

Camelid TB Serology Quarterly Report

Number: 34

Report Period 1st July to 30th September 2023

Issued 04/Oct/2023

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PAR-TB	TB breakdown herd with confirmed M. bovis infection (including Wales where Officially TB Free Withdrawn [OTFW] status is determined on epidemiological grounds)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)
PAR-COL-W	Wales only - camelids under restriction due to sharing a holding (colocation) with an OTFW cattle herd or with other non-bovine animals affected by a culture-confirmed incident
Serial Test:	
SER-SUS (replaces PA	TB strongly suspected but not currently confirmed by laboratory culture – herd under restrictions. If infection is confirmed the initial High Specificity (serial) test results can be reinterpreted at High Sensitivity on request from the APHA case vet.
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)
SER-RHT	Monitoring - voluntary routine testing (herd nor restricted)

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 2023 Q3 (July - September)

Table 1a	
Country	No. Samples Tested
England	187
Wales	44
Scotland	2
Total for Q3	233

Table 1b		
	Submission Reason	No. Samples Tested
Parallel	PAR-COL-W	5
Parallel	Sum:	5
Serial	SER-COL	5
	SER-CONT	183
	SER-EPI	6
Serial	Sum:	194
Commercial/Private Testing	SER-EXP	2
	SER-MVT	1
	SER-RHT	1
Commercial/Private Testing	Sum:	4
	SER-SUS	30
	Sum:	30
Total for Q3	Sum:	233

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Number of Samples tested and Submission Reason 2023 up to end of Q3 (January - September)

Table 2a	
Country	No. Samples Tested
England	606
Wales	144
Scotland	2
Total for Q3	752

Table 2b		
APHA/DEFRA	Submission Reason	No. Samples Tested
Parallel	PAR-COL-W	42
	PAR-TB	54
Parallel	Sum:	96
Serial	SER-COL	13
	SER-CONT	457
	SER-EPI	6
Serial	Sum:	476
Commercial/Private Testing	SER-DIAG	1
	SER-EXP	10
	SER-MVT	22
	SER-RHT	10
Commercial/Private Testing	Sum:	43
	SER-SUS	137
	Sum:	137
Total for 2023 up to end of Q3		752

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Test Positivity in 2023 Q3 (July - September)

Table 3a						
Submissions Received and Test Positivity in 2023 Q3						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Serial	SER-COL	2	5	0	0
		SER-CONT	15	180	2	1.1%
	Serial		17	185	2	1.1%
	Commercial/Private Testing	SER-MVT	1	1	0	0
		SER-RHT	1	1	0	0
	Commercial/Private Testing		2	2	0	0
England Total			19	187	2	1.1%
Wales	Parallel	PAR-COL-W	2	5	0	0
	Parallel		2	5	0	0
	Serial	SER-CONT	1	3	0	0
		SER-EPI	1	6	0	0
	Serial		2	9	0	0
		SER-SUS	1	30	0	0
			1	30	0	0
Wales Total			5	44	0	0
Scotland	Commercial/Private Testing	SER-EXP	1	2	0	0
	Commercial/Private Testing		1	2	0	0
Scotland Total			1	2	0	0
Totals for Q3			25	233	2	0.9 %

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Test Positivity in 2023 up to end of Q3 (January - September)

Table 3b						
Submissions Received and Test Positivity in 2023 up to the end of Q3						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-TB	2	54	8	14.8%
	Parallel		2	54	8	14.8%
	Serial	SER-COL	4	13	0	0
		SER-CONT	34	391	3	0.8%
	Serial		38	404	3	0.7%
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	8	0	0
		SER-MVT	7	22	0	0
		SER-RHT	3	10	0	0
	Commercial/Private Testing		13	41	0	0
		SER-SUS	1	107	0	0
			1	107	0	0
England Total			54	606	11	1.8%
Wales	Parallel	PAR-COL-W	3	42	4	9.5%
	Parallel		3	42	4	9.5%
	Serial	SER-CONT	9	66	0	0
		SER-EPI	1	6	0	0
	Serial		10	72	0	0
		SER-SUS	1	30	0	0
			1	30	0	0
Wales Total			14	144	4	2.8%
Scotland	Commercial/Private Testing	SER-EXP	1	2	0	0
	Commercial/Private Testing		1	2	0	0
Scotland Total			1	2	0	0
Totals up to end Q3			69	752	15	2.0 %

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Submissions Received in 2023 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	24	30		54
TC0603	Camelid TB Enferplex - 4 Spot	278	26	107	411
TC0611	Chembio DPP VetTB lateral flow rapid antibody test	70	91	126	287
TC0867	Camelid TB Antibody ELISA	94	121	126	341