

PCR Proof of Concept Study Stage One Results

Many thanks to those who have donated money to the Proof of Concept study carried out by AHVLA (Animal Health and Veterinary Laboratories Agency) and commissioned by the Camelid TB Support and Research Group (www.alpacatb.org) to investigate the potential use for PCR technology to detect *M. bovis* in samples from infected alpacas.

The initial results of this study, undertaken on cases where the TB lesions were severe, are now in, and are extremely encouraging. Those of you who have been through a TB outbreak in your camelids have no doubt experienced alpacas or llamas showing no outward signs at all, and yet having severe pathology. Severe pathology in camelid TB cases is common.

Below is the table of initial results provided by AHVLA. The score system in column 2 is used by AHVLA to grade the severity of the lesions, with 0 being no lesions and increasing in severity up to a score of 9. The last column headed 'Buffy' refers to blood samples. Retrieving blood samples from already deceased alpacas was always a long shot and was not successful hence 'NOT TESTED' on all but 3.

You will see from 21 alpacas with lesions using a combination of faeces and nasal swabs, 17 were positive for *M. Bovis* = 80.9 %.

Please view the table provided by AHVLA below.

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www.alpacatb.org

This pilot project demonstrated that a two-stage PCR test on camelid clinical samples has the potential to detect *Mycobacterium bovis* with reasonable sensitivity. Samples were taken post-mortem from 21 alpacas with gross lesions of tuberculosis, most of the alpacas selected had severe lesions. Fifteen faeces samples were positive and ten nasal swabs were positive. Samples that were negative in the PCR tests were from alpacas with less severe pathology

Alpaca	Score	Nasal	Faeces	Buffy
1	5	Not detected	Not detected	Not detected
2	5	Not detected	Not detected	Not detected
3	7		Not detected	Positive
4	6			Not tested
5	5		Not detected	Not tested
6	9			Not tested
7	7	Not detected		Not tested
8	8	Not detected		Not tested
9	4	Not detected	Not detected	Not tested
10	7	Not detected		Not tested
11	9			Not tested
12	9			Not tested
13	7			Not tested
14	9			Not tested
15	6	Not detected	Not detected	Not tested
16	7			Not tested
17	5	Not detected		Not tested
18	5	Not detected		Not tested
19	5	Not detected		Not tested
20	5			Not tested
21	6	Not detected		Not tested
22	0	Not detected	Not detected	Not tested