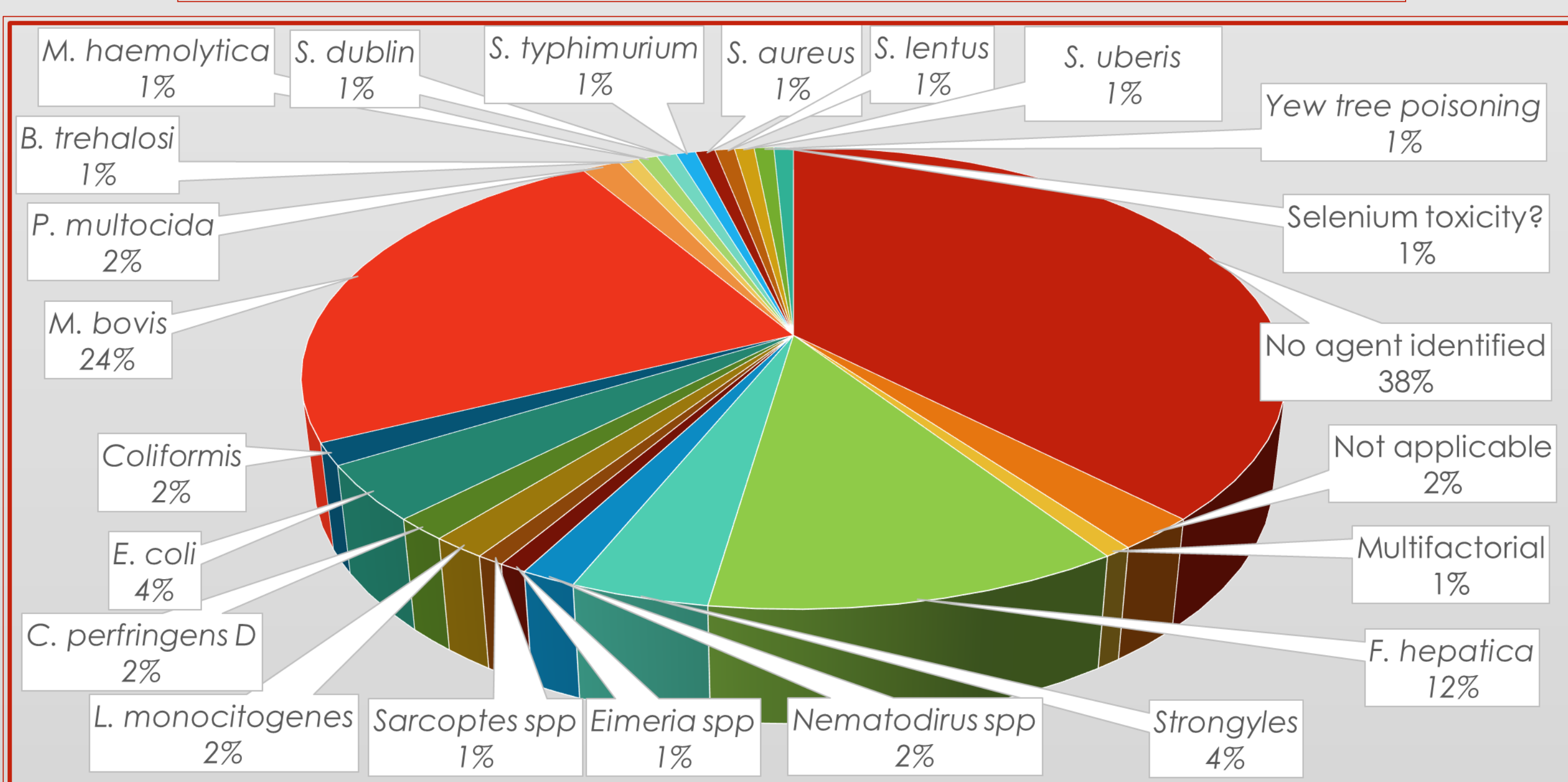
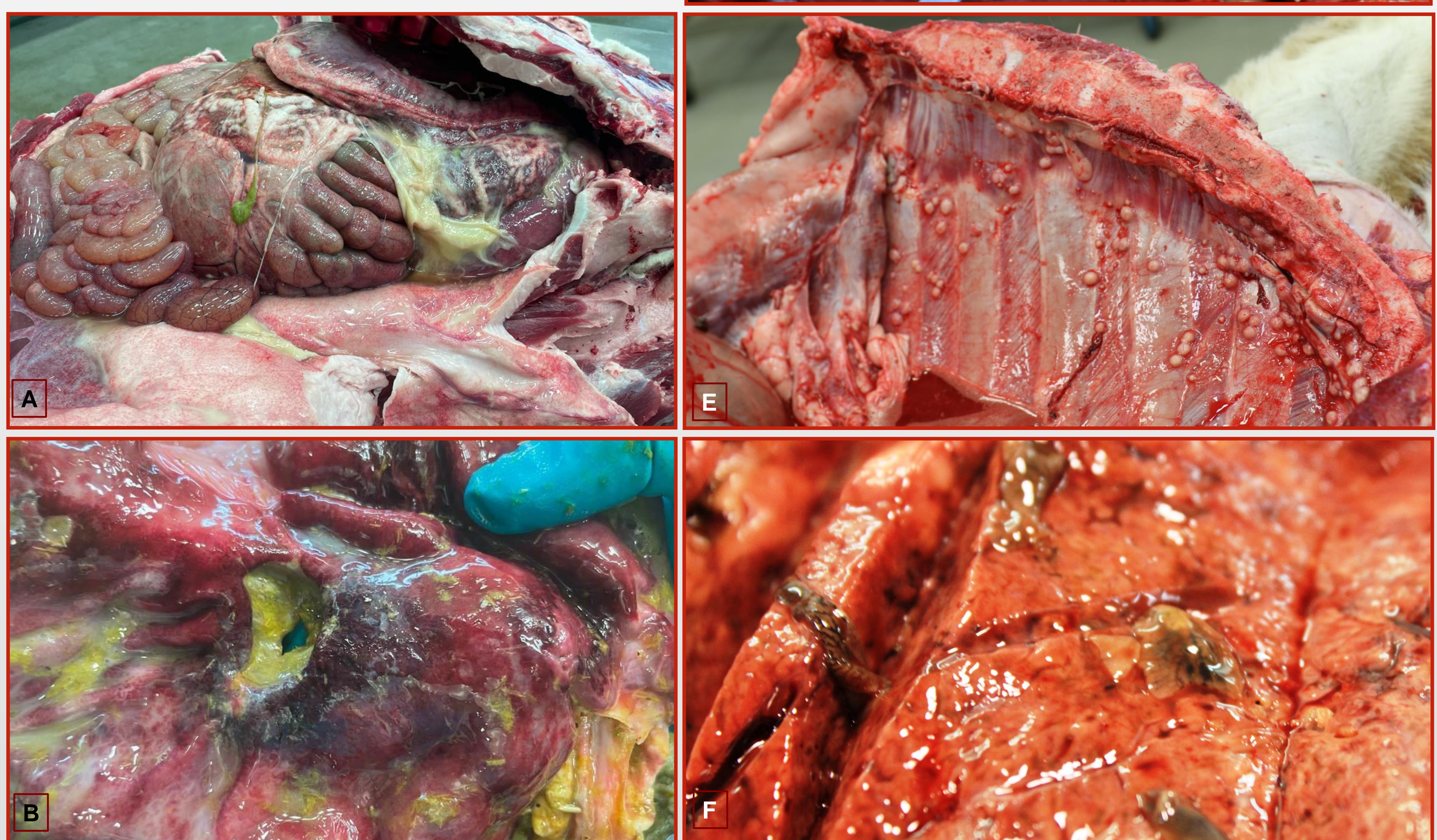


