

# **Camelid TB Serology Quarterly Report**

**Number: 33**

**Report Period 1st April to 30th June 2023**

**Issued 05/Jul/2023**

# Quarterly Camelid Serology Report

## Test Criteria

Submission Reason	Explanation
<b>APHA /DEFRA</b>	<b>At Government expense</b>
<b>Parallel Test:</b>	
PAR-TB	TB breakdown herd with confirmed M. bovis infection (including Wales where Officially TB Free Withdrawn [OTFW] status is determined on epidemiological grounds)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
<b>Serial Test:</b>	
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
<b>Commercial/Private</b>	<b>At Owner expense</b>
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.
<b>IDEXX /DPP VetTB</b>	74	65.4-82.6	96	93.8-98.2
<b>ENFER 2-SPOT/DPP VetTB</b>	71	62.1-79.9	96.7	95.8-99.4
<b>IDEXX/ENFER 2-SPOT</b>	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.
<b>ENFER 4-SPOT</b>	60	50.4-69.9	99.66	98.9-100
<b>IDEXX/DPP VetTB</b>	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.

## Quarterly Camelid Serology Report

### Number of Samples tested and Submission Reason 2023 Q2 (April - June)

Table 1a	
Country	No. Samples Tested
England	93
Wales	54
<b>Total for Q2</b>	<b>147</b>

Table 1b		
	Submission Reason	No. Samples Tested
Parallel	PAR-TB	30
<b>Parallel</b>	<b>Sum:</b>	<b>30</b>
Serial	SER-COL	5
	SER-CONT	88
<b>Serial</b>	<b>Sum:</b>	<b>93</b>
Commercial/Private Testing	SER-DIAG	1
	SER-EXP	8
	SER-MVT	6
	SER-RHT	9
<b>Commercial/Private Testing</b>	<b>Sum:</b>	<b>24</b>
<b>Total for Q2</b>	<b>Sum:</b>	<b>147</b>

## Quarterly Camelid Serology Report

## Number of Samples tested and Submission Reason 2023 up to end of Q2 (January - June)

Table 2a	
Country	No. Samples Tested
England	419
Wales	100
<b>Total for Q2</b>	<b>519</b>

Table 2b		
APHA/DEFRA	Submission Reason	No. Samples Tested
Parallel	PAR-COL-W	37
	PAR-TB	54
Parallel	Sum:	91
Serial	SER-COL	8
	SER-CONT	274
Serial	Sum:	282
Commercial/Private Testing	SER-DIAG	1
	SER-EXP	8
	SER-MVT	21
	SER-RHT	9
Commercial/Private Testing	Sum:	39
	SER-SUS	107
	Sum:	107
<b>Total for 2023 up to end of Q2</b>		<b>519</b>

## Quarterly Camelid Serology Report

## Test Positivity in 2023 Q2 (April - June)

Table 3a						
Submissions Received and Test Positivity in 2023 Q2						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-TB	1	30	7	23.3%
	<b>Parallel</b>		<b>1</b>	<b>30</b>	7	<b>23.3%</b>
	Serial	SER-COL	1	5	0	0
		SER-CONT	8	34	0	0
	<b>Serial</b>		<b>9</b>	<b>39</b>	0	<b>0</b>
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	8	0	0
		SER-MVT	2	6	0	0
		SER-RHT	2	9	0	0
	<b>Commercial/Private Testing</b>		<b>7</b>	<b>24</b>	0	<b>0</b>
<b>England Total</b>			<b>17</b>	<b>93</b>	7	<b>7.5%</b>
Wales	Serial	SER-CONT	4	54	0	0
	<b>Serial</b>		<b>4</b>	<b>54</b>	0	<b>0</b>
<b>Wales Total</b>			<b>4</b>	<b>54</b>	0	<b>0</b>
<b>Totals for Q2</b>			<b>21</b>	<b>147</b>	<b>7</b>	<b>4.8 %</b>

## Quarterly Camelid Serology Report

## Test Positivity in 2023 up to end of Q2 (January - June)

Table 3b						
Submissions Received and Test Positivity in 2023 up to the end of Q2						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-TB	2	54	8	14.8%
	<b>Parallel</b>		<b>2</b>	<b>54</b>	<b>8</b>	<b>14.8%</b>
	Serial	SER-COL	2	8	0	0
		SER-CONT	19	211	1	0.5%
	<b>Serial</b>		<b>21</b>	<b>219</b>	<b>1</b>	<b>0.5%</b>
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	8	0	0
		SER-MVT	6	21	0	0
		SER-RHT	2	9	0	0
	<b>Commercial/Private Testing</b>		<b>11</b>	<b>39</b>	<b>0</b>	<b>0</b>
		SER-SUS	1	107	0	0
			<b>1</b>	<b>107</b>	<b>0</b>	<b>0</b>
<b>England Total</b>			<b>35</b>	<b>419</b>	<b>9</b>	<b>2.1%</b>
Wales	Parallel	PAR-COL-W	1	37	4	10.8%
	<b>Parallel</b>		<b>1</b>	<b>37</b>	<b>4</b>	<b>10.8%</b>
	Serial	SER-CONT	8	63	0	0
	<b>Serial</b>		<b>8</b>	<b>63</b>	<b>0</b>	<b>0</b>
<b>Wales Total</b>			<b>9</b>	<b>100</b>	<b>4</b>	<b>4.0%</b>
<b>Totals up to end Q2</b>			<b>44</b>	<b>519</b>	<b>13</b>	<b>2.5 %</b>

## Quarterly Camelid Serology Report

## Submissions Received in 2023 up to end of Q2

Table 4: Number of samples Tested by Test Code

Analysis	Analysis Description	Q1	Q2	
		No. samples tested	No. samples tested	Totals up to end Q2
TC0503	Camelid TB Enferplex - 2 Spot	24	30	54
TC0603	Camelid TB Enferplex - 4 Spot	278	26	304
TC0611	Chembio DPP VetTB lateral flow rapid antibody test	70	91	161
TC0867	Camelid TB Antibody ELISA	94	121	215