

Camelid TB Serology Quarterly Report

Number: 22

Report Period 1st July to 30th September 2020

Issued 07 October 2020

Quarterly Camelid Serology Report

Test Criteria

Submission Reason	Explanation
APHA /DEFRA	At Government expense
Parallel Test:	
PAR-TB	TB breakdown herd with confirmed M. bovis infection (including Wales where Officially TB Free Withdrawn [OTFW] status is determined on epidemiological grounds)
PAR-SUS	TB strongly suspected but not currently confirmed by laboratory culture – herd under restrictions
PAR-TRC	Forward tracing(s) from an M. bovis-infected camelid herd (includes camelid herds in Wales only co-located on the same premises with infected cattle, sheep, deer, goats & pigs)
Serial Test:	
SER-CONT	Herd not under restriction but contiguous to a TB-infected herd
SER-COL	Herd not under restriction but co-located with an infected herd of cattle, deer, goats etc. (Eng & Scot only)
SER-EPI	Herd not under restriction but TB tested due to an epidemiological link with a known infected herd (e.g. back-tracing)
SER-CHK	Inconclusive Reactor check test – e.g. where private Enferplex test has produced a 2-spot-positive result on 2 consecutive occasions
Commercial/Private	At Owner expense
SER-MVT	Pre- or post-movement test
SER-EXP	Pre-export test
SER-DIAG	Diagnostic to exclude TB from a differential diagnoses in a herd not restricted (TB strongly suspected)

The camelid TB serology (antibody) test generally comprises two separate antibody tests in a test package that can be applied flexibly to increase the sensitivity or specificity of the test as required, by using a parallel or serial test interpretation respectively. The sensitivity and specificity values of combined antibody testing for camelids were described under AHVLA Project FT1477 (see Rhodes et al., 2012) and re-assessed in May 2018 to show the following test performance;

Table 1 – High Sensitivity / Parallel test options:

	% Se	95% C.I.	% Sp	95% C.I.
IDEXX /DPP VetTB	74	65.4-82.6	96	93.8-98.2
ENFER 2-SPOT/DPP VetTB	71	62.1-79.9	96.7	95.8-99.4
IDEXX/ENFER 2-SPOT	75	66.5-83.5	97.3	95.4-99.1

Fishers Exact [2-sided] test showed no significant difference in sensitivity or specificity between any of these three test options.

Table 2 – High Specificity / Serial test options:

	% Se	95% C.I.	% Sp	95% C.I.
ENFER 4-SPOT	60	50.4-69.9	99.66	98.9-100
IDEXX/DPP VetTB	56	46.3-65.7	100	

Fishers Exact [2-sided] test showed no significant difference in test sensitivity or specificity between these two test options.

Rhodes, S., Holder, T., Clifford, D., Dexter, I., Brewer, J., Smith, N., Waring, L., Crawshaw, T., Gillgan, S., Lyashchenko, K., Lawrence, J., Clarke, J., de la Rua-Domenech, R., Vordermeier, M., 2012. Evaluation of gamma interferon and antibody tuberculosis tests in alpacas. Clin Vaccine Immunol 19, 1677-1683.

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Number of Samples tested and Submission Reason 2020 Q3 (July - September)

Table 1a	
Country	No. Samples Tested
England	652
Wales	9
Total for Q3	661

Table 1b		
	Submission Reason	No. Samples Tested
Parallel	PAR-TB	436
Parallel	Sum:	436
Serial	SER-CHK	4
	SER-COL	16
	SER-CONT	139
	SER-EPI	7
Serial	Sum:	166
Commercial/Private Testing	SER-DIAG	1
	SER-EXP	31
	SER-MVT	27
Commercial/Private Testing	Sum:	59
Total for Q3	Sum:	661

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Number of Samples tested and Submission Reason 2020 up to end of Q3 (January - September)

Table 2a	
Country	No. Samples Tested
England	1343
Wales	71
Total for Q3	1414

Table 2b		
APHA/DEFRA	Submission Reason	No. Samples Tested
Parallel	PAR-SUS	2
	PAR-TB	858
Parallel	Sum:	860
Serial	SER-CHK	5
	SER-COL	45
	SER-CONT	407
	SER-EPI	7
Serial	Sum:	464
Commercial/Private Testing	SER-DIAG	1
	SER-EXP	31
	SER-MVT	51
	SER-RHT	3
Commercial/Private Testing	Sum:	86
		4
	Sum:	4
Total for 2020 up to end of Q3		1414

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Test Positivity in 2020 Q3 (July - September)

Table 3a						
Submissions Received and Test Positivity in 2020 Q3						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-TB	4	436	30	6.9%
	Parallel		4	436	30	6.9%
	Serial	SER-CHK	3	4	0	0
		SER-COL	3	9	1	11.1%
		SER-CONT	16	137	2	1.5%
		SER-EPI	1	7	0	0
	Serial		23	157	3	1.9%
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	31	1	3.2%
		SER-MVT	3	27	0	0
	Commercial/Private Testing		6	59	1	1.7%
England Total			33	652	34	5.2%
Wales	Serial	SER-COL	1	7	1	14.3%
		SER-CONT	1	2	0	0
	Serial		2	9	1	11.1%
Wales Total			2	9	1	11.1%
Totals for Q3			35	661	35	5.3 %

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Test Positivity in 2020 up to end of Q3 (January - September)

Table 3b						
Submissions Received and Test Positivity in 2020 up to the end of Q3						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-SUS	1	2	2	100.0%
		PAR-TB	8	858	70	8.2%
	Parallel		9	860	72	8.4%
	Serial	SER-CHK	4	5	1	20.0%
		SER-COL	12	38	2	5.3%
		SER-CONT	52	343	6	1.7%
		SER-EPI	1	7	0	0
	Serial		69	393	9	2.3%
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	31	1	3.2%
		SER-MVT	11	51	0	0
		SER-RHT	1	3	0	0
	Commercial/Private Testing		15	86	1	1.2%
			1	4	0	0
			1	4	0	0
England Total			94	1,343	82	6.1%
Wales	Serial	SER-COL	1	7	1	14.3%
		SER-CONT	6	64	2	3.1%
	Serial		7	71	3	4.2%
Wales Total			7	71	3	4.2%
Totals up to end Q3			101	1,414	85	6.0 %

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Submissions Received in 2020 up to end of Q3

Table 4: Number of samples Tested by Test Code

Analysis	Analysis Description	Q1	Q2	Q3	
		No. samples tested	No. samples tested	No. samples tested	Totals up to end Q3
TC0503	Camelid TB Enferplex - 2 Spot	6	416	436	858
TC0603	Camelid TB Enferplex - 4 Spot	101	49	112	262
TC0611	Chembio DPP VetTB lateral flow rapid antibody test	129	59	114	302
TC0867	Camelid TB Antibody ELISA	135	461	548	1,144