Chart 3: Agents involved

Year	Number
2010	2
2011	3
2012	8
2013	5
2014	3
2015	4
2016	9
2017	6
2018	10
2019	11
2020	23
2021	14
2022	13
Tot	111

Table 2: Number of submissions per year.



Figs A-B: Severe fibrinous peritonitis due to perforated ulcer in C3. C-D-E: Severe bTB lesions in lung and parietal pleura. F: *F. hepatica* within the liver parenchyma.

CONCLUSIONS

Bovine TB in alpacas could pose a public health issue, especially considering these animals are often reared for rural tourism or as pets, therefore in close contact with people.

SELECTED REFERENCES

1. Aboellail TA, et al. 2021. Neoplasia and proliferative lesions of new world camelids: a systematic literature review and retrospective study of cases submitted to Colorado State University from 1995 to 2020. *Front. Vet. Sci.*, 22 October 2021.
2. Bildfell RJ, et al. 2012. Diagnostic sampling and gross pathology of new world camelids. *Vet Clin North Am Food Anim Pract.* 28(3):577-91.
3. Connolly D, et al. 2008. Tuberculosis in alpaca (*Lama pacos*) on a farm in Ireland. 2. Results of an epidemiological investigation. *Ir Vet J* 61, 533.
4. Hayes CJ, et al. 2021. Acute fasciolosis in an alpaca: a case report. *BMC Vet Res.* 17(1):215.
5. Ryan E, et al. 2008. Tuberculosis in alpaca (*Lama pacos*) on a farm in Ireland. 1. A clinical report. *Ir Vet J* 61, 527.
6. Theuß T, et al. 2014. Pathology of South American camelids: a retrospective study of necropsies at the Institute of Veterinary Pathology, University of Leipzig, Germany. *Tierarztl Prax Ausg G Grosstiere Nutztiere.* 42(5):278-88.

ACKNOWLEDGEMENTS

We are grateful to former and present staff in the Department of Agriculture, Food, and the Marine for their contribution in the diagnostic service.

sebastian.mignacca80@gmail.com