

# **Camelid TB Serology Quarterly Report**

**Number: 23**

**Report Period 1st October to 31st December 2020**

**Issued 06 January 2021**

# 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PAR-TB	TB breakdown herd with confirmed M. bovis infection (including Wales where Officially TB Free Withdrawn [OTFW] status is determined on epidemiological grounds)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)
<b>Serial Test:</b>	
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)

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 2020 Q4 (October - December)

Table 1a	
Country	No. Samples Tested
England	178
Wales	22
Non GB	2
<b>Total for Q4</b>	<b>202</b>

Table 1b		
	Submission Reason	No. Samples Tested
Parallel	PAR-SUS	25
	PAR-TB	35
<b>Parallel</b>	<b>Sum:</b>	<b>60</b>
Serial	SER-CHK	5
	SER-COL	23
	SER-CONT	106
<b>Serial</b>	<b>Sum:</b>	<b>134</b>
Commercial/Private Testing	SER-DIAG	2
	SER-MVT	6
<b>Commercial/Private Testing</b>	<b>Sum:</b>	<b>8</b>
<b>Total for Q4</b>	<b>Sum:</b>	<b>202</b>

## Quarterly Camelid Serology Report

## Number of Samples tested and Submission Reason 2020 up to end of Q4 (January - December)

Table 2a	
Country	No. Samples Tested
England	1521
Wales	93
Non GB	2
<b>Total for Q4</b>	<b>1616</b>

Table 2b		
APHA/DEFRA	Submission Reason	No. Samples Tested
Parallel	PAR-SUS	27
	PAR-TB	893
Parallel	Sum:	920
Serial	SER-CHK	10
	SER-COL	68
	SER-CONT	513
	SER-EPI	7
Serial	Sum:	598
Commercial/Private Testing	SER-DIAG	3
	SER-EXP	31
	SER-MVT	57
	SER-RHT	3
Commercial/Private Testing	Sum:	94
		4
	Sum:	4
<b>Total for 2020 up to end of Q4</b>		<b>1616</b>

## Quarterly Camelid Serology Report

## Test Positivity in 2020 Q4 (October - December)

Table 3a						
Submissions Received and Test Positivity in 2020 Q4						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-SUS	2	25	2	8.0%
		PAR-TB	3	31	5	16.1%
	<b>Parallel</b>		<b>5</b>	<b>56</b>	<b>7</b>	<b>12.5%</b>
	Serial	SER-CHK	3	4	0	0
		SER-COL	5	21	0	0
		SER-CONT	13	91	0	0
	<b>Serial</b>		<b>21</b>	<b>116</b>	<b>0</b>	<b>0</b>
	Commercial/Private Testing	SER-MVT	3	6	0	0
	<b>Commercial/Private Testing</b>		<b>3</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>England Total</b>			<b>29</b>	<b>178</b>	<b>7</b>	<b>3.9%</b>
Wales	Parallel	PAR-TB	1	4	0	0
	<b>Parallel</b>		<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>
	Serial	SER-CHK	1	1	0	0
		SER-COL	1	2	0	0
		SER-CONT	4	15	0	0
	<b>Serial</b>		<b>6</b>	<b>18</b>	<b>0</b>	<b>0</b>
<b>Wales Total</b>			<b>7</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non GB	Commercial/Private Testing	SER-DIAG	1	2	0	0
	<b>Commercial/Private Testing</b>		<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>Non GB Total</b>			<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>Totals for Q4</b>			<b>37</b>	<b>202</b>	<b>7</b>	<b>3.5 %</b>

## Quarterly Camelid Serology Report

## Test Positivity in 2020 up to end of Q4 (January - December)

Table 3b						
Submissions Received and Test Positivity in 2020 up to the end of Q4						
Country		Submission Reason	No. Submissions	No. Samples Tested	No. Positive Samples	% Positive Samples
England	Parallel	PAR-SUS	3	27	4	14.8%
		PAR-TB	11	889	75	8.4%
	<b>Parallel</b>		<b>14</b>	<b>916</b>	79	<b>8.6%</b>
	Serial	SER-CHK	7	9	1	11.1%
		SER-COL	17	59	2	3.4%
		SER-CONT	65	434	6	1.4%
		SER-EPI	1	7	0	0
	<b>Serial</b>		<b>90</b>	<b>509</b>	9	<b>1.8%</b>
	Commercial/Private Testing	SER-DIAG	1	1	0	0
		SER-EXP	2	31	1	3.2%
		SER-MVT	14	57	0	0
		SER-RHT	1	3	0	0
	<b>Commercial/Private Testing</b>		<b>18</b>	<b>92</b>	1	<b>1.1%</b>
			1	4	0	0
			1	4	0	0
<b>England Total</b>			<b>123</b>	<b>1,521</b>	89	<b>5.9%</b>
Wales	Parallel	PAR-TB	1	4	0	0
	<b>Parallel</b>		<b>1</b>	<b>4</b>	0	<b>0</b>
	Serial	SER-CHK	1	1	0	0
		SER-COL	2	9	1	11.1%
		SER-CONT	10	79	2	2.5%
	<b>Serial</b>		<b>13</b>	<b>89</b>	3	<b>3.4%</b>
<b>Wales Total</b>			<b>14</b>	<b>93</b>	3	<b>3.2%</b>
Non GB	Commercial/Private Testing	SER-DIAG	1	2	0	0
	<b>Commercial/Private Testing</b>		<b>1</b>	<b>2</b>	0	<b>0</b>
<b>Non GB Total</b>			<b>1</b>	<b>2</b>	0	<b>0</b>
<b>Totals up to end Q4</b>			<b>138</b>	<b>1,616</b>	<b>92</b>	<b>5.7 %</b>

## Quarterly Camelid Serology Report

## Submissions Received in 2020 up to end of Q4

Table 4: Number of samples Tested by Test Code

Analysis	Analysis Description	Q1	Q2	Q3	Q4	
		No. samples tested	No. samples tested	No. samples tested	No. samples tested	Totals up to end Q4
TC0503	Camelid TB Enferplex - 2 Spot	6	416	436	31	889
TC0603	Camelid TB Enferplex - 4 Spot	101	49	112	54	316
TC0611	Chembio DPP VetTB lateral flow rapid antibody test	129	59	114	118	420
TC0867	Camelid TB Antibody ELISA	135	461	548	147	1,291